

Final Environmental Impact Statement/ Environmental Impact Report and Proposed Land Use Plan Amendment

Volume I

North Baja Pipeline Expansion Project



Federal Energy Regulatory Commission
Washington, DC

California State Lands Commission
Sacramento, CA



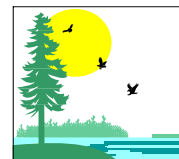
Cooperating Agencies:
Bureau of Land Management
Bureau of Reclamation



FERC/EIS-0200
Docket Nos. CP06-61-000, -001, -002
CP01-23-003

CSLC EIR No. 739
State Clearinghouse No. 2006081127
BLM Reference No. CACA-42662

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Volume II - Appendices

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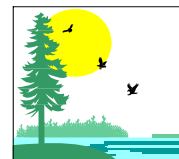
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In Reply Refer To:

OEP/DG2E/Gas 1

North Baja Pipeline, LLC

FERC Docket Nos. CP06-61-000, -001, -002
CP01-23-003

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TO THE PARTY ADDRESSED:

The environmental staffs of the Federal Energy Regulatory Commission (FERC or Commission), the California State Lands Commission (CSLC), and the Bureau of Land Management (BLM) (collectively referred to as the Agency Staffs) have prepared this final environmental impact statement/environmental impact report and proposed land use plan amendment (final EIS/EIR/plan amendment) to address North Baja Pipeline, LLC's (North Baja) proposed expansion of its natural gas pipeline system.

This final EIS/EIR/plan amendment was prepared as required by the National Environmental Policy Act (NEPA), the California Environmental Quality Act, and the Federal Land Policy and Management Act. The purpose of this document is to inform the public and the permitting agencies about the potential adverse and beneficial environmental impacts of the proposed North Baja Pipeline Expansion Project (Project or proposed Project) and its alternatives, and recommend mitigation measures that would reduce the significant adverse impacts to the maximum extent possible, and, where feasible, to a less than significant level. The Agency Staffs have concluded that if the Project is constructed and operated in accordance with applicable laws and regulations, North Baja's proposed mitigation, and the Agency Staffs' additional mitigation measures, it would be an environmentally acceptable action.

The FERC is the lead Federal agency and will use the document to consider the environmental impacts that could result if it issues North Baja a Certificate of Public Convenience and Necessity and a Presidential Permit amendment under sections 7 and 3, respectively, of the Natural Gas Act. The CSLC is the lead State agency and will use the document to consider North Baja's application to amend its existing right-of-way lease across the State's Sovereign and School Lands in conjunction with the environmental impacts that could result from any part of the Project in California.

The BLM is participating as a cooperating agency in the preparation of this document because the Project would cross Federal land under the jurisdiction of the Palm Springs-South Coast, El Centro, and Yuma Field Offices. The Bureau of Reclamation (BOR) is also a cooperating agency in the preparation of this document because lands administered by the BOR would be crossed by the Project. Under section 185(f) of the Mineral Leasing Act of 1920, the BLM has the authority to issue Right-of-Way Grants for all affected Federal lands. This final EIS/EIR/plan amendment will be used by the BLM to consider whether to amend North Baja's existing Right-of-Way Grant and issue Temporary Use Permits for the installation of approximately 67.4 miles of pipeline and ancillary facilities across Federal lands managed by the BLM, the BOR, and the U.S. Fish and Wildlife Service (FWS). This final EIS/EIR/plan amendment will also be used by the BLM to consider amending the California Desert Conservation Area Plan (as amended), which would be necessary for pipeline construction outside of designated utility corridors, as well as amending the Yuma

District Resource Management Plan, which would be necessary for pipeline construction across the Milpitas Wash Special Management Area.

The BLM proposes to adopt this final EIS/EIR/plan amendment per Title 40 Code of Federal Regulations (CFR) Part 1506.3 to meet its responsibilities under NEPA and its planning regulations per Title 43 CFR Part 1610. The BLM will present separate Records of Decision for the Right-of-Way Grant and the plan amendments for the North Baja Pipeline Expansion Project after the issuance of the final EIS/EIR/plan amendment. The concurrence or non-concurrence of the BOR and the FWS would be considered in the BLM's decision.

The existing North Baja system is currently certificated by the FERC to transport 512,500 dekatherms per day (Dthd) (500 million standard cubic feet per day [MMscfd]) of natural gas in a southbound direction. Once completed, the expanded system would be capable of transporting up to 2,932,000 Dthd (2,753 MMscfd) of natural gas from planned liquefied natural gas (LNG) storage and vaporization terminals located on the Baja California coast in Mexico in a northbound direction for delivery to customers in California and Arizona. In addition to the new volumes from the LNG terminals, North Baja would continue to offer southbound gas transportation service for several existing shippers.

This final EIS/EIR/plan amendment addresses the potential environmental effects of the construction and operation of the following facilities proposed by North Baja:

- up to 79.8 miles of pipeline loop¹ (B-Line) adjacent to North Baja's existing pipeline (A-Line) consisting of 11.7 miles of 42-inch-diameter pipeline extending from the existing Ehrenberg Compressor Station at milepost (MP) 0.0 in La Paz County, Arizona to the existing Rannells Trap at MP 11.7 in Riverside County, California, and 68.1 miles of 48-inch-diameter pipeline extending from Rannells Trap to an interconnection at the U.S.-Mexico border at MP 79.8 in Imperial County, California;
- 2.1 miles of 36-inch-diameter pipeline lateral² (Arrowhead Extension) extending from the proposed B-Line at MP 7.4 to Southern California Gas Company's (SoCalGas) existing Blythe Compressor Station in Riverside County;
- 45.7 miles of 16-inch-diameter pipeline lateral (Imperial Irrigation District [IID] Lateral) extending from MP 74.5 of the B-Line near the existing Ogilby Meter Station to the existing IID El Centro Generating Station in Imperial County;
- modifications at the existing Ehrenberg Compressor Station in LaPaz County and the existing Ogilby Meter Station in Imperial County to allow northbound flow of natural gas;
- metering modifications inside the existing El Paso Natural Gas Company (El Paso) Meter Station at the Ehrenberg Compressor Station site to allow LNG-source gas to be delivered into the El Paso system;
- one meter station (Blythe-Arrowhead Meter Station) at SoCalGas' existing Blythe Compressor Station in Riverside County to measure gas delivery from the North Baja system to SoCalGas;

¹ A loop is a segment of pipeline that is usually installed adjacent to an existing pipeline and connected to it at both ends. The loop allows more gas to be moved through the system.

² A lateral pipeline typically takes gas from the main system to deliver it to a customer, local distribution system, or another interstate transmission system.

- one meter station (El Centro Meter Station) at the IID's existing El Centro Generating Station in Imperial County to measure gas delivery from the North Baja system to the IID;
- two taps and crossover piping where the Arrowhead Extension would connect with the existing A-Line and proposed B-Line in Riverside County;
- one tap where the IID Lateral would connect with the proposed B-Line in Imperial County;
- four pig³ launchers;
- five pig receivers;
- nine remote manual valves with automatic shutdown capability on the B-Line, adjacent to the existing A-Line valve sites; and
- four remote manual valves with automatic shutdown capability on the IID Lateral.

The final EIS/EIR/plan amendment has been placed in the public files of the FERC and the CSLC and is available for public inspection at:

Federal Regulatory Energy Commission
Public Reference Room
888 First St. NE; Room 2A
Washington, DC 20426
(202) 208-1371

California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825
(916) 574-1938

The final EIS/EIR/plan amendment is also available for viewing on the FERC and CSLC websites at the Internet addresses below.

www.ferc.gov

www.slc.ca.gov

A limited number of copies of the final EIS/EIR/plan amendment are available from the FERC's Public Reference Room identified above. These copies may be requested in hard copy or as .pdf files on a CD that can be read by a computer with a CD-ROM drive. In addition, copies of the final EIS/EIR/plan amendment have been mailed to Federal, State, and local government agencies; elected officials; Native American tribes; affected landowners; local libraries and newspapers; intervenors to the FERC's proceeding; and other interested parties. Hard copies of the final EIS/EIR/plan amendment can be viewed at the following libraries in the Project area:

Yuma County Library District
350 3rd Avenue
Yuma, AZ 85364

Imperial Public Library
200 W. 9th Street
Imperial, CA 92251

Palo Verde Valley Library
125 W. Chanslorway
Blythe, CA 92225

City of Rancho Mirage Public Library
42-520 Bob Hope Drive
Rancho Mirage, CA 92270

³ A pig is an internal tool that can be used to clean and dry a pipeline and/or to inspect it for damage or corrosion.

El Centro Public Library
539 State Street
El Centro, CA 92243

Glen Avon Library
9244 Galena Street
Riverside, CA 92509

Hemet Public Library
510 E. Florida Avenue
Hemet, CA 92543

Palo Verde District Library
701 Silver Spur Road
Rollins Hills Estates, CA 90274

Holtville City Library
101 E. 6th Street
Holtville, CA 92250

Additional information about the Project is available from the FERC's Office of External Affairs at **1-866-208-FERC** or on the FERC Internet website (www.ferc.gov) using the eLibrary link. Click on the eLibrary link, click on "General Search," and enter the docket number excluding the last three digits in the Docket Number field. Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll free at 1-866-208-3676, or for TTY, contact (202) 502-8659. The eLibrary link on the FERC Internet website also provides access to the texts of formal documents issued by the FERC, such as orders, notices, and rule makings.

In addition, the FERC now offers a free service called eSubscription that allows you to keep track of all formal issuances and submittals in specific dockets. This can reduce the amount of time you spend researching proceedings by automatically providing you with notification of these filings, document summaries, and direct links to the documents. To register for this service, go to the eSubscription link on the FERC Internet website.

Information concerning the involvement of the CSLC in the EIS/EIR process may be obtained from Tom Filler, Project Manager, at (916) 574-1938, or on the CSLC Internet website at www.slc.ca.gov.

Information concerning the proposed land use plan amendments and the involvement of the BLM in the EIS/EIR and plan amendment process may be obtained from Lynda Kastoll, Project Manager, at (760) 337-4421.

The CSLC is expected to consider certification of the final EIS/EIR and act on North Baja's application at a regularly scheduled meeting in mid-2007. Interested parties will be notified of the date, time, and location of the meeting. If you have any questions regarding the CSLC hearing, or wish to testify, please contact Tom Filler at the number above.

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Secretary
Federal Energy Regulatory Commission

Paul D. Thayer
Executive Officer
California State Lands Commission

Elaine Zielinski
Arizona State Director
Bureau of Land Management

Mike Pool
California State Director
Bureau of Land Management

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
ACECs	Areas of Critical Environmental Concern
ACEEE	American Council for an Energy Efficient Economy
ACHP	Advisory Council on Historic Preservation
ADEQ	Arizona Department of Environmental Quality
Agency Staffs	environmental staffs of the FERC, the CSLC, and the BLM
AGFD	Arizona Game and Fish Department
amsl	above mean sea level
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
AQCRs	Air Quality Control Regions
AREMA	American Railway Engineering and Maintenance of Way Association
BA	Biological Assessment
BACT	Best Available Control Technology
BEI	Blythe Energy Interconnect
BLM	Bureau of Land Management
BMPs	best management practices
BO	Biological Opinion
BOR	Bureau of Reclamation
Bscfd	billion standard cubic feet per day
Btu/dscf	British thermal units per dry standard cubic foot
CAA	Clean Air Act
CalTrans	California Department of Transportation
CARB	California Air Resources Board
CDC	California Department of Conservation
CDCA Plan	California Desert Conservation Area Plan
CDD	California Desert District
CDFG	California Department of Fish and Game
CDMG	California Division of Mines and Geology
CDWR	California Department of Water Resources
CEC	California Energy Commission
CEPA	California Environmental Protection Agency
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
Certificate	Certificate of Public Convenience and Necessity
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
Chevron	Chevron Corporation
CIPC	California Invasive Plant Council
CM&R Plan	Construction Mitigation and Restoration Plan
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
COE	U.S. Army Corps of Engineers
COE Manual	U.S. Army Corps of Engineers Wetlands Delineation Manual
Commission	Federal Energy Regulatory Commission
CPUC	California Public Utilities Commission

ACRONYMS AND ABBREVIATIONS (cont'd)

CPUC GO 112-E	California Public Utilities Commission, General Order 112-E
CRHR	California Register of Historical Resources
CRWQCB	California Regional Water Quality Control Board, Colorado River Basin Region
CSLC	California State Lands Commission
CSWRCB	California State Water Resources Control Board
CWA	Clean Water Act
dB	Decibel
dBA	decibels on the A-weighted scale
DNA	Decade of North American Geology
DOT	U.S. Department of Transportation
draft EIS/EIR	draft environmental impact statement/environmental impact report and draft land use plan amendment
DRMP/Draft EIS	<i>Notice of Availability of Yuma Field Office Draft Resource Management Plan and Draft Environmental Impact Statement</i>
Dthd	dekatherms per day
DTSC	Department of Toxic Substances and Control
DWMA	Desert Wildlife Management Area
ECA	Energia Costa Azul
Ecological Analysis	<i>An Ecological Analysis of Conservation Priorities in the Sonoran Desert Ecoregion</i>
EIA	Energy Information Administration
EI	Environmental Inspector
El Paso	El Paso Natural Gas Company
EPA	U.S. Environmental Protection Agency
EQH	Earthquake History of the United States
ESA	Endangered Species Act of 1973
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
final EIS/EIR	final environmental impact statement/environmental impact report and proposed land use plan amendment
FIRM	Federal Flood Insurance Rate Maps
FLPMA	Federal Land Policy and Management Act
FWENC	Foster Wheeler Environmental Corporation
FTHLICC	Flat-tailed Horned Lizard Interagency Coordinating Committee
FWS	U.S. Fish and Wildlife Service
GHG	greenhouse gas
HAPs	Hazardous Air Pollutants
HCA	high consequence area
HDD	horizontal directional drill
HDD Plan	Horizontal Directional Drill Plan
HHV	high heating value
HMA	Herd Management Area
ICAPCD	Imperial County Air Pollution Control District
IID	Imperial Irrigation District
INGAA	Interstate Natural Gas Association of America
ISDRA	Imperial Sand Dunes Recreation Area
ISDRA Plan	ISDRA Management Plan
kV	Kilovolt

ACRONYMS AND ABBREVIATIONS (cont'd)

L _{dn}	day-night equivalent sound level
L _{eq(24)}	24-hour equivalent sound level
LNG	liquefied natural gas
LRPC	La Rosita Power Complex
LUST	leaking underground storage tank
MACT	Maximum Achievable Control Technology
MAOP	maximum allowable operating pressure
Mar Adentro	Terminal GNL Mar Adentro de Baja California
Memorandum	Memorandum of Understanding on Natural Gas Transportation Facilities
mg/l	milligrams per liter
MMI	Modified Mercalli Intensity
MMP	mitigation monitoring program
MMscfd	million standard cubic feet per day
MOA	Memorandum of Agreement
MP	Milepost
MRZ	mineral resources zones
MUCs	multiple-use classes
MUIDs	Map Unit Identifiers
MWD	Metropolitan Water District
NABCI	U.S. North American Bird Conservation Initiative
NAFTA	North American Free Trade Agreement
NAAQS	National Ambient Air Quality Standards
NECO	Northern and Eastern Colorado Desert
NECO Plan	Northern and Eastern Colorado Desert Coordinated Management Plan
NEPA	National Environmental Policy Act
NGA	Natural Gas Act
NHPA	National Historic Preservation Act
NOAA Fisheries	U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NOI/NOP	<i>Notice of Intent/Preparation to Prepare an Environmental Impact Statement/Report and Proposed Land Use Plan Amendment for the Proposed North Baja Pipeline Expansion Project, Request for Comments on Environmental Issues/Impacts, and Notice of Public Scoping Meetings</i>
North Baja	North Baja Pipeline, LLC
Notice of Pre-Filing Process Review	<i>Notice of Pre-Filing Process Review for the North Baja Pipeline Expansion Project</i>
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	U.S. Department of Agriculture, Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSAs	noise-sensitive areas
NSR	Nonattainment New Source Review
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
O ₃	Ozone
OEP	Office of Energy Projects
OHV	off-highway vehicle
OHV Plan	Off-Highway Vehicle Management Plan

ACRONYMS AND ABBREVIATIONS (cont'd)

OPS	Office of Pipeline Safety
OSHA	U.S. Department of Labor, Occupational Safety and Health Administration
Pb	Lead
PD	Preliminary Determination on Non-Environmental Issues
PHMSA	Pipeline and Hazardous Materials Safety Administration
PIR	potential impact radius
Plan	FERC's Upland Erosion Control, Revegetation, and Maintenance Plan
PM ₁₀	particulate matter having an aerodynamic diameter of 10 microns or less
PM _{2.5}	particulate matter having an aerodynamic diameter of 2.5 microns or less
POD	Plan of Development
ppm	parts per million
ppmw	parts per million by weight
PRMM Plan	Paleontological Resource Mitigation and Monitoring Plan
Procedures	FERC's Wetland and Waterbody Construction and Mitigation Procedures
Project or proposed Project	North Baja Pipeline Expansion Project
PSD	Prevention of Significant Deterioration
psig	pounds per square inch gauge
PTE	potential to emit
PVID	Palo Verde Irrigation District
RCPG	Regional Comprehensive Plan and Guide
RMPs	resource management plans
ROD	Record of Decision
RTP	Regional Transportation Plan
RV	recreational vehicle
SAA	Streambed Alteration Agreement
SCAB	South Coast Air Basin
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCEDC	Southern California Earthquake Data Center
SCR	Selective Catalytic Reduction
SDG&E	San Diego Gas & Electric Company
Secretary	Secretary of the Commission
SEDAB	Southeast Desert Air Basin
Sempre	Sempre LNG
SHPO	State Historic Preservation Office
SIPs	State Implementation Plans
SMA	Special Management Area
SO ₂	sulfur dioxide
SO _x	sulfur oxides
SoCalGas	Southern California Gas Company
SPCC Plan	Spill Prevention, Containment, and Control Plan for Hazardous Materials and Wastes
SPPE	Small Power Plant Exemption
SR	State Route
STATSGO	State Soil Geographic
TDM Plant	Termoelectrica de Mexicali Power Plant
TGN	Transportadora de Gas Natural de Baja California

ACRONYMS AND ABBREVIATIONS (cont'd)

tpy	tons per year
Transwestern	Transwestern Pipeline Company, LLC
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
UCMP	University of California Museum of Paleontology
USC	United States Code
USCIS	U.S. Citizenship and Immigration Services
USGS	U.S. Geological Survey
VOC	volatile organic compounds
VRM	Visual Resource Management
WDRs	Waste Discharge Requirements
WECO	Western Colorado Desert
WECO Plan	Western Colorado Desert Routes of Travel Designations Plan
WGCEP	Working Group on California Earthquake Probabilities
WHA	Wildlife Habitat Area
WHMA	Wildlife Habitat Management Area
WHMP	Wildlife Habitat Management Plan
WI	Wobbe Index
Yuma District Plan	Yuma District Resource Management Plan

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EXECUTIVE SUMMARY

The staffs of the Federal Energy Regulatory Commission (Commission or FERC), the California State Lands Commission (CSLC), and the Bureau of Land Management (BLM) (collectively referred to as the Agency Staffs) prepared this final environmental impact statement/environmental impact report and proposed land use plan amendment (final EIS/EIR) for the North Baja Pipeline Expansion Project (Project or proposed Project) to fulfill the requirements of the National Environmental Policy Act (NEPA); the Council on Environmental Quality Regulations for implementing NEPA (Title 40 Code of Federal Regulations [CFR], Parts 1500-1508); the FERC's implementing regulations (Title 18 CFR, section 380); the California Environmental Quality Act (CEQA) (Public Resources Code section 21000 et seq.); the CEQA implementing guidelines (California Code of Regulations Title 14, section 15000 et seq.); and the Federal Land Policy and Management Act. The purpose of this document is to inform the public and the permitting agencies about the potential adverse and beneficial environmental impacts of the proposed Project and its alternatives, and recommend mitigation measures that would reduce the significant adverse impacts to the maximum extent possible, and, where feasible, to a less than significant level.

The FERC is the lead Federal agency and will use the document to consider the environmental impacts that could result if it issues North Baja Pipeline, LLC (North Baja) a Certificate of Public Convenience and Necessity (Certificate) and a Presidential Permit amendment under sections 7 and 3, respectively, of the Natural Gas Act (NGA). The CSLC is the lead State agency and will use the document to consider North Baja's application to amend its existing right-of-way lease across the State's Sovereign and School Lands in conjunction with the environmental impacts that could result from any part of the Project in California.

The BLM is participating as a cooperating agency in the preparation of this document because the Project would cross Federal land under the jurisdiction of the Palm Springs-South Coast, El Centro, and Yuma Field Offices. The Bureau of Reclamation (BOR) is also a cooperating agency in the preparation of this document because lands administered by the BOR would be crossed by the Project. Under section 185(f) of the Mineral Leasing Act of 1920, the BLM has the authority to issue Right-of-Way Grants and Temporary Use Permits for all affected Federal lands. This final EIS/EIR will be used by the BLM to consider whether to amend North Baja's existing Right-of-Way Grant and issue Temporary Use Permits for the installation of approximately 67.4 miles of pipeline and ancillary facilities across Federal lands managed by the BLM, the BOR, and the U.S. Fish and Wildlife Service (FWS). This final EIS/EIR will also be used by the BLM to consider amending the California Desert Conservation Area (CDCA) Plan (as amended), which would be necessary for pipeline construction outside of designated utility corridors, as well as amending the Yuma District Resource Management Plan (Yuma District Plan), which would be necessary for pipeline construction across the Milpitas Wash Special Management Area (SMA).

The BLM proposes to adopt this final EIS/EIR per Title 40 CFR Part 1506.3 to meet its responsibilities under NEPA and its planning regulations per Title 43 CFR Part 1610. The BLM will present separate Records of Decision for the amended Right-of-Way Grant and the plan amendments for the North Baja Pipeline Expansion Project after the issuance of this final EIS/EIR. The concurrence or non-concurrence of the BOR and the FWS would be considered in the BLM's decision.

<p>The vertical line in the margin identifies text that has been modified in this final EIS/EIR and differs from the corresponding text in the draft EIS/EIR.</p>

DESCRIPTION OF THE PROPOSED PROJECT AND PROJECT OBJECTIVES

North Baja proposes to expand its existing natural gas transmission pipeline system between Ehrenberg, Arizona and an interconnection at the international border between the United States and Mexico. North Baja's existing system extends approximately 79.8 miles from an interconnection with the facilities of El Paso Natural Gas Company (El Paso) near Ehrenberg through southeast California to a point on the international border between Yuma, Arizona and Mexicali, North Baja Mexico, where the pipeline interconnects with the Gasoducto Bajanorte pipeline. The North Baja system and the Gasoducto Bajanorte pipeline were built in 2002 to supply domestic natural gas from the United States primarily to gas-fired electric generation facilities in Baja California, Mexico. Since that time, several projects have been initiated to build liquefied natural gas (LNG) storage and vaporization terminals on the Baja California coast, near the terminus of the Gasoducto Bajanorte pipeline. This new source of natural gas would be stored in tanks as LNG at the terminals in Baja California, and then re-gasified (vaporized) and transported as natural gas into the Gasoducto Bajanorte and North Baja systems.

The first of these terminals, Sempra LNG's (Sempra) Energia Costa Azul (ECA) terminal, is already under construction with an anticipated commercial in-service date of early 2008. Sempra has announced its intention to expand the ECA terminal to double its base and peak load capacity and held a non-binding open season between April 17 and May 12, 2006 to solicit commercial interest in additional LNG processing capacity. Although the open season was non-binding, the results indicated high shipper interest in additional processing capacity. Sempra has announced that it will begin working with the shippers that submitted bids to develop binding terminal agreements. Pending regulatory approvals and successful commercial negotiations, the expansion could become operational as early as 2010.

At the time of North Baja's application submittals, Chevron Corporation (Chevron) was developing the Terminal GNL Mar Adentro de Baja California (Mar Adentro). In March 2007, Chevron announced cancellation of the project.

The existing North Baja system is currently certificated by the FERC to transport 512,500 dekatherms per day (Dthd) (500 million standard cubic feet per day [MMscfd]) of natural gas in a southbound direction. Once completed, the expanded system would be capable of transporting up to 2,932,000 Dthd (2,753 MMscfd) of natural gas from the planned LNG terminals in a northbound direction for delivery to customers in California and Arizona. In addition to the new volumes from Mexico, North Baja would continue to offer southbound gas transportation service for several existing shippers.

The North Baja Pipeline Expansion Project as proposed by North Baja in its application filed with the FERC on February 7, 2006 (Docket No. CP06-61-000) was analyzed in a draft environmental impact statement/environmental impact report and draft land use plan amendment (draft EIS/EIR) that was issued on September 27, 2006. North Baja subsequently amended its application to modify its point for delivery of natural gas to the Southern California Gas Company (SoCalGas) system (Docket No. CP06-61-001) and to eliminate delivery of natural gas to the Blythe Energy Facility I supply pipeline (Docket No. CP06-61-002). North Baja's amendments did not propose any changes to the transportation capacity of its proposed expansion. The facilities needed to deliver natural gas to the modified SoCalGas delivery point were referred to in the draft EIS/EIR as the Arrowhead Alternative and were fully analyzed in that document. Adoption of the Arrowhead Alternative would modify a small portion of the originally proposed Project by exchanging certain aboveground facilities and short segments of pipeline. Adoption of the Arrowhead Alternative would also eliminate the need for North Baja to construct an odorant facility because the natural gas would be odorized by SoCalGas using its existing odorant facilities. Based on North Baja's amendment to its application and the analysis in the draft EIS/EIR, the Arrowhead Alternative has been incorporated into the analysis of the proposed Project in this final EIS/EIR. Based

on North Baja's amendment to eliminate delivery of natural gas to the Blythe Energy Facility I supply pipeline, the Blythe Energy Interconnect Lateral has been eliminated from analysis in this final EIS/EIR.

In addition to delivery to the SoCalGas system in Blythe, California, the delivery points for the proposed Project are the Imperial Irrigation District's (IID's) existing El Centro Generating Station in El Centro, California and the El Paso system in Ehrenberg, Arizona.

The North Baja Pipeline Expansion Project would involve the construction and operation of a pipeline loop;¹ two pipeline laterals;² two meter stations; modifications at North Baja's existing compressor and meter stations; and installation of taps and crossover piping, mainline and lateral valves, and pig³ launchers and receivers. Specifically, North Baja proposes to construct and operate:

- up to 79.8 miles of pipeline loop (B-Line) adjacent to North Baja's existing pipeline (A-Line) consisting of 11.7 miles of 42-inch-diameter pipeline extending from the existing Ehrenberg Compressor Station at milepost (MP) 0.0 in La Paz County, Arizona to the existing Rannells Trap at MP 11.7 in Riverside County, California, and 68.1 miles of 48-inch-diameter pipeline extending from Rannells Trap to an interconnection at the U.S.-Mexico border at MP 79.8 in Imperial County, California;
- 2.1 miles of 36-inch-diameter pipeline (Arrowhead Extension) extending from the proposed B-Line at MP 7.4 to SoCalGas' existing Blythe Compressor Station in Riverside County;
- 45.7 miles of 16-inch-diameter pipeline (IID Lateral) extending from MP 74.5 of the B-Line near the existing Ogilby Meter Station to the existing IID El Centro Generating Station in Imperial County;
- modifications at its existing Ehrenberg Compressor Station and existing Ogilby Meter Station to allow northbound flow of natural gas;
- metering modifications at its existing El Paso Meter Station at the Ehrenberg Compressor Station site to allow LNG-source gas to be delivered into the El Paso system;
- one meter station (Blythe-Arrowhead Meter Station) at SoCalGas' existing Blythe Compressor Station in Riverside County to measure gas delivery from the North Baja system to SoCalGas;
- one meter station (El Centro Meter Station) at the IID's existing El Centro Generating Station to measure gas delivery from the North Baja system to the IID;
- two taps and crossover piping where the Arrowhead Extension would connect with the existing A-Line and proposed B-Line in Riverside County;
- one tap where the IID Lateral would connect with the B-Line in Imperial County;

¹ A loop is a segment of pipeline that is usually installed adjacent to an existing pipeline and connected to it at both ends. The loop allows more gas to be moved through the system.

² A lateral pipeline typically takes gas from the main system to deliver it to a customer, local distribution system, or another interstate transmission system.

³ A pig is an internal tool that can be used to clean and dry a pipeline and/or to inspect it for damage or corrosion.

- four pig launchers, one where the Arrowhead Extension would connect with the existing A-Line and proposed B-Line, one at Rannells Trap in Riverside County, one at the Ogilby Meter Station, and one where the IID Lateral would connect with the proposed B-Line;
- five pig receivers, one at the Ehrenberg Compressor Station, one at the end of the Arrowhead Extension at the Blythe-Arrowhead Meter Station, one at Rannells Trap, one at the Ogilby Meter Station, and one at the end of the IID Lateral at the IID El Centro Generating Station;
- nine remote manual valves with automatic shutdown capability on the B-Line, adjacent to the existing A-Line valve sites; and
- four remote manual valves with automatic shutdown capability on the IID Lateral.

The proposed Project would be constructed in three phases beginning in 2007 and ending in 2009. Phase I would involve modifications at the existing Ehrenberg Compressor Station and Ogilby and El Paso Meter Stations; construction of the Arrowhead Extension and the Blythe-Arrowhead Meter Station; and installation of a pig launcher, pig receiver, taps, and crossover piping on the Arrowhead Extension. Phase I-A would involve the construction of the IID Lateral. Phase II would involve the construction of the B-Line adjacent to North Baja's existing A-Line between Blythe and the U.S.-Mexico border. At this date, it remains uncertain what the final Phase II volumes would be. Therefore, the environmental review of the Project has been based on the maximum facility footprint (i.e., full looping of the existing A-Line) to ensure a full analysis of the potential environmental impacts.

PUBLIC INVOLVEMENT AND AREAS OF CONCERN

On May 19, 2005, North Baja filed a request with the FERC to implement the Commission's Pre-Filing Process for the North Baja Pipeline Expansion Project. At that time, North Baja was in the preliminary design stage of the Project and no formal application had been filed with the FERC. On June 2, 2005, the FERC granted North Baja's request and established a pre-filing docket number (PF05-14-000) to place information related to the Project into the public record. The purpose of the Pre-Filing Process is to encourage the early involvement of interested stakeholders, facilitate interagency cooperation, and identify and resolve issues before an application is filed with the FERC. The CSLC, the BLM, and the BOR agreed to conduct their environmental reviews of the Project in conjunction with the Commission's Pre-Filing Process.

As part of the Pre-Filing Process, North Baja mailed notification letters to landowners, government and agency officials, and the general public informing them about the Project and inviting them to attend open houses on July 6 and 7, 2005 to learn about the Project and to ask questions and express their concerns. Notifications of the open houses were also published in local newspapers. The open houses were held in Blythe, El Centro, and Calexico, California. The Agency Staffs attended the open houses to explain the NEPA/CEQA environmental review process to interested stakeholders and take comments about the Project.

In June and August of 2005, the Agency Staffs issued two separate notices that described the proposed Project and invited written comments on the environmental issues to be addressed in the EIS/EIR. The June 2005 notice announced the dates and locations of North Baja's three open houses. The August 2005 notice announced two public scoping meetings that were held in Blythe and El Centro on September 28 and 29, 2005, respectively. These notices were sent to Federal, State, and local agencies; elected officials; environmental and public interest groups; Native American tribes; affected

landowners; local libraries and newspapers; and other stakeholders in the region who had indicated an interest in the Project.

On September 27, 28, and 29, 2005, the FERC and CSLC staffs conducted interagency scoping meetings in the Project area to solicit comments and concerns about the Project from other jurisdictional agencies. Agencies present at the meetings were the FWS, Carlsbad Office; the FWS, Cibola National Wildlife Refuge (NWR); the BLM; and the BOR.

On March 10, 2006, the FERC and the CSLC sent a letter and a copy of the August 2005 notice to potentially affected landowners on 18th Avenue in Riverside County that inadvertently had not been included on the environmental mailing list. The letter solicited comments about the proposed Project from the potentially affected landowners to provide them an opportunity to participate in the environmental review process.

Transcripts of the public scoping meetings, a summary of the interagency scoping meetings, and all written scoping comments are part of the public record for the North Baja Pipeline Expansion Project and are available for viewing on the FERC Internet website (<http://www.ferc.gov>).⁴ The most frequently raised issues were related to impacts on air quality in Imperial County as a result of the existing and proposed upstream facilities in Mexico and the cumulative impact of the proposed Project when considered in association with past, present, and future projects or activities. Other issues of concern included impacts on special status species and native vegetation and the development of mitigation measures to minimize and compensate for these impacts. Comments relating to safety, protection of surface waters, cultural resources, alternatives, and the effects of the Project on off-highway vehicle (OHV) use were also received.

On September 27, 2006, the FERC and the CSLC sent a letter to the landowners and tenants potentially affected by the Arrowhead Alternative. The purpose of the letter was to inform the recipients that North Baja had identified them as a landowner or tenant that would be potentially affected by the Arrowhead Alternative and to solicit comments about the proposed Project and the Arrowhead Alternative.

On September 29, 2006, a formal notice announcing that the draft EIS/EIR was available for review and comment was published in the Federal Register and filed with the California State Clearinghouse. The draft EIS/EIR was filed with the U.S. Environmental Protection Agency (EPA); submitted to the California State Clearinghouse; and mailed to Federal, State, and local government agencies; elected officials; Native American tribes; affected landowners, including landowners and tenants potentially affected by the Arrowhead Alternative; local libraries and newspapers; intervenors⁵ in the FERC's proceeding; and other interested parties (i.e., miscellaneous individuals who provided scoping comments or asked to be on the mailing list). The typical NEPA/CEQA comment period for a draft EIS/EIR is 45 days. However, because the draft EIS/EIR was also a BLM draft land use plan amendment, the public was given 90 days after the date of publication in the Federal Register to review and comment on the draft EIS/EIR both in the form of written comments and at two public meetings held in the Project area.

⁴ Using the "eLibrary" link, select "General Search" from the eLibrary menu and enter the docket number excluding the last three digits in the "Docket Number" field (i.e., PF05-14 and CP06-61). Be sure to select an appropriate date range.

⁵ Intervenors are official parties to the proceeding and have the right to receive copies of case-related Commission documents and filings by other intervenors. Likewise, each intervenor must provide 14 copies of its filings to the Secretary of the Commission and must send a copy of its filings to all other intervenors. Only intervenors have the right to seek rehearing of the Commission's decision.

The public meetings held to receive comments on the draft EIS/EIR were in El Centro, California on December 5, 2006 and Blythe, California on December 6, 2006. The meetings were announced in the draft EIS/EIR, in the notice indicating that the draft EIS/EIR was available, on the FERC Internet website, and in several local newspapers. Both meetings were recorded for the public record. The 90-day comment period for receiving written comments on the draft EIS/EIR closed on December 28, 2006. Written comment letters were received from Federal, State, and local agencies; a Native American tribe; companies/organizations; and North Baja. The transcripts from the public meetings and the written comment letters are available for viewing on the FERC's Internet website (<http://www.ferc.gov>) and are included in Section 6.0 of this final EIS/EIR with the Agency Staffs' response to each comment.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The environmental impacts associated with construction and operation of the North Baja Pipeline Expansion Project are analyzed in this final EIS/EIR using information provided by North Baja and further developed from data requests; field investigations; scoping; literature research; alternatives analysis; contacts with Federal, State, and local agencies; and input from public groups and organizations. The Agency Staffs' analysis indicates that the Project would result in certain adverse environmental impacts.

North Baja has prepared specific plans that include measures to mitigate potential impacts. These plans include:

- Construction Mitigation and Restoration Plan (CM&R Plan);
- Spill Prevention, Containment, and Control Plan for Hazardous Materials and Wastes (SPCC Plan);
- Horizontal Directional Drill Plan (HDD Plan);
- Traffic Management Plans;
- Blasting Specifications;
- Paleontological Resource Mitigation and Monitoring Plan (PRMM Plan);
- Dust Control Plan;
- Fire Prevention and Suppression Plan;
- Site-specific Residential Construction Mitigation Plans;
- Off-highway Vehicle Management Plan (OHV Plan); and
- Unanticipated Discovery Plan for Cultural Resources.

Specific mitigation measures that are feasible were identified as part of the environmental analysis. When implemented, these measures would reduce most potential adverse impacts of Project construction and operation to a less than significant level. A table listing the anticipated impacts of the proposed Project and measures that would be implemented to mitigate those impacts is included in Section 5. The environmental effects of constructing and operating the proposed Project and North Baja's proposed and the Agency Staffs' additional mitigation measures are summarized below.

Geology

The proposed Project is located within the Colorado Desert geomorphic province, commonly referred to as the “low desert” in southern California. Construction and operation of the proposed pipeline and aboveground facilities would not materially alter the geologic conditions of the Project area. Effects from construction could include disturbances to the natural topography along the right-of-way and at aboveground facilities due to grading and trenching activities. After completion of construction, North Baja would restore topographic contours and drainage conditions as closely as feasible to their preconstruction condition.

Seismicity includes active faults, ground shaking, and soil liquefaction, and is the primary geologic hazard that could affect the proposed Project facilities. Seismic events in the vicinity of the Project are centered on fault activity in the Salton Trough. The potential for strong ground accelerations in the immediate vicinity of the proposed B-Line and Arrowhead Extension is generally low; however, several faults and fault zones are proximal to the proposed IID Lateral and have the potential for generating earthquakes that could cause strong ground motions. Damage to buried pipelines is most often caused by the differential movements of geologic material as opposed to shaking itself.

Results from the Liquefaction Hazard Evaluation and Mitigation Study North Baja performed in 2001 for the A-Line indicate that a major earthquake of magnitude 7.0 or greater originating on the San Andreas or Imperial Faults would create a high probability for soil liquefaction at the Arizona side of the Colorado River crossing and on the western portion of the 18th Avenue alignment. The liquefaction potential identified along the B-Line along the western portion of 18th Avenue would also be expected along the route of the Arrowhead Extension. To mitigate the potential for liquefaction, North Baja incorporated the recommendations of the Liquefaction Hazard Evaluation and Mitigation Study into the design for the proposed Project. At the Colorado River, liquefiable soils would be avoided by use of the horizontal directional drill (HDD) crossing method.

The liquefaction study included as part of the Geologic Hazards Study conducted for the proposed Project concluded that in addition to the areas identified along the B-Line, there are areas of locally high liquefaction potential along the IID Lateral. In particular, areas along the East Mesa (between MPs 8.0 and 27.0) and in the Imperial Valley (between MPs 27.0 and 45.7) would have a locally or generally high potential for liquefaction based on soil type and potential for ground shaking. North Baja would design and construct the IID Lateral to be earthquake resistant.

To further mitigate and reduce potential damage to the proposed facilities from earthquakes, North Baja’s facility design would comply with Federal standards outlined in Title 49 CFR Part 192 *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*. This code governs the construction and operation of natural gas pipelines, greatly reducing the potential risk of damage. The pipelines and associated facilities would be designed using the *Guidelines for the Design of Buried Steel Pipe* (American Lifelines Alliance 2001), *Guidelines for the Seismic Design and Assessment of Natural Gas and Liquid Hydrocarbon Pipelines* (Pipeline Research Council International, Inc. 2004), applicable building codes, and/or other similar recognized seismological engineering standards. The engineering design drawings for the entire Project in California would be certified by a California-registered civil/structural engineer, and would comply with the latest edition of the California Building Code.

North Baja has committed to perform a site-specific seismic evaluation as part of its detailed design phase for the Project. This evaluation would determine the engineering/design solutions that are appropriate to mitigate against the hazard of seismic displacements along the Imperial Fault. The seismic evaluation would determine recommended design fault displacements for the pipeline design

specifications. North Baja would develop a computer model to determine the soil-pipe interaction with the proposed applied displacement. The model would evaluate various combinations of pipe wall thickness and pipe grade to determine which pattern yields the best performance under displacement conditions. The design may also incorporate additional mitigation methods if necessary. North Baja would provide a copy of the final design for the Imperial Fault crossing, as well as any related geotechnical information, to the CSLC and the FERC before construction of the IID Lateral.

Implementation of these mitigation measures would reduce potential impacts from geologic hazards to less than significant levels.

The stratigraphic units that would be crossed by the Arrowhead Extension and the IID Lateral have a low potential to yield paleontological resources; therefore, construction of these facilities is not expected to impact paleontological resources. Although the B-Line route crosses several rock formations that have the potential to contain significant paleontological resources where construction activities could directly and/or indirectly damage, disturb, or result in the loss of these resources, the paleontological monitoring conducted during the construction of the A-Line revealed a very limited presence of paleontological resources. Only about a 1-mile-long stretch from MPs 28.1 to 29.1 yielded a single significant paleontological find during construction of the A-Line. Other areas of older Pleistocene alluvium between MPs 35.0 and 75.2 yielded only occasional paleontological materials and no significant finds.

To address potential impacts on paleontological resources resulting from Project construction, North Baja developed a PRMM Plan. The PRMM Plan includes a summary of the literature and museum archival review, field survey, and assessment of potential impacts on paleontological resources; Project-wide and site-specific mitigation and monitoring measures; and curation and reporting procedures. Implementation of North Baja's PRMM Plan would reduce potential impacts on paleontological resources to less than significant levels.

Soils

About 7 percent of the soils that would be crossed by the proposed Project may exhibit shallow depth to bedrock. All of these soils would be crossed by the B-Line. Based on North Baja's experience during construction of the A-line, shallow bedrock would be a concern primarily in the vicinity of MP 29.5 and would likely require blasting in order to excavate the trench through this area. All blasting activities would be conducted in strict compliance with North Baja's Blasting Specifications and in accordance with Federal, State, and local regulations regarding use, storage, and transport of explosives; safety; and environmental protection. Implementation of these measures would reduce the impacts of blasting on soils to less than significant levels.

Other soil limitations that would be encountered during construction of the Project include 494.4 acres of soils with high water erosion potential. The majority of these soils would occur along the B-Line (454.4 acres), with 3.6 acres affected along the Arrowhead Extension, and 36.4 acres affected along the IID Lateral. In addition, a total of 355.2 acres of soils along the B-Line (162.9 acres), the Arrowhead Extension (0.6 acre), and the IID Lateral (191.7 acres) routes exhibit high wind erosion potential.

Construction of the pipelines and aboveground facilities could expose soils to erosional forces, compact soils, affect soil fertility, and facilitate the dispersal and establishment of weeds. North Baja proposes to mitigate these potential impacts by implementing a CM&R Plan that was developed in consultation with the appropriate land management agencies and addresses the special issues associated with construction and restoration in an arid environment; an SPCC Plan to address preventive and mitigative measures to minimize the potential for soil contamination from spills or leaks of fuels,

lubricants, and coolants used during construction; and a Dust Control Plan to prevent soil loss due to wind erosion. Implementation of these plans would reduce impacts on soil resources to less than significant levels.

Modifications at the Ehrenberg Compressor Station, including the proposed pig receiver and El Paso Meter Station, would be completed within the existing fencelines and would not permanently affect additional soil resources. Construction of the Blythe-Arrowhead Meter Station and pig receiver would be completed within the existing fenceline of the SoCalGas Blythe Compressor Station and also would not affect additional soil resources.

The pig launcher and receiver proposed for Rannells Trap would require a permanent expansion of the existing site by 0.3 acre. Modifications at the Ogilby Meter Station, including the proposed pig launcher and receiver, would permanently affect about 0.2 acre of soils outside the existing fenced facility. The tap to the B-line and pig launcher associated with the IID Lateral would permanently affect 0.2 acre of soils. The El Centro Meter Station and pig receiver would permanently affect about 0.2 acre of soils, all located within the existing fenceline of the IID El Centro Power Generating Station. No prime farmland or farmlands of Statewide or local importance would be affected by these aboveground facility sites. The pig launcher, taps, and crossover piping associated with the Arrowhead Extension would permanently affect 0.8 acre of soils. These soils are designated as prime farmland and farmland of Statewide importance.

In total, 71.7 acres of prime farmland and 47.6 acres of farmland of Statewide importance would be affected. No farmland of local importance would be affected. These impacts on prime farmland and farmland of Statewide importance would be temporary. Temporary impacts on these soils and other active farmlands would be mitigated by segregating 1 to 2 feet of topsoil before installation of the pipeline and reapplying topsoil over the surface of the right-of-way during restoration as outlined in the CM&R Plan. No permanent impacts on designated farmland would occur in association with the construction and operation of the pipelines.

In addition, North Baja would implement a post-construction crop monitoring program to maintain the level of production of the affected soils. The program would evaluate crop productivity and success for a period of at least 2 years following construction. North Baja would prepare activity reports during this period documenting any problems identified by North Baja or the landowner and describing corrective actions taken to remedy these problems. These reports would be submitted to the FERC and the CSLC on a quarterly basis, as stipulated in the CM&R Plan. The FERC and CSLC staffs would also monitor the right-of-way after construction. If after 2 years it is determined that cropland crossed by the pipeline has not been restored successfully, North Baja would implement additional restoration measures. Implementation of North Baja's CM&R Plan would reduce impacts on agricultural land to less than significant levels.

Water Resources

For the majority of the Project, groundwater levels are generally well below the land surface that would be affected by construction activities. Shallow aquifers underlying a portion of the construction area (e.g., the Palo Verde Valley and portions of the route near the Cibola NWR, and the Imperial Valley) could experience minor impacts from clearing, grading, trenching, dewatering, soil mixing, and compaction that could temporarily alter overland flow and groundwater recharge. Near-surface soil mixing and compaction caused by heavy construction vehicles could also reduce the soil's ability to absorb water. These impacts would be temporary and minor and would not significantly affect groundwater resources or groundwater quality. In accordance with North Baja's CM&R Plan, vegetation would be cleared only where necessary. Upon completion of construction, North Baja would restore the

ground surface as closely as practicable to original contours and allow vegetation to regenerate to provide restoration of preconstruction overland flow and recharge patterns. North Baja has prepared an SPCC Plan to address preventive and mitigative measures that would be used during construction to minimize the potential for a hazardous spill to contaminate groundwater resources. Routine operation and maintenance of the Project facilities would not result in disturbance or contamination of groundwater resources.

Before construction, North Baja would conduct a field survey to identify public and private water supply wells within 150 feet of the proposed construction work area. This is the distance specified in Title 18 CFR Part 380.12(d)(9). Potential impacts on wells within 150 feet of the construction work area could include: localized decreases in groundwater recharge rates, changes to overland water flow, contamination due to hazardous materials spills, decreased well yields, decreased water quality (such as an increase in turbidity or odor in the water), interference with well mechanics, or complete disruption of the well. These impacts could result from trenching, equipment traffic, or blasting.

With the landowner's permission, North Baja would test the water wells identified within 150 feet of the construction work area before construction to determine baseline flow conditions. Where impacts are reported by landowners, North Baja would conduct post-construction water well tests. If it is determined that construction activities have impaired a well's water quality or yield, North Baja would either provide bottled water for drinking and arrange for an alternate source of water (such as a water truck) for other household uses, temporarily relocate the landowner until the water supply is restored, or compensate the landowner for losses. If water quality or yield is permanently impaired as a result of construction activities, North Baja would arrange for a new well to be drilled or compensate the landowner.

The proposed Project would cross 2 perennial waterbodies (the Colorado and Alamo Rivers), 73 man-made irrigation canals and drains, and 265 desert washes. Only the Colorado River has a fisheries classification (warmwater). Impacts on the Colorado River and two of the canals (the All-American Canal and the East Highline Canal) would be minimized through the use of the HDD crossing method. The HDD method involves installation of the pipe under the waterbody and therefore avoids disturbance to the bends and banks of the waterbody. The primary impact that could occur as a result of an HDD crossing is an inadvertent release of drilling mud directly or indirectly into the waterbody. North Baja has prepared an HDD Plan that describes how North Baja would conduct and monitor the drilling operations to minimize the potential for inadvertent drilling mud releases and includes procedures for corrective action and cleanup of drilling mud releases should one occur to land. The Agency Staffs are recommending that North Baja revise its HDD Plan to include specific procedures for corrective action and cleanup of drilling mud releases should one occur in the Colorado River or one of the canals.

Impacts on the Alamo River would be minimized by North Baja's proposal to install the pipeline in the road shoulder over the culverts that carry the water under the road. North Baja would cross all but three of the canals and drains either by boring underneath the culverts or by installing the pipeline between the drain culverts and a road bed. Rannells Drain along the B-Line and two unnamed canals along the Arrowhead Extension would be the only irrigation canals or drains crossed by the use of the open-cut crossing technique. The construction and restoration measures in North Baja's CM&R Plan would minimize Project-related disturbances to all waterbodies crossed by the pipeline routes.

The majority of the waterbodies that would be crossed are dry washes that do not support fisheries, provide critical aquatic habitat, provide migratory passage for aquatic organisms, or have California Regional Water Quality Control Board, Colorado River Basin Region- (CRWQCB) designated recreation/high quality visual resource values. North Baja would cross these dry washes with typical cross-country construction methods using the same techniques that were implemented to construct the A-

Line. Impacts on dry washes would be limited to the temporary alteration of beds and banks, loss of wildlife habitat, and possibly increased sediment load during initial storm events following construction. As part of its Streambed Alteration Agreement with the California Department of Fish and Game (CDFG), North Baja would provide offsite, compensatory mitigation for disturbances to wildlife habitats located between the banks of dry desert washes.

Implementation of North Baja's SPCC Plan, revised HDD Plan, and CM&R Plan would reduce impacts on water resources to less than significant levels.

Wetlands

The proposed pipeline facilities would cross 18 palustrine emergent or palustrine scrub-shrub wetlands under the jurisdiction of the U.S. Army Corps of Engineers (COE). No wetlands would be affected by the aboveground facilities. Eight of the 18 wetlands crossed would be left undisturbed by use of the HDD method, bore method, or by installing the pipeline in the road shoulder outside the wetland boundary. North Baja would use the open-cut method to cross the remaining 10 wetlands implementing the construction and restoration procedures outlined in its CM&R Plan. These activities would result in a short-term disturbance of 35.7 acres of wetlands. Of this total, about 26.9 acres were previously disturbed during construction of the A-Line. Adherence to North Baja's CM&R Plan and its compliance with the COE's section 404 and the CRWQCB's section 401 permit conditions would reduce impacts on wetland resources crossed by the pipeline routes to less than significant levels.

Vegetation

Construction activities would result in disturbances of about 1,724.8 acres of vegetation. The most common vegetation communities that would be affected are creosote bush scrub (1,049.0 acres) and urban/ruderal (447.7 acres), which account for about 87 percent of the vegetation that would be cleared or affected by construction. The next most common communities that would be disturbed are agriculture (102.9 acres) and desert wash woodland (83.2 acres) accounting for about 11 percent of the affected vegetation. The least common vegetation community that would be affected is desert sand dunes (42.0 acres), which accounts for less than 3 percent of the vegetation that would be disturbed by the construction of the pipeline facilities. Areas of riparian vegetation would be avoided by the Project.

The agricultural community would typically regenerate quickly and impacts on these vegetation communities would be short term. Cultivated areas are regularly disturbed, generally receive ample water through irrigation if necessary, and would quickly re-establish on the right-of-way following replanting by the landowners. The removal of desert vegetation would have a long-term impact. The arid environment characteristic of these habitats is not conducive to plant growth and would slow the regeneration of vegetation following construction. Moreover, because of the dryness of these areas, regeneration by active seeding or planting is typically ineffective. Natural regeneration of these areas would take several years and in some cases could take over 50 years.

Of the vegetation communities that would be disturbed, the most sensitive is the desert wash woodland, which would be crossed by the B-Line. Desert wash species growing in microphyll woodland, such as ironwood, blue palo verde, and smoke tree, provide structural diversity, cover, and forage for many more wildlife species than the creosote bush scrub habitat. Of the total 83.2 acres of desert wash woodland that would be cleared, 22.0 acres (about 26 percent) would be new disturbance (i.e., not disturbed during construction of the A-Line).

North Baja would minimize tree clearing by reducing the width of the construction right-of-way from 105 feet to 80 feet in 16 woodland areas crossed by the proposed route. Trees that cannot be

avoided would be subjected to one of several treatments (prune, limb, or remove) based on proximity to the pipeline centerline. By pruning or limbing trees rather than removing them, many trees within the right-of-way would be preserved. The reduction of the right-of-way width in these 16 areas would preserve 5.6 acres of desert wash woodland trees, which would reduce the amount of new clearing in desert wash woodlands by about 20 percent.

The CM&R Plan is specifically designed for minimizing and restoring disturbances to native vegetation and includes a Desert Restoration Plan. The Desert Restoration Plan was developed in consultation with the BLM, the FWS, and the CDFG and describes the procedures that were successful during construction of the A-Line that would be implemented during construction of the B-Line to preserve and restore habitat values affected by pipeline construction in the desert environment. Some of these procedures include: preserving the native seed bank by segregating topsoil to a depth of 2 to 8 inches in non-agricultural areas where grading would be conducted, and redistributing material over the right-of-way during cleanup; preserving and redistributing cut vegetation over the right-of-way; restricting grading and crushing or cutting of vegetation where possible, leaving rootstock and minimizing soil disturbance; and imprinting areas with a sheepsfoot or similar device to provide indentations to catch water/seed and anchor native plant material that has been respread over the right-of-way, thereby aiding in natural revegetation and erosion control.

After construction, North Baja would monitor the entire pipeline route to determine the success of restoration of desert vegetation. In native desert habitats, restoration would be considered successful if the right-of-way is similar in species composition to adjacent undisturbed lands. This post-construction monitoring would be conducted annually in areas of desert vegetation disturbed by construction through 2012. Results of the monitoring would be provided in reports to the FERC, the BLM, the CSLC, and the CDFG.

Implementation of North Baja's CM&R Plan and post-construction monitoring program would reduce potential impacts on vegetation to less than significant levels.

The removal of existing vegetation and the disturbance of soils during construction could create optimal conditions for the invasion and establishment of exotic-nuisance species. Construction equipment traveling from invasive weed-infested areas into weed-free areas could also facilitate the dispersal of invasive weed seed and propagules and result in the establishment of noxious weeds in weed-free areas. Botanical surveys conducted before construction of the A-Line identified four invasive weed species in significant numbers including African mustard, Australian saltbush, fountain grass, and tamarisk. North Baja conducted post-construction weed and revegetation surveys for the A-Line, the most recent of which occurred in the Spring of 2005. The surveys indicate that although weeds (specifically mustard and tamarisk) have reoccurred in areas where they were present before construction of the A-Line, they have not spread to new areas along the right-of-way. Additionally, the surveys indicate that fountain grass has been eliminated from the right-of-way. No weeds were identified along the Arrowhead Extension. North Baja has not yet provided information regarding noxious weed species that may occur along the IID Lateral route; however, in accordance with the CM&R Plan, surveys for noxious weeds along the IID Lateral would be conducted before construction.

North Baja's CM&R Plan includes measures to minimize the spread of invasive exotic species that were developed in consultation with the appropriate natural resource agencies. After construction is complete, North Baja would conduct surveys for non-native plant species to determine locations of weed infestations attributable to the Project. North Baja would conduct these surveys and implement control measures (e.g., herbicide application, pulling by hand as permitted by landowner or land management agency) at Project-related infestations twice a year for 2 years after construction is complete or until the

infestations have been controlled. North Baja would also implement weed control measures annually as part of routine operation and maintenance.

Implementation of North Baja's CM&R Plan and post-construction monitoring program would reduce potential impacts associated with the spread of noxious weeds to less than significant levels.

Wildlife and Aquatic Resources

The primary impact of the Project on wildlife habitat, including habitat for migratory birds, would be the cutting, clearing, and/or removal of existing vegetation within the construction work area. Construction through agricultural areas would have the least impact. As discussed above, cultivated areas are regularly disturbed, receive ample water through irrigation, and would quickly reestablish on the right-of-way following replanting by the farmers. The removal of desert vegetation would result in the long-term loss of habitat for those species that utilize native vegetation communities. North Baja's CM&R Plan includes measures to avoid or minimize impacts on wildlife habitats as well as facilitate the recovery of native vegetation communities. North Baja's proposed conservation measures to minimize or avoid impacts on special status species would also serve to avoid, minimize, or compensate for impacts on general wildlife and their habitats.

The clearing of vegetation during the nesting season could have direct impacts on individual migratory birds. North Baja would attempt to schedule construction in native habitats outside of the breeding season for migratory birds. If, however, construction activities are necessary during the bird breeding season, in accordance with its CM&R Plan, North Baja would remove vegetation that could provide nesting substrate from the right-of-way before the breeding season. The Agency Staffs are recommending that North Baja consult with the FWS, the BLM, and the CDFG to develop Preclearing Plans for construction of Phase I-A and Phase II, which are the only phases of construction that have the potential to occur in native desert habitats. These plans would include specific details of the preclearing methods to be implemented, the specific locations where preclearing would occur, and the dates preclearing would be initiated and completed for each phase of construction. Qualified biologists would conduct preconstruction surveys to confirm the absence of nesting birds before construction begins. If, in spite of vegetation removal, nesting birds are found on the construction right-of-way, the nest would not be removed until fledging has occurred or unless authorized after consultation with the FWS, the CDFG, and, if the nest is located on Federal lands, the Federal land management agency.

Fires inadvertently started by construction activities could also affect wildlife in the Project area by igniting vegetation along the right-of-way. This habitat loss could cause crowding in adjacent habitats reducing productivity and increasing stress-induced mortality. North Baja has developed a Fire Prevention and Suppression Plan to minimize the potential for wildfires.

Implementation of North Baja's CM&R Plan, the Preclearing Plans to protect nesting migratory birds, and the Fire Prevention and Suppression Plan would reduce the impacts of the Project on wildlife to less than significant levels.

Pipeline construction or operation would not directly affect aquatic resources. An inadvertent chemical or fuel spill in or near a waterbody could release contaminants, which could affect fish through changes in food sources or by contaminating the water resources. North Baja's adherence to its CM&R Plan and SPCC Plan would reduce the potential of a spill and decrease the response time for control and cleanup of a spill, should one occur. Therefore, the probability of a spill of hazardous materials would be small and the impact on fisheries would be less than significant.

Special Status Species

The FWS identified nine federally listed endangered or threatened species that could potentially occur in the general vicinity of the North Baja Pipeline Expansion Project. The Agency Staffs have determined that, with implementation of North Baja's proposed minimization and conservation measures, its CM&R Plan, and the Agency Staffs' additional recommendations for the southwestern willow flycatcher and the Yuma clapper rail, the Project would have no effect on four species (desert pupfish, bonytail chub, brown pelican, bald eagle) and would not likely adversely affect three species (razorback sucker, southwestern willow flycatcher, Yuma clapper rail). The proposed Project is likely to adversely affect the federally and California-listed threatened desert tortoise and its designated critical habitat and the federally listed threatened and California-listed endangered Peirson's milk-vetch. As such, impacts on these species would be considered significant.

The draft EIS/EIR served as the Biological Assessment that is necessary for compliance with section 7 of the Endangered Species Act. Copies of the draft EIS/EIR were sent to the FWS along with a letter requesting concurrence with the determinations of effect and initiation of formal consultation. In a letter dated November 1, 2006, the FWS concurred with the determinations of effect. In the BO issued on April 20, 2007, the FWS concluded that the proposed action is not likely to jeopardize the continued existence of the desert tortoise and its critical habitat or the continued existence of the Peirson's milk-vetch. The CDFG has not yet issued its conclusions regarding the impact of the Project on the desert tortoise and the Peirson's milk-vetch.

Forty-two other special status species were identified as potentially occurring within the Project area. Based on the results of habitat evaluations and species-specific surveys, 18 of these special status species potentially occur in the area that would be impacted by construction of the Project. North Baja's implementation of general and species-specific conservation measures and the Agency Staffs' additional recommendations would allow the Project to avoid, minimize, or compensate for Project impacts on these species. Therefore, with one exception, impacts would be less than significant. The Agency Staffs believe that impacts on the flat-tailed horned lizard, which is a California-listed special concern species, and its habitat would be considered significant. The CDFG has not yet issued its conclusions regarding the impact of the Project on the flat-tailed horned lizard.

Land Use, Special Management Areas, Recreation and Public Interest Areas, and Aesthetic Resources

Approximately 99 percent of the pipeline facilities would be constructed in or adjacent to various existing rights-of-way, including about 63 percent (the B-Line) that would be installed generally 25 feet from North Baja's existing A-Line. In most areas, about 80 feet of the construction right-of-way for the B-Line would overlap the area previously disturbed during construction of the A-Line. No new permanent right-of-way would be required for the B-Line.

Construction of the pipeline facilities would temporarily affect about 1,569.3 acres of land. About 858.5 acres (55 percent) of land is previously disturbed area associated with construction and operation of the A-Line. Open land would be the primary land use affected by construction of the pipeline facilities totaling about 1,101.8 acres (70 percent). The remaining land uses that would be disturbed consist of 374.0 acres (24 percent) of anthropogenic (i.e., transportation and industrial/commercial/utility uses) land and 93.5 acres (6 percent) of agricultural land. Most of this land would be allowed to return to previous uses after construction is completed; however, about 102.2 acres of open land and anthropogenic land would be retained as new permanent right-of-way. Modifications at existing and construction of new aboveground facilities associated with the proposed Project would affect 6.2 acres of open and anthropogenic land. Of the 6.2 acres, 1.2 acres would be permanently converted for operation of these facilities. A total of 1.0 acre and 0.8 acre of agricultural land would be required for

construction and operation of the aboveground facilities, respectively. The permanent conversion of open, anthropogenic, and agricultural land for the pipeline and aboveground facilities would not convert more than 1 percent of agricultural lands in a county to a non-agricultural use and, therefore, would be less than significant.

There are 37 residences and 6 businesses located within 100 feet of the construction work area for the North Baja Pipeline Expansion Project. All of these establishments are located along 18th Avenue and various Imperial County roadways where North Baja proposes to install the pipelines in the paved road or abutting road shoulders. There are three residences along the portion of Arrowhead Boulevard that would be affected by construction of the Project; however, no residences or businesses are within 100 feet of the proposed Arrowhead Extension. The closest residence is approximately 126 feet from the edge of the construction right-of-way, near MP 1.2. Temporary impacts during construction of the pipeline facilities in residential areas could include: inconvenience caused by noise and dust generated by construction equipment and traffic, and by trenching of roads or driveways; increased localized traffic; ground disturbance of lawns; removal of trees, landscape shrubs, or other vegetative screening between residences and adjacent rights-of-way; and potential damage to existing septic systems or wells. North Baja has prepared Site-specific Residential Construction Mitigation Plans and proposes additional mitigation measures to minimize impacts on residents. North Baja has also prepared Traffic Management Plans in consultation with Riverside and Imperial Counties to minimize disruptions to the flow of traffic along 18th Avenue and Imperial County roadways and a Dust Control Plan to minimize the nuisance of fugitive dust. The Agency Staffs are recommending that North Baja develop a Traffic Management Plan for Arrowhead Boulevard in consultation with the County of Riverside Transportation Department to detail the specific measures that would be used to control traffic during construction of the Arrowhead Extension.

Implementation of North Baja's Site-specific Residential Construction Mitigation Plans, Traffic Management Plans, and Dust Control Plan would reduce the potential impacts of construction on residences to less than significant levels.

The proposed pipelines would cross three special management areas administered by the BLM: the CDCA, the Milpitas Wash SMA, and the Imperial Sand Dunes Recreation Area (ISDRA). A CDCA Plan amendment would be needed for approximately 27.6 miles of BLM-managed land that would be crossed by the B-Line (20.8 miles) and the IID Lateral (6.8 miles) outside of a designated utility corridor within the CDCA. The B-Line would be entirely adjacent to North Baja's existing A-Line, which was the subject of an amendment to the CDCA Plan and previously approved by the BLM in 2002. The portion of the IID Lateral outside of designated utility corridors would be within or adjacent to existing transportation (Interstate 8 and Evan Hewes Highway) and transmission line rights-of-way. An amendment to the Yuma District Plan would be needed for approximately 2.5 miles of BLM-managed land outside a designated utility corridor that would be crossed by the B-Line within the Milpitas Wash SMA. The B-Line would be entirely adjacent to North Baja's existing A-Line, which was the subject of an amendment to the Yuma District Plan and previously approved by the BLM in 2002. The portions of the proposed Project requiring a BLM plan amendment are shown on Figure ES-1. The amendments for the North Baja Pipeline Expansion Project would only accommodate the proposed Project and would not conflict with the CDCA Plan and the Yuma District Plan. Therefore, the proposed plan amendments would not be a significant impact.

The ISDRA was created in 1977 for the purpose of providing a formal space for OHV use. The ISDRA Management Plan was approved and adopted as an amendment to the CDCA Plan in March 2005. The B-Line would be in the ISDRA between MPs 71.1 and 74.5 and the IID Lateral would be in the ISDRA between MPs 0.0 and 7.9. The majority of the route in these areas would be in a designated utility corridor. The amendment to the CDCA Plan discussed above would include the portion of the route that deviates from a designated utility corridor on BLM land in the ISDRA.

Non-Internet Public

| FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR
THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
Docket Nos. CP06-61-000 and CP01-23-003

| Figure ES-1 Environmentally Superior Alternative and Locations
Requiring a BLM Plan Amendment

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public.referenceroom@ferc.gov.

The proposed pipeline facilities would not cross any national or State forests, National or California Wild and Scenic Rivers, registered national natural landmarks, lands designated under a Habitat Conservation Plan, golf courses, or areas designated under the National Trails System. However, the proposed route crosses 11 recreation or public interest areas and is adjacent to several others. In general, impacts on recreation and public interest areas would be temporary and would be limited to the period of active construction, which typically would last only several days to several weeks in any one area.

During construction, the Project could have an impact on OHV use in the ISDRA and other areas by restricting access to areas designated for OHV use. Conversely, the pipeline rights-of-way could increase accessibility for OHV use into previously inaccessible, environmentally sensitive areas. To reduce the potential for interference between pipeline construction activities and authorized OHV use as well as unauthorized OHV use of the pipeline rights-of-way after construction, North Baja developed an OHV Plan that addresses the initial siting, construction, and operation of the proposed facilities. North Baja's OHV Plan was developed in consultation with BLM recreation specialists and biologists in 2001 and 2002 during planning for the original North Baja Pipeline Project and again in 2005 during planning for the proposed Project. The OHV Plan is also based on experience North Baja has gained while operating, maintaining, and managing the A-Line right-of-way since 2002. Peak OHV use in the ISDRA is especially high in November and December. North Baja has adjusted its construction schedule to avoid conflict with the high-use recreational season in the ISDRA. North Baja would also install the pipeline deeper in certain portions of the ISDRA to avoid conflict with recreational activities.

North Baja has no plans to maintain a permanent road on the right-of-way for operation and maintenance of the pipeline facilities. However, North Baja would maintain access to all portions of the permanent right-of-way by four-wheel drive vehicles in order to conduct emergency and periodic maintenance. The level of routine maintenance required by North Baja should not increase the accessibility the right-of-way provides for OHV use into previously restricted, inaccessible, or environmentally sensitive areas. In accordance with its OHV Plan, North Baja would install blocking measures to further reduce the potential for OHV use of the right-of-way. North Baja would also place signs and vegetative barriers at various access points along the right-of-way as requested by the BLM. The Agency Staffs are recommending that North Baja revise its OHV Plan to include the agency or agencies responsible for enforcement of the OHV Plan, the frequency of monitoring that would be conducted to ensure that the implemented OHV blocking measures are functioning properly, the methodology for reassessing the implemented OHV blocking measures in the future, and enforcement measures. Implementation of these measures and North Baja's revised OHV Plan would reduce the potential impacts associated with unauthorized OHV use of the right-of-way to less than significant levels. Other recreational activities occurring along the pipeline routes could be impacted by construction-induced effects such as traffic, noise, and dust. These effects may affect the quality of some users' recreational experiences, but would be temporary in nature and less than significant.

Visual impacts of the Project would be greatest at the aboveground facility sites. Modifications at the existing aboveground facilities would result in an incremental increase in impacts on visual resources but would generally be minor because of the presence of the existing facilities. North Baja would paint the new or additional facilities so they would blend with the surrounding landscape. Construction of these facilities would not result in a substantial adverse effect on a scenic area or vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of the area or its surroundings. North Baja's proposed mitigation measures would reduce the visual impact of the aboveground facilities to less than significant levels.

Socioeconomics

No significant adverse socioeconomic impacts associated with the proposed Project were identified. The existing regional infrastructure would be able to handle the demand for housing and other services created by the temporary influx of construction workers. Personnel from North Baja's existing staff would assume operation and maintenance of the new facilities as part of their existing routine workload. Therefore, the Project would not cause a permanent population increase in any of the affected counties. The Project would not increase the short- or long-term demand for utilities and public service systems. Construction and operation of the Project would have a minor positive effect on local tax revenue and economies.

Transportation and Traffic

The proposed pipelines would cross several linear transportation and utility rights-of-way, including roads and railroads. All railroads and many road crossings would be bored; therefore, there would be little or no disruption to traffic. Most smaller, unpaved roads and driveways would be open cut where permitted by local authorities or landowners. However, no roads would be closed unless adequate detours are provided. If a detour is required, traffic would be rerouted to another nearby road. This would not result in a significant change in the level of service of Project-area roadways. If no reasonable detour is feasible, North Baja would leave at least one lane of traffic open. Where Project construction crosses roads necessary for access to private residences and no alternative entrance exists, North Baja would implement measures (e.g., plating over the open portion of the trench) to maintain passage for landowners and emergency vehicles. Most open-cut crossings would be completed and the road resurfaced in 1 or 2 days; therefore, construction would not cause the closure of a roadway for more than 48 hours consecutively.

In addition, construction of the B-Line would take place within the road or road shoulder of 18th Avenue for about 7.6 miles, the Arrowhead Extension would be within or adjacent to Arrowhead Boulevard, and the IID Lateral would be constructed within several Imperial County roadways. As discussed above, North Baja has prepared Traffic Management Plans in consultation with Riverside and Imperial Counties to minimize disruptions to the flow of traffic along 18th Avenue and Imperial County roadways, and the Agency Staffs are recommending that North Baja develop a Traffic Management Plan for Arrowhead Boulevard in consultation with Riverside County. Implementation of these Traffic Management Plans would reduce impacts associated with construction of the Project to less than significant levels.

Construction of the Project would result in temporary increases to traffic levels due to the commuting of the construction workforce to the Project area as well as the movement of construction vehicles and delivery of equipment and materials to the construction work area. Overall, the number and frequency of construction vehicle trips would be low on any particular roadway at any one time because construction would move sequentially along the Project right-of-way and the Project would not cause an increase in traffic that would be substantial in relation to the existing traffic load and capacity. Therefore, impacts associated with increased traffic levels during construction of the Project would be less than significant.

Cultural Resources

The FERC is responsible for complying with section 106 of the National Historic Preservation Act (NHPA), which requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. The procedures for complying with section 106 are outlined in the ACHP's regulations (Title

36 CFR Part 800). The effects of the Project on properties of traditional religious and cultural importance to Native Americans must also be considered in accordance with section 101 (d)(6) of the NHPA and the American Indian Religious Freedom Act. North Baja, as a non-Federal party, is assisting the FERC in meeting its obligations under section 106 and the implementing regulations in Title 36 CFR Part 800. In addition, the BLM must consider Native American religious and cultural concerns for the portion of the Project crossing Federal lands in accordance with the Archaeological Resource Protection Act, the Native American Graves Protection and Repatriation Act, and Sacred Sites Executive Order 13007.

The CSLC is responsible for complying with all provisions of the CEQA covering cultural resources, including the CEQA sections 21083.2 and 21084.1, and section 15064.5 of the Guidelines for Implementing the CEQA. Cultural resources include prehistoric and historic-period archaeological sites, districts, and objects; standing historic structures, buildings, districts, and objects; and locations of important historic events or sites of traditional/cultural importance. The State CEQA Guidelines section 15064.5 indicates a project may have a significant environmental effect if it causes “substantial adverse change” in the significance of an historic resource as defined in section 15064.5(a)(1) through (a)(4). Under the CEQA, the CSLC is also required to take into account the effect on properties eligible for listing on the California Register of Historic Resources (CRHR) or that meet the definition of a unique archaeological resource in the CEQA section 21083.2.

North Baja surveyed a 220-foot-wide corridor in 2000 and 2001 for the construction of the A-Line, which also covers the construction work area for the proposed B-Line. No cultural resources were identified in Arizona. Ninety cultural resources were identified along the B-Line route in California. Subsequent to its initial surveys, North Baja completed evaluations at 12 sites to determine their eligibility for listing on the National Register of Historic Places (NRHP) and the CRHR. Based on the initial surveys and evaluations, six cultural resources are recommended as not eligible for listing on the NRHP and the CRHR and no further work is recommended. Thirty-four cultural resources have not been evaluated to determine eligibility and 50 sites are recommended as eligible for listing on the NRHP and the CRHR. Of these, two NRHP-eligible cultural resources (Site CA-IMP-7911/H and the All-American Canal) were specifically identified by the BOR as important cultural resources. North Baja currently plans to mitigate impacts on Site CA-IMP-7911/H by completing data recovery and monitoring the site during construction. North Baja would avoid impacts on the All-American Canal by use of the HDD crossing method. Impacts on the other canals and irrigation features would be mitigated by North Baja’s proposal to monitor construction activities. North Baja would mitigate impacts on the remaining unevaluated and eligible sites by the use of avoidance measures (including installation of exclusion fencing), construction monitors, data recovery, and/or narrowing of the construction right-of-way.

North Baja surveyed a 92- to 100-foot-wide corridor along the Arrowhead Extension route on Arrowhead Boulevard. The aboveground facility sites and temporary extra workspaces associated with the Arrowhead Extension were also surveyed. North Baja’s surveys identified six historic cultural resources, one of which (the C-05 Canal) was previously recorded. The remaining five cultural resources consist of two wood pole utility lines and three unnamed canals. All six cultural resources identified are unevaluated for eligibility for listing on the NRHP and the CRHR. The wood pole utility lines would not be affected by construction. The Arrowhead Extension would cross the C-05 Canal and two of the unnamed canals. The unnamed canals are private ditches that are not part of the Palo Verde Irrigation District irrigation system. North Baja would cross the two unnamed canals using the open-cut method and would restore the canals to their previous condition after construction. North Baja would avoid impacts on the C-05 Canal by use of the bore crossing method.

North Baja surveyed a 100- to 200-foot-wide corridor along about 43.0 miles of the proposed IID Lateral route. The remainder of the proposed route was not surveyed due to denied access. North Baja

would complete surveys along the remaining portion of the IID Lateral route when landowner permission is obtained.

North Baja's surveys identified 98 cultural resources along the IID Lateral. Subsequent to its initial surveys, North Baja completed evaluations at five sites to determine their eligibility for listing on the NRHP and the CRHR. Based on the initial surveys and evaluations, six cultural resources are recommended as not eligible for listing on the NRHP and the CRHR and no further work is recommended. Four cultural resources (the All-American Canal and Sites CA-IMP-8314, CA-IMP-8327, and CA-IMP-8389) are recommended as eligible for listing on the NRHP and the CRHR. North Baja would avoid impacts on the All-American Canal by use of the HDD crossing method. North Baja would mitigate impacts on Site CA-IMP-8327 by avoiding and monitoring it during construction and on Site CA-IMP-8389 by implementing data recovery and monitoring it during construction. Site CA-IMP-8314 is one of several cultural resources that collectively contribute to an archaeological district being proposed by the BOR. The BOR, the Quechan Indian Tribe, and the Kwaaymii Laguna Band of Indians requested that Site CA-IMP-8314 be avoided. The Agency Staffs are recommending that North Baja adopt the Modified ISDRA Transmission Line Alternative to avoid impacts on this site. In response to other Native American requests, North Baja would have a monitor present during ground-disturbing activities along the alternative route south of Site CA-IMP-8314. The remaining 88 cultural resources have not been evaluated to determine eligibility for listing on the NRHP and the CRHR. Two of these sites would not be within the construction work area. Seventy-two of the unevaluated cultural resources are canals or other irrigation features, 13 are transmission/telephone lines or poles, and 1 is a railroad. North Baja would mitigate impacts on these features by monitoring them during construction to ensure avoidance.

North Baja also completed surveys of the 18th Avenue, Ripley, Ogilby, and IID Lateral (El Centro) Contractor Yards. No eligible cultural resources were identified at these yards. North Baja has indicated it would complete surveys along any access roads that require improvements or modifications.

North Baja provided its Unanticipated Discovery Plan to be used in the event that cultural resources or human remains are discovered during construction. The plan includes contact procedures for the FERC, the State Historic Preservation Offices (SHPOs), the BLM, the BOR, and Native American tribes, as appropriate. The plan provides for the protection in place of any unanticipated discoveries until appropriate evaluation and consultation have occurred. In the event that the discovery is determined to be of NRHP significance, a treatment plan (such as avoidance, monitoring, and/or scientific data recovery) would be developed and implemented in consultation with the appropriate parties.

North Baja conducted initial and follow-up contacts with Native American tribes whose traditional territories are crossed by the Project or who had been identified by the SHPOs or another knowledgeable party as having a potential cultural resources concern. Members of the Quechan Indian Tribe and the Campo Band of Mission Indians participated in the cultural resources surveys as Native American monitors.

At the time of North Baja's follow-up consultations, the majority of the tribes indicated they had no concerns about the proposed Project or had not yet reviewed the Project materials. Some of these tribes also requested to receive future Project updates. North Baja was not able to complete follow up contacts with the Fort McDowell Yavapai Nation. The Gila River Indian Community and the Hualapai Tribe indicated they would defer comments to the Colorado River Indian Tribe. The Hualapai Tribe and the Torres-Martinez Desert Cahuilla Indians identified concerns about existing trails in the Project area. North Baja would monitor construction activities to avoid impacts on trails. The Salt River Pima-Maricopa Indian Community indicated it would defer comments to the Tohono O'odham Nation, which indicated it would defer comments to the Colorado River and Quechan Indian Tribes and the Mojave and Cocopah Tribes. To date, these tribes have provided comments on the Project including requests for

survey reports and for monitors to be present during cultural resources surveys. The Hopi Tribe stated it would defer comments to the SHPO and other interested parties, that it had an interest in the White Tanks area, and that no known traditional cultural properties were in the Project area. The proposed Project would not affect the White Tanks area, which is near Phoenix. No Native American religious concerns were identified.

No traditional cultural properties have been identified in the proposed Project's area of potential effect to date. North Baja indicated it would continue consultations with Native American tribes throughout the Project.

In addition to North Baja's contacts, the Agency Staffs' August 2005 notice regarding the Project was sent to 64 individuals from 33 Native American tribes that were identified by the California Native American Heritage Commission. One tribe, the Ramona Band of Cahuilla, provided comments in response to the notice.

The Arizona SHPO indicated that previous surveys were adequate for the currently proposed Project in Arizona. In order to complete the process of complying with section 106 of the NHPA for the proposed facilities, North Baja would need to conduct cultural resources surveys along portions of the proposed route in California where landowner permission has not been obtained. Once cultural resources surveys and evaluations are complete, the FERC, in consultation with the SHPO(s); the BLM; the BOR; the FWS, Cibola NWR; and Native American tribes, as applicable, would make determinations of eligibility and Project effects. If historic properties would be adversely affected, the FERC, as the lead Federal agency, would notify the ACHP to afford it an opportunity to participate in consultation. The CSLC would make the determination of eligibility for the CRHR for CEQA purposes. North Baja has prepared a treatment plan that specifies measures to reduce or mitigate impacts. Once the treatment plan is approved, a Memorandum of Agreement would be executed by the appropriate parties. North Baja would implement the specific treatment measures before Project construction is authorized by the FERC and the CSLC in any given area. Implementation of treatment would occur only after certification of the proposed Project. Implementation of treatment would ensure that Project-related adverse effects would be resolved for purposes of section 106 compliance, and reduced to less than significant levels for the purposes of NEPA compliance.

Air Quality

As the lead Federal agency responsible for authorizing the proposed Project, the FERC has identified emissions that would result from the Project in accordance with the published definitions of "direct" and "indirect" emissions in Title 40 CFR Part 51.852/93.152 and the supplementary information provided in the EPA's final rule for *Determining Conformity of General Federal Actions to State or Federal Implementation Plans* contained in 58 Federal Register 63214. Air quality in the Project area is regulated by the Arizona Department of Environmental Quality (ADEQ), the Mojave Desert Air Quality Management District (AQMD), and the Imperial County Air Pollution Control District (ICAPCD). La Paz County, Arizona is designated as attainment or unclassifiable for all criteria pollutants. Portions of Riverside and Imperial Counties, California that are within the Project area are designated as nonattainment for ozone and particulate matter having an aerodynamic diameter less than or equal to 10 microns and attainment for all other criteria pollutants. Because there would be no stationary sources or operational emissions associated with the proposed Project, the stationary source permitting requirements of the ADEQ, the Mojave Desert AQMD, and the ICAPCD do not apply.

Fugitive dust regulations adopted by the ADEQ, the Mojave Desert AQMD, and the ICAPCD do apply to the construction activities associated with the proposed Project. The construction activities that would generate emissions include land clearing, ground excavation, and cut and fill operations. These construction activities would occur 6 days per week for up to 12 hours per day during the construction

periods. The intermittent and short-term emissions generated by these activities would include dust from soil disruption and combustion emissions from the construction equipment. Emissions from construction of the pipeline and aboveground facilities are not expected to cause or significantly contribute to a violation of an applicable ambient air quality standard or contribute substantially to an existing or projected air quality violation because the construction equipment would be operated on an as-needed basis during daylight hours only and the emissions from gasoline and diesel engines would be minimized because the engines must be built to meet the standards for mobile sources established by the EPA. Most of the construction equipment would be powered by diesel engines and would be equipped with typical control equipment (e.g., catalytic converters), and Project-related vehicles and construction equipment would be required to use the new low sulfur diesel fuel as soon as it is commercially available. In addition, North Baja would implement several other measures (e.g., minimize idling time, ensure that diesel-powered construction equipment is properly maintained and shut off when not in use, reduce construction-related trips as feasible for workers and equipment) to minimize impacts on air resources.

Fugitive dust generated by construction activities would be minimized by the implementation of North Baja's Dust Control Plan. The Dust Control Plan includes control measures identified as best management practices by some of the regulating agencies. Some of these measures include applying water to unpaved roads and active construction areas and reducing vehicle speeds on unpaved roads. The Agency Staffs are recommending that North Baja file a revised Project-wide Dust Control Plan to provide more specific information regarding the precautions that would be taken to minimize fugitive dust from pipeline construction activities. The Agency Staffs are also recommending that North Baja file an Imperial County-specific Dust Control Plan that includes the measures of the revised Project-wide Dust Control Plan and meets the requirements of the ICAPCD's Regulation VIII. As discussed above, the Agency Staffs are also recommending that North Baja revise its OHV Plan to address enforcement and future monitoring. With the implementation of North Baja's revised Dust Control and OHV Plans, fugitive dust from Project construction activities and OHV use of the right-of-way is not expected to result in a violation of Federal or State ambient air quality standards or contribute substantially to an existing or projected air quality violation due to the transient and temporary nature of the construction activities.

Noise

The Project would occur primarily in rural range, desert, and agricultural areas. Noise sources in rural areas are predominantly natural, including insects, birds, wind, and weather. Accordingly, existing ambient noise levels near most of the pipeline routes are low. The majority of the pipeline and aboveground facilities would be located in areas with little to no human population and few noise-sensitive areas. The FERC guidelines do not specifically cover operational noise for the North Baja Pipeline Expansion Project aboveground facilities such as the meter stations, pig launchers, or pig receivers. The proposed modifications at the existing Ehrenberg Compressor Station would not increase operational noise levels at the station. Neither the States of Arizona nor California have Statewide noise regulations that would limit noise from these facilities; noise is regulated at the local level in both States.

Noise would be generated during construction of the pipeline and aboveground facilities. Noise associated with construction activities would be both temporary and intermittent because equipment would be operated on an as-needed basis during daylight hours. Therefore, the potential for construction activities to result in the generation of or exposure of persons to excessive ground-borne vibration or ground-borne noise levels would be less than significant.

Pipeline construction would proceed at rates averaging about 1 mile per day. However, construction activities in any one area could last from several weeks to several months on an intermittent basis. Construction equipment would be operated on an as-needed basis during this period. Although

certain noise-generating activities associated with pipeline construction (e.g., HDDs and bore operations) would occur at a single location for extended time periods and include nighttime activities, most activities would occur for limited lengths of time at a specific location and would occur during daytime hours. Additionally, a majority of the activities would occur away from population centers; therefore, the potential for the Project to result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project would be less than significant.

North Baja would comply with the noise elements included in the Riverside County and Imperial County General Plans; therefore, the potential for the Project to result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant.

Reliability and Safety

The pipeline and aboveground facilities associated with the North Baja Pipeline Expansion Project would be designed, constructed, operated, and maintained to meet or exceed the U.S. Department of Transportation (DOT) Minimum Federal Safety Standards in Title 49 CFR Part 192 and other applicable Federal and State regulations including the California Public Utilities Commission, General Order 112-e. These regulations, which are intended to protect the public and to prevent natural gas facility accidents and failures, include specifications for material selection and qualification; odorization of gas; minimum design requirements; and protection of the pipeline from internal, external, and atmospheric corrosion. To address seismic hazards, the facilities would be designed to meet or exceed the latest edition of the Uniform Building Code or International Building Code and to incorporate current seismological engineering standards, including the *Guidelines for the Seismic Design of Oil and Gas Pipeline Systems* (American Society of Civil Engineers 1984), *Guidelines for the Design of Buried Steel Pipe* (American Lifelines Alliance 2001), and *Guidelines for the Seismic Design and Assessment of Natural Gas and Liquid Hydrocarbon Pipelines* (Pipeline Research Council International, Inc. 2004).

North Baja would prepare and implement an Operation and Maintenance Plan in accordance with the requirements in Title 49 CFR Part 192. Within the first 6 months of placing the pipeline into operation, North Baja would conduct an internal inspection of the pipeline. This inspection would use an in-line magnetic flux leakage inspection tool (i.e., smart pig). The record of this inspection would serve as an initial set of data that would be compared to future internal inspections so that changes in pipe condition, primarily pipe wall thickness loss, can be readily determined and corrected. Following the initial test, internal inspections with a high resolution instrument would be conducted on a periodic basis, at a minimum of one inspection every 10 years, or sooner if the evidence suggests that significant corrosion or defects exist or if any new Federal or State regulations require more frequent or comparable inspections. In locations designated as high consequence areas, the pipeline would be inspected every 7 years.

The existing pipeline system is monitored and controlled 24 hours a day for pressure drops in the pipeline that could indicate a leak or other operating problem through a Supervisory Control and Data Acquisition (SCADA) system, which is a computer system for gathering and analyzing real-time systems. The system is programmed to take appropriate immediate action when alarm conditions are present. The SCADA system allows operators located in the Gas Control Center in Portland to monitor pipeline system conditions, including any actions that the SCADA system has made or any conditions that require immediate operator actions such as shutting down a compressor unit, closing a valve, or initiating emergency call-out action. In addition, a crew that conducts on-site operations and maintenance is located at the Ehrenberg Compressor Station, and is on call 24 hours a day. When completed, the B-Line, the Arrowhead Extension, and the IID Lateral would be operated in conjunction with the existing system and subject to the same operation and maintenance procedures.

The pipeline facilities would be clearly marked at line-of-sight intervals and at other key points to indicate the presence of the pipeline. The pipeline system would be routinely inspected by air and on the ground to observe right-of-way conditions and monitor for encroachments, third-party activities, or erosion on or near the right-of-way. All inspections would be conducted in accordance with DOT standards. Erosion or unstable conditions would be repaired as appropriate and appurtenant facilities would be maintained on a regular basis.

While the primary focus of these standards is prevention of accidents, North Baja would prepare an Emergency Response Plan that would be coordinated and tested (through drills and exercises) with local fire/police departments and emergency management agencies.

Cumulative Impacts

When the impacts of the North Baja Pipeline Expansion Project are considered additively with the impacts of other past, present, or reasonably foreseeable future projects, there is some potential for cumulative effect on resources such as soils, vegetation and wildlife, land use, recreation, aesthetic resources, socioeconomics, transportation and traffic, cultural resources, air quality, and noise. For the North Baja Pipeline Expansion Project, mitigation has been developed or recommended to minimize, avoid, or compensate for adverse impacts on each of these resources.

Animal and plant species that are federally and/or State-listed threatened and endangered species and their critical habitat would be affected by the North Baja Pipeline Expansion Project. The Agency Staffs have determined that the Project is likely to adversely affect the federally and California-listed threatened desert tortoise and its designated critical habitat and the federally listed threatened and California-listed endangered Peirson's milk-vetch. The Agency Staffs also believe that impacts on the flat-tailed horned lizard, which is a California-listed special concern species, and its habitat would be considered significant. As such, impacts on these three species would result in significant cumulative impacts if other projects occurring in the vicinity of the proposed Project would also occur within desert habitats that support these same species.

As discussed above, the North Baja system extends from an interconnection with the facilities of El Paso near Ehrenberg through southeast California to a point on the international border between Yuma, Arizona and Mexicali, North Baja Mexico, where the pipeline interconnects with the Gasoducto Bajanorte pipeline. The Gasoducto Bajanorte pipeline, which currently takes gas from the North Baja system at the U.S.-Mexico border and moves it west, would be reconfigured to move gas in the opposite direction, similar to the reconfiguration of the North Baja system that would occur during Phase I. Transport of the initial volumes of LNG-source gas would also require a new 45-mile-long pipeline lateral from the ECA terminal to connect to the Gasoducto Bajanorte pipeline and a new compressor station (Algodones Compressor Station) on the Gasoducto Bajanorte pipeline. This compressor station would be located 2.5 miles south of the California-Mexico border and 3 miles west of the Arizona-Mexico border, in Baja California del Norte just southwest of the border town of Algodones. The reconfiguration of the Gasoducto Bajanorte pipeline and the construction of the Algodones Compressor Station are planned for completion in late 2007.

The capacity of the Gasoducto Bajanorte pipeline system would similarly be expanded in coordination with North Baja's Phase II expansion. To accommodate the additional volume of gas, up to 100 percent looping of the Gasoducto Bajanorte pipeline and additional compression would be required, both at the Algodones Compressor Station and at a new compressor station near Mexicali (Mexicali Compressor Station). These facilities would be constructed in 2009 to be operational by 2010.

Because of the proximity of the proposed compressor stations in Mexico, the potential exists for operating emissions to affect air quality in the United States, specifically in the Imperial Valley portion of Imperial County. The Agency Staffs conducted an analysis of the operating emissions from the Mexicali and Algodones Compressor Stations taking into account the emissions from existing power plants west of Mexicali (the La Rosita Power Complex [LRPC] and the Termoelectrica de Mexicali Power Plant [TDM Plant]). Based on this analysis, the Project's incremental impact does not exceed the applicable Significant Impact Level and is well below 0.5 percent of the applicable Federal and/or State standards. Therefore, it is unlikely that emissions from the proposed future compressor stations would result in any significant cumulative ambient air quality impacts at receptors in the vicinity of or across the U.S. border.

A Health Risk Assessment was conducted to determine the potential impacts of the toxic air pollutants emitted by the existing power plants and proposed compressor stations. The analysis also included the LRPC and TDM Plant. Based on the analysis, the average cancer risks as well as the chronic and acute hazard indexes would be well below the established significance thresholds used by California air districts. In addition, the future chronic and acute hazard indexes would also be well below the more stringent thresholds set by the South Coast AQMD. Therefore, the cumulative risks associated with the emissions from the existing power plants and the future compressor stations would be considered less than significant.

Growth-inducing Impacts

North Baja does not anticipate adding permanent staff to handle Project operations. The potential growth-inducing impact of the North Baja Pipeline Expansion Project would be the delivery of an alternative or additional source of natural gas to existing natural gas users. Providing an alternate fuel supply could lead to a positive economic environment conducive to growth or prevent increases in energy costs that might restrict growth. The existing power plant that would be supplied by the North Baja Pipeline Expansion Project (i.e., the IID El Centro Generating Station) is not solely dependent on the gas supplied by the Project. Potential infrastructure growth might occur with or without the construction of the pipeline and thus would not be attributable to the proposed Project. However, to the extent that the IID's Unit 3 Repower Project, which is a proposed expansion at the El Centro Generating Station, would diversify its suppliers of natural gas, the additional gas supplied by the proposed Project could be a growth-inducing impact.

Environmental Justice

Some communities within the Potential Impact Radius⁶ of the Project have low-income and minority populations compared to the affected counties as a whole. However, none of the potential impacts of the Project that could affect environmental justice issues are considered significant. Therefore, the Project would neither result in a disproportionately high and adverse effect or impact on minority or low-income populations nor contribute to a cumulative impact on these populations.

ALTERNATIVES CONSIDERED

The No Project Alternative was considered. The Agency Staffs concluded that while the No Project Alternative would eliminate the environmental impacts identified in this EIS/EIR, North Baja would not be able to provide transportation for LNG-source natural gas from the Mexican pipeline system into the United States to meet the demand for natural gas in California and other southwestern U.S.

⁶ The potential impact radius is calculated as the product of 0.69 and the square root of the maximum allowable operating pressure of the pipeline in pounds per square inch multiplied by the pipeline diameter in inches.

markets. This means customers in the southwestern United States would likely have fewer and potentially more expensive options for obtaining natural gas supplies in the near future. This might lead to alternative proposals to develop natural gas delivery or storage infrastructure, reduced use of natural gas, and/or the use of other sources of energy.

It is possible that the infrastructure currently supplying natural gas to the proposed market area could be developed in other ways unforeseen at this point. This might include constructing or expanding regional pipelines as well as LNG import and storage systems. Any construction or expansion work would result in specific environmental impacts that could be less than, similar to, or greater than those associated with the proposed Project. Increased costs could potentially result in customers conserving or reducing use of natural gas. Although it is possible that additional conservation may have some effect on the demand for natural gas, the level of conservation efforts, as described in the CEC's 2005 *Integrated Energy Policy Report* (CEC 2005a), is not expected to significantly reduce the long-term requirements for natural gas or effectively exert downward pressures on gas prices.

Denying North Baja's applications could force potential natural gas customers to seek regulatory approval to use other forms of energy. California regulators are promoting renewable energy programs to help reduce the demand for fossil fuels. While renewable energy programs can contribute as an energy source for electricity, they cannot at this time reliably replace the need for natural gas or provide sufficient energy to keep pace with demand.

Alternatives involving the use of other existing or proposed LNG or natural gas facilities to meet the stated objectives of the proposed Project were evaluated. None of these system alternatives could meet the Project objectives within the time frame of the proposed Project. Furthermore, each of the system alternatives could result in its own set of significant environmental impacts that could be greater than those associated with the proposed Project.

The B-Line deviates from a designated utility corridor on BLM land at five locations in the CDCA. As part of the EIS/EIR for the A-Line, the alternative of following designated utility corridors was considered. Based on the analysis conducted for that project, the route selected for the A-Line, including the deviations from designated utility corridors and the crossing of the Milpitas Wash SMA, was determined to be environmentally preferable to a route that remained within designated utility corridors. The proposed B-Line would be adjacent to the existing A-Line for the entire route. The collocation of facilities is generally preferred by land management agencies, land use planners, and other regulatory agencies and has several inherent engineering and environmental advantages. Perhaps the most important of these advantages is that new land disturbance is minimized. Because of the advantages of collocation, and because the route selected for the A-Line that would be followed for the B-Line was previously determined to be environmentally preferable to a route that remains within a designated utility corridor, alternatives for the B-Line route that would follow designated utility corridors were not considered. One route alternative (22nd Avenue Alternative) in comparison with the corresponding segment of the proposed B-Line was evaluated. The 22nd Avenue Alternative would avoid 18th Avenue. The 22nd Avenue Alternative was eliminated because it would merely transfer impacts from one or more property owners or communities to another without conferring obvious environmental advantages.

Eight route alternatives were evaluated in comparison with the corresponding segment of the proposed IID Lateral. Along the IID Lateral, North Baja proposes to deviate from a designated utility corridor at three locations within the CDCA. Two alternatives (Corridor L and Bonds Corner Alternatives) were evaluated to stay within a designated utility corridor for a longer distance than the proposed route. Four alternatives (CalTrans, ISDRA North, ISDRA Transmission Line, and ISDRA Grays Well Road Alternatives) were identified to avoid potential conflicts of the IID Lateral with existing and planned recreational use in the ISDRA. One alternative (the Modified ISDRA Transmission Line

Alternative) was identified to avoid impacts on a cultural resources site. The eighth alternative (Gasoducto Bajanorte Pipeline Route Alternative) would connect directly from the Gasoducto Bajanorte pipeline west of Mexicali to the IID's El Centro Generating Station. The Agency Staffs determined that the Modified ISDRA Transmission Line Alternative is environmentally superior to the corresponding segment of the IID Lateral and are recommending that it be adopted. The remaining IID Lateral alternatives were eliminated because they would not be environmentally preferable to the corresponding segment of the IID Lateral, would be infeasible, or would not meet the Project objectives.

Four route variations (East Mesa Route Variation and Imperial Valley Route Variations A, B, and C) in comparison with the corresponding segment of the proposed IID Lateral were evaluated to avoid potential conflicts with other projects or address scoping comments. These route variations were eliminated because they would not be environmentally preferable to the corresponding segment of the IID Lateral, would be infeasible, or would merely transfer impacts from one or more property owners or communities to another without conferring obvious environmental advantages.

Aboveground facility site alternatives were evaluated. All of the proposed new and modified aboveground facilities are designed to meet the purpose and need of the North Baja Pipeline Expansion Project. The location of these facilities is dictated by the location of the existing and proposed pipelines and, in most cases, the proposed facilities would be collocated with existing and/or other proposed facilities. No significant impacts have been identified at any of the new or modified facilities; therefore, the alternative that would result in the creation of new industrial sites would not be environmentally preferable to the proposed Project and thus was eliminated from further consideration.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines (section 15126.6(d)) require that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. An analysis of the No Project Alternative in comparison with the proposed Project is included in the major resource topics in Section 4. A comparison of the impacts of the proposed Project and the No Project Alternative is included in Section 5. Based on the analysis in this EIS/EIR, the No Project Alternative would eliminate the environmental impacts associated with the proposed Project and, therefore, is the environmentally superior alternative. However, as discussed above, under the No Project Alternative North Baja would not be able to provide transportation for LNG-source natural gas from the Mexican pipeline system into the United States to meet the growing demand for natural gas in California and other southwestern U.S. markets.

Section 15126.6(e)(2) of the State CEQA Guidelines provides, in part, "If the environmentally superior alternative is the "No Project Alternative," the EIR shall also identify an environmentally superior alternative among the other alternatives." The Agency Staffs have determined that the proposed Project with the incorporation of the Modified ISDRA Transmission Line Alternative is the environmentally superior alternative. The environmentally superior alternative and the segments requiring CDCA and Yuma District Plan amendments are shown on Figure ES-1. The incorporation of the Modified ISDRA Transmission Line does not affect the length of the Project that would require a BLM plan amendment.

MAJOR CONCLUSIONS

The Agency Staffs have concluded that if the Project is constructed in accordance with applicable laws and regulations, North Baja's proposed mitigation, and the Agency Staffs' additional mitigation measures, it would be an environmentally acceptable action. Although many factors were considered in this determination, the principal reasons are:

- 99 percent of the proposed pipeline facilities would be constructed in or adjacent to various existing rights-of-way;
- no new permanent right-of-way would be required for the B-line, and the permanent rights-of-way for the Arrowhead Extension and the IID Lateral would be limited to a maximum width of 35 feet and 30 feet, respectively;
- North Baja would implement its CM&R Plan, SPCC Plan, HDD Plan, Traffic Management Plans, Blasting Specifications, PRMM Plan, Dust Control Plan, Fire Prevention and Suppression Plan, Site-specific Residential Construction Mitigation Plans, OHV Plan, Plan of Development, and Unanticipated Discovery Plan for Cultural Resources to protect natural resources and residential areas during construction and operation of the Project;
- use of the HDD method would avoid disturbances to the beds and banks of the Colorado River, the All-American Canal, and the East Highline Canal and associated wetlands/riparian areas;
- the appropriate consultations with the FWS, the CDFG, the SHPOs, and Native American tribes would be completed before North Baja would be allowed to begin construction in any given area; and
- an environmental inspection and mitigation monitoring program would ensure compliance with all mitigation measures that become conditions of the FERC Certificate, the CSLC's amended lease, and other approvals.

The FERC and CSLC staffs are responsible for identifying any significant environmental impacts so they can be considered by their respective Commissions in deciding whether to approve the Project. As part of the analysis, specific mitigation measures were developed to reduce the environmental impact that would result from construction of the Project. With three exceptions, North Baja's proposed and/or the Agency Staffs' recommended mitigation would reduce potential environmental impacts to less than significant levels. The Agency Staffs have determined that the Project is likely to adversely affect the Peirson's milk-vetch and the desert tortoise and its designated critical habitat. The Agency Staffs also believe that impacts on the flat-tailed horned lizard and its habitat would be considered significant. As such, impacts on these three species would be considered significant. Approval of the Project would be subject to a Statement of Overriding Considerations under the CEQA due to these significant unavoidable impacts that could remain after all available or feasible mitigation is applied. As discussed above, in the BO issued on April 20, 2007, the FWS concluded that the proposed action is not likely to jeopardize the continued existence of the desert tortoise and the Peirson's milk-vetch or adversely modify critical habitat for the desert tortoise. The CDFG has not yet issued its conclusions regarding the impact of the Project on the desert tortoise, the Peirson's milk-vetch, and the flat-tailed horned lizard.

The FERC and CSLC staffs will recommend that all mitigation measures in this EIS/EIR be attached as conditions to any Certificate issued by the FERC and to any approval issued by the CSLC, as appropriate. The BLM will present, in its Records of Decision for the North Baja Pipeline Expansion Project, its own recommendations that incorporate the concurrence or non-concurrence of the BOR and the FWS. The FERC, the CSLC, and the BLM would ensure compliance with the mitigation measures included in this EIS/EIR through the adoption of an environmental inspection and mitigation monitoring program for the Project.

1.0 INTRODUCTION

On February 7, 2006, North Baja Pipeline, LLC (North Baja), an indirect wholly owned subsidiary of TransCanada Pipelines Ltd., filed an application with the Federal Energy Regulatory Commission (Commission or FERC) under sections 7 and 3 of the Natural Gas Act (NGA) and Parts 157, 284, and 153 of the Commission's regulations. The application was assigned Docket Nos. CP06-61-000 and CP01-23-003 and was noticed in the Federal Register on March 1, 2006. North Baja is seeking a Certificate of Public Convenience and Necessity (Certificate) from the FERC to construct, own, and operate an expansion of its existing interstate natural gas pipeline system. North Baja is also seeking FERC authorization for an amendment to its Presidential Permit to allow construction of additional facilities at the U.S.-Mexico border and the importation of vaporized liquefied natural gas (LNG). North Baja's application to the California State Lands Commission (CSLC) for an amendment to its existing right-of-way lease across California's Sovereign and School Lands was received on May 17, 2005. North Baja's proposal, referred to as the North Baja Pipeline Expansion Project (Project or proposed Project), was analyzed in a draft environmental impact statement/environmental impact report and draft land use plan amendment (draft EIS/EIR) that was issued on September 27, 2006.

On November 21, 2006, North Baja filed an amendment to its application with the FERC in Docket No. CP06-61-001 seeking authorization to modify its point for delivery of natural gas to the Southern California Gas Company (SoCalGas) system. Modifying the point for delivery to the SoCalGas system would also modify the point for delivery to the Blythe Energy Facility I supply pipeline. The facilities needed to deliver natural gas to the modified delivery points are referred to as the Arrowhead Alternative. Adoption of the Arrowhead Alternative would modify a small portion of the originally proposed Project by exchanging certain aboveground facilities and short segments of pipeline. Adoption of the Arrowhead Alternative would also eliminate the need for North Baja to construct an odorant facility because the natural gas would be odorized by SoCalGas using its existing odorant facilities. The Arrowhead Alternative was fully analyzed in the draft EIS/EIR. North Baja's amendment did not propose any changes to the transportation capacity of its proposed expansion.

On February 1, 2007, North Baja filed an amendment to its application filed on February 7, 2006, as amended on November 21, 2006, in Docket No. CP06-61-002 to eliminate the Blythe Energy Interconnect (BEI) Lateral. The amendment addressed only the pipeline extending from the proposed Blythe-Arrowhead Meter Station to the Blythe Energy Facility I supply pipeline and did not propose any changes to the transportation capacity of North Baja's proposed expansion.

The vertical line in the margin identifies text that has been modified in this final environmental impact statement/environmental impact report and proposed land use plan amendment (final EIS/EIR) and differs from the corresponding text in the draft EIS/EIR.

The North Baja Pipeline Expansion Project would involve the construction and operation of up to 79.8 miles of 42-inch- and 48-inch-diameter pipeline loop¹ adjacent to North Baja's existing 30-inch- and 36-inch-diameter pipeline; a 2.1-mile-long, 36-inch-diameter lateral;² a 45.7-mile-long, 16-inch-diameter lateral; two new meter stations; modifications at North Baja's existing compressor and meter stations; and installation of new taps and crossover piping, mainline and lateral valves, and pig³ launchers and receivers. The existing North Baja system is currently certificated by the FERC to transport 512,500

¹ A loop is a segment of pipeline that is usually installed adjacent to an existing pipeline and connected to it at both ends. The loop allows more gas to be moved through the system.

² A lateral pipeline typically takes gas from the main system to deliver it to a customer, local distribution system, or another interstate transmission system.

³ A pig is an internal tool that can be used to clean and dry a pipeline and/or to inspect it for damage or corrosion.

dekatherms per day (Dthd) (500 million standard cubic feet per day [MMscfd]) of natural gas in a southbound direction. Once completed, the expanded system would be capable of transporting up to 2,932,000 Dthd (2,753 MMscfd) of natural gas in a northbound direction.

A total of 65.3 miles of the proposed pipeline would be on lands managed by the Bureau of Land Management (BLM) under the jurisdiction of the Palm Springs-South Coast, El Centro, and Yuma Field Offices. Because the proposed route deviates from a designated utility corridor on BLM land in several locations and would cross the Milpitas Wash Special Management Area (SMA), the BLM would need to amend two resource management plans: the California Desert Conservation Area Plan (CDCA Plan) (as amended) and the Yuma District Resource Management Plan (Yuma District Plan). The environmental staffs of the FERC, the CSLC, and the BLM (Agency Staffs) have prepared this final EIS/EIR to assess the environmental impacts associated with the construction and operation of the facilities proposed by North Baja in accordance with the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

North Baja proposes a phased construction schedule beginning in 2007 and ending in 2009. The proposed Project facilities and schedule are described in detail in Section 2.0.

1.1 PROJECT OBJECTIVES, PURPOSE, AND NEED

North Baja's existing system extends approximately 79.8 miles from an interconnection with the facilities of El Paso Natural Gas Company (El Paso) near Ehrenberg, Arizona through southeast California to a point on the international border between Yuma, Arizona and Mexicali, North Baja Mexico, where the pipeline interconnects with the Gasoducto Bajanorte pipeline.

The North Baja system and the Gasoducto Bajanorte pipeline were built in 2002 to supply domestic natural gas from the United States primarily to gas-fired electric generation facilities in Baja California, Mexico. Since that time, several projects have been initiated to build LNG storage and vaporization terminals on the Baja California coast, near the terminus of the Gasoducto Bajanorte pipeline. LNG is natural gas that has been cooled to a temperature of about -260 degrees Fahrenheit (°F) so that it becomes a liquid. Because LNG is more compact than the gaseous equivalent, it can be transported long distances across oceans using specially designed ships. The terminals in Baja California would receive LNG imported from southern and western Pacific Rim countries including Russia (the Sakhalin Project), Australia (the Gorgon Project, among others), and Indonesia (the Tangguh Project).

The first of these terminals, Sempra LNG's (Sempra) Energia Costa Azul (ECA) terminal, is already under construction with an anticipated commercial in-service date of early 2008. Sempra has announced its intention to expand the ECA terminal to double its base and peak load capacity and held a non-binding open season between April 17 and May 12, 2006 to solicit commercial interest in additional LNG processing capacity. Although the open season was non-binding, the results indicated high shipper interest in additional processing capacity. Sempra has announced that it will begin working with the shippers that submitted bids to develop binding terminal agreements. Pending regulatory approvals and successful commercial negotiations, the expansion could become operational as early as 2010.

At the time of North Baja's application submittals and the issuance of the draft EIS/EIR, Chevron Corporation (Chevron) was developing the Terminal GNL Mar Adentro de Baja California (Mar Adentro). The Mar Adentro terminal received project approval from the Secretaria de Medio Ambiente y Recursos Naturales in 2004 and authorization from the Communication and Transport Secretariat in January 2005. In January 2005, several U.S. and Mexican environmental groups filed a challenge to the Mar Adentro terminal authorizations under the North American Free Trade Agreement (NAFTA). Under

NAFTA rules, the environmental commission can hold hearings on disputed issues surrounding the project but it cannot stop the project. Front end engineering and design work on the terminal commenced in March 2004. In March 2007, Chevron announced cancellation of the project.

The North Baja Pipeline Expansion Project is designed to transport LNG-source natural gas from Baja California to California and Arizona. In addition to the new volumes from Baja California, North Baja would continue to offer southbound gas transportation service for several existing shippers via backhaul.⁴ More specifically, the objectives of the proposed Project are to:

- modify the North Baja pipeline system to allow natural gas entering the continent at LNG terminals in Baja California to flow into California and Arizona;
- expand the current capacity of the North Baja pipeline system to transport up to 2,932,000 Dthd (2,753 MMscfd) of LNG-source natural gas from Baja California⁵ to U.S. delivery points;
- expand the system in a phased manner that would allow flexibility for the capacity to become available when market needs warrant;
- interconnect with the gas transmission systems of SoCalGas at Blythe, California and El Paso at Ehrenberg, Arizona, which would allow LNG-source gas to be delivered to various users within southern California and other customers in the Southwest, and to provide adequate delivery pressures into those systems; and
- provide the Imperial Irrigation District (IID) direct access to LNG-source gas and to the interstate natural gas pipeline network by delivering up to 110,000 Dthd (103 MMscfd) of LNG-source gas to a delivery point at IID's existing El Centro Generating Station in El Centro, California. The El Centro Generating Station currently receives its natural gas from SoCalGas. The volumes delivered by the North Baja system would be used to serve the existing electric generating load at the station and would provide supply and supplier diversification for the IID. As stated above, North Baja would continue to offer southbound transportation via backhaul. This arrangement would enhance the IID's current access to domestic supplies and provide greater flexibility and reliability for the IID.

According to North Baja, access to natural gas from the southern and western Pacific Rim countries would provide an entirely new source of natural gas supply and allow gas consumers in the Southwest (including California) to replace North American reserves. This new supply would benefit American consumers by increasing gas-on-gas competition and putting downward pressure on prices. Any action that can reduce prices will have a significant impact on the total amount spent by consumers, because the California gas market is the second largest in the United States.

⁴ The American Gas Association defines a backhaul as a transaction that results in the transportation of gas in a direction opposite of the aggregate physical flow of gas in the pipeline. This is typically achieved when the transporting pipeline redelivers gas at a point(s) upstream from the point(s) of receipt. A backhaul condition will exist as long as the aggregate backhaul transactions total less than the aggregate forward haul transactions. An example of how this could occur on North Baja's expanded system is if a southbound shipper desires to deliver domestic gas to the IID Lateral. The gas would be delivered to the interconnection with the North Baja system and the IID Lateral and received at the existing interconnection between North Baja and El Paso. The actual physical flow direction of the gas would be northbound. Physically, molecules of LNG would be delivered at the IID Lateral while the domestic molecules would be delivered to customer(s) at the interconnections at the northern end of the North Baja system or other pipelines.

⁵ It is now likely that only the ECA terminal and the expanded ECA terminal would supply gas for the North Baja Pipeline Expansion Project.

In 2003, Californians consumed about 2.2 trillion cubic feet of gas. In-State production of natural gas satisfies only about 13 percent of Statewide demand (California Energy Commission [CEC] 2005b). The remaining natural gas that is consumed in the State comes primarily from five major out-of-State production basins: the Western Canadian Sedimentary Basin (Alberta, Canada), the Rocky Mountain Basin (Utah, Wyoming, and Colorado), the San Juan Basin (New Mexico), the Anadarko Basin (Oklahoma and Texas), and the Permian Basin (Texas). The natural gas currently transported on the SoCalGas system between Blythe and the Los Angeles metropolitan area comes entirely from the San Juan and Permian Basins. These basins are in decline or are projected to go into decline in the relatively near future.

The demand for natural gas in California, as in the rest of the United States, is expanding. Recent projections estimate that the use of natural gas in California will increase at a rate of 0.7 percent per year to about 2.4 trillion cubic feet of natural gas in 2013 (CEC 2005a). This is based on the most comprehensive information available at the time the final EIS/EIR was prepared. According to the CEC, although increases in efficiency and use of renewable energy sources are expected to moderate future demand, they are offset by population and business growth. Gas producers across North America are struggling to keep pace with the growing demand and while the number of natural gas wells drilled in the United States and Canada is at an all-time high, conventional production from most of the mature supply basins in North America has declined or only increased modestly since 1990 (CEC 2005a). The amount of gas produced per well is also declining, and each well is being drained faster (CEC 2005a). The result is that domestic natural gas production is expected to remain almost the same over the next decade and will not keep up with the growth in demand.

The projected shortfall in North American production relative to demand in California is expected to be compounded by two factors: California's position at the western end of the American and Canadian pipeline network, which exposes it to supply/demand imbalances that occur in other regions of the United States, and the growth in natural gas demand in Canada and Mexico.

California's supply of natural gas is affected by rising demand for natural gas in neighboring states. Forty-three new power plants totaling more than 8,000 megawatts have come online in Arizona since 2001 (CEC 2005a). These plants are intermediate load and peaking power plants, which often ramp up quickly to meet changing electricity demand. According to the CEC, this may take more natural gas from the pipeline faster than expected. Under normal circumstances, this practice is not troublesome if the pipeline can be balanced by taking gas out of storage. In the Phoenix area, however, the nearest storage is over 300 miles away, and it is becoming increasingly common for pipeline pressure to drop during periods of high demand. If the gas pressure gets low enough, it could cause curtailments that could affect natural gas delivery into California (CEC 2005a).

California's supply of natural gas could also be affected by the demands for natural gas in Canada and Mexico, which are projected to grow at an annual rate of 1.3 and 2.9 percent, respectively (CEC 2005a). Although the CEC estimates that domestic and Canadian sources could fulfill projected California natural gas demand through 2013, as Canada and Mexico increasingly turn to natural gas to satisfy their own growing demand for electricity, traditional drilling and exploratory activities are not going to be sufficient to meet both their own domestic needs and their export requirements to the United States. For these reasons, the CEC has strongly recommended that the State pursue other measures to secure supplies (Marks 2004).

Given the demand for natural gas and the need to reduce potential supply interruptions, the CEC has identified the need for California to develop new natural gas infrastructure to gain access to a diversity of fuel supply sources and to remove constraints on the delivery of natural gas. In addition to efficiency programs and use of renewable power sources, the CEC has identified LNG receiving

terminals on the Pacific Coast as a potential future cost-competitive and reliable source (CEC 2005a), enabling California gas markets to obtain supplies from producing basins throughout the Pacific and Indian Oceans (e.g., Indonesia, Australia, Russia, South America, and Alaska). Moreover, the CEC has said that the cost to deliver natural gas to the West Coast via an LNG project could be well below the market prices that California pays at its borders. Thus, a potential new supply source close to or in California could have a major effect on the market prices for natural gas in California (CEC 2005a). However, actual prices to consumers will depend upon contracts signed between suppliers and consumers or their representatives.

The anticipated delivery points for the proposed Project are: the El Centro Generating Station in El Centro, California (via the proposed 45.7-mile-long lateral [IID Lateral]); the SoCalGas system in Blythe, California; and the El Paso system in Ehrenberg, Arizona. These interconnections would provide markets in California and the Southwest with access to LNG-source gas, either physically or through displacement. For example, a portion of the LNG-source gas shipped on the North Baja system is expected to displace gas currently being supplied by other pipeline systems from other sources. Specifically, some of the deliveries to the SoCalGas system would displace deliveries currently received from the El Paso system. The displaced gas could be delivered by El Paso to Arizona, while the LNG-source gas delivered to SoCalGas would be delivered to customers throughout southern California, including Imperial County. North Baja states that no modifications would be required on the SoCalGas system to receive gas from the North Baja Pipeline Expansion Project and that the El Paso pipelines appear to have the necessary capacity without the need to construct additional pipeline.

The proposed Project would be constructed in three phases as follows:

- Phase I would involve modifications at North Baja's existing Ehrenberg Compressor Station and Ogilby Meter Station to allow for natural gas flow from south to north; modifications at the existing El Paso Meter Station at the Ehrenberg Compressor Station site to allow LNG-source gas to be delivered into the El Paso system; and construction of a 2.1-mile-long, 36-inch-diameter lateral (Arrowhead Extension) and new meter station (Blythe-Arrowhead Meter Station) to connect with the SoCalGas system.
- Phase I-A would involve the construction of the 45.7-mile-long IID Lateral between the North Baja system and the existing IID El Centro Generating Station in El Centro.
- Phase II would involve the construction of up to 79.8 miles of pipeline loop (B-Line) adjacent to North Baja's existing system (A-Line) between Blythe and the U.S.-Mexico border. At this date, it remains uncertain what the final Phase II volumes would be. Therefore, the environmental review of the Project has been based on the maximum facility footprint (i.e., full looping of the existing A-Line) to ensure a full analysis of the potential environmental impacts.

Once the Phase I, Phase I-A, and Phase II expansions are completed, the total northbound capacity of the North Baja system would be 2,932,000 Dthd (2,753 MMscfd).

North Baja currently has executed precedent agreements⁶ for firm natural gas transportation service on its expanded system that exceed the estimated size of the proposed ECA terminal expansion. The average contract term is 20 years. Table 1.1-1 lists North Baja's shippers by phase, the contracted volumes, and the delivery path. In addition to the new expansion shippers, several of North Baja's

⁶ A precedent agreement is a binding contract under which one or both parties has the ability to terminate the agreement if certain conditions, such as receipt of regulatory approvals, are not met.

existing shippers have elected to reverse the direction of their existing southbound capacity to northbound capacity. The initial volumes that these shippers have elected for northbound flow is 302,000 Dthd (283.57 MMscfd) in 2007. In 2010, this volume is reduced to 272,000 Dthd (255.40 MMscfd).

TABLE 1.1-1		
North Baja Pipeline Expansion Project Precedent Agreements		
Phase/Shipper	Quantity (Dthd) Annual	Delivery Path
Phase I Northbound		
Coral Energy Resources, LP	212,000	U.S.-Mexico border to El Paso Natural Gas Company ^a (El Paso)
Sempra Energy LNG Marketing Corp.	100,000	U.S.-Mexico border to El Paso ^a
Existing Shippers ^b	<u>302,000</u>	U.S.-Mexico border to El Paso ^a
Total Phase I Northbound	614,000	
Phase I-A IID Lateral		
Imperial Irrigation District	110,000	Ogilby Meter Station to El Centro Generating Station
Phase II Northbound		
Chevron USA, Inc.	1,070,000 ^c	U.S.-Mexico border to El Paso ^a
Coral Energy Resources, LP	530,000 ^c	U.S.-Mexico border to El Paso ^a
Sempra Energy LNG Marketing Corp.	<u>200,000</u>	U.S.-Mexico border to El Paso ^a
Total Phase II Northbound	1,800,000	
Total Northbound Phases (2010)	2,384,000 ^d	
Unsubscribed Northbound Capacity	548,000	
^a Deliveries to Southern California Gas Company would fall within the path. ^b Several existing shippers reversed the primary path from southbound to northbound for a total 302,000 Dthd (283.57 MMscfd). In 2010, this volume is reduced to 272,000 Dthd (255.40 MMscfd). ^c Although these volumes were anticipated to be transported from the Mar Adentro terminal, the shippers have not terminated their precedent agreements for transportation capacity on Phase II of the North Baja Pipeline Expansion Project. ^d Reflects the reduction in Phase I volumes described in footnote b.		
Note: All precedent agreement terms are for 20 years.		

The current gas quality and interchangeability standards for delivery into the SoCalGas and San Diego Gas & Electric Company (SDG&E) local distribution systems were established in September 2006 by the California Public Utilities Commission (CPUC) in its *Phase 2 Order Addressing Infrastructure Adequacy & Slack Capacity, Interconnection & Operational Balancing Agreements, an Infrastructure Working Group, Natural Gas Supply and Infrastructure Adequacy for Electric Generators, Natural Gas Quality, and Other Matters* (CPUC 2006). In the proceeding, the CPUC specifically adopted new gas quality and interchangeability standards for SoCalGas and SDG&E and reduced the upper Wobbe Index⁷ (WI) limit to 1385 for SoCalGas and SDG&E. The WI measures the heating potential of the gas; the higher the WI, the higher the heat value. Combustion of natural gas with higher heating values and a higher WI results in increased combustion temperature and, possibly, increased nitrogen oxides (NO_x) emissions. The limit set by the CPUC is based on the recommendations set forth in the *White Paper on Natural Gas Interchangeability and Non-Combustion End Use* issued by the NGC+ Interchangeability Work Group on February 28, 2005 (NGC+ Interchangeability Work Group 2005). In its *Policy Statement on Provisions Governing Natural Gas Quality and Interchangeability in Interstate Natural Gas Pipeline Company Tariffs* issued on June 15, 2006 (FERC 2006), the FERC encouraged the use of the White Paper

⁷ The Wobbe Index is the main indicator of the interchangeability of fuel gases and is frequently defined in the specifications of gas supply and transport utilities. The Wobbe Index is found by dividing the higher heating value of natural gas by the square root of its specific gravity with respect to air.

as a common scientific reference point for resolving gas quality and interchangeability issues. All gas delivered to end users in southern California is transported through the SoCalGas/SDG&E system at some point before delivery and, therefore, must comply with the new CPUC-approved gas quality standards. Before the adoption of the new standards, SoCalGas and SDG&E could accept natural gas with a WI as high as 1437.

Comments on the draft EIS/EIR were received from the U.S. Environmental Protection Agency (EPA), the South Coast Air Quality Management District (SCAQMD), the Imperial County Air Pollution Control District (ICAPCD), and the Border Power Plant Working Group expressing concern that the supplies of natural gas from the Mexican LNG facilities that would be transported on the North Baja system would have a higher WI compared to the gas historically transported through the SoCalGas/SDG&E system. These parties refer to this LNG-source gas as “hot gas” and assert that the introduction of the LNG-source gas would substantially increase emissions of the ozone precursor NO_x in the South Coast Air Basin (SCAB), directly affecting air quality and making attainment of the Federal air quality standards more difficult. Some of the commentors requested that the FERC and the CSLC impose an upper limit on the WI for the gas received into North Baja’s system and urged that Project approval be conditioned upon the treatment of the gas prior to its delivery into the SCAB. It appears that the commentors would prefer the maximum WI to be set at 1360.

The CPUC is the regulatory agency responsible for setting the appropriate gas quality and interchangeability standards for gas on the SoCalGas and SDG&E pipeline systems. The CPUC has determined that the appropriate maximum WI for gas received on these systems should be 1385. The precedent agreements between North Baja and all of the shippers require that the gas delivered to the North Baja system meet the most stringent gas quality standard of any of the pipelines to which the North Baja system might ultimately deliver the gas.⁸ The precedent agreements also state that North Baja would file with the FERC to modify its gas quality standards to be consistent with the most stringent standards of any directly interconnecting downstream pipeline. These requirements mean that either the gas delivered to Baja California would meet the most stringent gas quality standard, or the receiving terminal would have to process the gas before delivering it to the pipelines to meet this standard. Thus, North Baja would meet the gas quality and interchangeability standards of SoCalGas and SDG&E as required by the CPUC.

1.2 PURPOSE AND SCOPE OF THIS EIS/EIR

The principal purposes for preparing an EIS/EIR and proposed land use plan amendment are to:

- identify and assess the potential direct, indirect, and cumulative impacts on the natural and human environment that would result from the implementation of the proposed Project;
- describe and evaluate reasonable alternatives to the proposed Project that would avoid or substantially lessen any significant adverse effects of the Project on the environment;
- identify and recommend specific mitigation measures, as necessary, to avoid or minimize significant environmental effects; and
- encourage and facilitate involvement by the public and interested agencies in the environmental review process.

⁸ It is noted that the CPUC’s ruling is currently under appeal. Whatever the final outcome of the appeal, the gas quality standards for the SoCalGas system would be applicable to shippers on the North Baja system.

The topics addressed in this EIS/EIR include alternatives, geology (including hazards and mineral and paleontological resources); soils; groundwater; surface waters (including water quality); wetlands; vegetation; wildlife and aquatic resources; special status species (including federally and State-listed threatened and endangered species); land use (including agricultural resources); special management areas; recreation and public interest areas; aesthetic resources; socioeconomics (including population, housing, and utilities and public service systems); transportation; cultural resources; air quality; noise; reliability and safety; cumulative impacts; growth-inducing impacts; and environmental justice. The EIS/EIR describes the affected environment as it currently exists, discusses the environmental consequences of the proposed Project, and compares the Project's potential impact to that of a reasonable range of alternatives as discussed in Section 3. The EIS/EIR also presents recommended mitigation measures.

The FERC and the CSLC are the lead agencies for the preparation of this EIS/EIR. The BLM and the Bureau of Reclamation (BOR) are Federal cooperating agencies. A cooperating agency has jurisdiction by law or special expertise with respect to environmental impacts involved with the proposal and is involved in the NEPA analysis. The roles of the FERC, the CSLC, the BLM, and the BOR in the Project review process are described below. Several other agencies (i.e., the U.S. Army Corps of Engineers [COE], the U.S. Fish and Wildlife Service [FWS], and the California Department of Fish and Game [CDFG]) were asked to participate in the environmental review process as cooperating agencies but declined to be formal cooperating agencies. These agencies and several other agencies participated in the process by providing scoping comments, comments on the draft EIS/EIR, and/or additional information. The agency and public participation process for the proposed Project is discussed in Section 1.3. The major Federal, State, and local permits, approvals, and consultations for the Project are discussed in Section 1.6.

1.2.1 Federal Energy Regulatory Commission

The FERC is the Federal agency responsible for evaluating applications filed for authorization to construct and operate interstate natural gas pipeline facilities. As such, the FERC is the lead Federal agency for the preparation of this EIS/EIR in compliance with the requirements of NEPA, the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of NEPA (Title 40 Code of Federal Regulations [CFR] Parts 1500-1508), and the FERC's regulations implementing NEPA (Title 18 CFR Part 380).

As the lead Federal agency for the North Baja Pipeline Expansion Project, the FERC is required to comply with section 7 of the Endangered Species Act of 1973 (ESA) and section 106 of the National Historic Preservation Act (NHPA). Both of these statutes have been taken into account in the preparation of this EIS/EIR. The FERC will use the document to consider the environmental impacts that could result if it issues North Baja a Certificate and a Presidential Permit amendment under sections 7 and 3, respectively, of the NGA.

The FERC will also consider non-environmental issues in its review of North Baja's application. Authorization will be granted only if the FERC finds that the evidence produced on financing, rates, market demand, gas supply, existing facilities and service, environmental impacts, long-term feasibility, and other issues demonstrates that a project is required by the public convenience and necessity. Environmental impact assessment and mitigation development are important factors in the overall public interest determination.

North Baja's siting, construction, operation, and maintenance of the proposed pipeline facilities at the international border between the United States and Mexico for the purpose of importing and exporting natural gas are subject to the jurisdiction of the FERC under section 3 of the NGA. Section 3 states that

“the Commission shall issue such order upon application, unless, after opportunity for hearing, it finds that the proposed exportation or importation will not be consistent with the public interest.” Section 3 further provides that “...the exportation of natural gas to a nation with which there is in effect a free trade agreement requiring national treatment for trade in natural gas, shall be deemed to be consistent with the public interest, and applications for such importation and exportation shall be granted without modification or delay.”

The NAFTA established an international trade agreement among the governments of the United States, Canada, and Mexico. The NAFTA was ratified by the three countries' national legislatures in 1993 and went into effect on January 1, 1994.

Executive Order 10485 requires that the FERC obtain the favorable recommendations of the Secretaries of Defense and State before issuing a Presidential Permit. On April 25, 2006, the FERC issued letters to the Secretaries of Defense and State informing them of North Baja's application, providing copies of a draft Presidential Permit amendment, and soliciting their views. The designees of the Secretaries of Defense and State responded in letters dated August 15 and 18, 2006, respectively, indicating concurrence with the issuance of the amendment to the Presidential Permit pending approval and validation of any COE permit process.

For some of the projects under its review, the FERC issues a Preliminary Determination on Non-Environmental Issues (PD) before completing its review of the project's environmental aspects. Consistent with the Policy Statement issued by the FERC in September 1999,⁹ the PD typically considers such issues as the need for a project and its economic effect on existing customers of the Applicant, on other pipelines in the area, and on landowners and communities. For example, the FERC considers the extent to which the Applicant may need to exercise eminent domain to obtain a right-of-way for a proposed project and balances that against the benefits to be provided by the project.

The FERC issued a PD for the proposed Project on October 6, 2006. The PD indicates that the issuance of a Certificate to North Baja under section 7(c) of the NGA authorizing the construction and operation of the natural gas facilities would, on the basis of all pertinent non-environmental issues, be required by the public convenience and necessity. The PD further indicates that the requested modification of North Baja's Presidential Permit and authorization pursuant to NGA section 3 would, on the basis of pertinent non-environmental issues, be consistent with the public interest. The issuance of a PD does not prejudice any further actions by the FERC. Final action regarding issuance of a Certificate would not occur until after the environmental review is completed, all environmental issues have been appropriately addressed, and a final Order is issued by the FERC. The issuance of a PD also does not prejudice actions by other jurisdictional agencies.

1.2.2 California State Lands Commission

The CSLC is the State agency that has jurisdiction and management control over California's Sovereign and School Lands.¹⁰ As such, the CSLC has the principal responsibility for carrying out and approving the Project in California, and is thus the lead agency in California for preparing the EIS/EIR,

⁹ On September 15, 1999, the FERC issued a Policy Statement that established criteria for determining whether there is a need for a proposed project and whether the proposed project would serve the public interest. The Policy Statement explains that in deciding whether to authorize the construction of major new pipeline facilities, the FERC balances the public benefits against the potential adverse consequences. In evaluating new pipeline construction, the FERC's goal is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the Applicant's responsibility for unsubscribed capacity, the avoidance of unnecessary disruptions of the environment, and the unneeded exercise of eminent domain.

¹⁰ Generally, Sovereign Lands include all ungranted tidelands and submerged lands, beds of navigable rivers, streams, sloughs, lakes, bays, estuaries, inlets, and straits. School Lands are what remain of the nearly 5.5 million acres throughout the state originally granted to California by Congress in March of 1853 to benefit public education.

complying with the CEQA (Public Resources Code section 21000 et seq.), following the guidelines for the implementation of the CEQA (California Code of Regulations Title 14, section 15000 et seq.), and coordinating the review of the EIS/EIR by State and local responsible and trustee agencies (see Section 1.2.4).

The CSLC will use the document to consider North Baja's application to amend its existing right-of-way lease across the State's Sovereign and School Lands in conjunction with the environmental impacts that could result from any part of the Project in California. When the EIS/EIR is completed, the CSLC must certify that:

- the final EIS/EIR has been completed in compliance with the CEQA;
- the final EIS/EIR was presented to the CSLC in a public meeting, and the CSLC reviewed and considered the information contained in the final EIS/EIR prior to considering the proposed Project; and
- the final EIS/EIR reflects the CSLC's independent judgment and analysis (State CEQA Guidelines section 15090[a]).

In conjunction with its consideration of North Baja's application, the CSLC must prepare one or more written findings of fact for each significant environmental impact identified in the document. These findings must either state that:

- the Project has been changed (including adoption of mitigation measures) to avoid or substantially reduce the magnitude of the impact;
- changes to the Project are within another agency's jurisdiction and have been or should be adopted; or
- specific considerations make mitigation measures or alternatives infeasible.

If any of the impacts identified in the EIS/EIR cannot be reduced to a level that is less than significant, the CSLC may issue a Statement of Overriding Considerations for approval of the Project if specific social, economic, or other factors justify a project's unavoidable adverse environmental effects. If the CSLC decides to approve North Baja's application to amend its lease for crossing California's Sovereign and School Lands, it will subsequently file a Notice of Determination.

1.2.3 Bureau of Land Management and Bureau of Reclamation

The BLM and the BOR are Federal land management agencies affected by North Baja's proposal. Because these agencies must comply with the requirements of NEPA before granting or amending rights-of-way across lands under their management, these agencies have elected to act as cooperating agencies in preparing this EIS/EIR.

The BLM will use the EIS/EIR to meet its NEPA responsibilities in considering North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The BLM will also use the EIS/EIR to consider amending the CDCA Plan (as amended), which would be necessary for any pipeline construction outside of designated utility corridors, as well as amending the Yuma District Plan, which would be necessary for pipeline construction across the Milpitas Wash SMA. The BLM would adopt the EIS/EIR per Title 40 CFR Part

1506.3 if, after an independent review of the document, it concludes that its comments and suggestions have been satisfied.

Under section 185(f) of the Mineral Leasing Act of 1920, the BLM has the authority to issue Right-of-Way Grants and Temporary Use Permits for all affected Federal lands. This would be in accordance with Title 43 CFR Parts 2800 and 2880, subsequent 2800 and 2880 Manuals, and Handbook 2801-1. For the North Baja Pipeline Expansion Project, the BLM would consider the issuance of an amended Right-of-Way Grant and associated Temporary Use Permits that would apply to all BLM-managed and BOR-administered lands. The BLM would also issue the Right-of-Way Grant and Temporary Use Permit for the crossing of the Cibola National Wildlife Refuge (NWR), which is managed by the FWS. The BLM would consider conformance with land use plans and impacts on resources and programs to determine whether to issue an amended Right-of-Way Grant and Temporary Use Permit.

The BOR and the FWS would issue letters to the BLM that would concur or not concur with issuance of an amended Right-of-Way Grant and Temporary Use Permit across their lands. The BLM would consider the concurrence or non-concurrence of the BOR and the FWS, as well as FERC approval or denial, in making its decision whether to amend the Right-of-Way Grant and issue a Temporary Use Permit. The BLM's decision would be documented in a Record of Decision (ROD). If the BLM decides to approve the Project, it would issue an amended Right-of-Way Grant, Temporary Use Permit, and a Notice to Proceed that would allow construction on Federal lands. The Right-of-Way Grant would include standard and site-specific stipulations of the BLM, the BOR, and the FWS; conditions imposed on the Project as the result of the NEPA and the CEQA review; and a complete Plan of Development (POD). The POD is described in more detail in Section 2.3. Details of land ownership are presented in Sections 2.2 and 4.8.2. Consistency with land management plans is discussed in Section 1.5.

1.2.4 Responsible and Trustee Agencies

Under the CEQA, the CSLC is responsible for providing the EIS/EIR to the California State Clearinghouse for it to coordinate the review of the document with State and local responsible and trustee agencies. A responsible agency is an agency other than the lead agency that also has a legal responsibility for carrying out or approving a project. A responsible agency must actively participate in the lead agency's CEQA review process, review the EIS/EIR, and use the document when making a decision on the Project. A trustee agency has jurisdiction over certain resources held in trust for the people of California. Responsible and trustee agencies for the North Baja Pipeline Expansion Project include the CDFG; the California Department of Transportation (CalTrans); the California Regional Water Quality Control Board, Colorado River Basin Region (CRWQCB); the Mojave Desert Air Quality Management District (AQMD); and the ICAPCD.

1.3 PUBLIC REVIEW AND COMMENT

On May 19, 2005, North Baja filed a request with the FERC to implement the Commission's Pre-Filing Process for the North Baja Pipeline Expansion Project. At that time, North Baja was in the preliminary design stage of the Project and no formal application had been filed with the FERC. On June 2, 2005, the FERC granted North Baja's request and established a pre-filing docket number (PF05-14-000) to place information related to the Project into the public record. The purpose of the Pre-Filing Process is to encourage the early involvement of interested stakeholders, facilitate interagency cooperation, and identify and resolve issues before an application is filed with the FERC. The CSLC, the BLM, and the BOR agreed to conduct their environmental reviews of the Project in conjunction with the Commission's Pre-Filing Process.

As part of the Pre-Filing Process, North Baja mailed notification letters to landowners, government and agency officials, and the general public informing them about the Project and inviting them to attend open houses on July 6 and 7, 2005 to learn about the Project and to ask questions and express their concerns. Notifications of the open houses were also published in local newspapers. The open houses were held in Blythe, El Centro, and Calexico, California. The Agency Staffs attended the open houses to explain the NEPA/CEQA environmental review process to interested stakeholders and take comments about the Project. The questions and concerns raised by the public at the open houses are addressed in this EIS/EIR as indicated in Table 1.3-1.

Additional contacts North Baja has had with landowners regarding the proposed Project include establishing a single point of contact within North Baja to answer questions and provide information, distributing direct mailings, posting information in local newspapers and at local libraries, and sending notification to all landowners that its Certificate application was filed with the FERC. In addition, North Baja notified landowners and tenants potentially affected by the Arrowhead Alternative that it had amended its Certificate application seeking authorization to adopt the alternative.

In June 2005, the FERC mailed out a *Notice of Pre-Filing Process Review for the North Baja Pipeline Expansion Project* (Notice of Pre-Filing Process Review) that briefly described the Project, the Pre-Filing Process, and the agencies involved. The notice also announced the dates and locations of North Baja's open houses; invited comments from the public; and provided information on how to obtain additional information about the Project. The notice was sent to Federal, State, and local agencies; elected officials; environmental and public interest groups; Native American tribes; affected landowners; local libraries and newspapers; and other stakeholders in the region who had indicated an interest in the Project.

On August 30, 2005, a *Notice of Intent/Preparation to Prepare an Environmental Impact Statement/Report and Proposed Land Use Plan Amendment for the Proposed North Baja Pipeline Expansion Project, Request for Comments on Environmental Issues/Impacts, and Notice of Public Scoping Meetings* (NOI/NOP) was issued. The NOI/NOP was published in the Federal Register and briefly described the Project, announced that the BLM would be using the EIS/EIR to consider an amendment to the CDCA Plan and the Yuma District Plan, and described the EIS/EIR process and the BLM's plan amendment process. The NOI/NOP also provided a preliminary list of EIS/EIR issues/impacts identified by the Agency Staffs, invited written comments on the environmental issues/impacts to be addressed in the EIS/EIR, listed the date and location of two public scoping meetings to be held in the Project area, and established a closing date for receipt of comments of October 10, 2005. The Agency Staffs mailed the NOI/NOP to the same parties that were sent the Notice of Pre-Filing Process Review. In accordance with the CEQA, all parties in California were sent the NOI/NOP via certified mail. Seventeen written comment letters or e-mails were received.

TABLE 1.3-1

**Issues/Impacts Identified and Comments Received During the Public Scoping Process
for the North Baja Pipeline Expansion Project**

Issue/Summary of Comment	EIS/EIR Section Addressing Comment
GENERAL/PROJECT DESCRIPTION	
Explanation of the Project's purpose and need, discussion of the term "precedent agreement," description of the potential sources of imported gas, recipients of the gas delivered by the Imperial Irrigation District (IID) Lateral	1.1
Route and schedule for the IID Lateral	1.1, 2.4, 4.8.4.3, Appendix B
Communication with landowners	1.3, 4.2.4, 4.5.3, 4.9.5
Consideration of Mexican facilities as connected actions; applicability of Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, to the proposed action	1.4
Evaluation of the feasibility of locating the loop closer to the existing pipeline than the proposed 25-foot offset	2.2.1
Coordination with the U.S. Border Patrol, evaluation of the potential for open trenches to be used for illegal activities	2.3.1
Hydrostatic testing procedures	2.3.1, 4.3.4
Post-construction monitoring	2.5, 4.5.3, Appendix E
Pipeline abandonment procedures	2.7
Number of pipelines within the Bureau of Land Management right-of-way	2.0, Appendix B
Evaluation of alternatives	3.0
Evaluation of mitigation measures	4.0
ALTERNATIVES	
Consideration of an alternative route along the Arizona side of the Colorado River	3.2.3.1
Consideration of alternative routes for the IID Lateral; alternatives to avoid the need to revise the management plans for the California Desert Conservation Area and the Milpitas Wash Special Management Area; routing through the Imperial Sand Dunes Recreation Area (ISDRA), including use of a designated utility corridor	3.2.3.2
Locate the proposed Mexican compressor station in the United States; locate the IID El Centro Power Generating Station on the old Brock Research facility property	3.2.5
GEOLOGY	
Description of seismic studies	4.1, Appendix J
Evaluation of mitigation to prevent a pipeline rupture due to seismic events	4.1.4, Appendix J
SOILS	
Description of compaction levels considering the high water table and clay soils	4.2.3
Installation of culverts where dry washes cross Stallard Road	4.2.4
WATER QUALITY/AQUATIC RESOURCES/WETLANDS	
Description of required U.S. Army Corps of Engineers (COE) permits, coordination with the COE, potential requirement for a Streambed Alteration Agreement with the California Department of Fish and Game	4.3.3.2, 4.3.3.4, 4.4.2
Description (including acreage and channel lengths, habitat types, values, and functions) and maps of all waters of the United States within the Project area	4.3.2, 4.4, Appendix B
Description of impaired waters in the Project area and mitigation measures to avoid further degradation of impaired waters	4.3.2
Impacts on the East Highline Canal	4.3.3.3
Evaluation of discharges to waters of the United States, description of measures to minimize or mitigate proposed discharges, evaluation of discharges as the least environmentally damaging alternative	4.3.4, 4.4.3
VEGETATION	
Reduction of impacts on productive agricultural lands	4.2.4, 4.5.3
Evaluation of restoration methods for microphyll woodlands; post-construction restoration efforts; concentrate mitigation efforts in microphyll woodlands; conduct maintenance beyond the right-of-way in microphyll woodlands; protection of trees; impact on native vegetation; lack of revegetation from the previous project; plans for invasive plant management; use of native plants for restoration	4.5.3
Consideration of exotics removal from areas of mesquite; seed mixes; noxious weed concerns	4.5.5

TABLE 1.3-1 (cont'd)

**Issues/Impacts Identified and Comments Received During the Public Scoping Process
for the North Baja Pipeline Expansion Project**

Issue/Summary of Comment	EIS/EIR Section Addressing Comment
WILDLIFE	
Evaluation of impact on birds protected under the Migratory Bird Treaty Act	4.6.2.3
SPECIAL STATUS SPECIES	
Identification of all petitioned and listed threatened and endangered species and critical habitat, inclusion of the Biological Assessment in the draft environmental impact statement/environmental impact report	4.7.2
Mitigation required only for new impacts; evaluation of crossing of desert tortoise critical habitat and mitigation measures; use of adaptive responses to field issues	4.7.4.3
Status of and impacts on the flat-tailed horned lizard; implementation of the Flat-tailed Horned Lizard Rangewide Management Strategy and other mitigation measures	4.7.4.4
Impacts on Peirson's milk-vetch	4.7.4.6
Evaluation of mitigation measures, including buffer zones, for burrowing owls	4.7.6.3
LAND USE	
Consistency with Federal, State, tribal, and local land use plans, policies, and controls; compatibility with the management plan for the Cibola National Wildlife Refuge; need for an Environmental Assessment	1.5, 2.2
Crossings of Bureau of Reclamation (BOR) withdrawn lands in the Palo Verde area, concurrence of the BOR for crossings of BOR-withdrawn land, clarification of land ownership for the IID Lateral	4.8.2
Location of the A-Line and distance from another existing pipeline; space restriction within county easement; allowable distance from residences; discussion of compensation and easement issues; workspace requirements associated with the A-Line's crossing of the Colorado River; indemnification for agricultural damages	4.8.2
Effect of the pipeline right-of-way on the development of private property and public access to the riverfront	4.8.2, 4.8.5
Potential effect on a future border fence	4.8.3.2
Evaluation of location, impacts on facilities, sand movement, and designated open areas in association with the IID Lateral; timing of construction of the IID Lateral to avoid potential conflicts with recreational users; depth of cover in the ISDRA	4.8.4.3
Potential for increased off-highway vehicle use, including that caused by tamarisk removal; installation of fencing as a mitigation measure; adherence to the Right-of-Way Agreement for Metropolitan Water District fee-owned property	4.8.5
Evaluation of visual impacts	4.8.7
Impacts of hazardous waste from construction and operation; evaluation of storage, disposal, and management plans; applicability of Federal and State requirements	4.2.3, 4.3.2.2, 4.3.3.2, 4.5.3, 4.6.3.2, 4.8.6
SOCIOECONOMICS/TRAFFIC AND TRANSPORTATION	
Impact of new right-of-way on public roads and a bridge to Riviera Drive and the Riviera subdivision; effect on residences and school bus routes; notification of landowners	4.8.3, 4.10.2
Effect of new right-of-way on public utilities (i.e., water and sewer lines) and schools	4.9.4
Impacts of open-cut road crossings; U.S. Border Patrol access requirements; consideration of repairs to the road membrane and the potential for future settling	4.10.2, 4.10.3
Impact on rental revenue	4.9.5
CULTURAL RESOURCES	
Potential effect of the IID Lateral on the historical Plank Road Area of Critical Environmental Concern	4.8.5, 4.10.3
Potential of the B-Line to adversely affect the integrity of the buried cultural strata at Site CA-IMP-791 I/H; potential effects on the All-American Canal and the Coachella Canal; discussion of survey methodology	4.11.3
Evaluation and treatment of prehistoric sites on BOR lands along the All-American Canal	4.11.3, 4.11.6
Impact on Native American cultural artifacts; use of a Native American monitor and a certified archaeologist; implementation of mitigation; effect on the traditional use area of the Cahuilla People and Native American sites; description of consultation between the Federal Energy Regulatory Commission and tribal governments	4.11.5
Discussion of Executive Order 13007, including avoidance of adverse effects on the physical integrity of sacred sites; cooperating agency status in regards to consultation with section 106 of the National Historic Preservation Act	4.11.6

TABLE 1.3-1 (cont'd)

**Issues/Impacts Identified and Comments Received During the Public Scoping Process
for the North Baja Pipeline Expansion Project**

Issue/Summary of Comment	EIS/EIR Section Addressing Comment
AIR QUALITY	
Evaluation of gas quality and the potential for large nitrogen oxides (NO _x) increases due to high British thermal units liquefied natural gas (LNG), evaluation of the adequacy of U.S. standards and the Wobbe Index to protect air quality, comparison of U.S. and Mexican gas quality standards	1.1, 4.12.4
Evaluation of construction and operation emissions for facilities associated with the IID Lateral, specifically the IID El Centro Generating Station, as well as mitigation measures to control and minimize emissions	1.4, 4.12.4
Discussion of baseline conditions and impact of the additional supply of natural gas on Imperial County's air quality	4.12.2, 4.12.4
Coordination with State and local air pollution control districts in evaluating permitting requirements	4.12.3
Applicability of Clean Air Act section 176 and the U.S. Environmental Protection Agency's general conformity regulations at Title 40 Code of Federal Regulations (CFR) Parts 51 and 93 and conformance with an approved State Implementation Plan	4.12.3
Identification of air quality impacts related to the proposed modifications at the Ogilby Meter Station	4.12.3, 4.12.4
Evaluation of mitigation measures to control emissions during construction and operation	4.12.4
Evaluation of particulate matter having an aerodynamic diameter of 10 microns or less (PM ₁₀) emissions associated with fugitive dust emissions	4.12.4
Consideration of associated and/or connected equipment in Mexico	4.15.6
RELIABILITY AND SAFETY	
Depth of cover, including in the ISDRA	2.3.2, 4.2.4, 4.8.4.3, 4.14.2
Public safety concerns	4.14
Potential for the aboveground portions of cathodic protection systems to be targets for vandalism	4.14.2
Identification of Federal, county, and Mexican emergency response procedures to be implemented if a seismic event ruptures the pipeline	4.14.2
Conformance with Occupational Safety and Health Act, Subpart P, 29 CFR 1926.650, .651, and .652 during trenching and excavation; monitoring requirements during field activities; consistency with the standards of the California Public Utilities Commission, General Order 112-E (CPUC GO 112-E)	4.14.2
CUMULATIVE IMPACTS	
Secure offsets in Imperial County for excess emissions from the Sempra and Intergen and any new facilities, install Best Available Control Technology emission controls on new facilities utilizing gas supplied from the proposed Project	1.1, 1.4, 4.15.8
Evaluation of transport of criteria pollutants from any new heavy industrial, commercial, and economic development projects resulting from the construction of the B-Line	1.4
Requirement to include a comprehensive evaluation and disclosure of environmental impacts from the Project and all connected actions on both sides of the U.S.-Mexico border	1.4
Evaluation of potential conflicts between the IID Lateral, the All-American Canal Relining Project, and the BOR's canal and reservoir construction projects, including the Drop 2 Storage Reservoir Project	4.8.3.2
Evaluation of standards applicable to the construction of additional power plants and other industry south of the U.S.-Mexico border resulting from additional gas supplies and the impact on Imperial Valley's airshed	4.12.4
Include the specifics (size, rating, expected emissions, etc.) of the proposed compressor station to be built south of Algodones, Mexico, evaluate its NO _x emissions	4.15.8
Identification of the Federal and State air quality mitigation and offsets for future long-term health risks proposed for Imperial County and Mexicali residents	4.15.8
Identification of air impacts resulting from the total number of power plants and future development projects that could be constructed within the Southeast Desert Air Basin and evaluation of the potential long-term air quality deterioration and possible human health impacts	4.15.8
Evaluation of PM ₁₀ emissions due to fugitive dust emissions generated by vehicles traveling on both Mexican and Imperial Valley unpaved roads	4.15.8
Requirement for a cumulative health risk assessment of potential toxic emissions, identification of offsets	4.15.8

TABLE 1.3-1 (cont'd)

**Issues/Impacts Identified and Comments Received During the Public Scoping Process
for the North Baja Pipeline Expansion Project**

Issue/Summary of Comment	EIS/EIR Section Addressing Comment
GROWTH-INDUCING IMPACTS	
Description of the reasonably foreseeable future land use and associated impacts that would result from the additional power supply provided by the IID Lateral, including an estimate of the amount of growth, its likely location, and the biological and environmental resources at risk	4.16
ENVIRONMENTAL JUSTICE	
Evaluation of environmental justice populations within the Project area, the potential for disproportionate adverse impacts on minority and low-income populations, and the approaches used to foster public participation by these populations	4.17

The two public scoping meetings were held to provide an opportunity for agencies and the general public to learn more about the proposed Project and participate in the environmental analysis by commenting on the issues/impacts to be addressed in the EIS/EIR. The first meeting was held in Blythe, California on September 28, 2005; the second meeting was in El Centro, California on September 29, 2005. These meetings were announced in the NOI/NOP and in five local newspapers. The newspaper notifications were placed in both English and Spanish. Two people commented at the meeting in Blythe and six people, including a representative from the ICAPCD, commented at the meeting in El Centro. The proceedings of each meeting were recorded, and the transcripts were placed into the public record for the Project.

On September 27, 28, and 29, 2005, the FERC and CSLC staff conducted interagency scoping meetings in the Project area to solicit comments and concerns about the Project from other jurisdictional agencies. Agencies present at the meetings were the FWS, Carlsbad Office; the FWS, Cibola NWR; the BLM; and the BOR.

On March 10, 2006, the FERC and the CSLC sent a letter and a copy of the August 30, 2005 NOI/NOP to potentially affected landowners on 18th Avenue in Riverside County that inadvertently had not been included on the environmental mailing list for the NOI/NOP. The purpose of the letter was to provide these landowners an opportunity to participate in the environmental review process. The letter solicited comments about the proposed Project from the potentially affected landowners and established a closing date for receipt of comments of April 10, 2006. In accordance with the CEQA, these parties were sent the letter and NOI/NOP via certified mail. No comments were received.

The transcripts of the public scoping meetings, a summary of the interagency scoping meetings, and all written scoping comments are part of the public record for the North Baja Pipeline Expansion Project and are available for viewing on the FERC Internet website (<http://www.ferc.gov>).¹¹ The most frequently raised issues were related to impacts on air quality in Imperial County as a result of the existing and proposed upstream facilities in Mexico and the cumulative impact of the proposed Project when considered in association with past, present, and future projects or activities. Other issues of concern included impacts on special status species and native vegetation and the development of mitigation measures to minimize and compensate for these impacts. Comments relating to safety, protection of surface waters, cultural resources, alternatives, and the effects of the Project on off-highway vehicle (OHV) use were also received. As previously stated, Table 1.3-1 lists the environmental issues/impacts that were identified during the scoping process described above and indicates the section of the EIS/EIR in which each issue/impact is addressed. Additional issues/impacts independently identified by the Agency Staffs are also addressed in the EIS/EIR.

On September 27, 2006, the FERC and the CSLC sent a letter to landowners and tenants potentially affected by the Arrowhead Alternative. The purpose of the letter was to inform the recipients that North Baja had identified them as a landowner or tenant that would be potentially affected by the Arrowhead Alternative and to solicit comments about the proposed Project and the Arrowhead Alternative. In accordance with the CEQA, these parties were sent the letter via certified mail. No comments were received.

On September 29, 2006, a formal notice announcing that the draft EIS/EIR was available for review and comment was published in the Federal Register and filed with the California State Clearinghouse. The draft EIS/EIR was filed with the EPA; submitted to the California State Clearinghouse; and mailed to Federal, State, and local government agencies; elected officials; Native American tribes; affected landowners, including landowners and tenants potentially affected by the

¹¹ Using the "eLibrary" link, select "General Search" from the eLibrary menu and enter the docket number excluding the last three digits in the "Docket Number" field (i.e., PF05-14 and CP06-61). Be sure to select an appropriate date range.

Arrowhead Alternative; local libraries and newspapers; intervenors¹² in the FERC's proceeding; and other interested parties (i.e., miscellaneous individuals who provided scoping comments or asked to be on the mailing list). The typical NEPA/CEQA comment period for a draft EIS/EIR is 45 days. However, because the draft EIS/EIR was also a BLM draft land use plan amendment, the public was given 90 days after the date of publication in the Federal Register to review and comment on the draft EIS/EIR both in the form of written comments and at two public meetings held in the Project area.

The public meetings held to receive comments on the draft EIS/EIR were in El Centro, California on December 5, 2006 and Blythe, California on December 6, 2006. The meetings were announced in the draft EIS/EIR, in the notice indicating that the draft EIS/EIR was available, on the FERC Internet website, and in several local newspapers. One speaker made oral statements at the El Centro meeting and two speakers made oral statements at the Blythe meeting. Both meetings were recorded for the public record. The 90-day comment period for receiving written comments on the draft EIS/EIR closed on December 28, 2006. Written comment letters were received from Federal agencies (6), State agencies (9), local agencies (14), Native American tribes (1), companies/organizations (9), and North Baja (2). The transcripts from the public meetings and the written comment letters are available for viewing on the FERC's Internet website (<http://www.ferc.gov>)¹³ and are included in Section 6.0 of this final EIS/EIR with the Agency Staffs' response to each comment.

This final EIS/EIR has been filed with the EPA for its formal Notice of Availability and was mailed to Federal, State, and local government agencies; elected officials; Native American tribes; affected landowners and tenants; local libraries and newspapers; intervenors to the FERC's proceeding; and other interested parties (i.e., miscellaneous individuals and environmental groups who provided scoping comments, commented on the draft EIS/EIR, or wrote to the FERC or one of the cooperating agencies asking to receive a copy of the document). The distribution list for the final EIS/EIR is in Appendix A.

In accordance with CEQ regulations implementing NEPA, no agency decision on the proposed action may be made until 30 days after the EPA publishes a Notice of Availability of the final EIS/EIR in the Federal Register. However, the CEQ regulations provide an exception to this rule when an agency decision is subject to a formal internal appeal process that allows other agencies or the public to make their views known. This is the case at the FERC, where any Commission decision on the proposed action would be subject to a 30-day rehearing period. Therefore, the FERC decision may be made at the same time that notice of the final EIS/EIR is published by the EPA, allowing the appeal periods to run concurrently.

Under the CEQA, if the CSLC decides to approve a project for which an EIS/EIR has been prepared, the CSLC will file a Notice of Determination with the California State Clearinghouse (Office of Planning and Research) within 5 working days after project approval. The Notice of Determination would be available for public inspection, and posted for a period of at least 30 days. The Office of Planning and Research would retain the notice for not less than 12 months. The filing of the Notice of Determination starts a 30-day statute of limitations period for parties wanting to challenge the CSLC's decision under the CEQA.

For the BLM, the implementation decision (Right-of-Way Grant) is separated from the land use plan decision (plan amendment) at this stage. The date the EPA's Notice of Availability appears in the

¹² Intervenors are official parties to the proceeding and have the right to receive copies of case-related Commission documents and filings by other intervenors. Likewise, each intervenor must provide 14 copies of its filings to the Secretary of the Commission and must send a copy of its filings to all other intervenors. Only intervenors have the right to seek rehearing of the Commission's decision.

¹³ Using the "eLibrary" link, select "General Search" from the eLibrary menu and enter the docket number excluding the last three digits in the "Docket Number" field (i.e., PF05-14 and CP06-61). Be sure to select an appropriate date range.

Federal Register initiates a 30-day availability period before the implementation decision is made. Comments received on the final EIS/EIR during the 30-day period will be reviewed to determine whether they have merit (e.g., identify significant issues not previously addressed or introduce significant new information). If no changes are warranted, a ROD is prepared that documents the selected alternative as well as mitigation measures. No action concerning a proposal may be taken on BLM land until the ROD for the EIS/EIR has been signed and the Right-of-Way Grant has been issued. Details of the land use plan decision process are presented in Section 1.7.7.

1.4 NONJURISDICTIONAL FACILITIES

1.4.1 Background

Under section 7 of the NGA, the FERC is required to consider, as part of its decision to certificate interstate natural gas facilities, all factors bearing on the public convenience and necessity. The facilities for the North Baja Pipeline Expansion Project that would be under the FERC's jurisdiction include modifications at the existing compressor and meter stations, approximately 127.6 miles of new pipeline loop and laterals, two new meter stations, new taps and crossover piping, new valves, and new pig launchers and receivers. The proposed facilities are described in detail in Section 2.1.

Occasionally, proposed projects have associated facilities that do not come under the jurisdiction of the FERC. These "nonjurisdictional" facilities may be integral to the need for the proposed Project (e.g., a new or expanded power plant at the end of a pipeline that is not under the jurisdiction of the FERC) or they may be merely associated as a minor, non-integral component of the jurisdictional facilities that would be constructed and operated as a result of the proposed facilities.

The nonjurisdictional facilities associated with the North Baja Pipeline Expansion Project include the upstream facilities in Mexico associated with bringing the LNG-source gas to the North Baja system. Among these are the ECA LNG terminal project in Baja California del Norte and the Gasoducto Bajanorte pipeline in Baja California.

As discussed in Section 1.1, Sempra's ECA terminal is currently under construction and an expansion is being planned that would, at a minimum, double the LNG processing capacity. The LNG from this terminal would be vaporized and then transported on Sempra's existing Gasoducto Bajanorte pipeline.

The Gasoducto Bajanorte pipeline, which currently takes gas from the North Baja system at the U.S.-Mexico border and moves it west, would be reconfigured to move gas in the opposite direction, similar to the reconfiguration of the North Baja system that would occur during Phase I. Transport of the initial volumes of LNG-source gas would also require a new 45-mile-long pipeline lateral from the ECA terminal to connect to the Gasoducto Bajanorte pipeline and a new compressor station (Algodones Compressor Station) on the Gasoducto Bajanorte pipeline. This compressor station would be located 2.5 miles south of the California-Mexico border and 3 miles west of the Arizona-Mexico border, in Baja California del Norte just southwest of the border town of Algodones. All of the permits have been obtained for the construction of the lateral, the reconfiguration of the Gasoducto Bajanorte pipeline, and the construction of the Algodones Compressor Station, which are planned for completion in late 2007.

The capacity of the Gasoducto Bajanorte pipeline system would similarly be expanded in coordination with North Baja's Phase II expansion to transport the volumes that would originate from the ECA terminal expansion. Up to 100 percent looping of the Gasoducto Bajanorte pipeline and additional compression would be required, both at the Algodones Compressor Station and at a new compressor station near Mexicali (Mexicali Compressor Station). These facilities would be constructed in 2009 to be operational by 2010. These facilities are shown on Figure 1.4-1.

Non-Internet Public

| FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR
THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
Docket Nos. CP06-61-000 and CP01-23-003

Figure 1.4-1 North Baja System and Upstream Mexican Facilities

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through the Public Reference Room, or by e-mail at
public.referenceroom@ferc.gov.

In addition to the upstream Mexican facilities, an expansion proposed by IID at the El Centro Generating Station to serve the growing electrical load demands of the region could be considered a Project-related nonjurisdictional facility. The IID is proposing to replace an existing boiler with a low NO_x combustion turbine generator and heat recovery steam generator to supply steam to the existing Unit 3 steam turbine generator. The expansion is referred to as the Unit 3 Repower or the El Centro Repower Project. The Unit 3 Repower would increase the existing Unit 3 generating capacity from 44 megawatts to 128 megawatts (an increase of 84 megawatts). The Unit 3 Repower would interconnect with the existing SoCalGas meter station located on the generating station property.

The Unit 3 Repower is under the jurisdiction of the CEC, which is responsible for reviewing all thermal electric power plants 50 megawatts or greater proposed for construction in California. The CEC's Small Power Plant Exemption (SPPE) process allows projects between 50 and 100 megawatts an exemption from the licensing process if the CEC finds that the project would not create a substantial adverse impact on the environment or energy resources. The CEC is the lead agency under the CEQA.

On May 19, 2006, the IID filed an application for an SPPE for the Unit 3 Repower with the CEC. On June 29, 2006, the CEC deemed the application adequate and began the formal proceeding. The committee assigned to the project conducted an Evidentiary Hearing on December 19, 2006, and on the basis of the uncontested record, which includes the CEC staff's Final Initial Study and Proposed Negative Declaration, released its Presiding Member's Proposed Decision on December 20, 2006. That decision determined that the project would cause no unmitigated significant environmental impacts or adverse impact on energy resources and recommended granting an SPPE to the IID for the Unit 3 Repower. On January 3, 2007, the CEC granted the project an SPPE under Public Resources Code section 25541.

The FERC has adopted a four-factor procedure to determine the appropriate scope of its environmental review when Project-related nonjurisdictional facilities are involved. These factors are:

- whether the regulated activity comprises "merely a link" in a corridor-type project (e.g., a transportation or utility transmission project);
- whether there are aspects of the nonjurisdictional facility in the immediate vicinity of the regulated activity that affect the location and configuration of the regulated activity;
- the extent to which the entire Project will be within the FERC's jurisdiction; and
- the extent of cumulative Federal control and responsibility.

Under the CEQA, the State lead agency (in this case the CSLC) may not divide a larger project into pieces (i.e., piecemeal or segment a project). This rule arises from the definition of project in CEQA section 21065, which includes the phrase "whole of the activity." Pursuant to State CEQA Guidelines section 15165, the CSLC must ensure that the EIS/EIR meets the following standards:

- where individual projects are, or a phased project is, to be undertaken and where the total undertaking comprises a project with significant environmental effect, the lead agency shall prepare a single program document for the ultimate project as described in State CEQA Guidelines section 15168;
- where an individual project is a necessary precedent for action on a larger project, or commits the lead agency to a larger project, with significant environmental effect, the document must address the scope of the larger project; and

- where one project is one of several similar projects of a public agency, but is not deemed a part of a larger undertaking or a larger project, the agency may prepare one document for all projects, or one for each project, but shall in either case comment upon the cumulative effect.

For example, activities related to a proposed project must be included in a single CEQA document: (1) when they are reasonably foreseeable consequences of the project; (2) when the activity is a future expansion of the proposed project and will be significant because it will likely change the scope, nature, and impacts of the project; (3) when the proposed project cannot proceed without essential public services that would be provided by the related activity; or (4) when the proposed project and related activity are integral parts of the same project.

1.4.2 Conclusions

After applying the FERC's four-factor procedure to the North Baja Pipeline Expansion Project and reviewing the Project for consistency with the CEQA, the Agency Staffs have concluded:

- The North Baja Pipeline Expansion Project is more than a mere link in a larger corridor-type project.
- The location of the LNG terminal in Baja California and planned facilities on the Gasoducto Bajanorte pipeline does not affect the location of the proposed looping on the North Baja system or the location of the IID Lateral. The locations of North Baja's proposed expansion facilities and laterals are affected by the location of the existing pipeline facilities and the proposed delivery points.
- The FERC's control and responsibility is not sufficient to extend its environmental review to include the associated upstream facilities.
- The associated upstream facilities are subject to the sovereign jurisdiction of another nation and there is no jurisdictional basis for the FERC, the CSLC, the BLM, or the BOR to approve, mitigate, or reject such facilities.
- The environmental review for the IID's Unit 3 Repower has already been completed by the CEC and it would be duplicative to conduct an environmental review of the IID's project in this EIS/EIR. In addition, the CEC determined that the project would cause no unmitigated significant environmental impacts or adverse impact on energy resources.

In summary, the Agency Staffs have concluded that they have no jurisdiction over the associated upstream facilities to require their environmental analysis in connection with the analysis of the North Baja Pipeline Expansion Project. These upstream facilities are subject to the Mexican environmental regulatory review process and standards. However, in response to scoping comments, the air quality impacts on the United States from the associated upstream facilities are addressed in the cumulative impact analysis in Section 4.15 of this EIS/EIR. The impacts of the expansion at the El Centro Generating Station as well as the impacts of other projects in the proposed Project area that are not considered Project-related nonjurisdictional facilities are also addressed in the cumulative impact analysis in Section 4.15 of this EIS/EIR.

In their comments on the draft EIS/EIR, the EPA, the ICAPCD, and the Border Power Plant Working Group, among others, disagreed with the conclusion regarding the associated upstream facilities and indicated that the EIS/EIR should address emissions from these upstream facilities (i.e., the Mexican

compressor stations). These commentors asked that the Agency Staffs require Best Available Control Technology (BACT), including Selective Catalytic Reduction (SCR) for NO_x reduction, to be installed and maintained at the Mexican compressor stations as well as require that emissions from the stations be offset as would be required in the United States. As noted above, the emissions from the Mexican facilities are addressed in the cumulative impact analysis in Section 4.15. The FERC, the CSLC, the BLM, and the BOR do not have legal authority to control the construction and operation of facilities located in Mexico. Therefore, mitigation measures, such as the requirement to use SCR or offset emissions, cannot be imposed on those facilities. For the original North Baja Pipeline Project EIS/EIR, there was a litigation challenge¹⁴ concerning this issue that failed.

Various commentors on the draft EIS/EIR, including the EPA, the SCAQMD, the ICAPCD, and the Border Power Plant Working Group, indicated that the definition of the proposed Project is too limited in focus. As discussed in Section 1.1, these commentors assert that the supplies of LNG-source gas that would be transported on the North Baja system would have a higher WI compared to existing supplies and, therefore, the introduction of the LNG-source gas would increase emissions of NO_x in the SCAB. These commentors stated that the end use of the natural gas that would be transported on the North Baja system is a “connected action” and that the EIS/EIR should describe, analyze, and mitigate the air quality impacts that would result from the end use of the gas in the SCAB. Furthermore, these commentors stated that a full General Conformity analysis should be conducted that considers the air quality impacts of the end use of the gas.

The end use of the natural gas that would be transported by the proposed Project is not considered part of the Project and, consequently, is outside the scope of the EIS/EIR. A detailed discussion of the definition of the proposed Project in regards to the General Conformity Rule is presented in Section 4.12.3.

During the scoping process, the EPA commented that the EIS/EIR should address the applicability of Executive Order 12114, Environmental Effects Abroad of Major Federal Actions, to the proposed action. This Executive Order was signed by President Carter on January 4, 1979, and requires that responsible officials of Federal agencies be informed of environmental considerations and take those considerations into account when making decisions on major Federal actions that could have environmental impacts anywhere beyond the borders of the United States, including Antarctica. Executive Order 12114 defined the environment to mean only the natural and physical environment and is applicable to the following categories of major Federal actions abroad:

- actions significantly affecting the environment of the global commons outside the jurisdiction of any nation (e.g., the oceans and the upper atmosphere);
- actions significantly affecting the environment of a foreign nation not participating with the United States and not otherwise involved in the action (e.g., the reentry of a spacecraft and impact on such nation's environment); and
- actions significantly affecting the environment of a foreign nation that provide to that nation:
 - a product or physical project producing a principal product or an emission or effluent, which is prohibited or strictly regulated by Federal law, in the United

¹⁴ Superior Court of California, County of Sacramento, No. 02CS00327, filed November 8, 2002 and Court of Appeal of California, Third Appellate District, No. CO43219, filed July 27, 2004.

States because its toxic effects on the environment create a serious public health risk;

- a physical project that is prohibited in the United States or strictly regulated by Federal law to protect the environment against radioactive substances; and
- actions significantly affecting natural or ecological resources of global importance, either designated for protection by the President or protected by a binding international agreement (e.g., protection of whales or migratory species, or binational transboundary agreements such as those between the United States and Canada).

The North Baja Pipeline Expansion Project would not be included in one of the categories of Major Federal Actions described above and would not have significant environmental impacts outside the United States; therefore, Executive Order 12114 is not applicable to the proposed Project.

In its comments on the draft EIS/EIR, the EPA stated that it would be within the FERC's control and responsibility to extend its environmental review to include the associated facilities in Mexico in accordance with the CEQ's *Guidance on NEPA Analyses for Transboundary Impacts*. As discussed above, Executive Order 12114 directs Federal agencies to consider the effects of their actions on the environment outside of the United States. The FERC and the BLM actions on the North Baja Pipeline Expansion Project are the issuance of a Certificate and a Presidential Permit amendment and an amended Right-of-Way Grant and plan amendment, respectively. The construction and operation of North Baja's proposed facilities in the United States would be localized and would not have a significant effect on the environment of Mexico. The upstream facilities in Mexico must comply with the Mexican environmental regulatory review process and standards.

1.5 CONSISTENCY WITH REGIONAL AND LOCAL PLANS

The proposed Project must be consistent or in conformance with the guidelines, management objectives, and/or designated uses set forth in regional and local plans for the Project area, or a plan amendment would be required. Plans that were reviewed for consistency include BLM resource management plans (RMPs), FWS RMPs, and local land management plans. A summary of the applicable plans and consistency information is presented below.

1.5.1 Bureau of Land Management

The proposed Project would cross BLM-administered lands under the jurisdiction of three field offices in Arizona and California and one district office in California. These include the California Desert District (CDD) Office, the Palm Springs-South Coast Field Office, the El Centro Field Office, and the Yuma Field Office.

A review by the Agency Staffs of the RMPs for each of the listed field or district offices indicates that the proposed Project would not conform with some of these plans in their current forms, but that amendments to these plans would bring the proposed Project into conformance. At that time, the proposed Project would conform to BLM plans and programs, subject to site-specific conditions that may be implemented as a result of this analysis. The RMPs analyzed are summarized below.

California Desert Conservation Area Plan

The proposed North Baja Pipeline Expansion Project is not consistent with the BLM's CDCA Plan. The BLM is considering amending this plan to the extent necessary to allow the Project. The majority of the proposed B-Line and IID Lateral fall within the CDCA. The BLM administers a comprehensive land use management plan for this area, which is referred to in this EIS/EIR as the CDCA Plan. The goal of the CDCA Plan is to provide for the educational, scientific, and recreational uses of public lands and resources within the CDCA in a manner that enhances and does not diminish the environmental, cultural, and aesthetic values of the desert and its productivity. According to the CDCA Plan, this goal is to be achieved through the direction given for management actions and resolution of conflicts. Direction is stated first on a geographic basis in guidelines set forth in each of four multiple-use classes (MUCs). Within those guidelines, further refinement of direction is expressed in the goals for each CDCA Plan element (e.g., cultural resources, wildlife, vegetation, wilderness, recreation, motorized-vehicle access, geology, and energy production and utility corridors). Direction is also expressed in certain site-specific CDCA Plan decisions such as Areas of Critical Environmental Concern (ACECs).

The CDCA Plan, when approved, established four general MUCs: Controlled (Class C); Limited (Class L); Moderate (Class M); and Intensive (Class I). The four MUCs have been used to describe a different type and level or degree of use that is permitted within a particular area. However, certain uses of public lands, such as for utilities, may reach across all MUCs except Class C. Therefore, individual plan elements were created to further address issues specific to each MUC. One of those elements is the "Energy Production and Utility Corridor Element" which, among other things, establishes a network of joint-use planning corridors capable of meeting projected utility service needs.

The CDCA Plan states that: "Applications for utility rights-of-way will be encouraged by BLM management to use designated corridors." The proposed Project is not consistent with the CDCA Plan where portions of the proposed B-Line and IID Lateral deviate from designated utility corridors on BLM-managed land. This EIS/EIR proposes to modify those utility corridor decisions to the extent needed to allow the BLM to issue North Baja a permit for the proposed Project. The CDCA Plan amendment process is discussed in Section 1.7. Additional discussion of the CDCA Plan and the proposed pipeline routes and designated utility corridors is presented in Sections 3.2.3.2 and 4.8.4.

Although the proposed Project is not consistent with the current CDCA Plan, it would be consistent with previous projects and the goal of grouping similar land uses. The proposed B-Line would be entirely adjacent to North Baja's existing A-Line, which was the subject of an amendment to the CDCA Plan and previously approved by the BLM in 2002. On BLM land within the CDCA, the B-Line includes 29.9 miles inside designated utility corridors and 20.8 miles outside of the utility corridors but within the previously approved A-Line right-of-way. The IID Lateral would be on BLM land within the CDCA for a total of 25.7 miles, of which 18.9 miles would be located within designated utility corridors. The remainder of the route outside of designated utility corridors would be within or adjacent to existing transportation (Interstate 8 and Evan Hewes Highway) and transmission line rights-of-way.

Within the CDCA, the proposed facilities would be within three planning areas, each with its own approved management plan that was adopted as an amendment to the CDCA Plan. These three plans are described below.

Northern and Eastern Colorado Desert Coordinated Management Plan

The Northern and Eastern Colorado Desert (NECO) Coordinated Management Plan (NECO Plan) was approved and adopted as an amendment to the CDCA Plan in December 2002. The NECO Plan amends or creates land use plans and specific management prescriptions for species and habitats on

Federal lands. The entire portion of the proposed B-Line within the CDCA would be in the NECO planning area except for the portion of the route between mileposts (MPs) 71.1 and 74.5. This portion of the route would be in the Imperial Sand Dunes Recreation Area (ISDRA), which is discussed in greater detail below.

The NECO Plan establishes an 820,077-acre Desert Wildlife Management Area (DWMA) in the Chuckwalla area, which is an area designated by the FWS as critical habitat for the desert tortoise. Of the 820,077 acres, about 465,300 acres are managed by the BLM. The NECO Plan eliminated the Milpitas Wash Wildlife Habitat Management Plan (WHMP) and Chuckwalla Bench ACEC for incorporation into the Chuckwalla DWMA. The proposed B-Line would not cross the Chuckwalla DWMA but would be immediately adjacent to the DWMA's eastern boundary, which is on the west side of State Route (SR) 78, between about MPs 35.0 and 46.0.

The proposed Project is subject to section 7 consultation in accordance with the ESA, as amended, to address potential impacts on the desert tortoise, including cumulative impacts (see Section 4.7). Although recovery of the desert tortoise is an important aspect of the NECO Plan, the plan also addresses the conservation of other species. For example, special mitigation measures avoiding disturbance of Couch's spadefoot toad habitat should be strongly considered on all projects. North Baja has, through consultation with the CDFG, established avoidance and monitoring measures for the Couch's spadefoot toad (see Section 4.7). The NECO Plan's consideration of other desert endemic species and their habitats is reflected in this EIS/EIR.

Western Colorado Desert Routes of Travel Designations Plan

The Western Colorado Desert (WECO) Routes of Travel Designations Plan (WECO Plan) was approved and adopted as an amendment to the CDCA Plan in January 2003. The WECO Plan allows the BLM to manage the area in a way that balances OHV use on a designated trail system with the maintenance or improvement of special status species populations and other natural and cultural resources. The IID Lateral would be in the WECO planning area between MPs 7.9 and 27.6. The majority of this portion of the IID Lateral would be in a designated utility corridor. An amendment to the CDCA Plan would be required for the portion of the route that deviates from a designated utility corridor on BLM land. A detailed discussion regarding OHV use in the Project area is provided in Section 4.8.5.

Imperial Sand Dunes Recreation Area Management Plan

The ISDRA was created in 1977 for the purpose of providing a formal space for OHV use. The ISDRA Management Plan (ISDRA Plan) was approved and adopted as an amendment to the CDCA Plan in March 2005. Like the WECO, which is west of and adjacent to the ISDRA, the ISDRA is primarily managed for OHV use in a way that is consistent with principles of multiple use and resource conservation. The B-Line would be in the ISDRA between MPs 71.1 and 74.5 and the IID Lateral would be in the ISDRA between MPs 0.0 and 7.9. The majority of the route in these areas would be in a designated utility corridor. An amendment to the CDCA Plan would be required for the portion of the route that deviates from a designated utility corridor on BLM land. Additional discussion of the ISDRA is presented in Section 4.8.4.

Yuma District Resource Management Plan

The proposed North Baja Pipeline Expansion Project is not consistent with the BLM's current Yuma District Plan. The Yuma District Plan identifies special management areas in the vicinity of the Milpitas Wash. In general, the management objectives of the Yuma District Plan include consolidation, protection, and enhancement of wildlife habitat and habitat for plants of special management concern.

North Baja proposes a number of conservation measures protecting wildlife and special status plants that are generally consistent with objectives of the management plans addressing the proposed activities in the Milpitas Wash area. The Yuma District Plan, however, prohibits new utilities or rights-of-way across the Milpitas Wash SMA.

This EIS/EIR proposes to modify the land use plan decisions to the extent needed to allow the BLM to issue North Baja a permit to cross the Milpitas Wash SMA. In this location, the proposed B-Line would be adjacent to North Baja's existing A-Line, which was the subject of an amendment to the Yuma District Plan and previously approved by the BLM in 2002. The Yuma District is currently in the process of revising its plan and is considering a proposal that would reroute the designated utility corridor to follow SR 78 through the Milpitas Wash SMA. The revision to the Yuma District Plan is a separate action from the proposed North Baja Pipeline Expansion Project. On December 15, 2006, the EPA published a *Notice of Availability of Yuma Field Office Draft Resource Management Plan and Draft Environmental Impact Statement* in the Federal Register.¹⁵ The existing A-Line and proposed B-Line would be within the newly designated corridor; therefore, adoption of this revision would eliminate the need for a plan amendment for the proposed North Baja Pipeline Expansion Project. The revised plan, however, is not expected to be completed before the environmental review process for the proposed Project is completed. Therefore, for the North Baja Pipeline Expansion Project, the EIS/EIR will be used by the BLM to consider amending the current Yuma District Plan, which would be necessary for any pipeline construction outside of a designated utility corridor. The Yuma District Plan amendment process is discussed in Section 1.7. Additional discussion of the Milpitas Wash SMA and North Baja's proposed conservation measures is presented in Sections 4.6.2.4 and 4.8.4.2.

1.5.2 U.S. Fish and Wildlife Service

Approximately 1.2 miles of the proposed B-Line would cross the Cibola NWR administered by the FWS. A decision that allows a crossing of the Cibola NWR must be compatible with the FWS Refuge Management Regulations in Part 603 FW 2.10(D). In approving a proposed utility right-of-way across the Cibola NWR, the Refuge Manager must find that none of the conditions listed in Part 603 FW 2.10(D) exist with regards to the proposed Project. The existing A-Line complied with these conditions and a favorable Compatibility Determination was issued for the installation of that pipeline. The proposed B-Line would be adjacent to the existing A-Line through the Cibola NWR; therefore, a favorable Compatibility Determination is expected to be issued for the proposed B-Line.

1.5.3 Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a metropolitan planning organization for the six-county southern California region (i.e., Ventura, Los Angeles, Orange, San Bernardino, Riverside, and Imperial Counties). The SCAG was established under California Government Code 6502 et seq. and is designated a Council of Governments, a Regional Transportation Planning Agency, and a Metropolitan Planning Organization.

The SCAG's responsibilities include development of solutions to the region's common problems including transportation management, growth, land use, housing, air quality, waste management, and other regional issues. The SCAG also acts as an information clearinghouse and provides counties and cities with data on demographics, forecasting, mapping, and other regional statistics. The SCAG has developed a Regional Comprehensive Plan and Guide (RCPG) as well as a Regional Transportation Plan (RTP), which include individual plans that address specific issues such as growth management, regional

¹⁵ The Yuma Field Office Draft Resource Management Plan and Draft Environmental Impact Statement is available for viewing on the Internet at <http://www.blm.gov/az/LUP/planning.htm> or at the Yuma Field Office.

housing needs, regional mobility, water quality, and air quality. The SCAG has also developed a Compass Growth Vision to encourage better relationships between housing, transportation, and employment.

In its comments on the draft EIS/EIR, the SCAG outlined several policies of its RCPG that may apply to the North Baja Pipeline Expansion Project. A summary of these policies and the Project's consistency with these policies is presented in Table 1.5.3-1.

According to the SCAG, the 2004 RTP also has goals and policies that are pertinent to the proposed North Baja Pipeline Expansion Project. The RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socioeconomic, geographic, and commercial limitations. In its comments on the draft EIS/EIR, the SCAG acknowledged that because most roadways in the Project area currently operate at a level of service of A or B, the relatively minor increase in traffic associated with the Project would not result in a significant change in the level of service on any roadway (see Section 4.10.3). In addition, North Baja would implement traffic management plans for work in or adjacent to area roadways (see Section 4.10.2). For these reasons, the SCAG determined that the proposed Project is consistent with the RTP.

The fundamental goal of the Compass Growth Visioning effort is to make the SCAG region a better place to live, work, and play for all residents regardless of race, ethnicity, or income class. According to the SCAG, decisions regarding growth, transportation, land use, and economic development should be made to promote and sustain for future generations the region's mobility, livability, and prosperity. Several principles provide a framework for local and regional decision making that improves the quality of life for all SCAG residents. These principles include:

- improve mobility for all residents;
- foster livability in all communities;
- enable prosperity for all people; and
- promote sustainability for future generations.

The Project would not interfere with efforts to develop sustainable communities or to provide public services because the majority of the facilities (99 percent) would be located in or adjacent to existing rights-of-way. The Project would, however, provide a new source of tax revenues to the area that could help facilitate the implementation of this effort.

1.5.4 Counties and Municipalities

Every city and county in California has adopted a general plan to set forth policies guiding local land use and development. Each general plan contains a map that identifies the location of allowable land uses. These designated land use maps not only identify existing land uses, but also future potential uses of lands. The Project's consistency with local land management plans was evaluated by consulting these land use plans and maps, as well as with officials from each county and municipality crossed by the Project.

TABLE 1.5.3-1

**Consistency of the North Baja Pipeline Expansion Project with the Policies of the
Southern California Association of Governments'
Regional Comprehensive Plan and Guide**

Policy Group/ Policy No.	Policy Description	Project Consistent (Yes/No)	Comments
Consistency with Regional Comprehensive Plan and Guide (RCPG) Policies			
3.01	The population, housing, and jobs forecasts that are adopted by the Southern California Association of Governments' (SCAG) Regional Council and that reflect local plans and policies shall be used by the SCAG in all phases of implementation and review.	Yes	The most current SCAG forecasts show increases in population, households, and employment across the region, subregions, counties, and cities that would be affected by the Project. The Project would not detract from the achievement of this policy. The Project would temporarily increase population, households, and employment during construction. The Project would not add any permanent staff but would also not cause a decrease in population, households, or employment (see Section 4.9.2).
3.03	The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by the SCAG to implement the region's growth policies.	Yes	Some of the Project facilities could be in service by late 2007/early 2008; the remainder could be in service by early 2010. The Project would be privately financed. The Project would not affect regional growth because no new permanent staff would be required to operate the facilities (see Section 4.9.2).
Growth Management Chapter Policies Related to the RCPG Goal to Improve the Regional Standard of Living			
3.05	Encourage patterns of urban development and land use, which reduce costs on infrastructure construction and make better use of existing facilities.	Yes ^a	About 99 percent of the proposed pipeline facilities would be in or adjacent to existing rights-of-way and would require the construction of minimal new infrastructure (see Section 2.1).
3.08	Encourage subregions to define an economic strategy to maintain the economic vitality of the subregion, including the development and use of marketing programs, and other economic incentives that support attainment of subregional goals and policies.	Yes	As described in Section 4.9.6, the Project would have a beneficial impact on tax revenues. How the government entities use the tax revenues is outside North Baja Pipeline, LLC's (North Baja) control but it is assumed that the revenues could support the achievement of this policy.
3.09	Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.	Yes	The Project would require the construction of minimal new infrastructure (see Section 2.1) and would not interfere with local jurisdictions' efforts to provide public services (see Section 4.9.4). In addition, the Project would provide a new source of tax revenues in the area (see Section 4.9.6).
3.20	Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.	Yes ^a	North Baja would implement general and species-specific conservation measures as well as the recommendations of the environmental staffs of the Federal Energy Regulatory Commission, the California State Lands Commission, and the Bureau of Land Management (Agency Staffs) to avoid, minimize, or compensate for Project-related impacts on protected species. North Baja would also implement a Construction Mitigation and Restoration Plan to minimize and restore disturbances to native vegetation, reduce impacts on water resources, prevent the invasion and establishment of exotic-nuisance species, and protect nesting migratory birds (see Sections 4.3.2, 4.4, 4.5, 4.6, 4.7, and 4.8).

TABLE 1.5.3-1 (cont'd)

**Consistency of the North Baja Pipeline Expansion Project with the Policies of the
Southern California Association of Governments'
Regional Comprehensive Plan and Guide**

Policy Group/ Policy No.	Policy Description	Project Consistent (Yes/No)	Comments
3.21	Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.	Yes ^a	North Baja is coordinating with the appropriate agencies regarding potential impacts on cultural resources and has developed an Unanticipated Discovery Plan that would be followed in the event that sites are found during construction (see Section 4.11).
3.22	Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.	Yes ^a	North Baja would prepare and implement an Operation and Maintenance Plan and an Emergency Response Plan in accordance with the requirements in Title 49 Code of Federal Regulations (CFR) Part 192 (see Section 4.14.2). North Baja has also developed a Fire Prevention and Suppression Plan to minimize the potential for wildfires (see Section 4.6.2.2).
3.23	Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.	Yes ^a	Impacts on noise levels associated with construction and operation of the proposed facilities would be less than significant (see Section 4.13). North Baja would implement both general and species-specific conservation measures as well as the Agency Staffs' recommendations to avoid, minimize, or compensate for Project-related impacts on biological and ecological resources (see Sections 4.4, 4.5, 4.6, 4.7). To minimize potential impacts associated with seismic hazards, the pipelines and associated facilities would be designed using Title 49 CFR Part 192, the <i>Guidelines for the Design of Buried Steel Pipe, Guidelines for the Seismic Design and Assessment of Natural Gas and Liquid Hydrocarbon Pipelines</i> , applicable building codes, and/or other similar recognized seismological engineering standards (see Section 4.1.4). North Baja would also develop an Emergency Response Plan (see Section 4.14.2).
Growth Management Chapter Policies Related to the RCPG Goal to Provide Social, Political, and Cultural Equity			
3.25	Encourage the efforts of local jurisdictions, employers, and service agencies to provide adequate training and retraining of workers, and prepare the labor force to meet the future challenges of the regional economy.	Yes	North Baja constructed its existing A-Line in 2002 and did not encounter shortages in the supply of local workers. Based on this experience, North Baja does not anticipate a deficiency in the number of skilled local workers needed for the North Baja Pipeline Expansion Project.
3.26	Encourage employment development in job-poor localities through support of labor force retraining programs and other economic development measures.	Yes	North Baja constructed its existing A-Line in 2002 and did not encounter shortages in the supply of local workers. Based on this experience, North Baja does not anticipate a deficiency in the number of skilled local workers needed for the North Baja Pipeline Expansion Project.

TABLE 1.5.3-1 (cont'd)

**Consistency of the North Baja Pipeline Expansion Project with the Policies of the
Southern California Association of Governments'
Regional Comprehensive Plan and Guide**

Policy Group/ Policy No.	Policy Description	Project Consistent (Yes/No)	Comments
3.27	Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.	Yes	The Project would not interfere with efforts to develop sustainable communities or to provide public services because the majority of the facilities (99 percent) would be in or adjacent to existing rights-of-way (see Section 2.2.1). The Project would, however, provide a new source of tax revenues to the area (see Section 4.9.6).
Air Quality Chapter Core Actions			
5.11	Through the environmental document review process, ensure that plans at all levels of government (regional air basin, county, subregional and local) consider air quality, land use, transportation, and economic relationships to ensure consistency and minimize conflicts.	Yes ^a	This environmental impact statement/environmental impact report for the North Baja Pipeline Expansion Project will be used by several agencies at various levels of government to determine their respective actions on the Project (see Section 1.2). Section 1.5 presents an overview of applicable plans and policies and the Project's consistency with those plans and policies.

^a The SCAG concurred with this determination in its December 28, 2006 letter providing comments on the draft EIS/EIR.

Riverside County, California

The proposed North Baja Pipeline Expansion Project would not conflict with the Riverside County General Plan. The proposed B-Line and Arrowhead Extension would cross county lands that the Riverside County Land Use Ordinance designates as being for agricultural use. After construction, the buried pipeline would not interfere with agricultural land uses. A detailed discussion of agricultural lands affected by the Project is presented in Section 4.8.2.

The Riverside County Board of Commissioners is considering the adoption of a new Land Use and Development Code. A review of the draft code has indicated that the proposed Project would not conflict with the code if it were to be adopted.

City of Blythe, California

The City of Blythe General Plan includes a public utilities element that urges the sharing of utility corridors and the burial of utility lines whenever possible. Because the proposed B-Line would be adjacent to North Baja's existing A-Line, and the B-Line and the Arrowhead Extension pipeline would be buried, the proposed Project is consistent with the City of Blythe General Plan.

Imperial County, California

The proposed North Baja Pipeline Expansion Project would not conflict with the Imperial County General Plan or existing land use designations. The proposed B-Line and IID Lateral would both be located primarily in areas that are designated for Recreation/Open Space uses. After construction, the buried pipelines would not interfere with such land uses. The Imperial County Land Use Ordinance does not include guidelines for utility installation. A detailed discussion of recreation and public interest areas affected by the Project is presented in Section 4.8.5.

1.6 PERMITS, APPROVALS, CONSULTATIONS, AND REGULATORY REQUIREMENTS

Table 1.6-1 lists the major Federal, State, and local permits, approvals, and consultations identified for the construction and operation of the North Baja Pipeline Expansion Project. North Baja would be responsible for obtaining all permits and approvals required to implement the proposed Project regardless of whether they appear in this table.

For the BLM, the proposed Federal actions are whether to amend the CDCA Plan, as amended (1980), and the Yuma District Plan, as amended (1985), allowing for a one-time exemption to the plans, and whether to grant rights-of-way to North Baja for the installation of the B-Line and IID Lateral, plus ancillary facilities, across Federal lands managed by the BLM, the BOR, and the FWS.

The proposed B-Line and IID Lateral pipeline alignments and ancillary facilities are located within and outside BLM-designated utility corridors. In addition, portions of the pipelines would cross the Milpitas Wash SMA and the NECO, WECO, and ISDRA planning areas. As discussed in Section 1.5, before any rights-of-way may be issued, plan amendments must be approved to allow for an exemption to the utility corridor element of the CDCA Plan and the special management areas element of the Yuma District Plan. The proposed amendments are under consideration to accommodate the North Baja Pipeline Expansion Project only, and would not create a new corridor or modify existing corridors. The BLM plan amendment process is described in detail in Section 1.7.

TABLE 1.6-1

Major Permits, Approvals, and Consultations for the North Baja Pipeline Expansion Project

Regulatory Agency	Required Permit or Approval	Agency Action
FEDERAL		
Advisory Council on Historic Preservation	Section 106 Consultation, National Historic Preservation Act (NHPA)	Has the opportunity to comment if the Project may affect cultural resources that are either listed on or eligible for listing on the National Register of Historic Places.
Federal Energy Regulatory Commission (FERC)	Certificate of Public Convenience and Necessity	Determine whether the construction and operation of a natural gas pipeline project is in the public interest.
	Presidential Permit	Consider issuance of an amendment of North Baja's permit for interconnection of natural gas transmission facilities at the international border of the United States and Mexico.
International Boundary and Water Commission	Compliance with International Treaties and Conventions	Review and approve Project components as they relate to the international boundary, boundary monuments, and potential changes to surface runoff characteristics at the international border.
U.S. Department of the Army Corps of Engineers (COE)	Section 10, Rivers and Harbors Act Permit	Consider issuance of a section 10 permit for construction across the Colorado River.
	Section 404, Clean Water Act (CWA) Permit	Consider issuance of a section 404 permit for the placement of dredge or fill material into all waters of the United States, including jurisdictional wetlands.
U.S. Department of the Interior Bureau of Land Management (BLM)	Antiquities and Cultural Resource Use Permit	Consider issuance of antiquities and cultural resources use permit to conduct surveys and to excavate or remove cultural resources on Federal lands.
	California Desert Conservation Area (CDCA) Plan Amendment	Consider amending the CDCA Plan.
	Yuma District Resource Management Plan (Yuma District Plan) Amendment	Consider amending the Yuma District Plan.
	Right-of-Way Grant	Consider granting rights-of-way and temporary use permits for portions of the Project that would encroach on Federal lands, including easements across federally owned waterways.
	Temporary Use Permit	Consider issuance of a temporary use permit for temporary activities in a construction right-of-way.
	Plan of Development	Consider approval of detailed Construction, Operation, and Maintenance Plan.
	Notice to Proceed	Following issuance of the right-of-way grant and approval of the Construction, Operation, and Maintenance Plan, consider issuance of a Notice to Proceed with Project development and mitigation activities.

TABLE 1.6-1 (cont'd)

Major Permits, Approvals, and Consultations for the North Baja Pipeline Expansion Project

Regulatory Agency	Required Permit or Approval	Agency Action
U.S. Bureau of Reclamation (BOR)	Right-of-Way Grant	Provide concurrence for BLM to issue amended Right-of-Way Grant covering BOR lands.
	Hydrostatic Test Coordination	In conjunction with the Imperial Irrigation District, consult with North Baja regarding the withdrawal and discharge of hydrostatic test water from and to the All-American Canal.
U.S. Department of Justice Bureau of Alcohol, Tobacco, Firearms, and Explosives	Explosive User's Permit	Consider issuance of permit to purchase, store, and use explosives for site preparation during pipeline construction.
U.S. Department of Transportation Federal Highway Administration	Encroachment Permit	Consider issuance of permit for pipeline crossing of federally funded highways.
U.S. Environmental Protection Agency, Region IX	Section 401, CWA, Water Quality Certification	In conjunction with states, consider issuance of water use and crossing permits.
	Section 402, CWA, National Pollutant Discharge Elimination System (NPDES)	In conjunction with states, review and issue NPDES permit for discharge of hydrostatic test water.
	Section 404, CWA	Review CWA, section 404 applications for wetland dredge-and-fill applications for the COE with 404(c) veto power for wetland permits issued by the COE.
U.S. Fish and Wildlife Service (FWS)	Section 7 Consultation, Biological Opinion (Endangered Species Act)	Consider lead agency finding of impact on federally listed or proposed species. Provide Biological Opinion if the Project is likely to adversely affect federally listed or proposed species or their habitats.
	Fish and Wildlife Coordination Act	Provide comments to prevent loss of and damage to wildlife resources.
	Compatibility Determination	Provide concurrence for BLM to issue amended Right-of-Way Grant covering FWS lands.
ARIZONA		
Arizona Department of Environmental Quality, Division of Water Quality	Section 401, CWA, Water Quality Certification	Consider approval of certification of activities related to dredge and fill materials.
	Construction Dewatering Permit (if necessary)	Consider issuance of permit regulating discharge of intruded or stormwater from construction excavation to land or waters of the United States.
Arizona Game and Fish Department	Threatened and Endangered Species Clearance	Consider issuance of biological clearance for State-listed species.
Arizona State Historic Preservation Office	Section 106 Consultation, NHPA	Consult with the FERC, Project Applicant, appropriate land management agencies, and others regarding activities potentially affecting cultural resources.
Arizona State Lands Department, Natural Resources Division	Soil Erosion, Sedimentation Control, and Spill Plan Approval	Consider approval of Soil Erosion, Sedimentation Control, and Spill Plans in coordination with local conservation districts.
	Easement	Consider authorization of an easement for the pipeline crossing of State lands.

TABLE 1.6-1 (cont'd)

Major Permits, Approvals, and Consultations for the North Baja Pipeline Expansion Project		
Regulatory Agency	Required Permit or Approval	Agency Action
	Temporary Use Permit	Consider issuance of a temporary use permit for extra workspace associated with the Colorado River horizontal directional drill.
CALIFORNIA		
California Department of Fish and Game	California Endangered Species Act	Consider issuance of a section 2081 Incidental Take Permit and/or a section 2080.1 consistency determination for effects on species that are both State- and federally listed.
	California Native Plant Protection Act	Review of mitigation agreement and mitigation plan for plants listed as rare.
	Streambed Alteration Agreement (section 1603 of the California Fish and Game Code)	Consider issuance of section 1603 Streambed Alteration Agreement.
California Department of Transportation	Encroachment Permit	Consider issuance of permit to cross or bore under State highways or be within a State highway right-of-way.
California Regional Water Quality Control Board, Colorado River Basin Region	Section 401, CWA, Water Quality Certification	Consider approval of certification of activities related to dredge and fill materials.
	NPDES Hydrostatic Test Permit	Consider issuance of permit for discharge of hydrostatic test water.
	Construction Dewatering Permit (if necessary)	Consider issuance of permit regulating discharge of intruded or stormwater from construction excavation to land or waters of the United States.
California State Historic Preservation Office	Section 106 Consultation, NHPA	Consult with the FERC, Project Applicant, appropriate land management agencies, and others regarding activities potentially affecting cultural resources.
California State Lands Commission	Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) Statement of Overriding Considerations	Consider certification of the EIS/EIR. Consider issuance of a Statement of Overriding Considerations for impacts identified in the EIS/EIR that cannot be reduced to a level that is less than significant.
	Amendment to Lease of State Lands	Consider amendment to Lease of State Lands.
Imperial County Air Pollution Control District	Dust Control Plan	Consider dust control plan for construction.
Mojave Desert Air Quality Management District	Dust Control Plan	Consider dust control plan for construction.
IMPERIAL COUNTY		
Board of Supervisors	Franchise Agreement	Consider issuance of franchise agreement.
Planning Department	Temporary Use Permit	Consider issuance of temporary use permit for pipe storage and contractor yards.
Public Works Department	Encroachment Permit	Consider issuance of an encroachment permit.
	Road Crossing Permit	Consider issuance of road crossing permit.
Sheriff's Department	Explosives Permit	Consider issuance of a license to store flammable explosives.

TABLE 1.6-1 (cont'd)

Major Permits, Approvals, and Consultations for the North Baja Pipeline Expansion Project		
Regulatory Agency	Required Permit or Approval	Agency Action
IMPERIAL VALLEY IRRIGATION DISTRICT	Encroachment Permit	Consider issuance of an encroachment permit.
	Trench Dewatering Permit	Consider issuance of trench dewatering permit.
PALO VERDE IRRIGATION DISTRICT	Crossing Agreement	Consider issuance of a crossing agreement.
	Trench Dewatering Permit	Consider issuance of trench dewatering permit.
RIVERSIDE COUNTY		
Board of Supervisors	Franchise Agreement	Consider issuance of franchise agreement.
Transportation Department	Encroachment Permit	Consider issuance of encroachment permit.
Planning Department	Temporary Use Permit	Consider issuance of temporary use permit for pipe storage and contractor staging yards.
CITY OF BLYTHE	Encroachment Permit	Consider issuance of an encroachment permit.
	Grading Permit	Consider issuance of a grading permit.
CITY OF EL CENTRO	Encroachment Permit	Consider issuance of an encroachment permit.

As a cooperating agency, the BLM proposes to adopt this EIS/EIR per Title 40 CFR Part 1506.3 to meet its responsibilities under NEPA and its planning regulations per Title 43 CFR Part 1610. As a BLM NEPA document, this EIS/EIR includes an analysis of the direct, indirect, and cumulative impacts of granting the aforementioned rights-of-way and alternatives on BLM-managed public lands. This EIS/EIR includes all the required elements per Title 43 CFR Part 1610, such as public participation, consistency review, issue identification, development of planning criteria, formulation of alternatives, environmental impact analysis, and protest procedures.

1.7 BUREAU OF LAND MANAGEMENT PLAN AMENDMENT PROCESS

1.7.1 Regulatory Requirements

Section 202 of the Federal Land Policy and Management Act (FLPMA) states: “The Secretary shall, with public involvement ... develop, maintain, and when appropriate, revise land use plans which provide by tracts or areas for the use of the public lands” (43 United States Code [USC] 1712). The regulations for making and modifying land use plans and planning decisions are found in Title 43 CFR Part 1600. The proposed land use plan amendments shall follow the regulations as set forth in Title 43 CFR Part 1610, Resource Management Planning. In short, an interdisciplinary approach shall be used in amending resource plans. The disciplines of the preparers shall be appropriate to the values involved and the issues identified for the amendment. The amendment shall be analyzed through the NEPA process. Through the NEPA process the public and other Federal, State, and local governments shall be provided opportunities to meaningfully participate in and comment on the preparation of amendments and be given early notice of planning activities. The analysis and public involvement for the proposed land use plan amendments shall coincide, to the extent possible, with the public notices, hearings, and comment periods of this EIS/EIR for the proposed North Baja Pipeline Expansion Project.

1.7.2 Need for Plan Amendments

An amendment to the CDCA Plan is required because the proposed B-Line deviates from a designated utility corridor on BLM land at five locations in the CDCA for a total length of approximately 20.8 miles (MPs 34.2 to 36.5, MPs 53.8 to 65.2, MPs 68.3 to 70.4, MPs 71.7 to 74.3, and MPs 77.4 to 79.8). In addition, the IID Lateral deviates from a designated utility corridor on BLM land at three locations in the CDCA for a total length of approximately 6.8 miles (MPs 18.9 to 24.5, MPs 24.9 to 26.0, and MPs 27.5 to 27.6). The locations requiring a CDCA Plan amendment are shown on Figure 1.7.2-1.

An amendment to the Yuma District Plan is required because a portion of the proposed B-Line that deviates from a designated utility corridor on BLM land crosses the Milpitas Wash SMA for approximately 2.5 miles (MPs 29.8 to 30.3, MPs 30.4 to 30.6, MPs 32.2 to 32.7, and MPs 32.9 to 34.2) (see Figure 1.7.2-1). The Yuma District Plan prohibits the location of new utility facilities in SMAs.

Although the B-Line deviates from designated utility corridors within the CDCA and within the Milpitas Wash SMA, it would be collocated with North Baja’s existing A-Line. The BLM approved plan amendments to both the CDCA and Yuma District Plans to accommodate the A-Line in 2002. Where the IID Lateral is outside of a designated utility corridor, the route would primarily follow or abut other previously disturbed corridors established by roads (rather than utilities) such as Interstate 8 and Evan Hewes Highway.

If the plan(s) are not amended, the BLM may authorize installation of the Project within existing corridors only, or the BLM may deny the Project if the existing corridor option does not prove feasible. Section 1.7.5 summarizes the alternative routes considered and Section 3 provides a comparison of the alternatives.

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Figure 1.7.2-1 Locations Requiring a BLM Plan Amendment

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1.7.3 Identification of Issues

Major issues raised by the BLM and other agencies include: potential impact on special status species, including the desert tortoise; potential impact on desert wildlife habitat; potential for OHV route proliferation; timing of construction; and visual impacts. These issues are addressed in Section 4.

1.7.4 Planning Criteria

Planning criteria (Title 43 CFR Part 1610.4-2) are parameters that guide development of the land use plan amendment to ensure the planning process is tailored to the issues and that unnecessary data collection is avoided. Planning criteria are based on standards prescribed by applicable laws and regulations; agency guidance; and the result of coordination with the public, tribes, and other Federal, State, and local government agencies. The BLM has prepared the planning criteria for the proposed land use plan amendments as presented below.

Planning and NEPA

The proposed land use plan amendments shall not amend the majority of the decisions, goals, and objectives established in the CDCA Plan or the Yuma District Plan and these decisions shall remain in effect. The plan amendment process shall be conducted in compliance with the FLPMA, planning regulations at Title 43 CFR Part 1600, BLM manual guidance, and all applicable Federal laws affecting BLM land use decisions. The planning process shall include an environmental analysis prepared in compliance with NEPA, the CEQ regulations at Title 40 CFR Part 1500, and BLM guidance.

Consistency with Other Land Use Plans and Ongoing BLM Planning Efforts

The BLM's land use plans and amendments must be consistent with officially approved or adopted resource-related plans of Native American tribes, other Federal agencies, and State and local governments to the maximum extent practical, given that the BLM's land use plans must also be consistent with the purposes, policies, and programs of the FLPMA, as well as other Federal laws and regulations applicable to public lands (Title 43 CFR Part 1610.3-2[a]). Consistency with current land use plans is discussed in Section 1.5.

1.7.5 Alternatives Considered in the Analysis

An alternative this EIS/EIR must consider is that North Baja use existing corridors, as designated in the CDCA Plan (BLM 1980 as amended) for its entire route across public land in California. In 1980 when the CDCA Plan was issued, utility corridors 2 to 5 miles wide were designated, mostly along existing pipelines and transmission lines (BLM 1980). Several additional corridors were subsequently designated. The intent of the CDCA Plan was to limit future disturbance and land use designation for utilities to previously disturbed areas already carrying utilities. By the legislation enabling the CDCA Plan, a plan amendment is required to allow an exception to the plan's designated utility corridors.

As part of the EIS/EIR for the original North Baja Pipeline Project (referred to in this EIS/EIR as the A-Line), the alternative of following designated utility corridors was considered. Based on the analysis conducted for that Project, the route selected for the A-Line, including the deviations from designated utility corridors and the crossing of the Milpitas Wash SMA, was determined to be environmentally preferable to a route that remained within designated utility corridors. The proposed B-Line would be adjacent to the existing A-Line for the entire route. The collocation of facilities is generally preferred by land management agencies, land use planners, and other regulatory agencies and has several inherent engineering and environmental advantages. Perhaps the most important of these

advantages is that new land disturbance is minimized. Because of the advantages of collocation, and because the route selected for the A-Line that would be followed for the B-Line was previously determined to be environmentally preferable to a route that remains within a designated utility corridor, alternatives for the B-Line route that would follow designated utility corridors are not considered in this EIS/EIR.

Along the IID Lateral, North Baja proposes to deviate from a designated utility corridor at three locations within the CDCA. Two alternative routes were examined to stay within a designated utility corridor for a longer distance than the proposed route. These alternatives are referred to as the Corridor L Alternative and the Bond's Corner Alternative. A detailed discussion of these alternatives is presented in Section 3.2.3.2.

1.7.6 Agency Coordination

The BLM and the FWS have worked closely with North Baja representatives throughout the process of collecting information for this environmental analysis. Additionally, BLM and FWS personnel have consulted informally on the impacts of the corridor exception, on North Baja's proposed restoration plan, and on the potential impacts on desert wildlife habitat and the desert tortoise.

1.7.7 Public Participation

BLM planning regulations (Title 40 CFR Part 1601-1610) provide for specific points of public involvement in environmental analysis and land use planning decisions including plan amendments. The review and analysis of the North Baja Pipeline Expansion Project follows the BLM guidelines for public participation and opportunity to comment, as well as those of the FERC and the CSLC. The opportunities for the public to review and comment on the EIS/EIR and plan amendment are described in Section 1.3.

The EPA's publication of the Notice of Availability of the final EIS/EIR and proposed plan amendment in the Federal Register initiates a 30-day protest period on the plan amendment. Any participant in the planning process who has an interest that is or may be adversely affected may file a protest (Title 43 CFR Part 1610.5-2(a)). A letter of protest must be filed with the BLM Director within 30 days of the EPA notice. The Director may dismiss or uphold a protest in whole or in part. The BLM will withhold approval and implementation on any protested portion of a plan amendment until the protest process has been completed. Portions of the plan amendment not being protested may be approved and implemented.

The EPA's notice simultaneously initiates the Governor's consistency review. The Governor has a maximum of 60 days to identify inconsistencies between the proposed plan and State and local plans and provide written comments to the BLM California State Director. The BLM and the State may mutually agree upon a shorter review period satisfactory to both.

Once protests have been resolved and the Governor's consistency review has been completed, the BLM State Director(s) may approve the plan amendment by signing a ROD. The plan amendment decision of the BLM Director is the final decision of the Department of the Interior and therefore cannot be appealed to the Interior Board of Land Appeals.

2.0 PROJECT DESCRIPTION

2.1 PROPOSED FACILITIES

North Baja proposes to expand its existing natural gas transmission pipeline system between Ehrenberg, Arizona and an interconnection at the international border between the United States and Mexico. The North Baja Pipeline Expansion Project would involve the construction and operation of a pipeline loop; two pipeline laterals; two meter stations; modifications at North Baja's existing compressor and meter stations; and installation of taps and crossover piping, mainline and lateral valves, and pig launchers and receivers. An overview map of the Project location and facilities is provided on Figure 2.1-1. Detailed maps showing the pipeline routes, aboveground facilities, contractor yards, and access roads are in Appendix B.

2.1.1 Pipeline Facilities

North Baja's existing system between Ehrenberg, Arizona and the U.S.-Mexico border consists of 79.8 miles of 30-inch- and 36-inch-diameter pipeline (referred to in this EIS/EIR as the A-Line). The A-Line was installed in 2002 as part of the North Baja Pipeline Project (Docket Nos. CP01-22-000, et al.). The pipeline facilities proposed by North Baja to expand its existing system would consist of approximately 127.6 miles of pipeline loop and laterals of various diameters. Table 2.1.1-1 lists the proposed pipeline facilities by name, pipe diameter, milepost range, length, and location. The proposed pipeline facilities include:

- B-Line – up to 79.8 miles of pipeline loop consisting of 11.7 miles of 42-inch-diameter pipeline extending from the existing Ehrenberg Compressor Station at MP 0.0 in La Paz County, Arizona to the existing Rannells Trap at MP 11.7 in Riverside County, California and 68.1 miles of 48-inch-diameter pipeline extending from Rannells Trap to an interconnection at the U.S.-Mexico border at MP 79.8 in Imperial County, California;
- Arrowhead Extension – 2.1 miles of 36-inch-diameter pipeline extending from the proposed B-Line at MP 7.4 to SoCalGas' existing Blythe Compressor Station in Riverside County; and
- IID Lateral – 45.7 miles of 16-inch-diameter pipeline extending from MP 74.5 of the B-Line near the existing Ogilby Meter Station in Imperial County to the existing IID El Centro Generating Station in Imperial County.

The design pressure and maximum allowable operating pressure (MAOP) of the pipeline facilities would be 1,150 pounds per square inch gauge (psig). The normal operating pressure would be 1,050 psig.

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Figure 2.1-1 Project Overview Map

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TABLE 2.1.1-1				
Pipeline Facilities Associated with the North Baja Pipeline Expansion Project				
Facility	Pipe Diameter (inches)	Milepost Range	Length (miles)	County, State
B-Line	42	0.0 – 0.2	0.2	La Paz, Arizona
		0.2 – 11.7	<u>11.5</u>	Riverside, California
<i>Subtotal</i>			<i>11.7</i>	
	48	11.7 – 22.3	10.6	Riverside, California
		22.3 – 79.8	<u>57.5</u>	Imperial, California
<i>Subtotal</i>			<i>68.1</i>	
B-Line Total			79.8	
Arrowhead Extension	36	0.0 – 2.1 ^a	2.1	Riverside, California
IID Lateral	16	0.0 – 45.7 ^b	45.7	Imperial, California
Project Total			127.6	
^a The Arrowhead Extension connects to the B-Line at MP 7.4. ^b The IID Lateral connects to the B-Line at MP 74.5.				

2.1.2 Aboveground Facilities

Associated aboveground facilities proposed by North Baja include (see Table 2.1.2-1):

- modifications at the existing Ehrenberg Compressor Station in La Paz County and the existing Ogilby Meter Station in Imperial County to allow northbound flow of natural gas;
- metering modifications inside the existing El Paso Meter Station at the Ehrenberg Compressor Station site to allow LNG-source gas to be delivered into the El Paso system;
- installation of one meter station (Blythe-Arrowhead Meter Station) at SoCalGas' existing Blythe Compressor Station in Riverside County to measure gas delivery from the North Baja system to SoCalGas;
- installation of one meter station (El Centro Meter Station) at the IID's existing El Centro Generating Station in Imperial County to measure gas delivery from the North Baja system to the IID;
- installation of two taps and crossover piping where the Arrowhead Extension would connect with the existing A-Line and proposed B-Line in Riverside County;
- installation of one tap where the IID Lateral would connect with the proposed B-Line in Imperial County;
- installation of four pig launchers, one where the Arrowhead Extension would connect with the existing A-Line and proposed B-Line, one at Rannells Trap in Riverside County, one at the Ogilby Meter Station, and one where the IID Lateral would connect with the proposed B-Line;
- installation of five pig receivers, one at the Ehrenberg Compressor Station, one at the end of the Arrowhead Extension at the Blythe-Arrowhead Meter Station, one at Rannells

Trap, one at the Ogilby Meter Station, and one at the end of the IID Lateral at the IID El Centro Generating Station;

- installation of nine remote manual valves with automatic shutdown capability on the B-Line, adjacent to the existing A-Line valve sites; and
- installation of four remote manual valves with automatic shutdown capability on the IID Lateral.

TABLE 2.1.2-1			
Aboveground Facilities Associated with the North Baja Pipeline Expansion Project			
Facility	Approximate Milepost	Diameter (inches)	County, State
B-Line			
Ehrenberg Compressor Station Modifications and Pig Receiver	0.0	42	La Paz, AZ
El Paso Meter Station Modifications	0.0	--	La Paz, AZ
Rannells Trap Pig Launcher and Receiver	11.7	42/48	Riverside, CA
Valve #1	0.0	48	Riverside, CA
Valve #2	5.7	48	Riverside, CA
Valve #3	11.7	48	Riverside, CA
Valve #4	11.7	48	Riverside, CA
Valve #5	28.0	48	Imperial, CA
Valve #6	41.6	48	Imperial, CA
Valve #7	60.3	48	Imperial, CA
Valve #8	75.2	48	Imperial, CA
Valve #9	75.2	48	Imperial, CA
Ogilby Meter Station Modifications and Pig Launcher and Receiver	75.2	48	Imperial, CA
Arrowhead Extension			
Two Taps at the A-Line and B-Line, Crossover Piping, and Pig Launcher	0.0	36	Riverside, CA
Blythe-Arrowhead Meter Station and Pig Receiver	2.1	36	Riverside, CA
IID Lateral			
Tap at the B-Line and Pig Launcher	0.0	16	Imperial, CA
Valve #1	0.0	16	Imperial, CA
Valve #2	7.6	16	Imperial, CA
Valve #3	27.2	16	Imperial, CA
Valve #4	38.7	16	Imperial, CA
El Centro Meter Station and Pig Receiver	45.7	16	Imperial, CA

2.2 LAND REQUIREMENTS

Table 2.2-1 summarizes the land requirements for the Project. A detailed description and breakdown of land requirements and use is presented in Section 4.8.2. Construction of the North Baja Pipeline Expansion Project would disturb approximately 1,760.5 acres of land, including the pipeline facilities, aboveground facilities, pipe storage and contractor yards, and access roads. Approximately 109.0 acres of the 1,760.5 acres used for construction would be required for operation of the Project. Of this total, about 106.9 acres would be for the pipeline facilities, 2.0 acres would be for the aboveground facilities, and 0.1 acre would be for permanent access roads associated with the proposed facilities. The remaining 1,651.5 acres of land would be restored and allowed to revert to former use.

TABLE 2.2-1

Summary of Land Requirements Associated with the North Baja Pipeline Expansion Project

Facility	Land Affected During Construction (acres)	Land Affected During Operation (acres)
Pipeline Facilities		
Pipeline Right-of-Way		
B-Line ^a	1,015.5	0.0
Arrowhead Extension ^b	20.6	4.7
IID Lateral ^c	<u>360.2</u>	<u>102.2</u>
Pipeline Right-of-Way Total	1,396.3	106.9
Temporary Extra Workspace		
B-Line	128.2	0.0
Arrowhead Extension	1.7	0.0
IID Lateral	<u>43.1</u>	<u>0.0</u>
Temporary Extra Workspace Total	173.0	0.0
<i>Pipeline Facilities Total</i>	<i>1,569.3</i>	<i>106.9</i>
Aboveground Facilities		
B-Line		
Ehrenberg Compressor Station Modifications and Pig Receiver	0.7	0.0
El Paso Meter Station Modifications	0.0	0.0
Rannells Trap Pig Launcher and Receiver	0.3	0.3
Ogilby Meter Station Modifications and Pig Launcher and Receiver	0.2	0.2
Valves	<u>1.0</u>	<u><0.1</u>
B-Line Subtotal	2.3	0.5
Arrowhead Extension		
Two Taps at the A-Line and B-Line, Crossover Piping, and Pig Launcher	1.0	0.8
Blythe-Arrowhead Meter Station and Pig Receiver	<u>1.0</u>	<u>0.3</u>
Arrowhead Extension Subtotal	2.0	1.1
IID Lateral		
Tap at the B-Line and Pig Launcher	0.2	0.2
El Centro Meter Station and Pig Receiver	2.5	0.2
Valves	<u>0.2</u>	<u>0.0</u>
IID Lateral Subtotal	2.9	0.4
<i>Aboveground Facilities Total</i>	<i>7.2</i>	<i>2.0</i>
<i>Pipe Storage and Contractor Yards</i>	<i>73.1</i>	<i>0.0</i>
Access Roads		
B-Line	99.7	0.0
Arrowhead Extension	<0.1	<0.1
IID Lateral	<u>11.2</u>	<u>0.1</u>
<i>Access Roads Total</i>	<i>110.9</i>	<i>0.1</i>
Project Total	1,760.5	109.0

TABLE 2.2-1 (cont'd)

Summary of Land Requirements Associated with the North Baja Pipeline Expansion Project

Facility	Land Affected During Construction (acres)	Land Affected During Operation (acres)
a	Based on a 105-foot-wide construction right-of-way in all areas except along 18 th Avenue where a 60-foot-wide construction right-of-way would be used. No additional permanent right-of-way would be required because the B-Line would be installed in North Baja's existing 50-foot-wide permanent right-of-way using a standard 25-foot offset from the existing A-Line.	
b	Based on a 100-foot-wide construction right-of-way in all areas except when in the Arrowhead Boulevard roadway or road shoulder where a 60-foot-wide construction right-of-way would be used. Based on a 35-foot-wide permanent right-of-way in all areas except when in the Arrowhead Boulevard roadway or road shoulder. The width of the permanent right-of-way within Arrowhead Boulevard would be determined under an agreement between North Baja and Riverside County.	
c	Based on an 80-foot-wide construction right-of-way where the route would parallel existing powerlines and a 60-foot-wide construction right-of-way where the route would be installed between a powerline and a road and within or abutting the traveled portion of county roads. Based on a 30-foot-wide permanent right-of-way in all areas except along Evan Hewes Highway and other county roads where a 2-foot-wide permanent right-of-way was assumed. The actual width of the permanent right-of-way along Imperial County roads would be determined under an agreement between North Baja and Imperial County.	

Note: The totals shown in this table may not equal the sum of addends due to rounding.

Construction and operation activities on approximately 89 percent of the lands affected by the Project would be authorized by various governmental entities including: the BLM (for Federal lands managed by the BLM, the BOR, and the FWS [53 percent]), California counties (36 percent), the States of Arizona or California or cities (less than 1 percent), or the CSLC (less than 1 percent). The remainder of the land that would be affected (11 percent) is privately owned. No tribal land would be crossed. A detailed description of land ownership is presented in Section 4.8.2.

2.2.1 Pipeline Facilities

Of the approximately 1,569.3 acres of land that would be disturbed during construction of the pipeline facilities, about 1,396.3 acres would be disturbed by the pipeline right-of-way and 173.0 acres would be disturbed by temporary extra workspace. About 858.5 acres or 55 percent is previously disturbed area associated with construction and operation of North Baja's existing A-Line. Operation of the pipeline facilities would require about 106.9 acres of land.

Of the 127.6 miles of proposed pipeline facilities, approximately 126.9 miles (99 percent) would be constructed in or adjacent to various existing rights-of-way (see Table 2.2.1-1). The B-Line and Arrowhead Extension would be entirely in or adjacent to existing rights-of-way. Of the 45.7 miles associated with the IID Lateral, 0.7 mile (2 percent) would be constructed on newly created right-of-way that does not parallel existing rights-of-way.

North Baja proposes to generally use a 105-foot-wide construction right-of-way for the B-Line, consisting of North Baja's existing 50-foot-wide permanent right-of-way and 55 feet of temporary workspace. In most areas, about 80 feet of the construction right-of-way would overlap the previously disturbed right-of-way. The B-Line would be installed within North Baja's existing 50-foot-wide permanent right-of-way using a standard 25-foot offset from the existing A-Line. No new permanent right-of-way would be required for operation of the B-Line. In the Palo Verde Valley, the B-Line would generally be installed to the south or east of the existing A-Line. For the remainder of the route, the B-Line would typically be west of the existing A-Line.

Where the B-Line would be installed within or abutting the paved portion of 18th Avenue (a distance of about 7.6 miles), rights to build and operate the pipeline within the county road right-of-way would be authorized under a franchise agreement with Riverside County. Franchise agreements do not typically grant a specific strip of land, but simply allow the pipeline to be installed and operated within the road right-of-way. North Baja proposes to use a 60-foot-wide construction right-of-way to install the B-Line in the paved portion of 18th Avenue. North Baja's typical right-of-way cross sections along the proposed B-Line are in Appendix C.

During the scoping process, one commentor suggested that North Baja install the B-Line closer to the existing A-Line than its proposed 25-foot separation. Twenty-five feet is a standard separation distance used by many looped pipelines. This distance ensures a margin of safety during construction and operation of the pipeline and it maintains a symmetrical distance between the pipelines and the easement boundaries, which can help avoid future encroachment issues. However, some looped systems do employ a 20-foot separation or less where site-specific conditions require that the pipelines be closer together (e.g., heavily urbanized areas). In the case of the proposed Project, nothing would be gained by decreasing the separation between the proposed B-Line and the existing A-Line because North Baja already proposes to utilize the full width of the previously disturbed right-of-way and the workspace requirements would not be reduced by placing the B-Line closer to the A-Line. In other words, placing the proposed B-Line closer to the existing A-Line would not result in a reduction in disturbance to previously undisturbed land.

TABLE 2.2.1-1

Location of Adjacent Existing Rights-of-Way in Relation to the Proposed Pipeline Facilities

Facility	Beginning Milepost	Ending Milepost	Segment Length (miles)	Existing Right-of-Way	Relationship to Existing Rights-of-Way
B-Line	0.0	0.5	0.5	A-Line	South
	0.5	2.3	1.8	A-Line	East
	2.3	2.9	0.6	A-Line/18 th Avenue ^a	North
	2.9	10.5	7.6	A-Line/18 th Avenue ^b	South
	10.5	12.1	1.6	A-Line	South
	12.1	79.8	67.7	A-Line ^c	West
Arrowhead Extension	0.0	1.0	1.0	Arrowhead Boulevard ^d	East
	1.0	1.5	0.5	Arrowhead Boulevard	East
	1.5	2.1	0.6	Arrowhead Boulevard	West
IID Lateral	0.0	0.1	0.1	Ogilby Road	West
	0.1	2.6	2.5	SDG&E Powerline ^d	North
	2.6	3.5	0.9	Interstate 8	South
	3.5	4.4	0.9	IID Powerlines ^e	South
	4.4	5.1	0.7	SDG&E Powerline ^e	South
	5.1	5.6	0.5	IID Powerlines	West
	5.6	6.1	0.5	Interstate 8	North
	6.1	8.1	2.0	Interstate 8	North
	8.1	8.5	0.4	Evan Hewes Highway	South
	8.5	13.6	5.1	Evan Hewes Highway	North
	13.6	16.2	2.6	IID Powerline	South
	16.2	26.0	9.8	Evan Hewes Highway	North
	26.0	27.1	1.1	Evan Hewes Highway	South
	27.1	27.6	0.5	None, new right-of-way	Not Applicable ^f
	27.6	27.8	0.2	None, new right-of-way	NA
	27.8	34.9	7.1	Hunt Road	North
	34.9	35.9	1.0	Hunt Road	South
	35.9	36.9	1.0	Hunt Road	North
	36.9	38.7	1.8	East Chick Road	North
	38.7	38.9	0.2	McGrew Road	East
	38.9	39.7	0.8	Private Field Road	East
	39.7	40.4	0.7	East Ross Road	South
	40.4	41.4	1.0	East Ross Road	North
	41.4	42.1	0.7	Parker Road	East
	42.1	42.9	0.8	Parker Road	South
	42.9	43.4	0.5	Holton Road	South
	43.4	43.6	0.2	State Route 111 and IID Powerline ^g	South
	43.6	45.7	2.1	IID Powerline	North

^a The B-Line would be adjacent to 18th Avenue along this segment of the route but would not be within the actual road or road shoulder.

^b The B-Line would be installed within the road or road shoulder of 18th Avenue along this segment of the route.

^c The B-Line would also be adjacent to State Route 78 and Ogilby Road for portions of this pipeline segment.

^d The Arrowhead Extension would be installed within the roadway or road shoulder of Arrowhead Boulevard along this segment of the route.

^e The IID Lateral would be installed beneath Interstate 8 and the All-American Canal between MPs 2.3 and 2.6.

^f The IID Lateral would be between IID powerlines "A" and "C" in this location.

^g The IID Lateral would be installed beneath Interstate 8 in this location.

^h The IID Lateral would be between Old State Highway 111 and an IID powerline in this location.

North Baja proposes to generally use a 100-foot-wide construction right-of-way for the Arrowhead Extension except when in the Arrowhead Boulevard roadway or road shoulder where a 60-foot-wide construction right-of-way would be used. The permanent right-of-way in all areas except when in the Arrowhead Boulevard roadway or road shoulder would be 35 feet wide. Rights to build and operate the pipeline within the Arrowhead Boulevard right-of-way would be authorized under an agreement between North Baja and Riverside County. North Baja's typical right-of-way cross sections along the proposed Arrowhead Extension are in Appendix C.

Where the IID Lateral parallels existing powerlines, North Baja proposes to generally use an 80-foot-wide construction right-of-way and a 30-foot-wide permanent right-of-way. North Baja proposes to use a 60-foot-wide construction right-of-way and a 30-foot-wide permanent right-of-way where the lateral would be installed between a powerline and a road. A 60-foot-wide construction right-of-way would also be used where the IID Lateral would be installed within or abutting the traveled portion of county roads. Rights to build and operate the IID Lateral within county road rights-of-way would be authorized under a franchise agreement between North Baja and Imperial County. For the portion of the IID Lateral located in Evan Hewes Highway and other county roads, a 2-foot-wide permanent right-of-way has been assumed. In some cases, where the road right-of-way has not been expressly dedicated to the county, North Baja may acquire additional easement from private landowners. In these areas, a 30-foot-wide permanent right-of-way has been assumed. North Baja's typical right-of-way cross sections along the proposed IID Lateral are in Appendix C.

In addition to the construction right-of-way, North Baja has identified temporary extra workspaces that would be required for staging areas and construction at waterbodies, roads, and railroads, and in areas of steep slopes and rugged terrain. The approximate locations and sizes of temporary extra workspaces identified by North Baja are listed in Table D-1 in Appendix D.

2.2.2 Aboveground Facilities

Modifications at existing and construction of new aboveground facilities associated with the proposed Project would affect 7.2 acres of land. Of the 7.2 acres, 2.0 acres would be permanently converted for operation of these facilities.

The installation of a new pig receiver at the Ehrenberg Compressor Station would take place within the existing fenceline of the facility and would not require any additional land for construction or operation; however, a header pipe associated with the new pig receiver would be outside of the fenceline of the facility and would require 0.7 acre for construction (no permanent right-of-way would be required because the line would be installed on North Baja fee property). The aboveground modifications at the Ehrenberg Compressor Station and the adjacent El Paso Meter Station to allow for northbound flow of gas would occur within the existing fencelines of the facilities.

The addition of a pig launcher and receiver at Rannells Trap would require an expansion of the facility by 0.3 acre for both construction and operation. The modifications and additional pig launcher and receiver at the Ogilby Meter Station would require an expansion of the facility by 0.2 acre for both construction and operation.

Four new valves associated with the B-Line would be collocated with existing valves along the A-Line and would require an expansion of the existing 50-foot by 50-foot sites to 75-foot by 150-foot sites during construction. No new permanent right-of-way would be required for the new valves, except for valve #2 along 18th Avenue. This valve would require a 12-foot by 24-foot expansion of the existing fenced site. The other five valves associated with the B-Line would be within the sites of the Ehrenberg Compressor Station, Rannells Trap, and Ogilby Meter Station and would not require any additional land for construction or operation.

The two taps at the A-Line and B-Line, crossover piping, and pig launcher associated with the Arrowhead Extension would require a 150-foot by 225-foot site on the northeast corner of the intersection of 18th Avenue and Arrowhead Boulevard for operation. A 115-foot by 110-foot site within the fenced yard of SoCalGas' existing Blythe Compressor Station would be required for operation of the Blythe-Arrowhead Meter Station and pig receiver.

The tap at the B-Line and pig launcher associated with the IID Lateral would require an 80-foot by 100-foot site for construction and operation. The proposed El Centro Meter Station and pig receiver would be installed within the existing fenceline of the El Centro Generating Station but would require 2.5 acres of land for construction and would also require North Baja to obtain a 0.2-acre easement from the IID within the generating station yard. One of the four new valves would be collocated with the tap at the B-Line and pig launcher. The acreage of disturbance associated with this valve is included in the acreage of disturbance associated with the tap and pig launcher. The three remaining valves along the IID Lateral would each require 10-foot by 25-foot fenced sites.

2.2.3 Pipe Storage and Contractor Yards

To support construction activities, North Baja proposes to use four pipe storage and contractor yards on a temporary basis. These yards would temporarily affect about 73.1 acres of land. The sizes and locations of the yards identified by North Baja are listed in Table 2.2.3-1.

TABLE 2.2.3-1				
Pipe Storage and Contractor Yards Associated with the North Baja Pipeline Expansion Project				
Facility	Size (acres)	Previously Disturbed	County ^a	Section/Township/Range
18 th Avenue Contractor Yard	15.2	Yes ^b	Riverside	Sec. 18, T7S, R23E
Ripley Contractor Yard	30.2	Yes ^b	Riverside	Sec. 34, T7S, R22E
Ogilby Contractor Yard	5.0	Yes ^b	Imperial	Sec. 23, T16S, R20E
IID Lateral (El Centro) Contractor Yard	22.7	Yes ^c	Imperial	Sec. 38, T15S, R14E
Total	73.1			
^a All of the proposed pipe storage and contractor yards are in California.				
^b These sites were used for temporary construction purposes during construction of North Baja's existing A-Line.				
^c This site is currently an auto parts salvage yard. The site would be temporarily cleared for use for the proposed Project.				

2.2.4 Access Roads

North Baja proposes to use several existing roads for temporary right-of-way access during construction. These access roads primarily exist as paved or dirt roads and/or jeep trails that would be graded or otherwise improved as needed to move equipment and materials to the construction right-of-way. An additional 485 feet of new temporary access roads would be required for the Project, of which about 60 feet would be retained as permanent access to the proposed Blythe-Arrowhead Meter Station at the end of the Arrowhead Extension and 160 feet would be retained as permanent access to the proposed tap at the B-Line and pig launcher at the beginning of the IID Lateral. A permanent access road would also be required to proposed valve #2 at MP 7.6 of the IID Lateral, but North Baja would utilize existing roads with some modification and would not need to construct a new road. The locations, conditions, lengths, and acres of the proposed access roads are listed in Table D-2 in Appendix D.

North Baja has no plans to maintain a permanent road on the right-of-way for operation and maintenance of the pipeline facilities. However, North Baja would maintain access to all portions of the

permanent right-of-way by four-wheel drive vehicles in order to conduct emergency and periodic maintenance. In addition, North Baja would use existing access roads for “like-use” activities where access is needed for specialized purposes such as water-draw sites adjacent to Palo Verde Irrigation District (PVID) or IID canals and drains, or construction inspection adjacent to powerlines. In these locations, North Baja would use the roads in a manner similar to their current use. Roads would be used by rubber-tired vehicles (water trucks and pickups), pumps on roads (with adequate spill kits and containment for refueling), and foot traffic. All locations would be selected so no new ground disturbance would be necessary for their use or maintenance. The specific like-use roads would be identified by North Baja before the time of required access.

2.3 CONSTRUCTION PROCEDURES

The proposed Project would be designed, constructed, tested, and operated in accordance with all applicable requirements included in the U.S. Department of Transportation (DOT) regulations in Title 49 CFR Part 192,¹ *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*; and other applicable Federal and State regulations, including U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) requirements. These regulations are intended to ensure adequate protection for the public and to prevent natural gas pipeline accidents and failures. Among other design standards, Part 192 specifies pipeline material and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion.

To reduce construction impacts, North Baja would implement a Project-specific Construction Mitigation and Restoration Plan (CM&R Plan) (see Appendix E) that includes the portions of the FERC’s Upland Erosion Control, Revegetation, and Maintenance Plan (Plan) and Wetland and Waterbody Construction and Mitigation Procedures (Procedures) that are relevant to the Project area.² North Baja’s CM&R Plan also includes Project-specific measures associated with restoration in an arid environment as well as biological and cultural resources protection measures.

To avoid or minimize the potential for harmful spills and leaks during construction, North Baja has developed a Spill Prevention, Containment, and Control Plan for Hazardous Materials and Wastes (SPCC Plan) (see Appendix F). North Baja’s SPCC Plan describes spill prevention practices, procedures for emergency preparedness and incident response, and training requirements.

North Baja has also prepared a Horizontal Directional Drill Plan (HDD Plan) (see Appendix G) that describes the horizontal directional drill (HDD) process and how it would be monitored. The HDD Plan also describes the agency notification procedures and the corrective action and cleanup procedures that would be followed in the event of an inadvertent release of drilling fluid and the abandonment procedures that would be followed if it is necessary to abandon the drill hole.

These plans were used during construction of the A-Line and have been modified to reflect the experience gained during its construction. These plans as well as other resource-specific plans (e.g., Traffic Management Plans, Blasting Specifications, Paleontological Resource Mitigation and Monitoring Plan, Dust Control Plan, Fire Prevention and Suppression Plan, Site-specific Residential Construction

¹ Pipe design regulations for steel pipe are contained in subpart C, Part 192. Section 192.105 contains a design formula for the pipeline’s design pressure. Sections 192.107 through 192.115 contain the components of the design formula, including yield strength, wall thickness, design factor, longitudinal joint factor, and temperature derating factor, which are adjusted according to the project design conditions, such as pipe manufacturing specifications, steel specifications, class location, and operating conditions. Pipeline operating regulations are contained in subpart L, Part 192.

² The FERC’s Plan and Procedures are a set of construction and mitigation measures that were developed in collaboration with other Federal and State agencies and the natural gas pipeline industry to minimize the potential environmental impacts of the construction of pipeline projects in general. The Plan can be viewed on the FERC Internet website at <http://www.ferc.gov/industries/gas/enviro/uplndctl.pdf>. The Procedures can be viewed on the FERC Internet website at <http://www.ferc.gov/industries/gas/enviro/wetland.pdf>.

Mitigation Plans, and OHV Management Plan) that have been developed for the proposed Project are discussed in detail in Section 4.

All of North Baja's mitigation plans are important components of the POD for the Project, which is a document required by the BLM before issuance of its ROD or amended Right-of-Way Grant for the crossing of Federal lands (see Section 1.2.3). The POD would include all of the measures that are described in this EIS/EIR as well as additional site-specific stipulations that are determined by the BLM, the BOR, and the FWS to be necessary on Federal lands under their jurisdiction. Any additional site-specific measures included in the POD would not contradict the mitigation measures in this EIS/EIR.

2.3.1 General Pipeline Construction Procedures

This section describes the general procedures proposed by North Baja for the construction of the pipeline facilities. Figure 2.3.1-1 shows the typical steps of cross-country pipeline construction. As discussed in Section 1.1, North Baja would build the Project in three phases. For Phase I, North Baja plans to use one general construction crew "spread" and one or more specialty crews for a total of approximately 50 workers. For Phase I-A, North Baja plans to use one general construction spread but may use two spread mobilizations to build the cross-country portions and roadways portions. Between 100 and 150 workers would be used to construct Phase I-A. For Phase II, North Baja plans to use one general construction spread to build the cross-country portions and a separate mini-spread to construct the roadway portion. In total, the peak workforce for Phase II would consist of 300 to 400 workers. The anticipated dates and duration of construction for each phase are described in Section 2.4.

Standard pipeline construction is composed of specific activities that make up the linear construction sequence. These operations collectively include survey and staking of the right-of-way; clearing and grading; trenching; pipe stringing, bending, and welding; lowering the pipeline into the trench; backfilling the trench; hydrostatic testing; and cleanup and restoration. The procedures North Baja would follow to conduct these activities are described below. In addition, North Baja would use special construction techniques when constructing across roads, highways, railroads, waterbodies, wetlands, residential areas, and sand dunes; when constructing within paved roads; and when blasting through rock (see Section 2.3.2).

Survey and Staking

Before the start of construction, North Baja would complete land or easement acquisition. North Baja would then mark the limits of the approved work area (i.e., the construction right-of-way boundaries and temporary extra workspaces) and the pipeline centerline, and flag the location of approved access roads. Existing utility lines and other sensitive resources would be located and marked to prevent accidental damage during pipeline construction.

Clearing and Grading

The construction work area would be cleared and graded (where necessary) to provide a relatively level surface for trench excavating equipment and a sufficiently wide workspace for the passage of heavy construction equipment. Except along certain washes where dense stands of small trees cannot be avoided, North Baja does not anticipate the need to clear trees. In areas where grading is not required, vegetation would be cut off at ground level (leaving the root systems intact) and cleared to the edge of the work area for subsequent respreading during cleanup and restoration. In areas requiring grading where no bedrock is at the surface, approximately 2 to 8 inches of soil across the entire width of the work area would be stockpiled for restoration purposes. In agricultural areas, topsoil would be stripped to its actual depth up to 2 feet and stockpiled separately from the trench spoil.

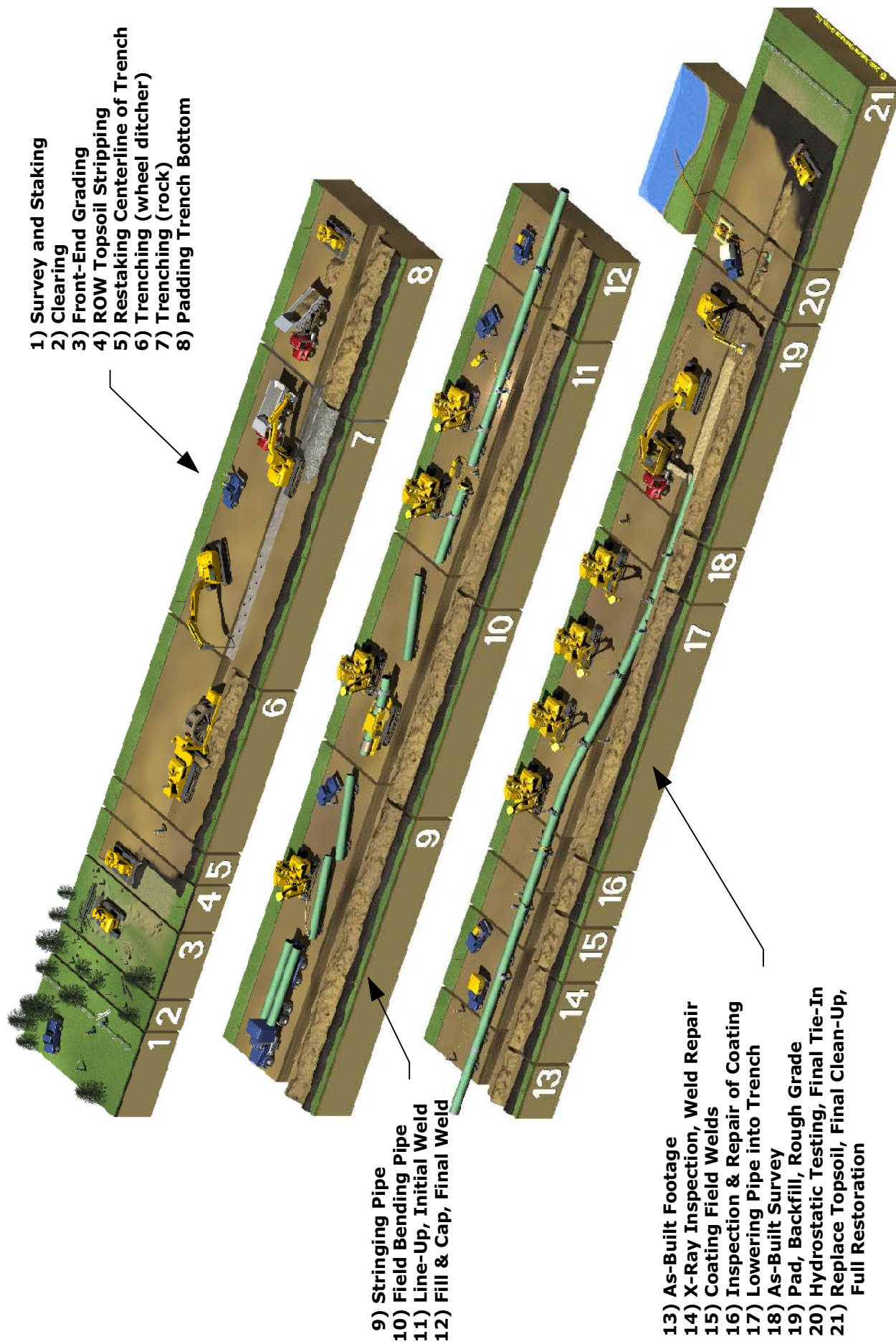


Figure 2.3.1-1
North Baja Pipeline Expansion Project
 Typical Pipeline Construction Sequence

Trenching

The trench would be excavated to a depth sufficient to provide the minimum cover required by DOT specifications. Typically, the trench would be sufficiently deep to allow for about 3 feet of cover and wide enough to allow for about 4 to 6 feet of stable soils and rock. In sandy soils, the trench could be up to 12 feet wide at the top. In agricultural areas, the depth of cover over the pipeline would be increased so that the top of the pipe would be 1 foot below expected deep tilling practices. Between MPs 2.7 and 5.7, the pipeline would be buried with 6 feet of cover to ensure pipeline integrity in the Buttercup Campground, which is heavily used for OHV recreation. North Baja would also install the pipeline deep enough to maintain at least 1 foot of clearance when crossing beneath existing utilities or irrigation and drainage systems. Spoil from the trench would be spread on the working side of the right-of-way and worked over by equipment, or temporarily stored in piles next to the trench. The spoil piles would be kept separate from the topsoil piles. In areas where mechanical equipment cannot break up and loosen the bedrock, blasting may be required (see Section 2.3.2).

Generally, excavated rock would be used to backfill the trench to the top of the existing bedrock profile. Large rock not suitable for use as backfill material would be either scattered across the work area (with the landowner's permission) or hauled off the right-of-way and disposed of in an area approved by the appropriate agency.

During the scoping process, the BLM and the BOR commented that the U.S. Citizenship and Immigration Services (USCIS) Border Patrol may have a concern about the trench being used for illegal activities and that the construction contractor would need to coordinate with the Border Patrol. North Baja consulted with the Border Patrol about any concerns it may have and the Border Patrol stated that it has not identified any concerns about the Project (Whipple 2006). Therefore, North Baja does not propose to place restrictions on the length of trench that would be allowed to be open at any one time as a measure to prevent illegal activities. North Baja would, however, restrict the length of trench that would be allowed to remain open at any one time to 2 miles as a measure to protect the flat-tailed horned lizard in designated flat-tailed horned lizard habitat (see Section 4.7.4.4). This designated habitat occurs between MPs 75.2 and 79.6 of the B-Line and between MPs 8.0 and 28.0 of the IID Lateral. These milepost locations are the portions of the pipeline routes that are closest to the U.S.-Mexico border.

Pipe Stringing, Bending, and Welding

Steel pipe would be procured in 60- or 80-foot lengths (also referred to as joints), protected with an epoxy coating applied at the factory, and shipped to the pipe storage and contractor yards. The individual joints would be transported to the right-of-way by stringing truck and placed along the excavated trench in a single, continuous line or "strung."

Individual sections of pipe would be bent where necessary to fit the contours of the trench, aligned, welded together into long strings, and placed on temporary supports along the edge of the trench. Welds would be x-rayed to ensure structural integrity and compliance with the applicable DOT regulations. North Baja would conduct x-ray inspection of 100 percent of all welds over 6 inches in diameter where possible. Other means of non-destructive inspection would be conducted where x-ray inspection is impossible or impractical. Those welds that do not meet established specifications would be repaired or removed. Once the welds are approved, the welded joints would be coated with a protective coating and the entire pipeline would be visually inspected for any faults, scratches, or other coating defects. Any damage or other faults would be repaired before the pipeline is lowered in.

Lowering-in and Backfilling

Before the pipeline is lowered in, the trench would be dewatered as necessary in accordance with applicable permits and cleaned of debris. In areas of rock, padding material such as sand, sandbags, or screened soil would be placed in the bottom of the trench. The pipeline would be lowered into the trench, and trench breakers would be installed at specified intervals to prevent water movement along the pipeline. The trench would then be backfilled using the excavated materials. If the excavated material is rocky, the pipeline would be protected with a rock shield to prevent damage to the pipe and pipe coating, and/or covered with more suitable fill obtained either from commercial borrow areas or by separating suitable material from the existing trench spoil. Topsoil would not be used as padding material.

Hydrostatic Testing

After burial, the pipeline would be tested to ensure that the system is capable of withstanding the operating pressure for which it was designed. This procedure is called hydrostatic testing and is accomplished using pressurized water in the pipeline. The testing would be done in pipeline sections according to North Baja's permits and DOT specifications (Title 49 CFR Part 192). The exact sequence and timing of hydrostatic testing would depend on the final schedule for phased construction (see Section 2.4).

Water for testing the piping within the Ehrenberg Compressor Station would be obtained from an existing irrigation canal adjacent to the compressor station property or an existing well located on the compressor station site. Both sources are hydrologically connected to the Colorado River. After testing, the water would be discharged into lined irrigation canals at the site or into the D-10 Canal.

North Baja would hydrostatically test the B-Line with water obtained either from the same water sources at the Ehrenberg Compressor Station site or directly from the All-American Canal at the location of the pipeline crossing. The water would be discharged to the All-American Canal when testing is complete.

The Arrowhead Extension and piping within the Blythe-Arrowhead Meter Station would be tested with water obtained from the PVID, local wells, or a commercial water source. After testing, the water would be discharged into the C-05 Canal.

North Baja would hydrostatically test the IID Lateral in sections with water obtained from the All-American Canal through an agreement with the IID. The water would be discharged directly back into the All-American Canal or into other IID irrigation facilities.

Test water would contact only new pipe and no chemicals would be added. Test water would be pumped into the first test section, pressurized to design test pressure (90 to 100 percent of the specified minimum yield strength of the pipe being tested), and maintained at that pressure for about 8 hours. If leaks are found, the leaks would be repaired, and the section of pipe would be retested until specifications are met. After testing, the water would be pumped into the next test section until the entire pipeline is tested. When completed, the test water would be filtered and discharged directly back into the canals or other irrigation facilities described above. Energy dissipation devices would be employed as necessary to minimize channel erosion. To accomplish the testing requirements per DOT and industry standards, the testing would be conducted over a 24-hour period.

Additional discussion of hydrostatic testing, including the specific water volumes that would be used, is included in Section 4.3.4. The applicable permits are listed in Table 1.6-1.

Cleanup and Restoration

Within 20 days of backfilling the trench (10 days in residential areas), all work areas would be final graded and restored to preconstruction contours and natural drainage patterns as closely as possible. Slopes, such as those found east of SR 78, would be reestablished as near as practicable to preconstruction contours. To minimize future settling, the trench would be compacted with construction equipment. Topsoil and subsoil would be tested for compaction at regular intervals in agricultural and residential areas disturbed by construction activities. Severely compacted agricultural areas would be plowed with a paraplow or other deep tillage implement, and appropriate soil compaction mitigation would be conducted in severely compacted residential areas.

North Baja states that compaction testing conducted in native desert habitats after construction of the A-Line indicated that the soils crossed by the A-Line did not compact; therefore, North Baja does not propose to test for soil compaction in native desert habitats after construction of the B-Line. North Baja proposes to conduct soil testing for compaction only in fine-textured soils along the IID Lateral in native desert habitats. Additional discussion of soil compaction and mitigation is presented in Section 4.2.3 and in the CM&R Plan in Appendix E. Surplus construction material and debris would be removed and disposed of at commercial landfills. Access roads would be regraded and restored to original condition unless the landowner requests otherwise.

North Baja would conduct restoration activities in accordance with its CM&R Plan (see Appendix E). The native vegetation that had been removed during clearing and windrowed along the right-of-way would be respread over the disturbed areas. Areas of soil disturbance would be imprinted with a “sheep’s-foot” roller or other methods to provide micro-catchment areas for seed retention and improve water infiltration. North Baja would replant desert wash woodland species at specified locations along the right-of-way to provide a visual barrier to deter OHV traffic on the right-of-way. Additional discussion of restoration activities is presented in Section 4.5.3.

After completion of construction and hydrostatic testing, the pipeline would be cleaned and dried using internal tools (pigs) that are propelled through the pipeline. Once cleaned, dried, and purged of air, the pipeline would be packed with natural gas. Pipeline markers and/or warning signs would be installed along the pipeline centerline at intervals to identify the location of the pipe.

2.3.2 Special Construction Techniques

Construction across roads, highways, railroads, waterbodies, wetlands, residential areas, and sand dunes; construction within paved roads; and blasting through rock may require special construction techniques. These are briefly described below. Applicable permits are listed in Table 1.6-1.

Road, Highway, and Railroad Crossings

Construction across paved and unpaved roads, highways, and railroads would be in accordance with requirements of applicable road and railroad crossing permits and approvals. These features would either be bored or open cut. Boring requires the excavation of pits on both sides of the feature to be crossed to the depth of the pipeline, the installation of boring equipment, and the boring of a hole under the road equal to the diameter of the pipe. The uncased pipe section would then be pushed through the borehole. For long crossings, additional pipe sections may be required. These additional sections usually would be welded to the first section of pipe in the bore pit before being pushed through the borehole. In some cases, 24-hour operations are required during difficult boring operations when ground conditions and ambient daytime temperatures could cause overheating of the equipment or heat injury to operators.

North Baja would design all railroad crossings in accordance with the American Railway Engineering and Maintenance of Way Association’s (AREMA) *Manual for Railway Engineering, Part 5 Pipeline* and Title 49 CFR Part 192 *Transportation of Natural Gas by Pipeline: Minimum Federal Safety*

Standards. The AREMA specifications require a minimum distance of 10 feet from the bottom of the rail to the top of the pipe. All road crossings would be designed to comply with Title 49 CFR Part 192 *Transportation of Natural Gas by Pipeline: Minimum Federal Safety Standards*, which specifies a minimum depth of cover of 3 feet in road ditches. In addition, all roadway and highway crossings would be designed to meet the applicable State and local agency permit requirements and the latest edition of American Petroleum Institute 1102 requirements.

For open-cut road crossings, North Baja would prepare construction specifications that are designed to avoid settling of the finished grade but would require the contractor to repair any settling, should it occur. Where Federal land management agencies or local agencies having jurisdiction over the roads include related specifications in their permits, those too would be incorporated into the construction contractor's requirements. Finally, if road settlement attributed to pipeline construction occurs after the pipeline is in operation, North Baja would make the necessary repairs as required by the jurisdictional agency.

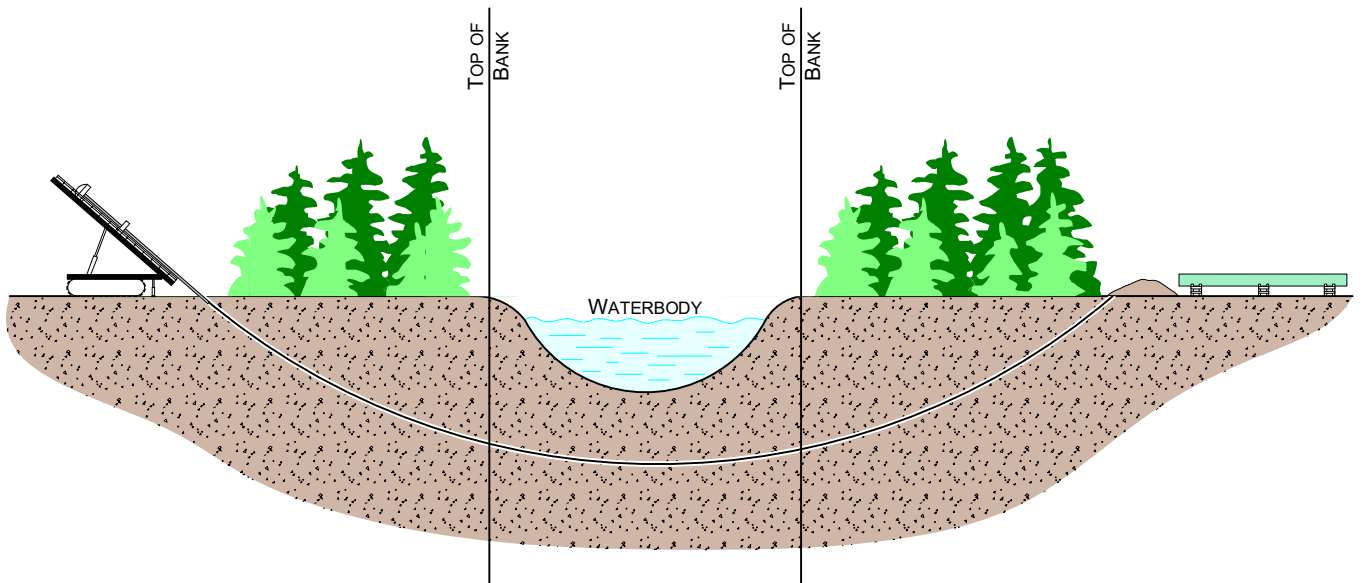
There would be little or no disruption to traffic at road or railroad crossings that are bored. North Baja would implement measures at open-cut crossings to ensure safety and minimize traffic disruptions. No roads would be closed unless adequate detours are provided. North Baja has developed a Traffic Management Plan for 18th Avenue and a Traffic Management Plan for Imperial County Roads where the pipe would be installed longitudinally in the roadway. These plans detail the specific measures that would be used to control traffic during construction in these areas (see Section 4.10.2 and Appendix H). The Agency Staffs have recommended in Section 4.10.2 that North Baja develop a Traffic Management Plan for Arrowhead Boulevard to detail the specific measures that would be used to control traffic during construction of the Arrowhead Extension.

Waterbody and Wetland Crossings

The proposed Project would cross 2 perennial waterbodies, 73 man-made irrigation canals and drains, and 265³ desert washes. Only one waterbody, the Colorado River, has a fisheries classification (warmwater). The waterbody crossings would be constructed in accordance with Federal, State, and local permits (see Table 1.6-1).

North Baja proposes to cross one of the perennial waterbodies (the Colorado River) and two of the canals (the All-American Canal [three times] and the East Highline Canal [once]) using the HDD method. This technique involves drilling a pilot hole under the waterbody and banks, then enlarging that hole through successive reamings until the hole is large enough to accommodate the pipe. Throughout the process of drilling and enlarging the hole, a slurry made of naturally occurring non-toxic materials, such as bentonite clay and water, would be circulated through the drilling tools to lubricate the drill bit, remove drill cuttings, and hold the hole open. This slurry is referred to as drilling mud. Pipe sections long enough to span the entire crossing would be staged and welded along the construction work area on the opposite side of the waterbody and then pulled through the drilled hole. At the Colorado River, the pipeline would be installed about 60 feet below the riverbed. In response to comments received during the scoping process, North Baja relocated the proposed alignment of the Colorado River crossing to be south of the existing A-Line and between the A-Line and El Paso's Line 1903. At the All-American and East Highline Canals, the pipeline would be installed about 30 feet below the canal beds. The HDD at each location is anticipated to take 4 to 6 weeks. Figure 2.3.2-1 shows a conceptual HDD waterbody crossing.

³ The EIS/EIR for the original North Baja Pipeline Project reported that 579 desert washes would be crossed by the A-Line. During the survey for the A-Line, North Baja counted washes less than 6 inches wide. In 2005, North Baja conducted a survey of the proposed B-Line route and counted only washes that had a defined bed and bank and an ordinary high water mark to be more consistent with terminology used by the CDFG and the COE. The majority of the washes counted in 2005 were at least 24 inches wide.



For environmental review purposes only.

K:\047\2004\T500\DRILL CONFIGURATION.VSD

Figure 2.3.2-1
North Baja Pipeline Expansion Project
Conceptual Horizontal Directional Drill
Waterbody Crossing

The potential for an inadvertent release of drilling mud (also referred to as a frac-out) is generally greatest during drilling of the pilot hole when the pressurized drilling mud is seeking the path of least resistance. The path of least resistance is typically back along the path of the drilled pilot hole. However, if the drill path becomes temporarily blocked or encounters other areas such as large fractures or fissures that lead to the ground surface or waterbody, an inadvertent release could occur. North Baja would monitor the pipeline route and the circulation of drilling mud throughout drilling for indications of an inadvertent release and would immediately implement corrective actions if a release is observed or suspected to be occurring. The corrective actions North Baja would implement are outlined in its HDD Plan (see Appendix G).

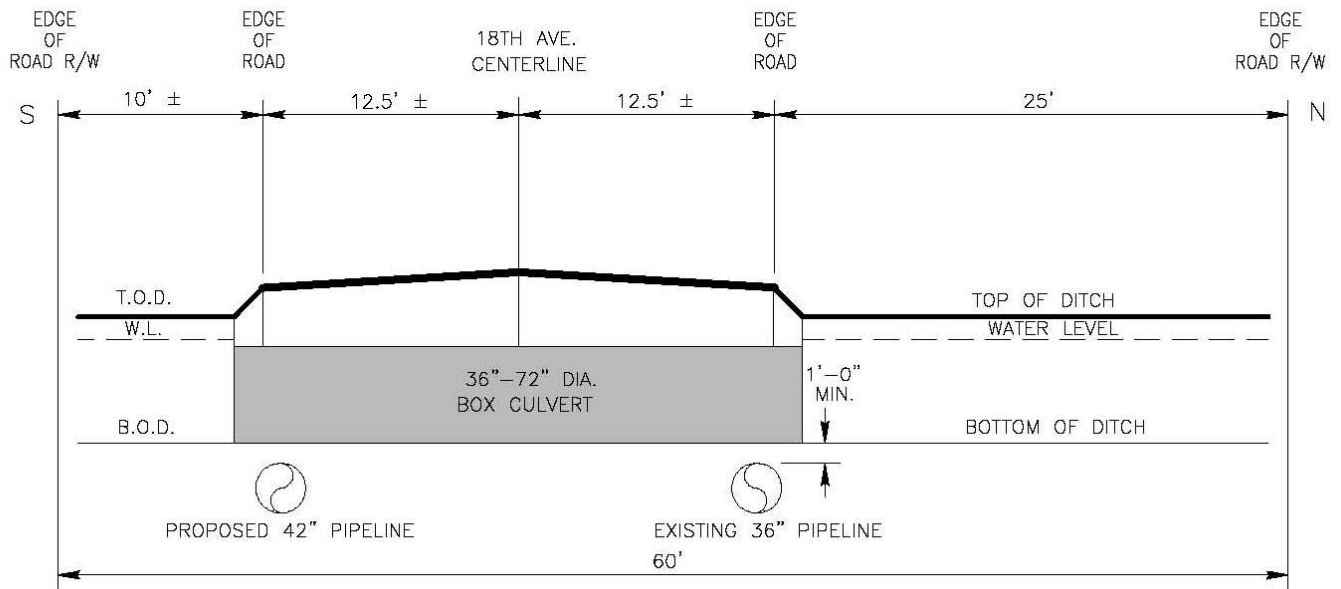
The second perennial waterbody, the Alamo River, would be crossed by the IID Lateral. North Baja proposes to cross the Alamo River by installing the pipeline in the road shoulder over the culverts that carry the water under Hunt Road.

The B-Line would cross 31 canals and drains, most of which are operated and maintained by the PVID. The majority of the canals and drains cross roadways through culverts designed to be 1 foot below future winter water elevation. The pipeline would be bored under these culverts using techniques similar to road bores described above, or installed between the drain culverts and the road (see Figure 2.3.2-2). A minimum of 2 feet would be maintained under canals and 5 feet over drains.

The Arrowhead Extension would cross the PVID's C-05 Canal and two unnamed canals. The unnamed canals are private drains that are not part of the PVID irrigation system. North Baja would cross the C-05 Canal using the bore method. A minimum of 5 feet would be maintained between the pipeline and the canal. The two unnamed canals would be crossed using the conventional open-cut crossing technique (see Figure 2.3.2-3). North Baja would install the pipeline at a minimum depth of 5 feet below these unnamed canals.

Although plans are not finalized, North Baja expects to cross the 39 drains and canals that would be crossed by the IID Lateral using methods similar to those used to install the B-Line. Most of the drains and canals that would be crossed are operated and maintained by the IID. North Baja plans to develop construction techniques in conjunction with the IID that would provide adequate separation and protection for the facilities and future maintenance activities of both parties while minimizing construction impacts. The IID Lateral would also cross two canals (MP 13) planned by the BOR as part of the Drop 2 Storage Reservoir Project. The Drop 2 Storage Reservoir Project is discussed in Section 4.15. In each case, the IID Lateral would be designed such that the canals can be installed above the pipeline.

Public



LOOKING WEST
N.T.S.

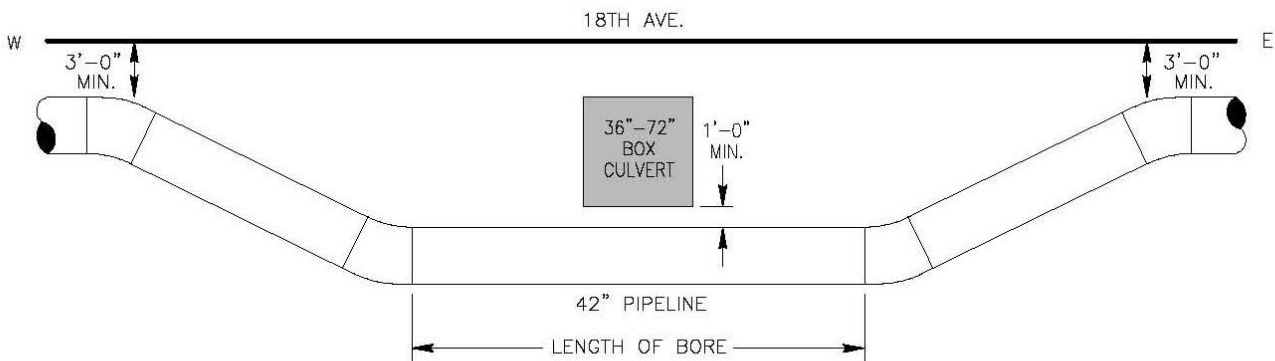
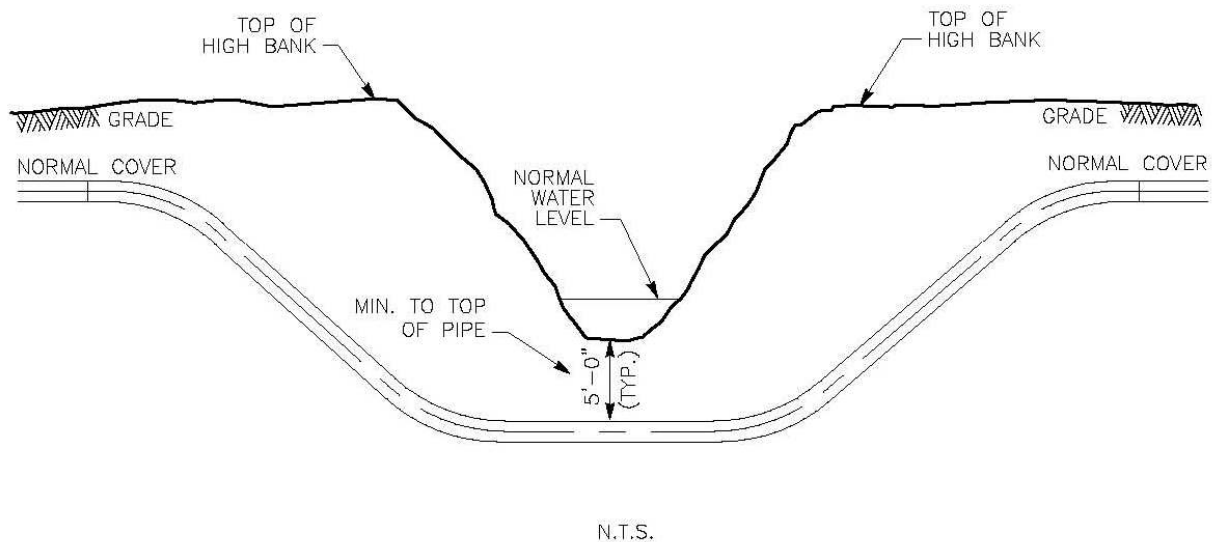


Figure 2.3.2-2
North Baja Pipeline Expansion Project
 Typical Canal/Drain Crossings for 18th Avenue

Public

NOTES:

1. DEPTH TO BE A MINIMUM OF 5'-0" AS SPECIFIED IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY COMPANY.
2. PIPE SHALL BE LEVEL UNDER STREAM/DITCH CHANNEL AT DEPTH SHOWN EXCEPT WHERE NOTED OTHERWISE.
3. CONCRETE COATING, BOLT-ON CONCRETE WEIGHTS, SET-ON CONCRETE WEIGHTS OR ANCHORS WILL BE INSTALLED AS SPECIFIED IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY COMPANY.

Figure 2.3.2-3
North Baja Pipeline Expansion Project
Typical Open-Cut Drain Crossing

Rannells Drain, which would be crossed by the B-Line, is the only other canal or drain that would be crossed using the open-cut crossing method (see Figure 2.3.2-3). Rannells Drain is an agricultural drain in the Palo Verde Valley that is periodically cleared of vegetation by the PVID. Pipe segments for the crossing would be fabricated adjacent to the drain. Backhoes generally operating from one or both banks would excavate the trench within the streambed while water continues to flow across the construction work area. Sediment booms would be installed downstream of the trenching to restrict sedimentation to the localized area. Trench plugs (stacked, compacted sand bags) would be left in place to prevent the flow of water into the upland portions of the trench. Trench spoil excavated from the streambed would be generally placed at least 10 feet away from the water's edge. Sediment barriers would be installed where necessary to control sediments and prevent excavated spoil from entering the water. After the trench is dug, the prefabricated pipeline segment would be carried, pushed, or pulled across Rannells Drain and positioned in the trench. The pipeline would be installed approximately 25 feet from the A-Line with 5 feet of cover. The trench would then be backfilled with native material or with imported material if required by applicable permits. Following backfilling, the banks would be restored and stabilized. In accordance with the CM&R Plan, North Baja would attempt to complete actual in-stream trenching within 72 hours.

The proposed Project would also cross approximately 265 desert (dry) washes. All of these washes would be crossed by the B-Line. North Baja proposes to use conventional cross-country construction techniques to cross these desert washes. North Baja states that it would manage spoil piles in accordance with the provisions of the CDFG's Streambed Alteration Agreement (SAA). For the A-Line, these provisions required that materials placed in seasonally dry portions of a stream that could be washed downstream or could be deleterious to aquatic life must be removed before inundation by high flows. Dry washes are also regulated by the CRWQCB, which may impose additional stipulations regarding spoil pile management such as requiring North Baja to leave gaps in the spoil piles in dry washes so the washes remain open during construction. In accordance with its CM&R Plan (see Appendix E), North Baja would prepare and submit an updated CM&R Plan before construction if necessary to incorporate any additional requirements of Federal, State, and local permits. The depth of cover over the pipeline would range from 3 to 5 feet. In instances where the pipeline would run laterally within a wash, concrete coating would be added to the pipe to provide additional protection and negative buoyancy.

The Project would cross 18 wetlands under the jurisdiction of the COE. Thirteen wetlands would occur along the B-Line and 5 wetlands would occur along the IID Lateral. Eight of the 18 wetlands would be left undisturbed by use of the HDD method, bore method, or by installing the pipeline in the road shoulder outside the wetland boundary. North Baja would open cut the remaining 10 wetlands implementing the construction and restoration procedures outlined in its CM&R Plan (see Appendix E). The pipeline would be installed with a minimum depth of cover of 3 feet in these 10 wetlands.

Sections 4.3.2 and 4.4 provide additional discussion of waterbodies and wetlands crossed by the Project and include an analysis of North Baja's crossing plans.

Residential Areas

There are 55 residences and 8 businesses along the proposed construction work area. Of these, 37 residences and 6 businesses are within 100 feet of the proposed construction work area (18 residences and 2 businesses along the B-Line and 19 residences and 4 businesses along the IID Lateral). There are no residences or businesses located within 100 feet of the Arrowhead Extension. All of the residences and businesses adjacent to the B-Line are along 18th Avenue in Riverside County. North Baja proposes to construct the B-Line within the road or road shoulder of 18th Avenue between MPs 2.9 and 10.5. North

Baja proposes to install the IID Lateral within several Imperial County roadways (see Table 2.2.1-1). The residences and businesses adjacent to the IID Lateral are located along these various roadways.

North Baja would seek encroachment permits from Riverside and Imperial Counties. Preconstruction activities would include preliminary examination of the work areas and identification of the exact location of subsurface utilities, either through visual inspection or by digging potholes at intervals along the pipeline trench. If potholing identifies a conflict between existing utilities and the pipeline centerline, the centerline would be horizontally and/or vertically realigned to eliminate the conflict.

In general, construction in the paved segments of 18th Avenue and Arrowhead Boulevard in Riverside County and in the various Imperial County roadways would be accomplished using urban construction techniques. All construction activities within the roadways would be confined to the width of the roadways, including the paved roadway and road shoulders. Excavated materials would be used as a temporary road base for construction traffic to reduce wear on the existing road surface. Through traffic would be routed around segments of road where construction is active; however, North Baja would maintain access for residents, farm workers, and emergency response vehicles throughout the period of construction (estimated to be about 2 weeks in any given location). North Baja has developed Traffic Management Plans for 18th Avenue and Imperial County Roads (see Section 4.10.2 and Appendix H). As discussed above, the Agency Staffs have recommended that North Baja develop a Traffic Management Plan for Arrowhead Boulevard.

During construction, the edge of the construction work area within 100 feet of residences would be fenced. The fencing would extend 100 feet on either side of the residences. During non-working hours, the trench would be covered with steel plates where necessary to allow traffic passage and reduce safety hazards. The construction areas would also be patrolled during non-work hours to minimize safety issues associated with open trenches. Equipment would be maintained in good operating condition to minimize noise, and dust generated by construction activities would be controlled with the use of water trucks and regular spraying.

After the pipeline has been installed, the trench would be backfilled and compacted, and the road surface graded, restored to original contours, and paved. The pipeline would be installed with a minimum of 3 feet of cover and with a minimum of 1 foot of vertical separation from other utilities, or as otherwise required.

In addition to these general measures, North Baja has prepared site-specific residential construction mitigation plans that detail the specific measures that would be used when construction occurs near residences. These site-specific plans are discussed in detail in Section 4.8.3.

Sand Dunes

The alignment of the proposed IID Lateral crosses sand areas across the ISDRA between MPs 0.0 and 7.9, but avoids the higher relief sand hills that constitute the dunes proper. Consequently, North Baja proposes to use conventional pipeline construction techniques in this area, with the exception of HDDs on either end of the route through the ISDRA. Although the ditch would be deeper and wider than normal, (i.e., 6 feet of cover in the high-use OHV areas between MPs 2.7 and 5.7), the 80-foot-wide construction right-of-way is expected to be sufficient for the trench, spoil storage, and workspace. No separation of surficial soil is proposed through the ISDRA.

Although the construction is proposed during the off-peak recreational use season, North Baja would work with the BLM to develop appropriate communication methods for the public who may use

the recreational area during this time. North Baja would post signs, erect exclusion fencing, and, if deemed necessary, provide security to ensure the safety of the public during construction through this area.

Blasting

During construction of the A-Line, blasting was necessary only at MP 29.5. Therefore, blasting to excavate the trench for the B-Line is not anticipated to be widespread and would be only likely to occur in the same area as the A-Line construction. There are no structures near this milepost location. Conditions along the IID Lateral are generally flat or hilly with no known locations of near surface rock that would require blasting. Should blasting be necessary, pre- and post-blasting inspections would be conducted at all residential or commercial structures or utilities within 150 feet of blasting, with the landowner's approval. All blasting activities would be conducted only during daylight hours and in strict compliance with North Baja's construction specifications for blasting (see Appendix I). These specifications contain procedures for complying with applicable Federal, State, and local safety and environmental regulations, codes, and standards for the use, storage, and transport of explosives.

2.3.3 Aboveground Facility Construction Procedures

The proposed Blythe-Arrowhead Meter Station and pig receiver; the pig launcher, taps, and crossover piping at the beginning of the Arrowhead Extension; and the El Centro Meter Station would be on flat ground, and site clearing and grading to establish level areas for facility construction would be minimal. North Baja proposes to fence these areas for security. The nine proposed B-Line valves would be installed adjacent to the nine existing A-Line valves, and the four proposed IID valves would be installed at intervals specified by DOT regulations and in areas easily accessible to maintenance personnel. Valve assemblies would be fenced to protect them from damage or vandalism.

North Baja would maintain fences around its valve sites, taps, pig launchers and receivers, meter stations, and the Ehrenberg Compressor Station. These facilities would be graveled to facilitate vehicle and equipment operation within the facilities. Solar panels would be installed at the new valve sites for power needs. The Blythe-Arrowhead Meter Station would utilize power available at the existing Blythe Compressor Station. A 60-foot-long permanent access road would be required for this facility. No new permanent access road would be required for the pig launcher, taps, and crossover piping at the beginning of the Arrowhead Extension. A 160-foot-long permanent access road would be required for the proposed tap at the B-Line and pig launcher at the beginning of the IID Lateral. A permanent access road would also be required to proposed valve #2 at MP 7.6 of the IID Lateral, but North Baja would utilize existing roads with some modification and would not need to construct a new road. The El Centro Meter Station would utilize power available at the El Centro Generating Station; no new access road would be necessary for this facility, which would be within the yard of the station.

2.4 CONSTRUCTION SCHEDULE

As discussed in Section 1.1, the proposed Project would be constructed in three phases. Phase I would involve the modifications at the Ehrenberg Compressor Station, the El Paso Meter Station at the Ehrenberg Compressor Station site, and the Ogilby Meter Station. Phase I would also involve construction of the Arrowhead Extension and the Blythe-Arrowhead Meter Station and installation of a pig launcher, pig receiver, taps, and crossover piping on the Arrowhead Extension. Construction of the majority of the facilities in Phase I is expected to take 2 months and would occur in 2007. Construction of the Blythe-Arrowhead Meter Station may take an additional 2 months in 2007.

Phase I-A would involve the construction of the IID Lateral, including the tap, pig launcher and receiver, valves, and El Centro Meter Station. Phase I-A would also include one of the HDDs of the All-American Canal and the HDD of the Eastline Canal. North Baja estimates that Phase I-A would be constructed between mid-June and mid-September of 2008 between MPs 0.0 and 13.7, which includes the crossing of the dunes. The remaining 32 miles would be constructed in the latter part of 2008, likely extending into early 2009. Construction is expected to take approximately 2 to 3 months in the dunes and 3 to 4 months for the remaining area. Construction may take place as one or two mobilizations.

Phase II would involve the construction of the B-Line, including the valves along the pipeline route and the pig launcher and receiver at the Ogilby Meter Station. Phase II would also include the HDD of the Colorado River and the second HDD of the All-American Canal. North Baja plans to construct Phase II in the latter part of 2009, and expects that construction activities would last 4 to 6 months.

Additional details of North Baja's construction plans and workforce are provided in Section 4.9.2.

2.5 ENVIRONMENTAL COMPLIANCE INSPECTION AND MITIGATION MONITORING

As the lead Federal agency for the Project, the FERC may impose conditions on any Certificate granted for the Project. These conditions could include additional requirements and mitigation measures identified in this EIS/EIR to minimize the environmental impact that would result from the construction of the Project (see Sections 4 and 5). The FERC staff will recommend to its Commission that these additional requirements and mitigation measures (offset with bold type in the text) be included as specific conditions to any approving Certificate issued for North Baja's Project. If it approves the Project, the FERC will require North Baja to implement the construction procedures and mitigation measures that North Baja has proposed as part of the Project unless specifically modified by other Certificate conditions.

As the California State lead agency, the CSLC would adopt a mitigation monitoring program (MMP) for the Project pursuant to the CEQA. In accordance with the Mineral Leasing Act, the BLM would require North Baja to furnish a bond, or other security, to ensure that North Baja would comply with the terms and conditions of the BLM's amended Right-of-Way Grant. The environmental inspection and MMP for the North Baja Pipeline Expansion Project would address requirements placed on the Project by the FERC, the CSLC, the BLM, and other applicable agencies. Third-party Compliance Monitors representing the FERC, the CSLC, and the BLM would be present on each construction spread to monitor compliance with Project mitigation measures and requirements. Other Federal and State agencies would conduct oversight of inspection and monitoring to the extent determined necessary by the individual agency.

To ensure that construction of the proposed facilities would comply with mitigation measures identified in North Baja's applications, the FERC Certificate, the CSLC's MMP, the BLM's Plan of Development, and other permits, North Baja would include in its construction work scope and specifications all relevant environmental-related requirements known at the time of execution of the construction contracts. North Baja would incorporate relevant requirements identified after execution of construction contracts via change orders or other contractual mechanisms. In this manner, compliance with the terms of the construction contract would ensure compliance with the applicable environmental requirements. Contractors would receive and be required to comply with relevant permits, mitigation plans, North Baja's CM&R Plan, and a Construction Drawing Package containing pipeline, plant, and equipment drawings designated as being approved for construction.

North Baja would employ a tracking system based on the system developed during construction of the A-Line to ensure that relevant preconstruction surveys/clearances are completed before releasing

the construction contractor(s) to begin construction activities. For purposes of quality assurance and compliance with mitigation measures, other applicable regulatory requirements, and Project specifications, North Baja would be represented on each pipeline spread by a Chief Inspector. The Chief Inspector would be assisted by one or more craft inspectors, and at least two Environmental Inspectors (EIs). North Baja's EIs would have access to the relevant compliance specifications and other documents contained in the construction contract(s). At a minimum, the EIs would be responsible for:

- ensuring compliance with the requirements of the CM&R Plan, the environmental conditions of the FERC Certificate, the mitigation measures proposed by North Baja in its application submitted to the FERC, other environmental permits and approvals, and environmental requirements in private landowner easement agreements;
- identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;
- verifying that the limits of authorized construction work areas and locations of access roads are properly marked before clearing;
- verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;
- identifying erosion/sediment control and soil stabilization needs in all areas;
- locating dewatering structures and slope breakers to ensure they will not direct water into known cultural resources sites or locations of sensitive species;
- verifying that trench dewatering activities do not result in the deposition of sand, silt, and/or sediment near the point of discharge into a wetland or waterbody or cause scouring as a result of excessive water volumes and/or pump velocities. If such deposition or scouring is occurring, the dewatering activity would be stopped and the design of the discharge would be changed to prevent recurrence of the relevant problem;
- testing subsoil and topsoil in agricultural and residential areas to measure compaction and determine the need for corrective action;
- advising the Chief Inspector when conditions (such as wet weather) make it advisable to restrict construction activities in agricultural areas;
- ensuring restoration of contours and topsoil;
- verifying that the soils imported for agricultural or residential use have been certified as free of noxious weeds and soil pests;
- determining the need for and ensuring that temporary erosion controls are properly installed as necessary to prevent sediment flow into Rannells Drain and the two unnamed canals along the Arrowhead Extension and/or as required by regulatory agencies;
- inspecting and ensuring the maintenance of temporary erosion control measures at Rannells Drain and the two unnamed canals along the Arrowhead Extension at least:

- on a daily basis in areas of active construction or equipment operation;
 - on a weekly basis in areas with no construction or equipment operation; and
 - within 24 hours of each 0.5 inch of rainfall;
- ensuring the repair of all ineffective temporary erosion control measures at Rannells Drain and the two unnamed canals along the Arrowhead Extension within 24 hours of identification;
- keeping records of compliance with the environmental conditions of the FERC Certificate, and the mitigation measures proposed by North Baja in the application submitted to the FERC and other Federal and State environmental permits during active construction and restoration; and
- identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase. Implementation of this program may be transferred to the company's operating section upon completion of construction and restoration activities.

The EIs would have authority to stop work or require other corrective action to achieve environmental compliance. In addition to monitoring compliance, the EIs' duties would include training Project personnel and reporting compliance status to the contractor(s); North Baja; FERC, CSLC, and BLM staff; and other agencies as required. In addition to North Baja's EIs, specialized biological, paleontological, and cultural resource monitors would be employed on each construction spread where appropriate and as required.

North Baja would develop an environmental training program based on the program used during construction of the A-Line and tailored to the proposed Project and its requirements. The program would be designed to ensure that: (1) qualified environmental training personnel provide thorough and well-focused training sessions regarding the environmental requirements applicable to the trainees' activities; (2) all individuals receive environmental training before they begin work on the right-of-way; (3) adequate training records are kept; and (4) refresher training is provided as needed to maintain high awareness of environmental requirements.

During construction, third-party Compliance Monitors representing the FERC, the CSLC, and the BLM as discussed above would be present on each construction spread to conduct daily ongoing inspections of construction activities and mitigation measures and provide regular feedback on compliance issues to the FERC, the CSLC, the BLM, North Baja, and North Baja's environmental inspection team. Construction progress and environmental compliance would be tracked and documented by the Compliance Monitors in daily reports. The Compliance Monitors would report directly to a Compliance Manager who would report directly to the FERC, CSLC, and BLM Project Managers.

Other objectives of the MMP would be to:

- facilitate the timely resolution of compliance-related issues in the field;
- provide continuous information to the FERC, the CSLC, the BLM, and other agencies regarding noncompliance issues and their resolution; and
- review, process, and track construction-related variance requests.

It is expected that these variance requests would be necessary because during construction, unforeseen or unavoidable site conditions can result in the need for changes from approved mitigation measures and construction procedures. Additionally, the need for route realignments, extra workspaces, or access roads outside of the previously approved construction work area may arise. Changes to previously approved mitigation measures, construction procedures, and construction work areas would require some level of regulatory approval and would be handled in the form of variance requests to be submitted by North Baja and reviewed and approved or denied by the agencies with the delegation of some authority to the third-party Compliance Monitors to the extent determined appropriate by the agencies.

After construction, North Baja would conduct follow-up inspections of all agricultural areas after the first and second growing seasons to determine the success of restoration. Restoration would be considered successful in agricultural areas if crop yields are similar to adjacent undisturbed portions of the same field. During this period, North Baja would submit quarterly reports to the FERC and the CSLC that document any problems identified by North Baja or landowners and describe the corrective actions taken to remedy those problems.

North Baja would also monitor the entire pipeline route to determine the success of restoration of desert vegetation. In native desert habitats, restoration would be considered successful if the right-of-way is similar in species composition to adjacent undisturbed lands. This post-construction monitoring would be conducted annually in areas of desert vegetation disturbed by construction through 2012. Results of the monitoring would be provided in reports to the FERC, the BLM, the CSLC, and the CDFG.

Additionally, North Baja would conduct surveys for non-native invasive plant species. The results would be compared to the preconstruction survey conducted to determine locations of weed infestations attributable to the Project. North Baja would be responsible for weed survey and control two times a year for 2 years, then once a year thereafter as part of its routine operation and maintenance of the pipelines.

After construction, the lead, cooperating, and/or other agencies would continue to conduct oversight inspection and monitoring. If it is determined that any of the proposed monitoring time frames are not adequate to assess the success of restoration, North Baja would be required to extend its post-construction monitoring programs. The BLM would retain North Baja's bond or other security until the BLM is satisfied with North Baja's reclamation efforts.

2.6 OPERATION, MAINTENANCE, AND SAFETY CONTROLS

North Baja currently operates and maintains the A-Line in accordance with all applicable Federal and State regulations. The existing pipeline system is monitored and controlled 24 hours a day for pressure drops in the pipeline that could indicate a leak or other operating problem by full-time staff at the North Baja/Gas Transmission Northwest Gas Control Center in Portland, Oregon. North Baja's round-the-clock monitoring of the pipeline system is accomplished principally through a Supervisory Control and Data Acquisition (SCADA) system, which is a computer system for gathering and analyzing real-time systems. The SCADA system gathers information from locations along the pipeline, such as compressor stations, meter stations, or mainline valves, transfers the information back to a central site, compares collected data to pre-set safe operating data points, and organizes and displays the data including alarm displays for actual operating points that do not meet pre-set operating criteria.

The system is programmed to take appropriate immediate action when alarm conditions are present. These actions include unilateral control or shutdown functions without operator influence in some cases, and delayed control or shutdown functions in other cases to allow operator influence. The

SCADA system allows operators located in the Gas Control Center in Portland to monitor pipeline system conditions, including any actions that the SCADA system has made or any conditions that require immediate operator actions such as shutting down a compressor unit, closing a valve, or initiating emergency call-out action. Procedures are currently in place to staff call centers immediately in Spokane, Washington, or TransCanada's corporate headquarters in Calgary, Alberta, in the event of a catastrophic condition. The call center in Spokane is currently in the process of being changed to Redmond, Oregon. By the time the North Baja Pipeline Expansion Project would be in operation, the Redmond center would likely be operational.

In addition, a crew that conducts on-site operations and maintenance is located at the Ehrenberg Compressor Station, and is on call 24 hours a day. When completed, the B-Line, the Arrowhead Extension, and the IID Lateral would be operated in conjunction with the existing system and subject to the same operation and maintenance procedures.

The pipeline facilities would be clearly marked at line-of-sight intervals and at other key points to indicate the presence of the pipeline. The pipeline system would be routinely inspected by air and on the ground to observe right-of-way conditions and monitor for encroachments, third-party activities, or erosion on or near the right-of-way. All inspections would be conducted in accordance with DOT standards. Erosion or unstable conditions would be repaired as appropriate. Appurtenant facilities would be maintained on a regular basis.

North Baja would continue to implement environmental protection programs during operation of the expanded facilities. Those relevant to the proposed facilities include an environmental awareness program regarding desert tortoises. As discussed in Sections 2.5 and 4.5.5, North Baja also implements an ongoing weed monitoring program, targeted at eliminating invasive weeds caused by pipeline-related factors.

Section 4.14 presents a more detailed discussion of North Baja's operation and maintenance procedures and safety controls for the proposed Project, including the corrosion protection and detection systems, pipe wall classifications, and emergency response procedures.

2.7 FUTURE PLANS AND ABANDONMENT

North Baja has not identified plans for additional future expansion of its system beyond the phases of expansion discussed in this EIS/EIR or plans for abandonment of the Project facilities. Properly maintained, and assuming adequate gas supplies and markets, the proposed system expansion could operate for 50 or more years. If and when North Baja abandons any of the proposed facilities, the abandonment would be subject to separate approvals by the FERC, the CSLC, and the BLM. The FERC review would be conducted under section 7(b) of the NGA. The CSLC review would be conducted under the CEQA. For the Federal lands involved, the BLM would require North Baja to submit an abandonment plan that would be reviewed by the BLM and the other affected Federal land management agencies (e.g., the BOR and the FWS [Cibola NWR]). The BLM would be responsible for approving the plan after receipt of concurrence from the other affected Federal land management agencies.

The FERC typically allows a buried pipeline that has reached the end of its service life to be abandoned in place when it has been internally cleaned, purged free of gas, isolated from interconnections with other pipelines, and sealed without removing the pipe from the trench. The FERC believes that this approach generally minimizes surface disturbance and other potential environmental impact. The aboveground pipeline at compressor and meter stations would be completely removed, including all related aboveground equipment and foundations, and the station sites would be restored to as near original condition as possible. The CSLC's policy is to require complete removal of abandoned facilities unless it

can be demonstrated that there would be more long-term impacts from removal than abandonment. Disposition of the North Baja facilities on Federal lands would depend on decisions made in the abandonment plan discussed above.

Upon abandonment of the pipeline, in part or in whole, the rights-of-way associated with the abandoned facilities would normally be returned to the landowners/land management agencies according to the specific easement agreements between the pipeline company and the landowners/land management agencies.

3.0 ALTERNATIVES

3.1 FACTORS USED IN THE SELECTION OF ALTERNATIVES

3.1.1 Alternatives Development and Screening Process

One of the most important aspects of the environmental review process is the identification and assessment of reasonable alternatives that could potentially avoid or minimize the impacts of a proposed project.

Both the NEPA and the State CEQA Guidelines emphasize the need for an evaluation of a range of alternatives. NEPA requires that Federal agencies rigorously explore and objectively evaluate all reasonable alternatives to a proposed action in order to provide a clear basis for choice among options by the decision-makers and the public (Title 40 CFR Part 15012.14). The State CEQA Guidelines (section 15126.6[d]) emphasize the selection of a reasonable range of feasible alternatives and adequate assessment of these alternatives to allow for a comparative analysis for consideration by decision-makers.

Consistent with the CEQ and the CEQA requirements and Guidelines, the Agency Staffs considered a range of alternatives to the Project or Project location that: (1) could feasibly attain most of the basic Project objectives; and (2) would avoid or substantially lessen any of the significant impacts of the proposed Project.¹

3.1.2 Alternatives Screening Methodology

The stated objectives of the proposed Project are described in Section 1.1. The main objectives include providing transportation capacity of up to 2,932,000 Dthd (2,753 MMscfd) of LNG-source gas entering the continent in Baja California to delivery points in California and Arizona, and providing up to 110,000 Dthd (103 MMscfd) of LNG-source gas to the IID.

Alternatives to the proposed Project were identified and selected based on information from North Baja and other sources, and through analyses conducted by the EIS/EIR preparers. The screening process that was followed for each alternative consisted of three steps:

1. Defining alternatives to allow comparative evaluation.
2. Evaluating each alternative in the context of one or more of the following criteria:
 - the extent to which the alternative would accomplish most of the basic goals and objectives of the Project;
 - the extent to which the alternative would avoid or lessen one or more of the identified significant environmental impacts of the Project;
 - the potential feasibility of the alternative, taking into account site suitability, economic viability, availability of infrastructure, and consistency with applicable plans and regulatory limitations;

¹ The review of alternatives in this EIS/EIR does not include alternatives that cannot be reasonably ascertained or alternatives for which potential implementation is remote or speculative because a review of these types of alternatives is not required by Federal and State Guidelines.

- the appropriateness of the alternative in contributing to a “reasonable range” of alternatives necessary to permit a reasoned choice;
 - the requirement of the CEQ and the State CEQA Guidelines to consider a “No Project” alternative;
 - and the requirement of the State CEQA Guidelines to identify an “Environmentally Superior” alternative (section 15126.6[e]).
3. Determining the suitability of the proposed alternative for full analysis in the EIS/EIR. If the alternative was unsuitable, it was eliminated, with appropriate justification, from further consideration.

In the final phase of the screening analysis, the environmental advantages and disadvantages of the reasonable alternatives were carefully weighed with respect to potential for overall environmental advantage, technical feasibility, and consistency with Project and public objectives. The ability of an alternative to provide the proposed volumes in the same general time frame as the proposed Project was included in this consideration.

For the screening analysis, the technical and regulatory feasibility of various potential alternatives was assessed at a general level. At the screening stage, it is not possible to evaluate potential impacts of the alternatives or the proposed Project with absolute certainty. However, it is possible to identify elements of the proposed Project that are likely to be the sources of impact. The assessment of feasibility was directed toward reverse reason, that is, the Agency Staffs attempted to identify anything about the alternative that would be infeasible on technical or regulatory grounds. If during the screening analysis an alternative proved to be infeasible or clearly did not provide any environmental advantages compared to the proposed Project, it was eliminated from further consideration.

3.1.3 Summary of Screening Results

Several potential alternatives including the No Project Alternative, system alternatives, route alternatives, route variations, alternative delivery points, and aboveground facility site alternatives were evaluated using the screening criteria listed above. A number of these alternatives were eliminated because they did not provide any clear environmental advantage. Other alternatives were eliminated because they did not meet the stated Project objectives of transporting LNG-source gas from Baja California to U.S. delivery points, specifically to customers in southern California and the Southwest. The following sections discuss and analyze each of the alternatives evaluated in sufficient detail to explain why they were eliminated from further consideration or recommended by the Agency Staffs to be adopted as part of the proposed route.

3.2 ALTERNATIVES CONSIDERED

3.2.1 No Project Alternative

The actions triggering this environmental review were North Baja’s applications to the FERC for a Certificate and to the CSLC for an amendment to its permit to cross State lands. This environmental review will also satisfy the NEPA responsibilities of the BLM in considering North Baja’s application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands, including lands managed by the BOR and the FWS. The FERC, the CSLC, and the BLM have two courses of action in considering the proposed Project. They may: (1) deny the respective applications; or (2) approve the Project with or without conditions.

If the Project is denied, none of the potential environmental impacts (both positive and negative) identified in this EIS/EIR would occur. However, the objectives of the Project as described in Section 1.1 would not be met. Specifically, this means that North Baja would not be able to provide transportation for LNG-source natural gas from the Mexican pipeline system into the United States to meet the demand for natural gas in California and other southwestern U.S. markets.

To understand the potential effects of the No Project Alternative, it is important to understand the source and use of natural gas in California. As discussed in detail in Section 1.1, the State of California is the second largest natural gas consumer in the nation. In 2003, Californians consumed about 2.2 trillion cubic feet of gas. In-State production of natural gas satisfies only about 13 percent of Statewide demand (CEC 2005b). The remaining natural gas that is consumed in the State comes primarily from five major out-of-State production basins.

The demand for natural gas in California, as in the rest of the United States, is expanding, and gas producers across North America are struggling to keep pace with the growing demand. Production from most of the mature supply basins in North America has declined or only increased modestly since 1990. The amount of gas produced per well is also declining, and each well is being drained faster (CEC 2005a). The result is that domestic natural gas production is not projected to keep up with the growth in demand.

California's supply of natural gas is also affected by rising demand for natural gas in neighboring states. Forty-three new power plants have come online in Arizona since 2001. These plants are intermediate load and peaking power plants, which often ramp up quickly to meet changing electricity demand. This may take more natural gas from the pipeline system faster than expected. Under normal circumstances, this practice is not troublesome if the pipeline system can be balanced by taking gas out of storage. In the Phoenix area, however, the nearest storage is hundreds of miles away, and it is becoming increasingly common for pipeline pressure to drop during periods of high demand. If the gas pressure gets low enough, it could cause curtailments that could affect natural gas delivery into California (CEC 2005a).

Although it is speculative to predict the actions that could be taken by other suppliers or users of natural gas in the region as well as the resulting effects of those actions if the proposed Project applications are denied, southern Californian customers would likely have fewer and potentially more expensive options for obtaining natural gas supplies in the near future. This might lead to alternative proposals to develop natural gas delivery or storage infrastructure, reduced use of natural gas, and/or the use of other hydrocarbon-related sources of energy.

It is possible that the infrastructure currently supplying natural gas to the proposed market area could be developed in other ways unforeseen at this point. This might include constructing or expanding regional pipelines as well as LNG import and storage systems. Any construction or expansion work would result in specific environmental impacts that could be less than, similar to, or greater than those associated with the proposed Project. An analysis of the most reasonably foreseeable natural gas system alternatives has been included in Section 3.2.

Higher natural gas prices is another potential outcome of denying North Baja's applications. Higher natural gas prices could potentially adversely influence the regional economy by reducing realized household incomes and business profits (Greenspan 2003). Natural gas prices were recently assessed by the CEC in its *Transmittal of 2005 Energy Report, Range of Need and Policy Recommendations to the California Public Utilities Commission* (CEC 2005b). The CEC's report indicates that since the energy crisis of 2001, natural gas prices have remained high. The CEC attributes this to global crude oil markets, a decreasing rate in finding new natural gas supplies, and events related to weather including Hurricanes

Katrina and Rita. According to the CEC's 2005 *Integrated Energy Policy Report* (CEC 2005a), California currently has little influence over national gas market prices. Thus, even when California's own demand is moderate, in-State prices can spike in response to extreme weather conditions in other parts of the country.

According to the CEC, the cost to deliver natural gas to the West Coast via an LNG project could be well below the market prices that California pays at its borders. Thus, a potential new supply source close to or in California could have the effect of lowering the market price for natural gas in California. However, actual prices to consumers will depend upon contracts signed between suppliers and consumers or their representatives.

Denying the applications may also result in the growing reliance on increased energy efficiency and renewable energies. Energy efficiency has historically been highly effective as a means to reduce demand, and an increase in natural gas efficiency programs could further reduce demand and directly benefit customers (CEC 2005a). This conclusion is corroborated by analyses in two reports recently issued by the American Council for an Energy Efficient Economy (ACEEE). These reports found that increased energy efficiency and the installation of renewable energy generation could reduce the demand for natural gas and result in lower natural gas prices (Elliot et al. 2003, Elliot and Shipley 2005).

California in particular has made significant efforts to develop and implement conservation and efficiency measures to reduce the use of natural gas and other fossil fuels and has strongly promoted the development of renewable energies, which are required to provide 20 percent of the State's energy needs by 2017. One of these programs provides funding for emerging technologies such as photovoltaic (direct conversion of sunlight to electricity), solar thermal electric (the conversion of sunlight to heat and its concentration and use to power a generator to produce electricity), fuel cell (the conversion of hydrogen or hydrogen rich gases into electricity by a direct chemical process), and small wind turbines (small electricity-producing, wind-driven generating systems with a rated output of 50 kilowatts or less). Another program, the Geothermal Program, promotes the research, development, demonstration, and commercialization of California's enormous earth heat energy sources. Thus, it seems likely that additional conservation measures and renewable energy development, but only above the levels deemed feasible now and in the foreseeable future (CEC 2005a), could have some effect on the demand for natural gas.

However, it seems unlikely based on energy demand projections that either increased conservation or increased development of renewable energies could reliably replace the need for natural gas or provide sufficient energy to keep pace with demand at this time. Work by the ACEEE and the CEC seems to support this conclusion. The ACEEE report, for example, recognized that energy efficiency and renewable energy are not the only policy solutions required to address the future natural gas needs of the country and that additional sources of natural gas will be required from either domestic sources or through the importation of gas in the form of LNG (Elliot et al. 2003).

Denying North Baja's applications and the continuing high cost of natural gas could force potential natural gas customers to seek regulatory approval to use other forms of energy and increase the use of other fossil fuels. The effect of high natural gas prices on the demand for other fuels was noted in the Energy Information Administration's (EIA) *Annual Energy Outlook 2004 Report*. According to the EIA, the projections for the national growth of total coal consumption increased 0.3 percent from 2003 to 2004, primarily due to higher natural gas prices (EIA 2004).

The use of other fossil fuels instead of natural gas could increase emissions of regulated pollutants (e.g., NO_x, sulfur dioxide [SO₂], particulate matter having an aerodynamic diameter of 10 microns or less [PM₁₀], particulate matter having an aerodynamic diameter equal to or less than 2.5 microns or less [PM_{2.5}]).

[PM_{2.5}) or unregulated greenhouse gases (e.g., carbon dioxide [CO₂]). Compared to other fossil fuels such as coal or oil, natural gas is a relatively clean and efficient fuel. Given that there are emissions associated with producing, processing, transmitting, and distributing natural gas and other fossil fuels, it is difficult to exactly quantify the impact of denying the Project on local and regional air quality. However, credible estimates of air emissions can be developed based upon reasonable assumptions regarding burning natural gas delivered by the Project compared to burning fossil fuels that would likely be utilized if the gas from the Project were not available.

Table 3.2.1-1 lists the emissions that would result from the combustion of approximately 2.7 billion standard cubic feet per day (Bscfd) of natural gas in southern California markets and the corresponding emissions that would result if an equivalent amount of energy were generated using fuel oil or coal in lieu of natural gas (inside or outside of California). It is clear from the table that the use of either fuel oil or coal would increase emissions significantly. To comply with current air emission regulations, emission control technologies could be required that could limit the economic viability and/or affect the location of any new oil- or coal-fired facility. For example, it is conceivable that California's demand for electricity would increasingly be met by oil- or coal-fired facilities outside of California (e.g., Nevada or Mexico) if new sources of natural gas are not developed.

TABLE 3.2.1-1						
Comparison of Air Emissions from Burning Fossil Fuels ^a						
Fossil Fuel	Emission Rate (tons per year)					
	SO ₂	NO _x	PM ₁₀ /PM _{2.5}	CO	CO ₂	C
Natural Gas	297	44,698	3,577	44,401	49,499,999	13,500,000
Fuel Oil	233,936	89,405	5,070	47,088	71,774,999	19,575,000
Coal	625,819	312,911	13,859	9,768	94,049,999	25,650,000
^a The emissions generated by coal, fuel oil, and natural gas were estimated using the most recent Best Available Control Technology (BACT) Analyses found on the U.S. Environmental Protection Agency Reasonably Available Control Technology/BACT/Lowest Achievable Emission Rate Clearinghouse for boilers with heat input ratings between 100 and 250 million British thermal units per hour. The emissions from each fuel source are estimated based on a total annual fuel use of 2.7 billion standard cubic feet per day, 365 days per year. These emissions may be underestimated if natural gas were to be curtailed to power plants rather than industrial boilers. SO ₂ = sulfur dioxide NO _x = nitrogen oxides PM ₁₀ = particulate matter having an aerodynamic diameter less than or equal to 10 microns or less PM _{2.5} = particulate matter having an aerodynamic diameter less than or equal to 2.5 microns CO = carbon monoxide CO ₂ = carbon dioxide C = carbon						

3.2.2 System Alternatives

System alternatives are alternatives to the proposed action that would make use of other existing, modified, or proposed pipeline systems to meet the stated objectives of the proposed Project. A system alternative would make it unnecessary to construct all or part of the proposed Project, although some modifications or additions to another existing pipeline system may be required to increase its capacity, or another entirely new system may need to be constructed. Such modifications or additions would result in environmental impact; however, the impact could be less than, similar to, or greater than that associated with construction of the proposed Project. The purpose of identifying and evaluating system alternatives is to determine whether potential environmental impacts associated with the construction and operation of the proposed facilities could be avoided or reduced while still allowing the stated basic objectives of the Project to be met.

3.2.2.1 Other Existing Pipeline Systems

Existing pipeline systems currently operating in the Project area were evaluated to determine if they could possibly deliver the proposed volumes of natural gas to the U.S.-Mexico border. Existing interstate pipeline systems deliver about 5.7 Bscfd of natural gas to markets in southern California (EIA 2003). A majority of this natural gas comes from production areas in the Rocky Mountains or central United States via pipeline systems owned by the Mohave Pipeline Company, Kern River Gas Transmission Company, Transwestern Pipeline Company, LLC (Transwestern), and El Paso. The Kern River Pipeline, which connects southern California with the Rocky Mountain supply basin, is operating at or near capacity and is not capable of delivering significant additional gas to southern California without looping at least part of its 926-mile length and adding compression facilities. The Mojave Pipeline Company, Transwestern, and El Paso pipeline systems, in contrast, are not currently operating at capacity much of the time. However, as discussed previously, the gas supply from the basins that supply these pipelines is declining. Additionally, none of these pipeline systems, with the exception of the North Baja system, has a connection with the Mexican natural gas pipeline system. Thus, these companies would have to build new pipelines to connect to Mexican LNG-source supplies, which none have proposed to do. For these reasons, no further consideration was given to these pipeline system alternatives in this EIS/EIR.

The existing natural gas pipelines in the same area that could serve the markets of the proposed facilities include the SDG&E and SoCalGas pipelines. These pipelines are discussed below.

San Diego Gas & Electric Alternative

SDG&E is a major wholesale customer of SoCalGas. The SDG&E system was designed to flow natural gas south from SoCalGas to the San Diego area. For this pipeline to be used to transport LNG-source gas in Mexico, a project proponent could utilize a currently inactive pipeline that runs from the Transportadora de Gas Natural de Baja California (TGN) system near Tijuana, Mexico, north into the United States, and connects with the SDG&E pipeline. This system alternative would involve construction of a receipt lateral from the LNG terminal(s) to the TGN pipeline, modification of the inactive pipeline and the interconnect with the SDG&E pipeline, upgrading of the SDG&E system in order to reverse the flow, and modification of the interconnection between the SDG&E and SoCalGas systems.

Currently, the SDG&E system is at or near capacity on peak days; therefore, facility improvements would be required to accommodate any new natural gas volumes between 300 and 700 MMscfd (Sempra Energy Utilities 2003). To deliver the 2.7 Bscfd volume that could be transported by the proposed Project, it would also be necessary to loop all or part of the 23-mile-long TGN pipeline. Larger volumes would require looping the existing pipeline from Santee to Escondido, as well as from Escondido to Rainbow, with associated environmental impacts. To bring gas north from LNG import terminals in Baja California through San Diego County, an entirely new pipeline would have to be constructed through steep terrain containing sensitive habitats and densely populated and commercial areas. No such pipeline expansion has been proposed. Moreover, the environmental impact of such a pipeline would be at least as great if not greater than the impact of the proposed Project. This alternative would also not serve the needs of the IID. Therefore, this alternative was eliminated from further consideration.

SoCalGas Alternative

Currently, the IID receives natural gas from SoCalGas' existing intrastate pipelines that extend south through the Chocolate Mountains to the Imperial Valley. At present, this system provides neither

the supply diversity (i.e., direct access to LNG-source gas) nor direct access to an interstate pipeline system. In comments on the draft EIS/EIR, SoCalGas and SDG&E stated that their customers would be able to nominate LNG supplies at Blythe and Otay Mesa when supplies from Mexico become available (see Section 1.1). While the SoCalGas Alternative would provide the IID with indirect access to LNG-source gas through the SoCalGas system, it would not provide direct access to LNG supplies nor direct access to an interstate pipeline system, which are objectives of the proposed Project. Therefore, this alternative was eliminated from further consideration.

3.2.2.2 Pipelines From Other Onshore and Offshore LNG Projects Proposed in California

There are several LNG import terminals that have been proposed in southern California. If any of these terminals are built, some combination of new and existing pipelines would be used to provide LNG-source gas to southern California via the existing SoCalGas infrastructure. Table 3.2.2-1 shows LNG import terminals proposed in southern California that have applied for Federal licensing either from the U.S. Coast Guard (offshore) or the FERC (onshore).

TABLE 3.2.2-1 Proposed LNG Import Terminals and Pipelines in California					
Proponent	Project Name	Location/Type	Proposed Capacity in MMscfd (average/peak)	Anticipated In-Service Date ^a	Needed Pipeline Construction
BHP Billiton	Cabrillo Port LNG Deepwater Port Project	Offshore Oxnard, CA/New Facility	800/1,500	2010 ^b	two 21.5-mile-long, 24-inch-diameter offshore pipelines; 14.3-mile-long, 36-inch-diameter pipeline; and 7.7-mile-long, 30-inch-diameter onshore pipeline
North Star Natural Gas	Clearwater Port Project	Offshore Oxnard, CA/Conversion of Oil Platform Grace	800/1,200	2009	12.6-mile-long, 32-inch-diameter offshore pipeline and 12-mile-long, 36-inch-diameter onshore pipeline
SES Terminal LLC	Long Beach LNG Import Project	Long Beach, CA/New Facility	700/800	2010	2.3-mile-long, 36-inch-diameter onshore pipeline and 4.6-mile-long, 10-inch-diameter onshore pipeline
^a All projects are undergoing delays in the environmental review process and the in-service dates, if the projects were approved, potentially would be later.					
^b In April 2007, the CSLC did not certify the final EIS/EIR for the Cabrillo Port LNG Deepwater Port Project and denied a lease for the subsea pipelines across State lands.					
Source: CEC 2004, FERC and POLB 2005.					

Each of these projects, if built, could provide southern California with access to LNG-source gas. However, the purposes of the proposed Project of providing an additional/alternate source of natural gas (LNG-source gas) to the IID and other regions of the southwestern United States would not specifically be met. While it would not be infeasible for SoCalGas to transport gas from these projects to the southwestern United States, none of these terminals has yet to receive regulatory approval; therefore, it is unlikely that any of these projects would be in service before 2010. Furthermore, in April 2007, the CSLC did not certify the final EIS/EIR for the Cabrillo Port LNG Deepwater Port Project and denied a lease for the subsea pipelines across State lands. The proposed Project could allow LNG-source gas to flow into California and southwestern U.S. markets by early 2008. The environmental impacts of the above proposed California LNG projects are not analyzed in this EIS/EIR because such analyses would

duplicate the analyses performed in the EIS/EIRs that have been or are expected to be prepared for the projects.

3.2.3 Route Alternatives

Route alternatives, within the context of the proposed Project, are identified to determine if impacts could be avoided or reduced on environmentally sensitive resources, such as large population centers, scenic areas, and wildlife and natural habitat management areas that would be crossed by the proposed route. While the origin and delivery points of route alternatives are generally the same as for the corresponding segment of a proposed pipeline route, the alternatives could follow significantly different alignments. One route alternative was evaluated for the B-Line, and eight route alternatives were evaluated for the IID Lateral as discussed below.

3.2.3.1 B-Line Route Alternatives

A factor generally considered in the evaluation of route alternatives for a looping project is whether it is possible to install the majority of the proposed pipeline 25 feet from the existing pipeline. The collocation of facilities is generally preferred by land management agencies, land use planners, and other regulatory agencies and has several inherent engineering and environmental advantages. Perhaps the most important of these advantages is that new land disturbance is minimized. By overlapping the construction right-of-way with other previously disturbed existing rights-of-way, the amount of new land disturbance can be reduced significantly. This is particularly important in arid environments where revegetation is slow and evidence of construction often persists for years. Because of these advantages, alternatives that deviate from the existing right-of-way are generally driven by issues such as the engineering impracticality of remaining adjacent to the existing right-of-way, or reducing environmental impact. These advantages also explain why this EIS/EIR does not address an alternative route along the Arizona side of the Colorado River that was suggested during the scoping process. Route alternatives are generally not adopted if they would merely transfer impacts from one or more property owners or communities to another without conferring obvious environmental advantages.

22nd Avenue Alternative

Although not mentioned during the public scoping process for the proposed Project, safety concerns regarding the placement of a large natural gas pipeline near several residences along 18th Avenue were raised during the planning for the A-Line. As discussed in Section 2.2.1, North Baja proposes to install the B-Line within its existing 50-foot-wide permanent right-of-way for the A-Line using a standard 25-foot offset. The 22nd Avenue Alternative was evaluated to avoid potential impacts on residents along 18th Avenue from construction and operation of the B-Line (see Figure 3.2.3-1).

The 22nd Avenue Alternative deviates from North Baja's existing A-Line at MP 14.5, due west of 22nd Avenue. At this point, the route extends due east for approximately 0.8 mile across BLM lands before descending into the Palo Verde Valley and continuing east across open desert and agricultural fields for approximately 1 mile. The alternative then continues east in the roadway of 22nd Avenue for the next 8 miles until reaching Intake Boulevard. The route then turns north for approximately 1 mile, turns east on 20th Avenue for 0.5 mile, and then turns north along the D-10 Canal for approximately 1 mile. The alternative rejoins the proposed B-Line route at MP 3.0 on 18th Avenue. An environmental comparison of the 22nd Avenue Alternative with the corresponding segment of the proposed route is presented in Table 3.2.3-1.

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Figure 3.2.3-1 22nd Avenue Route Alternative

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TABLE 3.2.3-1			
Environmental Comparison of the 22 nd Avenue Alternative with the Proposed Route MPs 3.0 to 14.5			
Environmental Factor	Unit	22 nd Avenue Alternative	Proposed Route
Length of route	miles	12.4	11.5
Adjacent to existing road or pipeline right-of-way	miles	11.6	11.5
Canals, drains, and ditches crossed	number	26	20
Wetlands crossed	number	3	0
Residences within 100 feet	number	11	17
New aboveground facility sites required	number	2	0

The 22nd Avenue Alternative would be 12.4 miles long compared to the 11.5-mile-long corresponding segment of the proposed route. Both routes would cross several canals and drains, but construction methods would avoid impacts on those features. Construction of the 22nd Avenue Alternative would require new aboveground facility sites for the installation of a valve at the deviation point, as well as a valve and pig launcher and receiver facilities to be located on BLM land on the Palo Verde Mesa. In comparison, the proposed B-Line route would only require the expansion of existing aboveground facility sites to accommodate new valves and pigging facilities. Additionally, the alternative would require 18.3 acres of new right-of-way, while the proposed route would encumber less than 1 acre of land because it would be within the permanent easement of the existing A-Line. Operation and maintenance activities would be more difficult with the 22nd Avenue Alternative due to the 2-mile separation of the A- and B-Lines and associated aboveground sites. The alternative, however, would affect six fewer residences.

Although the alternative would avoid potential impacts on the residents along 18th Avenue, it would introduce similar potential impacts on residents along 22nd Avenue and Intake Boulevard. As discussed above, route alternatives are generally not adopted if they would merely transfer impacts from one or more property owners or communities to another without conferring obvious environmental advantages. Furthermore, the advantage gained by temporarily inconveniencing six fewer residences along the 22nd Avenue Alternative is not sufficient to offset the disadvantages of separating the A-Line from the B-Line, requiring new aboveground facility sites on previously undisturbed land, encumbering more land, impacting more agricultural land, and increasing operation and maintenance work. Therefore, the 22nd Avenue Alternative was eliminated from further consideration.

3.2.3.2 IID Lateral Route Alternatives

The process of assessing routes from the existing North Baja system to the IID's El Centro Generating Station involved the consideration of two key components: (1) the stipulations in the BLM's CDCA Plan; and (2) the crossing of the ISDRA. Figure 3.2.3-2 provides an overview of the routes considered in the United States for the IID Lateral. Seven of these routes are considered route alternatives and are discussed below; the remaining four routes are considered route variations and are discussed in Section 3.2.4. Additionally, a route alternative that runs directly from the Gasoducto Bajanorte pipeline in Mexico to the IID's El Centro Generating Station was briefly considered as discussed later in this subsection.

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Figure 3.2.3-2 IID Lateral U.S. Route Alternatives Overview

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California Desert Conservation Area (CDCA) Crossing Alternatives

The CDCA Plan stipulates that new gas transmission facilities located in multiple-use classes “L,” “M,” and “T” lands should be located within designated utility corridors. Under the Energy Production and Utility Corridors Element of the CDCA Plan, 16 planning corridors have been identified to address utility facilities, including all pipelines with diameters greater than 12 inches.

Utility corridor “L” is a 2-mile-wide corridor that runs east-west through the southeastern portion of the CDCA following the All-American Canal, then turns north for 2 miles to rejoin Interstate 8. The corridor then follows Interstate 8 for approximately 2 miles to the edge of the BLM’s jurisdiction. The proposed route is located within Utility Corridor “L” between MPs 0.0 and 19.0 and MPs 26.0 and 27.5, which is through a portion of the NECO Planning Area and the ISDRA. The section of the proposed route between MPs 19.0 and 26.0 and MPs 27.5 and 27.6, although lying within a corridor occupied by Interstate 8, Evan Hewes Highway, and electric transmission lines, is just north of the designated Utility Corridor “L.” Consequently, these sections of the proposed IID Lateral route, where it crosses BLM land, would require a CDCA Plan amendment.

Two alternative routes were examined that would stay within the designated Utility Corridor “L” for a longer distance than the proposed route: the Corridor L Alternative and the Bonds Corner Alternative (see Figure 3.2.3-3) as discussed below.

Corridor L Alternative – The Corridor L Alternative deviates from the proposed route at MP 16.3 and follows SR 98 just north of the CalTrans right-of-way for about 7.5 miles. The alternative then turns due north and follows just to the east of the existing transmission lines for 2.5 miles before turning northeast and following the southern edge of the CalTrans right-of-way for Interstate 8 for 3.0 miles. The alternative rejoins the proposed route at MP 27.3. An environmental comparison of the Corridor L Alternative with the corresponding segment of the proposed route is presented in Table 3.2.3-2.

The Corridor L Alternative would be 2.0 miles longer than the proposed route and would require 15.1 more acres of construction right-of-way. The Corridor L Alternative would also require significantly more permanent right-of-way compared to the proposed route (76.1 acres) because the majority of the proposed route in this area would be installed within the county road right-of-way associated with Evan Hewes Highway. Because it would be located within the road right-of-way, only a 2-foot-wide permanent right-of-way would be retained. Although the Corridor L Alternative would be adjacent to existing road rights-of-way for about 81 percent of the route, the pipeline would not be within the actual road rights-of-way associated with SR 98 and Interstate 8 because CalTrans’ regulations prohibit the installation of high-pressure natural gas pipelines within any State highway right-of-way except by special exception as discussed below for the CalTrans Alternative. In addition, the 2.5 miles where the Corridor L Alternative parallels existing transmission lines would create new ground disturbance in an area where no current ground-disturbing right-of-way is maintained. Overall, the Corridor L Alternative shows substantially more habitat diversity than the proposed route, with three subtypes of creosote scrub and several locations of tamarisk present. The proposed route has only the *Larrea – Ambrosia* habitat type along its entire length. No residences would be within 100 feet of the Corridor L Alternative or the proposed route and no canals or drains would be crossed by either route.

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Figure 3.2.3-3 Corridor L and Bonds Corner Route Alternatives

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TABLE 3.2.3-2			
Environmental Comparison of the Corridor L Alternative with the Proposed Route MPs 16.3 to 27.3			
Environmental Factor	Unit	Corridor L Alternative	Proposed Route
Length of route	Miles	13.0	11.0
Construction right-of-way ^a	Acres	96.4	81.3
Permanent right-of-way ^b	Acres	78.8	2.7
Adjacent to/within road right-of-way and easements	Miles	10.5	10.8
Vegetation Type			
<i>Larrea tridentata</i> – <i>Ambrosia dumosa</i> alone or with other species	Percentage	48	100
<i>Larrea tridentata</i> – <i>Atriplex canescens</i> and other species	Percentage	19	0
<i>Larrea tridentata</i> with tamarisk and other species	Percentage	34	0
<i>Larrea tridentata</i> with <i>Prosopis</i> or <i>Acacia</i>	Percentage	12	0
Residences within 100 feet	Number	0	0
Canals crossed	Number	0	0
Drains crossed	Number	0	0
Lake Cahuilla Area of Critical Environmental Concern (ACEC) affected	Acres	24.0	0.1
East Mesa ACEC affected	Acres	0.1	7.1
Poor flat-tailed horned lizard habitat affected	Acres	93.7	79.0
Fair flat-tailed horned lizard habitat affected	Acres	2.7	2.2
Known archaeological sites within 400 meters ^c	Number	17	10
BLM-managed land crossed within designated utility corridor	Miles	12.0	3.9
BLM-managed land crossed outside designated utility corridor that would require a CDCA Plan amendment	Miles	0.0	6.6
^a Based on an approximately 60-foot-wide construction right-of-way.			
^b Based on a 2-foot-wide permanent right-of-way for the proposed route because the majority of the pipeline in this area would be installed within the county road right-of-way associated with Evan Hewes Highway. Based on a 50-foot-wide permanent right-of-way for the Corridor L Alternative because the pipeline would not be installed within road rights-of-way.			
^c Based on a literature search.			

The Corridor L Alternative would affect 24.0 acres of the Lake Cahuilla ACEC compared to 0.1 acre for the proposed route. The Lake Cahuilla ACEC is mapped with its eastern edge defined by the electric transmission lines. Because Corridor L is defined as 1 mile on either side of the transmission lines, it overlaps the Lake Cahuilla ACEC by 1 mile for the 2.5 miles between SR 98 and Interstate 8. The Corridor L Alternative would cross the Lake Cahuilla ACEC for the entire 2.5 miles. The Lake Cahuilla ACEC was designated to recognize and protect the significant cultural resources found along the eastern edge of the ancient shoreline of Lake Cahuilla (now largely occupied by the irrigated Imperial Valley).

North Baja's literature review identified 17 cultural resources within a 400-meter-wide Corridor L Alternative records search corridor. These resources consist of 2 isolated finds and 15 archaeological sites. The sites include lithic scatters, ceramic scatters, temporary campsites, a habitation area, and possible cores. The historic sites are refuse and tin can scatters. These sites are not known to have been evaluated and may potentially be eligible for listing on the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). In comparison, a literature review of the corresponding segment of the proposed route identified 10 cultural resources within a 400-meter-wide

records search corridor. No cultural resources were identified during North Baja's field surveys of a 100-foot-wide corridor for the corresponding segment of the proposed route. Although a quantitative comparison of the Corridor L Alternative with the corresponding segment of the proposed route cannot be made because cultural resources field surveys have not been conducted for the Corridor L Alternative, the Corridor L Alternative's greater impact on previously undisturbed land and 2.5-mile-long crossing of the Lake Cahuilla ACEC elevates the chance of unanticipated significant cultural resources discovery and disturbance.

The proposed route would affect 7.1 acres of the East Mesa ACEC compared to 0.1 acre for the Corridor L Alternative. The East Mesa ACEC was primarily designated for flat-tailed horned lizard protection and management. The proposed route would be within the road right-of-way associated with Evan Hewes Highway for the entire length it crosses the East Mesa ACEC.

North Baja conducted biological resources surveys of the Corridor L Alternative and the corresponding segment of the proposed route to compare the extent of flat-tailed horned lizard habitat available on each route and to determine the presence or absence of this species. About 97 percent of the Corridor L Alternative (93.7 acres) would affect habitat classified as "poor" while 3 percent (2.7 acres) would affect habitat classified as "fair." Similarly, about 97 percent of the proposed route (79.0 acres) would affect habitat classified as "poor" while 3 percent (2.2 acres) would affect habitat classified as "fair." For both routes, the habitat classified as "poor" includes sandy silt substrate with pebbles and a small portion of desert pavement, and habitat classified as "fair" includes partially stabilized sand dunes with some ant presence although the proposed route also crosses a few patches of blow sand.

A disadvantage of the proposed route is that 6.6 miles would be on BLM-managed land outside of a designated utility corridor. Therefore, the proposed route would require an amendment to the CDCA Plan. In contrast, the Corridor L Alternative would be entirely within a designated utility corridor and would not require a CDCA Plan amendment. However, the Corridor L Alternative would be longer and would disturb more land during construction compared to the proposed route. The alternative would also require significantly more permanent right-of-way compared to the proposed route because of its location adjacent to but not within road rights-of-way. The vegetation that would be disturbed along the Corridor L Alternative is also more diverse than the vegetation that would be affected by the proposed route. It also appears that the Corridor L Alternative could affect more archaeological sites compared to the proposed route. For these reasons, the Agency Staffs believe the advantage of being within a designated utility corridor is not sufficient to offset the disadvantages of the greater amount of land disturbance and permanent right-of-way required for the Corridor L Alternative and potentially greater impact on vegetation and cultural resources. Therefore, the Corridor L Alternative was eliminated from further consideration.

Bonds Corner Alternative – The Bonds Corner Alternative deviates from the proposed route at MP 16.3 and follows the same route as the Corridor L Alternative for the first 7.5 miles (see Figure 3.2.3-3). The Bonds Corner Alternative then continues west along SR 98 and the All-American Canal. The alternative would cross the East Highline Canal (using the HDD method) and continue to the west for approximately 3 miles across the Imperial Valley until turning north and following Bonds Corner Road for approximately 5.5 miles. The alternative rejoins the proposed route at MP 31.5. An environmental comparison of the Bonds Corner Alternative with the corresponding segment of the proposed route is presented in Table 3.2.3-3.

TABLE 3.2.3-3 Environmental Comparison of the Bonds Corner Alternative with the Proposed Route MPs 16.3 to 31.5			
Environmental Factor	Unit	Bonds Corner Alternative	Proposed Route
Length of route	Miles	20.0	15.2
Construction right-of-way ^a	Acres	145.5	110.5
Permanent right-of-way ^b	Acres	121.2	3.7
Canals crossed	Number	10	1
Drains crossed	Number	7	3
Residences within 100 feet	Number	8	6
Lake Cahuilla Area of Critical Environmental Concern (ACEC) crossed	Miles	2.2	0.3
BLM-managed land crossed within designated utility corridor	Miles	1.0	4.1
BOR-withdrawn land crossed within designated utility corridor	Miles	0.0	0.0
BLM-managed land crossed outside designated utility corridor that would require a CDCA Plan amendment	Miles	2.4	6.8
BOR-withdrawn land crossed outside designated utility corridor	Miles	1.8	0.0
Adjacent to/within road right-of-way and easements	Miles	20.0	14.5
East Mesa ACEC crossed	Miles	0.0	2.2
^a Based on a 60-foot-wide construction right-of-way.			
^b Based on a 2-foot-wide permanent right-of-way for the proposed route because the majority of the pipeline in this area would be installed within the county road right-of-way associated with Evan Hewes Highway and Hunt Road. Based on a 50-foot-wide permanent right-of-way for the Bonds Corner Alternative because the pipeline would not be installed within road rights-of-way.			

The Bonds Corner Alternative would be 4.8 miles longer than the proposed route and would require 35.0 more acres of construction right-of-way. The Bonds Corner Alternative would also require significantly more permanent right-of-way compared to the proposed route (117.5 acres) because the majority of the proposed route in this area would be installed within the county road right-of-way associated with Evan Hewes Highway and Hunt Road. Because the proposed pipeline would be located within the road right-of-way, only a 2-foot-wide permanent right-of-way would be retained. Although the Bonds Corner Alternative would be adjacent to existing road rights-of-way for its entire length, the pipeline would not be within the actual road rights-of-way because CalTrans' regulations prohibit the installation of high-pressure natural gas pipelines within any State highway right-of-way except by special exception as discussed below for the CalTrans Alternative. The alternative would be within 100 feet of more residences and require more canal and drain crossings than the proposed route. The new right-of-way crossed by the alternative would be adjacent to SR 98 in relatively undisturbed habitat across BLM lands. An additional disadvantage of the alternative is that it would cross 2.2 miles of the Lake Cahuilla ACEC compared to 0.3 mile of the ACEC that would be crossed by the proposed route. As discussed above, the Lake Cahuilla ACEC was designated to recognize and protect the significant cultural resources found along the eastern edge of the ancient shoreline of Lake Cahuilla. North Baja states that the crossing of the Lake Cahuilla ACEC for 2.2 miles elevates the chance of unanticipated significant cultural resources discovery and disturbance. A disadvantage of the proposed route is that it would cross 2.2 miles of the East Mesa ACEC; the Bonds Corner Alternative would not cross the East Mesa ACEC. Both the proposed route and the alternative would be outside a designated utility corridor on BLM-managed land (6.8 and 2.4 miles, respectively) and would require an amendment to the CDCA Plan. The Agency Staffs believe the greater amount of land disturbance and permanent right-of-way required for the Bonds Corridor Alternative outweigh its advantages and eliminated it from further consideration.

Imperial Sand Dunes Recreation Area (ISDRA) Crossing Alternatives

The ISDRA is an important and intensively utilized OHV and camping area. To address the concerns of commentors concerning potential conflicts with existing and planned recreational use in the ISDRA, four alternatives were considered for crossing the ISDRA: (1) the CalTrans Alternative, (2) the ISDRA North Alternative, (3) the ISDRA Transmission Line Alternative, and (4) the ISDRA Grays Well Road Alternative. Figures 3.2.3-4 and 3.2.3-5 illustrate the ISDRA route siting factors and alternatives. Concerns considered during the evaluation of these alternatives included sensitive biological and cultural resources as well as technical issues such as pipeline construction through sand dunes, the crossings of the All-American Canal and Interstate 8, and the avoidance of conflicts with other linear facilities (e.g., the freeway, several electrical transmission lines, and buried communication facilities). Additionally, another major construction effort planned in the same general location, the lining of the All-American Canal, needed to be considered.

CalTrans Alternative – During North Baja's public outreach efforts, the Off-Road Business Association suggested that North Baja consider routing the IID Lateral entirely within the CalTrans right-of-way where it crosses the ISDRA because the right-of-way is off-limits to OHV use. However, CalTrans acquires and manages its easements for road transportation purposes only. Section 606.4 of the CalTrans *Encroachment Permits Manual* states "Placement of longitudinal utilities encroachments within freeway and expressway right-of way is prohibited under Department policy." Section 607.3 states "High risk pipelines conveying gas, oil or other flammable fluid are not permitted unless they are dedicated to a public use." High risk pipelines are defined in the CalTrans *Manual on High & Low Risk Underground Facilities within Highway Rights of Way* to include natural gas pipelines greater than 6 inches in diameter, or pipelines operating at a pressure greater than 60 psig.

The *Encroachment Permits Manual* also states that under unusual circumstances, requests for longitudinal placement can be reviewed under the exception process for State highways, and the approval of both the State and Federal Highway Administration is required. Based on past experience with CalTrans, the time frame for it to review and potentially consider an exception would be lengthy and CalTrans would be unlikely to approve a parallel encroachment when a feasible alternative exists as is the case for the proposed Project. Consequently, the CalTrans Alternative is not considered to be feasible and was eliminated from further consideration.

ISDRA North Alternative – The ISDRA North Alternative stays north of the All-American Canal between MPs 2.0 and 8.2 of the proposed route. This alternative takes advantage of relatively level terrain immediately north of the All-American Canal and would avoid two crossings of the All-American Canal and Interstate 8. The alternative would provide a feasible location to stage a long HDD to the west under the sand dunes and would emerge in Dune Buggy Flats, which would avoid difficult construction in the dunes. However, consultation with IID staff revealed that the All-American Canal Lining Project conflicts with this route alternative. The IID intends to utilize the level area north of the existing canal for a temporary canal and construction work area (Hocking 2006).

The ISDRA North Alternative would avoid the high OHV-use Buttercup Management Area; however, it would place the pipeline in two other high OHV-use areas. One of these areas lies at the base of Test Hill, which is an area heavily used in the fall and winter. The other area is at Dune Buggy Flats, an area occupied from late November through March of each year by thousands of OHV users and campers. Because of the locational conflict with the All-American Canal Lining Project and the fact that the alternative only shifts, rather than avoids, potential conflicts with recreational land uses, this alternative was eliminated from further consideration.

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Figure 3.2.3-4 ISDRA Siting Factors

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Figure 3.2.3-5 ISDRA Route Alternatives

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ISDRA Transmission Line Alternative – The ISDRA Transmission Line Alternative was considered in an effort to minimize new impacts through the ISDRA. This alternative would be south of the All-American Canal and Interstate 8 and would parallel the transmission line corridor through the ISDRA area. This alternative deviates from the proposed route at MP 3.5 (southwest of the HDD of the All-American Canal and Interstate 8) and continues southwest and follows the existing transmission line for approximately 3 miles. The alternative then turns west and would cross Interstate 8 and the All-American Canal (using the HDD method) before rejoining the proposed route at approximate MP 8.2. Although both routes would cross Interstate 8 and the All-American Canal, the proposed route would require two separate crossings (a conventional bore at MP 5.7 for Interstate 8 and an HDD at MP 8.1 for the All-American Canal). The alternative route would only require one HDD that would cross both Interstate 8 and the All-American Canal near MP 8.0 of the proposed route.

This alternative follows existing utilities and stays immediately south of the more intensive camping uses at Midway and Grays Well camping areas, but would be installed in an area used by OHVs. Specifically, the ISDRA Transmission Line Alternative would be installed south of Grays Well Road that provides access to the Midway Campground and the Plank Road monument, and would stay south of that road until crossing under the freeway. The area crossed by the first half of the alternative is also presently subject to a vehicle closure to protect desert plant species, including the Peirson's milk-vetch. The BLM has indicated that it plans to maintain the vehicle closure for the foreseeable future (Kastoll 2007).

Although the ISDRA Transmission Line Alternative parallels existing linear facilities, according to BLM staff it crosses both the Buttercup Management Area and adjacent land that is more highly trafficked by OHV users than the proposed route. Additionally, the alternative crosses dunes with greater relief, which would entail more difficult construction and may potentially require measures to protect the integrity of the transmission tower footings, depending on site-specific conditions. Because of the heavier OHV use, construction constraints, and plan of the BLM to maintain the vehicle closure for the foreseeable future, this alternative was eliminated from further consideration.

Modified ISDRA Transmission Line Alternative – After the issuance of the draft EIS/EIR, a modified version of the ISDRA Transmission Line Alternative was evaluated to address concerns regarding a cultural resources site located along the proposed route (Site CA-IMP-8314) while also avoiding the BLM's vehicle closure area that would be affected by the original ISDRA Transmission Line Alternative. The Modified ISDRA Transmission Line Alternative deviates from the proposed route at MP 5.6 and continues southwest and follows the existing transmission line for approximately 1.1 miles. The alternative then turns west and would cross Interstate 8 and the All-American Canal (using the HDD method) before rejoining the proposed route at approximate MP 8.2 (see Figure 3.2.3-5). An environmental comparison of the Modified ISDRA Transmission Line Alternative with the corresponding segment of the proposed route is presented in Table 3.2.3-4.

The Modified ISDRA Transmission Line Alternative would be longer and would affect more land during construction and operation compared to the proposed route. Both routes would be located adjacent to existing rights-of-way for their entire lengths and both would affect only BLM/BOR-managed lands within Utility Corridor L. Therefore, a CDCA Plan amendment would not be required for the Modified ISDRA Transmission Line Alternative or the corresponding segment of the proposed route. Although both routes would cross Interstate 8 and the All-American Canal, the proposed route would require two separate crossings (a conventional bore at MP 5.7 for Interstate 8 and an HDD at MP 8.1 for the All-American Canal). The alternative route would only require one HDD that would cross both Interstate 8 and the All-American Canal near MP 8.0 of the proposed route.

TABLE 3.2.3-4			
Environmental Comparison of the Modified ISDRA Transmission Line Alternative with the Proposed Route MPs 5.6 to 8.2			
Environmental Factor	Unit	Modified ISDRA Transmission Line Alternative	Proposed Route
Length of route	Miles	3.1	2.6
Construction right-of-way ^a	Acres	30.1	25.2
Permanent right-of-way ^b	Acres	11.3	9.5
Adjacent to existing rights-of-way	Miles	3.1	2.6
Canals crossed	Number	1	1
Roads crossed	Number	1	1
BLM/BOR-managed land crossed within designated utility corridor	Miles	3.1	2.6
BLM/BOR-managed land crossed outside designated utility corridor that would require a CDCA Plan amendment	Miles	0.0	0.0
Eligible cultural resources sites	Number	1	1
^a Based on an 80-foot-wide construction right-of-way. ^b Based on a 30-foot-wide permanent right-of-way.			

On February 2, 2007, North Baja met with members of the Quechan Indian Tribe, the BLM, and the BOR to discuss measures to reduce or avoid impacts on Site CA-IMP-8314. The site is on BOR land and both the BOR and the Quechan Indian Tribe requested that North Baja avoid the site. In addition, in a letter dated February 9, 2007, the Kwaaymii Laguna Band of Indians asked that the site be avoided. Although the original ISDRA Transmission Line Alternative avoided the site, it crossed an area closed by the BLM to protect the Peirson's milk-vetch. This was one of the reasons the ISDRA Transmission Line Alternative was eliminated from further consideration.

During a meeting on March 13, 2007 to address issues presented in the Kwaaymii Laguna Band of Indians' February 9, 2007 letter, North Baja suggested a realignment utilizing only the western portion of the original ISDRA Transmission Line Alternative to avoid Site CA-IMP-8314. By utilizing only the western portion of the ISDRA Transmission Line Alternative (beginning at MP 5.6 of the proposed route), the Modified ISDRA Transmission Line Alternative would also avoid the BLM's vehicle closure area. Although the Modified ISDRA Alternative would avoid Site CA-IMP-8314, a portion of another cultural resources site (the Plank Road) was identified during surveys along the alternative alignment. North Baja would avoid impacts on this portion of the Plank Road by installing exclusion fencing and monitoring during construction (see Section 4.11.3). The BLM has indicated that avoidance of the Plank Road would not be difficult and supports the alternative route because it avoids Site CA-IMP-8314 (Simmons 2007). In addition, the BLM has no biological resources concerns along the Modified ISDRA Transmission Line Alternative (Steward 2007).

The Modified ISDRA Transmission Line Alternative is longer and affects more land compared to the proposed route. Like the original ISDRA Transmission Line Alternative, it crosses both the Buttercup Management Area and adjacent land that is more highly trafficked by OHV users than the proposed route. However, the Modified ISDRA Transmission Line Alternative avoids a cultural resources site that the Quechan Indian Tribe, the Kwaaymii Laguna Band of Indians, and the BOR requested that North Baja avoid. This alternative also avoids an area closed by the BLM to protect the Peirson's milk-vetch and does not affect any other sensitive biological resources. The Modified ISDRA Transmission Line

Alternative would be located entirely on BLM-managed lands and the BLM finds the alternative route acceptable. Therefore, **the Agency Staffs recommend that:**

- **North Baja shall adopt the Modified ISDRA Transmission Line Alternative between MPs 5.6 and 8.2 of the IID Lateral.**

ISDRA Grays Well Road Alternative – During Project planning, the BLM suggested that the area west of the Buttercup Campground between Grays Well Road and Interstate 8 is less intensively used than the area to the south of Grays Well Road. The ISDRA Grays Well Road Alternative considers a route in the strip between Interstate 8 and Grays Well Road. This area currently contains a wood pole line, a fiber optic line (Level 3), and is constricted by a relatively wide (400-foot) CalTrans right-of-way. Early investigations suggested that there may be room within this strip for the proposed 16-inch-diameter IID Lateral; however, a recent field survey to locate the Level 3 fiber optic line concluded that there is not sufficient space within this strip for the pipeline. Therefore, this alternative is infeasible and was eliminated from further consideration.

Gasoducto Bajanorte Pipeline Route Alternative

A route alternative between the Gasoducto Bajanorte pipeline and the IID's El Centro Generating Station was evaluated (see Figure 3.2.3-6). The alternative interconnects with the Gasoducto Bajanorte pipeline west of Mexicali in the vicinity of La Rosita, Mexico. From there it proceeds north and crosses the Mexico-U.S. border into California near the junction of the Westside Main Drain and the All-American Canal. Once in the United States, the alternative proceeds north adjacent to Brockman Road until it crosses the New River 5 miles west of Heber. It then turns and proceeds east following McCabe Road to a point about 0.5 mile east of Dogwood Road. At this point, the alternative proceeds north across Interstate 8 and a congested area surrounding Evan Hewes Highway until it joins the proposed route just east of the IID's El Centro Generating Station.

This alternative would be approximately 23 miles in length and thus would be substantially shorter than the proposed IID Lateral. About 18 miles of the alternative would be within the United States. Nearly all of the pipeline route in the United States (about 17.5 miles) would cross irrigated agricultural land; the remaining 0.5 mile would cross urban land uses.

Although the alternative would have less environmental impact than the IID Lateral based on its shorter length, it would not meet the Project objective of providing the IID with a connection to the U.S. interstate pipeline systems. As currently configured, the IID Lateral would provide the IID with direct access to U.S. gas supplies via the existing interconnection between North Baja and El Paso. As discussed in Section 1.1, the El Centro Generating Station currently receives its natural gas from SoCalGas. The volumes delivered by the North Baja system would be used to serve the existing generating load at the station and would provide supply and supplier diversification for the IID. North Baja would continue to provide southbound natural gas transportation of domestic supplies on its system via backhaul. In this way the IID Lateral would enable the IID to gain access to domestic supplies as well as the LNG sources in Mexico providing it with greater flexibility and reliability in choosing its gas supplies. The alternative would restrict the IID to LNG-source gas solely and would not provide the IID with the expanded access to the domestic supplies that it needs. For this reason, the Gasoducto Bajanorte Pipeline Route Alternative is not considered to be a viable alternative to the proposed IID Lateral and was eliminated from further consideration.

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Figure 3.2.3-6 Gasoducto Bajanorte Pipeline Route Alternative

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3.2.4 Route Variations

Route variations differ from system alternatives or route alternatives in that they are identified to reduce impact on specific localized resource issues such as residences, cultural resources sites, biological resources, and areas of steep terrain. Additionally, route variations may be examined to avoid conflicts with other projects. The four route variations evaluated for the proposed Project are described below.

3.2.4.1 East Mesa North Route Variation

North Baja initially planned to locate the IID Lateral in the northern road shoulder of Evan Hewes Highway from MPs 8.5 to 26.0; however, the BOR's plans for the Drop 2 Storage Reservoir would interfere with this route. Therefore, North Baja adjusted its proposed route. The proposed route between MPs 8.1 and 8.5 is on the north side of Evan Hewes Highway. It then crosses the highway to the south side to avoid the BOR's planned supply canal location and continues on the south side of the highway for 5.1 miles. The proposed route then crosses back to the north side of the highway at MP 13.6.

The East Mesa North Route Variation depicted on Figure 3.2.4-1 deviates from the proposed route for 4.1 miles (from MPs 9.5 to 13.6) where it would stay on the north side of Evan Hewes Highway (as initially planned) instead of crossing to the south side of the road. This variation was originally developed because the BOR indicated it would pursue discussions with Imperial County regarding the abandonment of the Evan Hewes Highway right-of-way for a distance of 3 miles between the BOR lands and the private lands near Gordon's Well. The BOR's intent was to locate the canal and associated access roads in the middle of the highway. If this were the case, there would not be room for the IID Lateral on the south side of the new canal access road without conflicting with the CalTrans right-of-way for Interstate 8 and North Baja would need to adopt the East Mesa North Variation on the north side of Evan Hewes Highway.

As of January 3, 2006, however, the BOR has stated that there is a 98 percent chance that the Drop 2 Canal centerline would be just north of Evan Hewes Highway (Wahl 2006). Because the East Mesa North Variation would conflict with the BOR's Drop 2 Storage Reservoir Project, this alternative was considered infeasible and eliminated from further consideration.

3.2.4.2 Imperial Valley Route Variations

The proposed route through the Imperial Valley includes the area from the west side of the East Highline Canal at MP 27.8 to the terminus of the IID Lateral at the El Centro Generating Station. From MP 27.8, the proposed route stays on Hunt Road and East Chick Road until MP 38.7 where it turns north on McGrew Road for 0.2 mile before crossing Interstate 8 (using the bore method). The proposed route then continues adjacent to a private field road to MP 39.7. At this point, the proposed route turns west along East Ross Road to MP 41.4 and then turns north along Parker Road for 1.5 miles. The proposed route would then be located in field roads on the north side of Interstate 8 for 0.5 mile until turning north along SR 111 for 0.2 mile where it would then turn west along the IID powerlines to MP 45.7.

The number of residences near the route, right-of-way encumbrances on private property, amount of farmland crossed, conflicts with other utilities, and scoping comments were considered in developing three variations to the proposed route. All three of these variations would be located primarily within existing Imperial County road rights-of-way. The three Imperial Valley variations are depicted on Figure 3.2.4-2.

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Figure 3.2.4-1 East Mesa North Route Variation

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Figure 3.2.4-2 Imperial Valley Route Variations

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Variation A

Variation A deviates from the proposed route at MP 36.9 and turns north along Barbara Worth Road, which crosses over Interstate 8. The pipeline would be bored under Interstate 8, and the workspace would be located in a field adjacent to the road right-of-way. North of Interstate 8, the variation continues north along Barbara Worth Road for approximately 0.5 mile before turning west along East Ross Road and rejoining the proposed route at MP 39.7.

Variation A would avoid the open field crossing north of McGrew Road, but it would be located for a longer distance in East Ross Road, which is a busier road with more utility encumbrances than the proposed route. The proposed route follows Hunt Road, which is unpaved, has fewer utilities, fewer obstructions, and fewer residences. Variation A, which follows East Ross Road, would impact a greater number of immediately adjacent residences, and potentially would have to be routed around underground pipe structures associated with irrigation. Any route variations around these pipe structures would require the pipeline to be placed in the adjacent agricultural fields. Because of these disadvantages, Variation A was eliminated from further consideration.

Variation B

Variation B deviates from the proposed route at MP 34.9 and turns north on Mets Road for 0.4 mile before crossing Interstate 8 and continuing north on Mets Road for 0.6 mile to East Ross Road. At East Ross Road it turns west and continues for 4.5 miles until it rejoins the proposed route at MP 39.7.

Similar to Variation A, Variation B would avoid the open field crossing north of McGrew Road. However, it would be located for a longer distance in East Ross Road, which is a busier road with more utility encumbrances than the proposed route. Because of these disadvantages, Variation B was eliminated from further consideration.

Variation C

During the scoping process, landowners along the proposed route on Parker Road expressed concerns about impacts on their water delivery system, fences, and landscaping, as well as the possibility of losing rental income during construction. Variation C attempts to address this concern by continuing west along East Ross Road beyond Parker Road for an additional 0.7 mile. The variation then turns north along SR 111, which is a freeway at this location. The pipeline would be installed in agricultural lands for approximately 0.2 mile and would then follow an existing transmission line corridor with many other utilities adjacent to the freeway until rejoining the proposed route at MP 43.4.

Both Variation C and the corresponding segment of the proposed route are in areas where multiple utilities are already buried adjacent to the road. During field investigations, North Baja determined that the utility congestion along the proposed route did not preclude space for the pipeline. However, North Baja has not been able to confirm that space is available for Variation C because SR 111, a frontage road, a steel tower electric transmission line, and a canal are existing linear features within the corridor. North Baja states that it is likely Variation C would, at a minimum, require parallel encroachments within electric transmission facility and/or canal easements. A scoping comment was received from the owner of a business along the Variation C route expressing concern regarding potential negative impacts and disruptions to his business and the proximity of the pipe to the electrical transmission lines. Constructing or operating a pipeline in proximity to an electric transmission line is not generally considered to pose a safety risk; however, there could be some temporary inconvenience or disruption to the business during construction if Variation C were adopted.

To address the concerns of the landowners along the proposed route on Parker Road, North Baja has agreed to install the pipeline on the opposite side of Parker Road from the cluster of homes on the

west side. North Baja would avoid water delivery systems, including both canals and pipes, by drilling or digging beneath them; therefore, no disruption of water service is expected. However, in the unlikely event of damage to a water system, North Baja would repair the system and provide an alternative water source until the repair is made. North Baja has provided site-specific residential construction mitigation plans for all residences and businesses within 100 feet of the construction work area, including the portion of the route on Parker Road (see site-specific plan numbers 4200-E-209 through 216 in Appendix O). These plans show that the fences, trees, and other landscaping along Parker Road would be avoided during construction. As shown in Table 4.8.3-1, the only residential features that would be potentially affected by construction along Parker Road are one gravel driveway and two mailboxes. North Baja has stated that it does not believe construction of the Project would result in loss of rental income because the residents/tenants would still have access to their homes. North Baja would, however, make every effort to accommodate special needs on a case-by-case basis, including reimbursing an owner who is unable to rent a property because of North Baja's construction activities.

Because North Baja has been able to address the specific concerns of the landowners along Parker Road, it is uncertain whether there is adequate space to install the pipeline along Variation C, and Variation C would merely transfer impacts from one or more property owners or communities to another without conferring obvious environmental advantages, Variation C was eliminated from further consideration.

3.2.5 Alternative Delivery Points - Arrowhead Alternative

In its February 7, 2006 FERC application, North Baja proposed to deliver gas to the SoCalGas system and Blythe Energy Facility I supply pipeline at a meter station located along Riviera Drive. On May 24, 2006, North Baja filed an alternative to these delivery points. This alternative, referred to in the draft EIS/EIR as the Arrowhead Alternative, would deliver natural gas to the SoCalGas system at SoCalGas' existing Blythe Compressor Station at the intersection of 14th Avenue and Arrowhead Boulevard in Riverside County. The compressor station is approximately 2 miles north of the location on 18th Avenue where the existing A-Line and proposed B-Line cross Arrowhead Boulevard. The alternative delivery point to the Blythe Energy Facility I supply pipeline would be immediately adjacent to the Blythe Compressor Station. Metering for the alternative delivery points would occur at a new meter station located within the fenceline of the Blythe Compressor Station.

At the time of its May 24, 2006 filing and as analyzed in the draft EIS/EIR, the facilities associated with the Arrowhead Alternative included (see Figure 3.2.5-1):

- Arrowhead Extension – 2.1 miles of 36-inch-diameter pipeline extending from MP 7.4 of the proposed B-Line to SoCalGas' existing Blythe Compressor Station.
- Blythe-Arrowhead Meter Station and Pig Receiver – these facilities would occupy a 160-foot by 200-foot site within the fenced yard of the existing Blythe Compressor Station. The gas would be odorized before delivery into the SoCalGas system at the existing odorant facilities within the Blythe Compressor Station.
- BEI Piping and Tap – 40 feet of 8-inch-diameter pipeline from the proposed Blythe-Arrowhead Meter Station to the existing Blythe Energy Facility I supply pipeline and a tap into the existing pipeline.
- Pig Launcher, Taps, and Crossover Piping to the Existing A-Line and Proposed B-Line – these facilities would be located in a 150-foot by 225-foot fenced yard in the northeast corner of the intersection of 18th Avenue and Arrowhead Boulevard.

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Figure 3.2.5-1 Arrowhead Alternative

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The facilities that would be eliminated by the Arrowhead Alternative included:

- the Blythe Meter Station on Riviera Drive;
- 20 feet of interconnect piping with SoCalGas at the originally proposed Blythe Meter Station;
- 0.6 mile of 10-inch-diameter pipeline (BEI Lateral) extending from the originally proposed Blythe Meter Station site to an interconnection with the existing Blythe Energy Facility I supply pipeline; and
- an odorant facility at the Ogilby Meter Station.

Although the above facilities would be eliminated, adoption of the Arrowhead Alternative would result in a net gain in the amount of facilities that would be constructed because the new modified connection point into the SoCalGas system would not eliminate the need to connect with the existing Ehrenberg Compressor Station to allow for deliveries to El Paso and other markets outside of California, which is currently North Baja's contractual requirement.

Table 3.2.5-1 provides a comparison of the Arrowhead Alternative with the originally proposed Project facilities that would be eliminated if the Arrowhead Alternative were adopted (referred to in this analysis as the corresponding segment of the proposed Project).

As shown in Table 3.2.5-1, the Arrowhead Alternative would disturb 24.3 acres of land during construction (20.6 acres for the pipeline right-of-way, 2.0 acres for aboveground facilities, and 1.7 acres for temporary extra workspaces). Of this total, 6.2 acres of land would be permanently retained for the pipeline right-of-way (4.7 acres) and aboveground facilities (1.5 acres). In comparison, the corresponding segment of the proposed Project would disturb 9.0 acres of land during construction (4.4 acres for the pipeline right-of-way, 4.5 acres for aboveground facilities, and 0.1 acre for temporary extra workspaces), of which 5.2 acres of land would be permanently retained (0.7 acre for the pipeline right-of-way and 4.5 acres for aboveground facilities). The Arrowhead Alternative would impact 16.1 acres of agricultural land during construction; no agricultural land would be affected by construction of the corresponding segment of the proposed Project.

The Arrowhead Alternative would permanently convert 0.8 acre of agricultural land to utility use, whereas the corresponding segment of the proposed Project would permanently convert 4.5 acres of open land to utility use. Except for the new odorant facility at the existing Ogilby Meter Station, the corresponding segment of the proposed Project would be within the City of Blythe near existing and proposed residential development, while the Arrowhead Alternative would be in an agricultural area with only a few scattered residences and no proposed residential development. There would be 7 residences within the potential impact radius (PIR)² of the Arrowhead Alternative compared to 36 residences within the potential impact radius of the corresponding segment of the proposed Project. The minor visual impact associated with the Blythe Meter Station would be avoided by adoption of the Arrowhead Alternative.

² The potential impact radius is the radius of a circle within which the potential failure of a pipeline could have considerable impact on people or property.

TABLE 3.2.5-1			
Environmental Comparison of the Arrowhead Alternative with the Corresponding Segment of the Proposed Project			
Environmental Factor	Unit	Arrowhead Alternative	Corresponding Segment of the Proposed Project
Land Requirements			
Length of pipeline	Miles	2.1	0.6
Area disturbed during construction			
Pipeline right-of-way	Acres	20.6	4.4
Aboveground facilities	Acres	2.0	4.5 ^a
Temporary extra workspaces	Acres	1.7	0.1
Total	Acres	24.3	9.0
Area permanently retained			
Pipeline right-of-way	Acres	4.7	0.7
Aboveground facilities	Acres	1.5	4.5 ^a
Total	Acres	6.2	5.2
Biological resources			
Habitat types affected			
Creosote scrub	Acres	0.0	6.1
Agricultural	Acres	16.1	0.0
Urban (transportation)	Acres	8.2	2.9
Cultural resources			
Number of sites in area of potential effect	Number	6	0
Number of sites likely to be potentially eligible for listing on the National Register of Historic Places	Number	0 ^b	0
Land use and other resources			
Within existing rights-of-way	Miles	1.0	0.3
Within new right-of-way	Miles	1.1	0.3
Active agricultural land	Acres	16.1	0.0
Homes and businesses within 100 feet of construction work area	Number	0	2
Residential structures within potential impact radius	Number	7	36
Drains and canals crossed	Number	3 ^c	0
Other Factors Associated with Aboveground facilities			
New odorant facility	Yes/No	No	Yes
Converted to utility use	Acres	0.8	4.5
Distance from meter station to nearest residences	Feet	1,200	1,000
Distance to proposed residential development	Feet	0 ^d	300
Zoned agricultural	Acres	0.0	0.0
Zoned rural residential	Acres	0.8	4.3
^a Includes 4.3 acres for the Blythe Meter Station and 0.2 acre for the expansion of the site at the existing Ogilby Meter Station needed to install the odorant facility.			
^b Without testing complete.			
^c The C-05 Canal and two unnamed canals would be crossed. The C-05 Canal would be bored; the two unnamed canals would be open cut.			
^d There are no known proposed residential developments.			

Based on North Baja's cultural resources surveys, there are six cultural resources along the Arrowhead Alternative compared to no cultural resources in the area of potential effect for the corresponding segment of the proposed Project. The six cultural resources along the Arrowhead Alternative have not been evaluated to determine eligibility for listing on the NRHP; however, North Baja would avoid impacts on these six cultural resources. Neither the Arrowhead Alternative nor the corresponding segment of the proposed Project would affect wetlands, riparian resources, or native habitats. Impacts on special status species would be similar.

Additional analysis of the Arrowhead Alternative was included in the applicable resource discussions in Section 4 of the draft EIS/EIR that was issued on September 27, 2006.

On November 21, 2006, North Baja filed an amendment to its February 7, 2006 application. The amendment requested authorization to adopt the Arrowhead Alternative as part of the proposed Project. North Baja's application for an amendment stated that SoCalGas has indicated that the alternative would serve its operational needs better than the originally proposed delivery point at Riviera Drive near the Colorado River. At the December 6, 2006 public meeting held in Blythe, California to receive comments on the draft EIS/EIR, comments were received from the developer of a planned residential community (Edgewater Lane Planned Residential Community) that consists of 45 home sites along Riviera Drive that has already been approved by the Blythe Planning Commission and City Council. The developer commented that the Blythe Meter Station would impact the residential community, and he expressed a preference for the Arrowhead Alternative, which would site the meter station within the yard of SoCalGas' existing Blythe Compressor Station. Furthermore, locating the meter station within an existing compressor station yard would reduce its visual impact.

Other advantages of the Arrowhead Alternative include the elimination of 0.6 mile of pipeline lateral and the odorant facility at the Ogilby Meter Station. In addition, there would be 29 fewer residences within the PIR of the Arrowhead Alternative, compared to the corresponding segment of the originally proposed Project. Although adoption of the Arrowhead Alternative would result in a net gain in the amount of facilities that would be constructed, based on the detailed analysis in the draft EIS/EIR, the Arrowhead Alternative would create no significant impacts. Because of the advantages of the Arrowhead Alternative, further consideration of the corresponding segment of the originally proposed Project was eliminated and the Arrowhead Alternative has been incorporated into the analysis of the proposed Project in this final EIS.³

3.2.6 Aboveground Facility Site Alternatives

As described in Section 2.1.2, the proposed Project would require new and modified aboveground facilities. The B-Line would require modifications at North Baja's existing Ehrenberg Compressor Station and an expansion of its existing Ogilby Meter Station to allow northbound flow of gas. Additionally, metering modifications inside the existing El Paso Meter Station at the Ehrenberg Compressor Station site would be necessary to allow LNG-source gas to be delivered into the El Paso system. North Baja would also construct two pig launchers, three pig receivers, and nine valves along the B-Line. The Arrowhead Extension would require the construction of one pig launcher, two taps, and crossover piping at the tie-in with the A-Line and B-Line; one meter station; and one pig receiver. The IID Lateral would require the construction of one tap and pig launcher at the tie-in with the B-Line, one meter station, one pig receiver, and four valves.

All of the proposed new and modified facilities are necessary to meet the purpose and need of the North Baja Pipeline Expansion Project. If the modifications at the existing Ehrenberg Compressor Station and El Paso and Ogilby Meter Stations are not made, the facilities would not be able to accommodate northbound flow of gas or deliver LNG-source gas to El Paso. Construction of these facilities other than at the existing facilities would require disturbance of previously undisturbed land and construction of additional pipeline facilities to connect them to the proposed pipeline. The alternative of creating new industrial sites would not be environmentally preferable to the proposed Project and thus was eliminated from further consideration.

³ North Baja's November 21, 2006 filing requesting authorization to adopt the Arrowhead Alternative made minor revisions to the acreage affected by temporary extra workspaces and aboveground facility sites associated with the alternative, which have been incorporated into the analysis in this final EIS. In addition, on February 1, 2007, North Baja filed an amendment to its application filed on February 7, 2006, as amended on November 21, 2006, eliminating the BEI Lateral that would supply natural gas to the Blythe Energy Facility I supply pipeline. Therefore, the BEI piping and tap originally referred to as part of the Arrowhead Alternative have been eliminated from analysis in this final EIS.

The Blythe-Arrowhead Meter Station would be constructed and operated at the terminus of the Arrowhead Extension within the yard of SoCalGas' existing Blythe Compressor Station. This facility is needed to measure gas volumes delivered from the North Baja system into the SoCalGas system. In the draft EIS/EIR, the originally proposed Blythe Meter Station, which would be on a 4.3-acre site along Riviera Drive in Blythe at MP 0.5, was analyzed. As discussed in Section 3.2.5, the Arrowhead Alternative, which includes the Blythe-Arrowhead Meter Station, is considered to be environmentally preferable and the Blythe Meter Station was eliminated from further consideration.

The taps and crossover piping needed to connect the Arrowhead Extension with the existing A-Line and proposed B-Line as well as the associated pig launcher would be located in a fenced yard in the northeast corner of the intersection of 18th Avenue and Arrowhead Boulevard. Because the location of these facilities is dictated by the location of the existing and proposed pipelines, and no significant impacts were identified at the site of these facilities, an alternative location for the taps, crossover piping, and pig launcher associated with the Arrowhead Alternative was not evaluated.

The adoption of the Arrowhead Alternative would eliminate the need for North Baja to install an odorant facility at the Ogilby Meter Station because the gas would be odorized by SoCalGas at its existing odorant facilities within the Blythe Compressor Station. As discussed in the draft EIS/EIR, construction of the odorant facility at the Ogilby Meter Station would require an approximate 0.2-acre expansion of the Ogilby Meter Station yard and approximately 400 feet of a new permanent 22-foot-wide access road to allow odorant supply trucks ingress and egress to the yard. As discussed in Section 3.2.5, the Arrowhead Alternative is considered to be environmentally preferable and the odorant facility at the Ogilby Meter Station was eliminated further consideration.

Five of the nine valves along the B-Line would be collocated with existing valves at the existing aboveground facility sites; the remaining four valves would be collocated with the four existing valves along the A-Line. One of the valves associated with the IID Lateral would be collocated with the tap and pig launcher at the tie-in to the B-Line and the remaining three valves would be located along the pipeline route. The locations of these valves are dictated, in a general sense, by the class location of the area through which the pipeline passes, as required in Title 49 CFR Part 192. Although the specific location of a valve could be adjusted slightly, the valves cannot be eliminated or moved significantly. None of the proposed valve sites would be located in prime farmland or would affect wetlands, unique vegetation communities, critical wildlife habitat, or cultural resources. The alternative of relocating the valves to other sites would create new disturbance without providing any apparent environmental advantages and, therefore, was eliminated from further consideration.

Pig launchers and receivers would be collocated with other aboveground facilities; therefore, the alternative of relocating these facilities would create new disturbance without providing any apparent environmental advantages. For this reason, this alternative was eliminated from further consideration.

During the scoping process, comments were received from the ICAPCD and the Imperial County Board of Supervisors that the compressor station associated with the upstream facilities in Mexico should be located in the United States so that emissions can be mitigated appropriately. As discussed in Section 1.4, the upstream facilities are subject to the sovereign jurisdiction of another nation and there is no jurisdictional basis for the FERC, the CSLC, the BLM, or the BOR to approve, mitigate, or reject such facilities.

A scoping comment was also received suggesting that the impacts associated with the IID Lateral could be avoided by siting the IID El Centro Generating Station on the old Brock Research facility property in Imperial County. As discussed in Sections 1.1 and 2.1, the El Centro Generating Station is an existing facility that would be the delivery point for the IID Lateral.

4.0 ENVIRONMENTAL ANALYSIS

This section describes the affected environment as it currently exists (baseline conditions) and discusses the environmental consequences of the proposed Project. This section also discusses the environmental consequences of amending the BLM's CDCA Plan to allow for an exemption to the Energy Production and Utility Corridors Element of the plan as well as the environmental consequences of amending the Yuma District Plan to allow North Baja to cross the Milpitas Wash SMA. The discussion is organized by the following major resource topics: geology; soils; water resources; wetlands; vegetation; wildlife and aquatic resources; special status species; land use, special management areas, recreation and public interest areas, and aesthetic resources; socioeconomics; transportation and traffic; cultural resources; air quality; noise; reliability and safety; cumulative impacts; growth-inducing impacts; and environmental justice. The No Project Alternative has also been analyzed in this section for each of these major resource topics.

In accordance with BLM Manual guidance (H-1790-1), the major resource sections address the following "critical elements of the human environment:" air quality; ACECs; cultural resources; Native American religious concerns; prime or unique farmlands; floodplains; rangeland health; threatened and endangered species; hazardous or solid wastes; drinking and groundwater quality; wetlands and riparian zones; Wild and Scenic Rivers; Wilderness Areas; socioeconomics; environmental justice; health and safety risks to children; and invasive, non-native species. These critical elements are based on requirements specified in statute, regulation, or executive order.

The environmental consequences of constructing and operating the North Baja Pipeline Expansion Project would vary in duration and significance. Four levels of impact duration were considered: temporary, short term, long term, and permanent. Temporary impact generally occurs during construction with the resource returning to preconstruction condition almost immediately afterward. Short-term impact could continue for up to 3 years following construction. Impact was considered long term if the resource would require more than 3 years to recover. A permanent impact could occur as a result of any activity that modifies a resource to the extent that it would not return to preconstruction conditions during the life of the Project.

The specific criteria used to determine the significance of an impact are presented at the beginning of each major resource section. Unless otherwise noted, all identified impacts are considered to be potentially significant adverse impacts before applying North Baja's proposed mitigation. If any impacts remain significant (i.e., continue to exceed the significance criteria) after North Baja implements its proposed mitigation measures, the FERC and CSLC staffs developed additional mitigation in an effort to reduce any significant impact to a less than significant level. In some cases, although an impact would not be considered significant, the FERC and CSLC staffs developed additional mitigation in an effort to further reduce impacts. These recommended mitigation measures appear offset with bold type in the text. The FERC and CSLC staffs will recommend to their respective Commissions that these additional mitigation measures be included as specific conditions to any approvals issued by the FERC and the CSLC, as appropriate, for the North Baja Pipeline Expansion Project.

The potential environmental impacts identified in this section and the mitigation measures proposed by North Baja and recommended by the FERC and CSLC staffs are summarized in tabular form in Section 5. The summary table classifies each impact as either Class I (significant adverse impact that remains significant after mitigation); Class II (significant adverse impact that can be eliminated or reduced below an issue's significance criteria); Class III (adverse impact that does not meet or exceed an issue's significance criteria); or Class IV (beneficial impact). This table forms the basis for the detailed MMP that would be implemented during construction and operation of the North Baja Pipeline Expansion Project (see Section 2.5).

| The conclusions in this EIS/EIR are based on the analysis of the environmental impacts and the following assumptions:

- North Baja would comply with all applicable laws and regulations;
- the proposed facilities would be constructed as described in Section 2 of this EIS/EIR; and
- North Baja would implement the mitigation measures included in its applications and supplemental submittals to the FERC and the CSLC.

4.1 GEOLOGY

4.1.1 Significance Criteria

An adverse impact on geologic, mineral, or paleontological resources would be considered significant and would require mitigation if:

- construction activities or the siting of facilities would worsen existing unfavorable geologic conditions;
- Project construction or operation would preclude or disrupt the development of mineral resources;
- geologic hazards could cause a rupture or failure of the pipeline or cause damage to related facilities that would present a significant threat to public safety; or
- Project construction would result in damage or loss of vertebrate or invertebrate fossils that are considered important by paleontologists and land management agency staff.

4.1.2 Geologic Setting

Pipeline Facilities

The proposed Project is located within the Colorado Desert geomorphic province, commonly referred to as the “low desert” in southern California. The Colorado Desert Province is bounded on the east by the Colorado River, on the south by the Mexican border, and on the west by the Transverse Ranges (Norris and Webb 1990). The northern border lies along the southern edge of the eastern Transverse Ranges, approximately at the San Bernardino-Riverside County line. The Colorado Desert Province is characterized by its arid climate, broad valleys, and low elevation, approximately 250 feet above mean sea level at the Riverside-Imperial County line (Norris and Webb 1990).

The northwesterly structural trends characteristic of most geologic provinces of California are evident in the Colorado Desert Province. The dominant feature of the area is the Salton Trough, located in the southeastern portion of the desert (California Division of Mines and Geology [CDMG] 1992a). The Salton Trough is a tensional feature that has been seismically active in recent time (less than 11,000 years ago), and is marked by several right-lateral strike-slip faults as illustrated on Figure 4.1.2-1. The Salton Trough is a rift valley that is a northwesterly extension of the Gulf of California, which is formed by the East Pacific Rise spreading center. Segments of this spreading center extend up the Gulf and are offset by a series of northwest-trending transform faults, the most northerly of which is the San Andreas. Geologic and geophysical evidence strongly suggests the presence of spreading centers beneath the alluvial blanket within the Salton Trough (CDMG 1977).

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| FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR
THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
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Figure 4.1.2-1 Principal Faults of the Colorado Desert Province and
Seismic Activity Near the Project Area

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Public access for this Non-Internet information is available only
through the Public Reference Room, or by e-mail at
public.referenceroom@ferc.gov.

A review of existing documents (U.S. Geological Survey [USGS] 1973), including North Baja's construction reports for the A-Line, indicates that bedrock would not likely be encountered along the B-Line and Arrowhead Extension routes except in the vicinity of MP 29.5 of the B-Line, where blasting is anticipated in exposed bedrock comprising intrusive volcanic material overlain by pyroclastic rocks. Other than this isolated area of exposed bedrock, the proposed B-Line route is typically underlain by Quaternary (1.6 million years ago to present) alluvium, colluvium, and terrace deposits, which consist of unconsolidated to poorly consolidated gravel, sand, and silt (CDMG 1977, 1999b). Further details are found in the Geologic Hazards Study (see Appendix J).

The eastern portion of the proposed IID Lateral in the vicinity of the Algodones Dunes is underlain by wind-blown/aeolian deposits consisting of unconsolidated to poorly consolidated sand and silt size material (CDMG 1977). The entire dune chain is migrating southeast in response to strong northwesterly winds that occur in the area, especially in the late winter and spring (Norris and Webb 1990). The East Mesa and Imperial Valley are underlain by Tertiary (66 to 1.6 million years ago) and Quaternary sedimentary rocks composed mainly of sandstones, clays, and lake deposits. Alluvial and terrace deposits form deep soils above these rock features (Morton 1977).

The geologic and physiographic conditions likely to be encountered during construction of the proposed Project are identified by milepost in Table 4.1.2-1.

Aboveground Facilities

All aboveground facilities associated with the B-Line and Arrowhead Extension would be in areas where the surficial geology comprises Quaternary unconsolidated alluvium, colluvium, and terrace deposits. The facilities associated with the IID Lateral would be underlain by similar materials, along with recent aeolian sand deposits of the Algodones Dunes.

Pipe Storage and Contractor Yards

The four proposed pipe storage and contractor yards would be on unconsolidated Quaternary alluvial and colluvial materials. Three of these yards were used during construction of the A-Line; the remaining yard located near MP 43.5 of the IID Lateral was used for similar purposes in the past.

Impact and Mitigation

Construction and operation of the proposed pipeline and aboveground facilities would not materially alter the geologic conditions of the Project area. Effects from construction could include disturbances to the natural topography along the right-of-way and at aboveground facilities due to grading and trenching activities. Along small portions of the right-of-way, natural topographic slope and contours would be temporarily altered by the small-scale grading of the construction right-of-way that is necessary to provide a level and safe work surface for equipment. After completion of construction, North Baja would restore topographic contours and drainage conditions as closely as feasible to their preconstruction condition.

TABLE 4.1.2-1

Geologic and Physiographic Conditions Crossed by the North Baja Pipeline Expansion Project Facilities

Mileposts	Geologic Formation or Stratigraphic Unit (Geologic Age)	Blasting Anticipated ^a	Topography and Elevation Range ^b
B-Line			
0.0 to 12.0	Younger alluvial, colluvial, and wash deposits (Quaternary) consisting of unconsolidated sand, gravel, and silt.	No	Broad flat urbanized area, elevation ranges from 250 to 340 feet above mean sea level (amsl).
12.0 to 26.2	Younger and older alluvial, colluvial, and wash deposits (Quaternary and Tertiary). The older deposits consist of poorly consolidated silts, sands, and gravels.	No	Generally flat terrain with some badlands, elevation ranges from 240 to 340 feet amsl.
26.2 to 26.7	Sedimentary clastic rocks (Tertiary) consisting of non-marine clastic rocks and volcanic conglomerates.	No	Uneven terrain along the base of the Palo Verde Mountains, elevation ranges from 230 to 250 feet amsl.
26.7 to 28.5	Alluvial, colluvial, and wash deposits (Quaternary) consisting of unconsolidated sand, gravel, and silt.	No	Uneven terrain along the base of the Palo Verde Mountains, elevation ranges from 230 to 300 feet amsl.
28.5 to 31.0	Alluvial, colluvial, and wash deposits (Quaternary) consisting of unconsolidated or moderately consolidated sand, gravel, and silt; near MP 29.0, intrusive volcanic bodies (Tertiary) composed of andesite, dacite, or latite porphyry, which may be overlain by pyroclastic rocks and flows of acidic to intermediate composition in isolated locations.	Yes	Uneven terrain along the base of the Palo Verde Mountains, elevation ranges from 230 to 300 feet amsl.
31.0 to 31.2	Alluvial, colluvial, and wash deposits (Quaternary) consisting of unconsolidated sand, gravel, and silt.	No	Uneven terrain along the base of the Palo Verde Mountains, elevation ranges from 235 to 300 feet amsl.
31.2 to 31.6	Bouse Formation consisting of sedimentary and Volcanic rocks (Tertiary). Sedimentary rocks consist of brackish water limestone, siltstone, and sandstone. A 1-foot-thick layer of volcanic tuff may be present at the surface, masking the underlying sedimentary rocks.	No	Uneven terrain along the base of the Palo Verde Mountains, elevation ranges from 250 to 300 feet amsl.
31.6 to 33.5	Sedimentary rocks that alternate between clastic rocks (Tertiary) and younger alluvial/colluvial deposits (Quaternary). Clastic rocks consist of non-marine clastic rocks and volcanic conglomerates. Alluvial and colluvial deposits consist of unconsolidated sand, gravel, and silt.	No	Uneven terrain with some badlands near the base of the Palo Verde Mountains, elevation ranges from 250 to 340 feet amsl.
33.5 to 36.2	Younger alluvial, colluvial, and wash deposits (Quaternary) consisting of unconsolidated sand, gravel, and silt.	No	Generally flat area crossing Milpitas Wash, elevation ranges from 360 to 400 feet amsl.
36.2 to 57.5	Younger and older alluvial deposits (Quaternary and Tertiary) consisting of unconsolidated clay, silt, sand, and gravels occurring primarily as valley fill and streamwash deposits.	No	Generally flat ascending terrain at the base of the Chocolate Mountains, elevation ranges between 400 to 1,230 feet amsl.
57.5 to 71.0	Older Alluvium (Tertiary) partly dissected largely unconsolidated poorly sorted silt, and gravel of alluvial fans, and desert pavement areas.	No	Generally flat descending terrain with some badlands, elevation ranges between 350 to 700 feet amsl.
71.0 to 79.8	Younger alluvial, colluvial, and wash deposits (Quaternary) consisting of unconsolidated sand, gravel, and silt.	No	Broad flat alluvial valley in the Salton Trough, sand dunes present from MPs 75.5 to 79.8, elevation ranges from 200 to 700 feet amsl.
Arrowhead Extension			
0.0 to 2.1	Younger alluvial, colluvial, and wash deposits (Quaternary) consisting of unconsolidated sand, gravel, and silt.	No	Broad flat urbanized area, elevation ranges from 250 to 340 feet amsl.
IID Lateral			
0.0 to 0.5	Younger alluvial, colluvial, and wash deposits (Quaternary) consisting of unconsolidated sand, gravel, and silt.	No	Broad flat alluvial valley, elevation ranges from 200 to 700 feet amsl.

TABLE 4.1.2-1 (cont'd)

Geologic and Physiographic Conditions Crossed by the North Baja Pipeline Expansion Project Facilities			
Mileposts	Geologic Formation or Stratigraphic Unit (Geologic Age)	Blasting Anticipated ^a	Topography and Elevation Range ^b
0.5 to 7.6	Extensive sand dune deposits (Quaternary) consisting of unconsolidated to poorly consolidated sand and silt.	No	Wind-blown sand dunes, elevation ranges from 50 to 300 feet amsl.
7.6 to 27.0	Younger alluvial, colluvial, and wash deposits (Quaternary) consisting of unconsolidated sand, gravel, and silt.	No	Broad flat alluvial valley, elevation ranges from 200 to 700 feet amsl.
27.0 to 45.7	Younger alluvial, colluvial, and wash deposits (Quaternary) consisting of unconsolidated sand, gravel, and silt.	No	Broad flat alluvial valley in the Salton Trough, elevation ranges from 0 to 50 feet amsl.

^a May change based on conditions encountered in the field.

^b Elevation range limited to specific area of proposed modifications.

Blasting is only anticipated to be necessary along the B-Line near MP 29.5 because that was the only area requiring blasting during construction of the A-Line. The area surrounding MP 29.5 is uninhabited desert, with no nearby residences or other development. However, cultural resources features are nearby. The blast would be limited to the trenchline and blasting mats would be employed to keep fly-rock from leaving the construction work area. All blasting activities would be conducted in strict compliance with North Baja's Blasting Specifications (see Appendix I). To avoid injury to personnel and damage to structures or other features like existing pipelines, North Baja's Blasting Specifications stipulates that the blasting contractor must prepare site-specific blasting plans and procedures for review and approval by North Baja. All blasting activities would be conducted under the supervision of a California Licensed Blasting Technician. Blasting procedures would be in accordance with Federal, State, and local regulations regarding use, storage, and transport of explosives; safety; and environmental protection. Blasting would not be required in other areas because most of the pipeline route is underlain by unconsolidated to poorly consolidated alluvial deposits or soft, weathered sedimentary clastic rocks.

Because three of the proposed pipe storage and contractor yards were previously disturbed during construction of the A-Line, and the remaining yard along the IID lateral was previously used for similar purposes, any improvements at these sites would be minimal. Activities at the yards would consist of minor grading and surfacing, and would not materially alter the existing geologic conditions of the Project area or subject the facilities to an increased threat from geologic hazards.

Construction of the pipeline and associated aboveground facilities would minimally disturb shallow geologic deposits; therefore, the potential for construction activities or the siting of facilities to worsen existing unfavorable geologic conditions would be less than significant.

4.1.3 Mineral Resources

Pipeline Facilities

The B-Line would cross within approximately 2 miles of known mineral resources such as gold, manganese, copper, and sand and gravel deposits (CDMG 1977). Mineral resources zones (MRZ), assigned by the CDMG classify the portion of the B-Line in Riverside County as MRZ-4, which is defined as having no known mineral occurrences. The CDMG has not classified MRZs within Imperial County (California Department of Conservation [CDC] 2004).

Gold deposits have been found in the southeastern area of Imperial County. The Potholes and Picacho Mining Districts are in the southeastern part of Imperial County, about 50 miles east of El Centro, California and 20 miles north of Yuma, Arizona. The CDC has identified Principal Mineral-Producing Localities (clay and gypsum) in southern Imperial County, although neither is in the immediate vicinity of the proposed Project (CDMG 1999).

The BOR operates a rock quarry between the Cibola NWR and SR 78. The A-Line was rerouted to avoid the quarry and lies 0.2 mile to the east outside of the formation that supplies quarry material. The B-Line would follow the same alignment. According to the BOR, the quarry is used intermittently to supply material for erosion control.

Other mineral resource/mining areas within the Project area include the Hodge Mine, the Mule Mountains Mining District, two California mineral estates, the Old Channel Mine shaft, the Mesquite Gold District, and the Cargo Muchacho Gold Mining District. The B-Line would cross the northwestern corner of the mineral estate located in Township 12S, Range 20E, Section 16, and west of the Old Channel Mine shaft near MP 49.7. Neither of these resources is active. The other mineral estate, located in Township 11S, Range 20E, Section 16, is 3,000 feet west of MP 42.5. Table 4.1.3-1 summarizes these mineral resources in relation to the B-Line.

TABLE 4.1.3-1		
Mineral Resources and Mining Areas in the Vicinity of the North Baja Pipeline Expansion Project		
Facility	Nearest B-Line Milepost ^a	Distance from Pipeline (miles)
Hodge Mine	7.0	1.6
Mule Mountains Mining District	21.0	5.8
Bureau of Reclamation Quarry	30.0	0.2
California Mineral Estate	42.5	0.6
California Mineral Estate	49.7	0.0
Old Channel Mine Shaft	49.7	0.3
Mesquite Gold District	53.0	4.4
Cargo Muchacho Gold Mining District	71.0	3.9
^a No mineral resources or mining areas were identified within the vicinity of the Arrowhead Extension or the IID Lateral.		

Aboveground Facilities

None of the aboveground facilities associated with the proposed Project would be within 1 mile of identified mineral or quarry resources.

Pipe Storage and Contractor Yards

None of the proposed pipe storage or contractor yards associated with the proposed Project would be within 1 mile of the identified active mineral resources.

Impact and Mitigation

Pipeline projects have the potential to affect the production of mineral resources by restricting mineral production activities in the immediate vicinity of the pipeline right-of-way or precluding future expansion. However, because the Project would not be near any active mines, impacts on mining activities are not expected. The Project would not affect the BOR's quarry integrity or operation, nor would quarry operations have negative effects on the pipeline, given the distance the pipeline is located from current and future quarry operations. The potential for the pipeline to be affected by the weight of loaded quarry trucks crossing the pipeline would be minimal because the trucks travel from the quarry west to SR 78 and do not cross the pipeline to the east. Additionally, the pipeline would be designed to accommodate the same loads that SR 78 is designed to accommodate according to CalTrans specifications. North Baja would notify the BOR before construction in the vicinity of the quarry. Because of the proximity of the BOR quarry to SR 78 and the presence of unsuitable material to the north and south of current quarrying activities, future expansion would not be affected by the pipeline. Moreover, because no additional active mines or quarries would be within 1,000 feet of the North Baja Pipeline Expansion Project, the potential for construction and operation of the Project to preclude or disrupt the development of mineral resources would be less than significant.

4.1.4 Geologic Hazards

Pipeline Facilities

Geologic hazards are natural physical conditions that may result in damage to the land and structures, or injury to people. Such hazards typically include seismicity (active faults, earthquakes, and soil liquefaction), landslides, subsidence, and karst terrain (sinkholes and other water-formed/solution features).

Active Faults – Several active faults or seismic zones lie within the Project area. The primary seismic hazard to the proposed pipeline facilities would be moderate ground shaking from earthquakes associated with the San Andreas Fault System. Major elements of the San Andreas Fault System in the vicinity of the Project include the San Jacinto and Imperial Fault Zones (USGS 2006). The Brawley Fault Zone lies between the Coachella section of the San Andreas Fault Zone and the Imperial Fault Zone, and transfers slip movements to the Imperial Fault Zones. According to the 1997 Uniform Building Code, the seismic hazard potential along the B-Line increases from north to south from a seismic zone rating of 3 from MP 0.0 to approximately MP 45.0, to a seismic zone rating of 4 throughout the Imperial Valley. The Arrowhead Extension, which connects with the B-Line at MP 7.4, has a seismic zone rating of 3. The IID Lateral has a seismic zone rating of 4 for its entire length (International Conference of Building Officials 1998). The increase in seismic hazard in the Imperial Valley is attributable to seismic activity in the Salton Trough. Consequently, the southern portion of the B-Line route would be in a region that is more seismically active than the northern portion.

Seismic events greater than or equal to a magnitude of 5.0 in the vicinity of the proposed pipeline routes that have been historically recorded are listed in Table 4.1.4-1 and shown on Figure 4.1.2-1. The largest recorded magnitude earthquake occurred in 1979, with a reported magnitude of 7.0. This earthquake occurred approximately 9.4 miles from MP 31.0 of the IID Lateral. As shown on Figure 4.1.2-1, seismic activity predominantly occurs along the Imperial and Brawley Fault Zones.

Regionally, seismicity has been attributed to active faulting along various fault zones and/or faults. Active faults in the vicinity of the proposed pipeline facilities include the southern portion of the San Andreas Fault Zone, the Brawley Fault Zone, and the Imperial Fault Zone. The B-Line, Arrowhead Extension, and associated aboveground facilities would not cross or be near any faults or Alquist-Priolo Earthquake Fault Zones (Hart 1997). However, the IID Lateral would cross the Imperial Fault and Imperial Fault Zone. The active faults near the IID Lateral are listed in Table 4.1.4-2; the fault locations are shown on Figure 4.1.2-1. The Geologic Hazards Study presents details of the probability of seismic activity for relevant faults and areas (see Appendix J).

The Imperial Fault is a right-lateral strike-slip fault that stretches roughly from north to south. The IID Lateral would cross this fault at approximately MP 40.0. This fault is very active, with several instances of surface rupture and trigger slips on record. The largest of the events to date include surface ruptures during a 6.4 magnitude event in 1979 and a 6.9 magnitude event in 1940. The 1940 event caused the All-American Canal to shift more than 14 lateral feet, while the 1979 event caused a lateral shift of 22 inches (Southern California Earthquake Data Center [SCEDC] 2005). Events similar to the 1979 event are likely to occur every 30 to 40 years. Events similar to the 1940 event have an average return interval of about 700 years. Surface rupture is common along this fault, even during smaller events (SCEDC 2005).

The Superstition Hills and Superstition Mountain sections of the San Jacinto Fault Zone lie northwest of the western end of the proposed IID Lateral. They represent the most seismically active faults in southern California, with significant earthquakes (greater than Magnitude 5.5) and a slip rate between 1.0 and 5.0 millimeters per year (USGS 2006).

TABLE 4.1.4-1

Earthquakes within 62 Miles of the North Baja Pipeline Expansion Project with Magnitudes Greater Than or Equal to 5.0

Source ^a	Shortest Distance from Pipeline (miles) ^{b, c}	Milepost	Year	Magnitude	Maximum Intensity ^d	Latitude	Longitude
B-Line and Arrowhead Extension							
EQH	18.6	0.0	1906	6.0	VIII	33.000	115.000
IID Lateral							
EQH	0.4	43.0	1915	6.25	VIII	32.800	115.500
SCEDC	1.8	27.0	1935	5.3		32.79	115.26
USGS	1.8	45.0	1979	5.5		32.93	115.54
DNA	1.9	43.0	1977	5.0		32.820	115.470
SCEDC	1.9	44.0	1940	5.15		32.83	115.5
SCEDC	1.9	44.0	1940	5.18		32.83	115.5
USGS	1.9	43.0	1977	5.0		32.82	115.47
USGS-C	1.9	43.0	1915	6.2		32.8	115.5
USGS-C	1.9	27.0	1935	5.0		32.9	115.22
SCEDC	2.1	13.0	1951	5.94		32.74	115.03
USGS-C	2.1	26.0	1935	5.0		32.9	115.2
CDMG	2.3	29.0	1917	5.5	VII	32.800	115.300
SCEDC	2.5	45.0	1953	5.5		32.77	115.54
USGS-C	2.5	27.0	1938	5.0		32.9	115.22
SCEDC	3.2	44.0	1940	6.9		32.85	115.5
USGS	3.2	45.0	1979	5.2		32.9	115.55
SCEDC	3.9	44.0	1940	5.41		32.86	115.5
USGS-C	3.9	29.0	1917	5.5		32.8	115.3
USN	4.6	35.0	1940	5.5	VII	32.700	115.400
SCEDC	5.0	45.0	1934	5.9		32.77	115.6
USGS	5.0	45.0	1979	5.1		32.91	115.53
SIG	5.4	39.0	1940	6.7		32.700	115.500
ROT	8.7	45.0	1953	5.7		32.833	115.667
USGS	9.4	31.0	1979	7.0		32.63	115.33
PAS	9.7	27.0	1935	5.0		32.900	115.217
PAS	9.7	27.0	1935	5.0		32.900	115.217
PAS	9.7	27.0	1938	5.0		32.900	115.217
PAS	10.8	30.0	1979	6.6		32.614	115.318
CDMG	12.2	45.0	1928	5.0		32.900	115.700
EQH	13.5	44.0	1930	5.0	VIII	33.000	115.500
USN	13.5	44.0	1955	5.4	VII	33.000	115.500
ROT	13.6	38.0	1961	5.1		32.567	115.450
DNA	14.3	45.0	1979	6.1		33.013	115.555
PAS	17.0	45.0	1951	5.6		32.983	115.733
CDMG	18.7	38.0	1918	5.0	VI	32.500	115.500
CDMG	18.7	38.0	1921	5.0	IV	32.500	115.500
DNA	18.7	38.0	1927	5.75		32.500	115.500
PDE	20.5	45.0	1979	5.0		33.100	115.550
PAS	22.0	45.0	1950	5.4		33.117	115.567
PAS	22.0	45.0	1950	5.5		33.117	115.567
PAS	22.3	45.0	1946	5.4		33.000	115.833
PAS	23.2	45.0	1971	5.1		33.034	115.821
PDE	23.2	45.0	1987	6.7		33.010	115.840
PDE	24.2	45.0	1987	6.5	VI	33.083	115.775

TABLE 4.1.4-1 (cont'd)

Earthquakes within 62 Miles of the North Baja Pipeline Expansion Project with Magnitudes Greater Than or Equal to 5.0

Source ^a	Shortest Distance from Pipeline (miles) ^{b, c}	Milepost	Year	Magnitude	Maximum Intensity ^d	Latitude	Longitude
PDE	24.6	21.0	1987	5.4	V	32.390	115.310
GS	24.8	17.0	1999	4.9		32.369	115.224
USN	27.3	44.0	1935	5.0	VI	33.200	115.500
SIG	28.2	11.0	1980	6.4	V	32.300	115.000
PDE	28.2	15.0	1978	5.0	VI	32.290	115.081
PDE	30.5	15.0	1999	5.2		32.269	115.138
USN	30.9	18.0	1954	5.1	VI	32.300	115.300
PAS	31.3	45.0	1942	5.5		33.233	115.717
USN	31.7	45.0	1957	5.0	VI	33.200	115.800

^a Sources were identified by a query search conducted by the National Geophysical Data Center, a division of the National Oceanic and Atmospheric Administration.

^b The approximate midpoint of the B-Line was used as the center of the radial search. The latitude and longitude coordinates for this location are north 33°07'30" and west 114°52'52", respectively.

^c "Shortest Distance from Pipeline" is equal to the shortest distance between the earthquake epicenter and the pipeline in miles.

^d "Maximum Intensity" indicates the maximum Modified Mercalli Intensity (MMI) value associated with the earthquake, which is another measurement of perceptible ground movement. MMI indicates the effects actually experienced by people in terms of 12 levels of intensity (USGS 1989). Intensity level V is "felt by nearly everyone; many awakened; some dishes windows broken; unstable objects overturned; pendulum clocks may stop." Intensity level VI is "felt by all, many frightened; some heavy furniture moved; a few instances of fallen plaster; damage slight." However, magnitude using the Richter scale was used whenever possible.

CDMG = California Division of Mines and Geology; DNA = Decade of North American Geology; EQH = Earthquake History of the United States, Gutenberg and Richter; GS = U.S. Geological Survey, Denver, Colorado; PAS = Pasadena, California; PDE = Preliminary Determination of Epicentres; ROT = Rothe, J.P.; SIG = Catalog of Significant Earthquakes; USN = U.S. Network Catalog; SCEDC = Southern California Earthquake Data Center (USGS and CalTech) www.data.scec.org; USGS = Earthquake Hazards Program, 1973-2005 Database Search (<http://neic.usgs.gov>); USGS-C = Earthquake Hazards Program, 1735-1974 CA Database Search (<http://neic.usgs.gov>)

TABLE 4.1.4-2

Active Faults in the Vicinity of the IID Lateral

Name and Geometry ^a	Distance from Pipeline (miles)	Milepost	Length (miles)	Slip Rate (in/yr)	Rank ^b	Mmax ^c	Maximum Fault Displacement (feet)	Peak Horizontal Acceleration (% gravity; g)	U.S. Department of Transportation Classification	R.I. ^d	Endpt. N ^e	Endpt. S ^f	Comment
Imperial Fault Zone (rl-ss)	0.0	40.0	38.5	0.31	M	7.0	15	0.84	A	79	-115.57; 32.91	-115.17; 32.47	Slip rate is based on study by Thomas and Rockwell (1996). Maximum magnitude based on M 6.9 event that occurred in 1940 (Ellsworth 1990).
Brawley Fault Zone (rl-ss)	10.8	44.0	26.0	0.39	P	6.4	0.6	0.55	B	24	-115.71; 33.35	-115.51; 32.96	Slip rate and fault length reported by the Working Group on California Earthquake Probabilities (WGCEP) (1995).
Superstition Hills Section of the San Jacinto Fault Zone (rl-ss)	9.0	45.0	13.5	0.06	P	6.6	2.1	0.71	A	250	-115.84; 33.01	-115.64; 32.89	Slip rate and fault length reported by WGCEP (1995). Maximum magnitude based on 1987 Superstition Hills Earthquake (Wells and Coppersmith 1994).
Superstition Mountain Section of the San Jacinto Fault Zone (rl-ss)	11.8	45.0	14.0	0.08	M	6.6	1.2	0.64	A	500	-115.92; 33.99	-115.70; 32.89	Slip rate based on Gurrola and Rockwell (1996). Maximum magnitude earthquake based on 1968 Borrego Mountain Earthquake (Wells and Coppersmith 1994).

^a (rl-ss) = right-lateral strike-slip.
^b M = moderately constrained slip rate; P = poorly constrained slip rate.
^c Maximum moment magnitude calculated from relationships (rupture area) derived by Wells and Coppersmith (1994).
^d R.I. = recurrence interval.
^e Endpt. N = North endpoint of the fault in latitude and longitude.
^f Endpt. S = South endpoint of the fault in latitude and longitude.

Source: Petersen et al. 1996. Probabilistic Seismic Hazard Assessment for the State of California.

The Brawley Fault Zone is a right-lateral strike-slip fault trending in a north-south direction. The IID Lateral would not cross this fault; the nearest distance to the fault in proximity to the lateral would be 10.8 miles at MP 44.0. This fault complex appears to be connected with the Imperial Fault Zone, and ruptures seem to have occurred synchronously between the two systems during previous earthquakes. The area is characterized by high heat flow due to the local thinness of the crust. Because of the high heat flow and the rapid rate of slip, faults in the area are probably prone to aseismic creep, which is relatively slow movement along a fault that does not trigger seismic events greater than micro-earthquakes.

Because of the complexity of the fault system at work, this area is also prone to earthquake swarms, such as those that coincided with the ground movement in 1975, breaking the surface trace for a distance of 6 miles with a vertical displacement of almost 8 inches (SCEDC 2005).

Earthquakes – The pipeline facilities would be located in a seismically active region. The potential for strong ground accelerations in the immediate vicinity of the proposed B-Line and Arrowhead Extension is generally low; however, the potential increases along the IID Lateral as it approaches El Centro. To quantify seismic hazards in any given region, the USGS developed maps of earthquake shaking hazards under the National Seismic Hazard Mapping Project (updated 1996). These maps are used to assess probabilistic seismicity and provide information used to create and update design provisions of building codes in the United States. These codes provide design standards for buildings, bridges, highways, and utilities such as natural gas pipelines. Values on these seismic hazard maps are expressed as a percentage of gravity (acceleration of a falling object due to gravity) - the higher the value, the greater the potential hazard.

As shown on Figure 4.1.4-1, there is only a 10 percent chance that the peak ground acceleration along the B-Line or Arrowhead Extension would exceed 10 to 20 percent of gravity in 50 years. The IID Lateral would cross through areas of 20 to 30 percent of gravity in the Algodones Dunes, with steep increases up to greater than 80 percent of gravity at the terminus of the pipeline in El Centro (see Figure 4.1.4-1) (CDMG 1996, USGS 1996).

Soil Liquefaction – Secondary seismic effects triggered by strong ground shaking are often more serious than the shaking itself. The most damaging secondary seismic effect is commonly soil liquefaction, a physical process in which saturated, non-cohesive soils temporarily lose their bearing strength when subjected to strong and prolonged shaking. As loose granular soils are shaken, they tend to contract, which may lead to positive pore pressures that can result in a loss of shear strength. Liquefaction typically occurs when the water table is less than 50 feet below ground surface and the soils are predominantly unconsolidated. Soils most prone to liquefaction are poorly graded, or in other words have a uniform grain size. Sand boils and fissures are a common sign of liquefaction. Sand boils and fissures form when saturated sediment below the surface is pushed to the surface by elevated pore water pressure. Soil liquefaction can also lead to other ground failures, including settlement and lateral spreading.

Within the Palo Verde Valley, which would include the B-Line between MPs 0.0 to 12.0 and the entire Arrowhead Extension, the depth to groundwater ranges between 9 and 23 feet below ground surface due to the proximity to the Colorado River. This area has been identified as having liquefaction hazard potential by Riverside County. Although groundwater is less than 50 feet from the surface in the vicinity of the Cibola NWR in Imperial County, seismicity is minimal. Where the proposed pipeline route crosses the Milpitas Wash at MP 36.0, two nearby monitoring wells indicate the depth to groundwater is between 43 and 50 feet. Further south (at about MP 79.0 of the B-Line), the depth to groundwater typically exceeds 50 feet. In the vicinity of the All-American Canal (MP 79.8), the depth to groundwater has been recorded as shallow as 35 feet below ground surface.

Non-Internet Public

FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR
THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
Docket Nos. CP06-61-000 and CP01-23-003

Figure 4.1.4-1 Probabilistic Seismic Hazard Map

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To determine the potential for liquefaction hazards, North Baja conducted a Liquefaction Hazard Evaluation and Mitigation Study before construction of the A-Line. The report provides the results of geotechnical exploration at the Ehrenberg Compressor Station site and along 18th Avenue; analysis of soil borings that were previously placed at the Colorado River and the All-American Canal; identification of seismic sources, Maximum Magnitude Earthquake values, and site acceleration; Uniform Building Code seismic coefficients based on design basis earthquake(s) for the study area; the probability of soil liquefaction; and an estimate of permanent ground subsidence induced from liquefaction. The results are discussed below. In addition, the Geologic Hazards Study (see Appendix J) includes a seismic hazards study and a study of liquefaction potential that were conducted for the proposed Project including the IID Lateral. The liquefaction potential study concluded that in addition to the areas identified along the B-Line, there are areas of locally high liquefaction potential along the IID Lateral. In particular, areas along the East Mesa (between MPs 8.0 and 27.0) and in the Imperial Valley (between MPs 27.0 and 45.7) would have a locally or generally high potential for liquefaction based on soil type and potential for ground shaking (see Appendix J). The liquefaction potential identified for the B-Line along the western portion of 18th Avenue would also be expected along the route of the Arrowhead Extension.

Along the route of the IID Lateral, one well has been identified where the groundwater level was within 50 feet of the surface. The well is located in the Algodones Dunes, near MP 9.0, where soils are primarily unconsolidated sand and silt. Although groundwater is not near the surface in the Imperial Valley, liquefaction and sand boils were observed during earthquakes of the late 1970s and early 1980s (Bennett et al. 1979, 1984).

Landslides – Landslides involve the downslope movement, under gravity, of masses of soil and rock material. Landslides can be triggered by ground shaking, such as earthquakes, or heavy precipitation events. Generally, landslides occur on slopes composed of sedimentary or unconsolidated materials. Sedimentary rocks are particularly susceptible to landslides because they commonly contain relatively less competent beds of clays and other fine-grained rocks interbedded with more competent beds of sand and gravel.

Slumping is another slope instability hazard that involves the downward and outward sliding of a large mass of more consolidated material along a curved, usually concave upward, shearing plane. The slump block, or the main block that has broken off, often breaks into smaller mini-slump blocks as it slides downslope. Landslide hazards, like earthquake hazards, are more concentrated in California. No significant landslides were observed during a site reconnaissance North Baja conducted to evaluate geologic hazards along the pipeline route. According to information obtained using the USGS hazard mapping and analysis tools, the B-line, Arrowhead Extension, and IID Lateral routes generally do not cross steep terrain prone to landslides or slumping (USGS 1996). With the exception of the edge of the Palo Verde Mesa (MPs 11.6 to 11.8) discussed below, the slopes that would be crossed do not exceed 25 percent gradient and have negligible potential for slope instability.

The banks of the Colorado River at the B-Line crossing location may be susceptible to failure during an earthquake or flooding. The B-Line would cross numerous drainages containing alluvial material. These drainages are subject to debris flow and flash flood occurrence during sporadic heavy rainfall for the region. The Palo Verde Peak area contains moderate to steep slopes that contain blocky, volcanic rock outcrops and boulders on the surface. These outcrops are a potential source of falling and rolling boulders. Rock falls are most likely to occur during strong earthquakes or large storms that may loosen boulders on the surface. However, the proposed pipeline does not appear to be at risk from rock falls because the route does not traverse sloping terrain exceeding 25 percent gradient, nor is the route immediately at the foot of steep slopes.

From MPs 11.6 to 11.8, the B-Line would cross the terrace edge of the Palo Verde Mesa. The terrace slope is generally at a 25 percent gradient, but slopes of 30 to 35 percent gradient are locally present along the edge of the mesa. This terrace slope is susceptible to water erosion if significant runoff occurs down the slope. The base of the terrace is densely vegetated. The terrace slope to the south appears to have been eroded by several small washes that formerly drained a larger drainage basin to the west. The drainage is now generally directed to a gulley cutting through the lower terrace about 4,000 feet to the south of MP 11.7. There are several sand dunes at the base of the mesa to the south, giving the appearance of a hummocky topography. The IID Lateral would cross the Salton Trough, where topographic relief is generally low. Because the majority of the terrain that would be crossed by the Project is relatively flat, significant landslides or associated hazards are not anticipated.

Subsidence – Subsidence, the loss of surface elevation due to removal of subsurface support, is one of the most diverse forms of ground failure ranging from small or local collapses to broad regional lowering of the earth's surface. Excessive groundwater withdrawal can lead to subsidence. Within the agricultural areas of the Palo Verde and Imperial Valleys, canal water (and not groundwater) is the primary source of irrigation water. Therefore, the potential for future subsidence associated with groundwater withdrawal would be minimal. Additionally, because of the relationship to water table decline, this type of subsidence is generally a slow process occurring over broad areas and would not be likely to damage the pipeline.

Karst Terrain – Features such as sinkholes, fissures, caves, and underground drainage that form by dissolution of limestone, dolomite, gypsum, or other soluble rocks are considered karst terrain. These features can be hazardous due to associated ground failures. The geologic conditions required for karst development generally are not present within the areas that would be crossed by the Project. One segment of the B-Line that would cross the southern portion of the Palo Verde Mountains (MPs 31.2 to 31.6) would likely encounter rock types from the upper section of the Bouse Formation. The Bouse Formation is identified as containing a basal limestone unit that is overlain by several hundred feet of thinly interbedded clay, silt, and sand. However, the presence of karst features in this area is not likely, and associated hazards are not anticipated. There are no karst features in the vicinity of the Arrowhead Extension or the IID Lateral.

Active Sand Dunes – While not considered a geologic hazard, active sand dunes can either expose or bury pipelines as the dunes laterally migrate. The Algodones Sand Dunes would be crossed by the IID Lateral between MPs 0.0 and 7.9. The dunes were formed from lake bottom deposits from Lake Cahuilla and are an active feature that moves at a rate of approximately 6 to 25 centimeters per year (BLM 2003). Winter winds are from the northwest, but often reverse to the southeast in summer. The stronger winter winds are slowly pushing the dune system southeastward.

Aboveground Facilities

Unlike buried pipelines, aboveground structures are more likely to be damaged by ground shaking rather than surface displacement. Results from the Liquefaction Hazard Evaluation and Mitigation Study North Baja performed in 2001 for the A-Line indicate that a major earthquake of magnitude 7 or greater originating on the San Andreas or Imperial Faults would create a high probability for soil liquefaction at the Ehrenberg Compressor Station site. However, underlying ground improvements were implemented at the site by densification of liquefiable soil using compaction grouting or stone columns.

The only aboveground facility in the sand dunes area would be a valve located along the IID Lateral at MP 7.6 between the All-American Canal and Interstate 8 in an area of relatively stable sands and away from actively moving dunes.

The Imperial Fault Zone is the nearest fault zone to any valve and is approximately 11 miles from valve #3 on the IID Lateral. Table 4.1.4-3 summarizes the fault zones in relation to the nearest proposed valve locations, identifies the nearest upstream and downstream valves, lists the distance to the nearest home or business and town or city, and provides the estimated response time for valve closure.

The estimated response time for valve closure is complicated by the fact that the IID Lateral is a single-purpose pipeline that would serve only the El Centro Generating Station. When the IID chooses to use the gas transported by the IID Lateral, it would make a sudden large demand on gas volume, which would temporarily substantially drop the gas pressure in the pipeline. Like the existing North Baja system, a precipitous pressure drop would trigger an alarm at North Baja's Gas Control Center, which is staffed 24 hours a day. The operator would have 10 minutes in which to determine whether the pressure drop is caused by something other than a rupture and either override the alarm or initiate a shutdown. If neither of these actions is taken by the operator within 10 minutes, or if line pressure decreases to a pre-determined threshold before 10 minutes, the valve would close automatically.

Pipe Storage and Contractor Yards

The yards proposed for pipe storage and contractor use would be in relatively flat areas. With the possible exception of minor grading and surface disturbance, the topography and soils at these sites would not be disturbed. In addition, these facilities would be temporary and operated only as long as needed for construction. Therefore, no significant impact on geologic resources associated with the use of pipe storage and contractor yards would be anticipated. Furthermore, none of the activities at these facilities would be likely to trigger geologic hazards.

Impact and Mitigation

Seismicity includes active faults, ground shaking, and soil liquefaction, and is the primary geologic hazard that could affect the proposed Project facilities. Seismic events in the vicinity of the Project are centered on fault activity in the Salton Trough. Several faults and fault zones are proximal to the proposed IID Lateral, the most significant of which is the Imperial Fault Zone (CDMG 1992b), which would be crossed at approximately MP 40.0.

In addition to surface displacement, ground shaking and resulting soil liquefaction can also occur with fault activity and could be a potential hazard to the pipeline facilities. Several faults in the vicinity of the Project area have the potential for generating earthquakes that could cause strong ground motions. A major earthquake of magnitude 7.0 or greater originating on the San Andreas or Imperial Faults could affect the Project area within the design life of the proposed facilities. Damage to buried pipelines is most often caused by the differential movements of geologic material as opposed to shaking itself.

Results from the Liquefaction Hazard Evaluation and Mitigation Study North Baja performed for the A-Line indicate that a major earthquake of magnitude 7.0 or greater originating on the San Andreas or Imperial Faults would create a high probability for soil liquefaction at the Arizona side of the Colorado River crossing and on the western portion of the 18th Avenue alignment. The liquefaction potential identified for the B-Line along the western portion of 18th Avenue would also be expected along the route of the Arrowhead Extension.

Permanent ground subsidence induced from liquefaction was estimated to be 0 to 4.8 inches, and surface ground disruption, cracking, or sand boil formation is not likely to occur. The potential for lateral spreading is low, except for the Arizona side of the Colorado River, where about 1 inch of permanent lateral displacement could occur in addition to vertical ground subsidence.

TABLE 4.1.4-3

Earthquake Fault Zones in Relation to the Nearest Proposed IID Lateral Valve Locations

Name	Milepost	Distance from Pipeline (miles)	Nearest Upstream Valve	Nearest Downstream Valve	Distance Between Valves (miles) ^a	Distance to Nearest Home or Business (feet)	Distance to Nearest Town/City (miles)	Town/City	2004 Population	Estimated Response Time for Valve Closure (minutes)
Superstition Hills Section of the San Jacinto Fault Zone	11.7	13.5	Valve #3	Valve #4	11.5	2,000	3.8	El Centro	38,350	10
Superstition Mountain Section of the San Jacinto Fault Zone	11.7	16.4	Valve #3	Valve #4	11.5	2,000	9.5	Brawley	22,255	10
Brawley Fault Zone	11.7	13.6	Valve #3	Valve #4	11.5	0	0	Brawley	22,255	10
Imperial Fault Zone	11.7	11.3	Valve #3	Valve #4	11.5	50	2.3	El Centro	38,350	10

^a Distances are measured between the upstream and downstream valves except for valves near the end of the pipeline, where distances are between the valve nearest the fault and the nearest upstream or downstream valve.

To mitigate the potential for liquefaction, North Baja incorporated the recommendations of the Liquefaction Hazard Evaluation and Mitigation Study conducted for the A-Line into the design for the proposed Project. At the Colorado River, liquefiable soils would be avoided by use of the HDD crossing method. As discussed above, the liquefaction study included as part of the Geologic Hazards Study conducted for the proposed Project concluded that in addition to the areas identified along the B-Line, there are areas of locally high liquefaction potential along the IID Lateral (see Appendix J). In particular, areas along the East Mesa (between MPs 8.0 and 27.0) and in the Imperial Valley (between MPs 27.0 and 45.7) would have a locally or generally high potential for liquefaction based on soil type and potential for ground shaking (see Appendix J). Lateral spreading near the Alamo River and at canal banks may exceed the 0 to 6 inches estimated for other areas. As recommended in the study, North Baja would design and construct the IID Lateral to be earthquake resistant using the estimated Peak Ground Velocity and Permanent Ground Displacement values given in Appendix J.

To further mitigate and reduce potential damage to the proposed facilities from earthquakes, North Baja's facility design would comply with Federal standards outlined in Title 49 CFR Part 192. This code governs the construction and operation of natural gas pipelines, greatly reducing the potential risk of damage. The pipelines and associated facilities would be designed using the *Guidelines for the Design of Buried Steel Pipe* (American Lifelines Alliance 2001), *Guidelines for the Seismic Design and Assessment of Natural Gas and Liquid Hydrocarbon Pipelines* (Pipeline Research Council International, Inc. 2004), applicable building codes, and/or other similar recognized seismological engineering standards. The engineering design drawings for the entire Project in California would be certified by a California-registered civil/structural engineer, and would comply with the latest edition of the California Building Code.

Empirical reviews of historical earthquakes demonstrate that pipelines are not prone to failure due to earthquakes. A 1996 study of earthquake performance data for steel transmission lines and distribution supply lines operated by SoCalGas over a 61-year period found that post-1945 arc-welded transmission pipelines in good repair have never experienced a break or leak during a southern California earthquake. These pipelines are the most resistant type of piping, vulnerable only to very large and abrupt ground displacement (e.g., severe landslides), and are generally highly resistant to traveling ground wave effects and moderate amounts of permanent deformation (O'Rourke and Palmer 1996).

North Baja has committed to perform a site-specific seismic evaluation as part of its detailed design phase for the Project. This evaluation would determine the engineering/design solutions that are appropriate to mitigate against the hazard of seismic displacements along the Imperial Fault. The seismic evaluation would determine recommended design fault displacements for the pipeline design specifications. North Baja would develop a computer model to determine the soil-pipe interaction with the proposed applied displacement. The model would evaluate various combinations of pipe wall thickness and pipe grade to determine which pattern yields the best performance under displacement conditions. The design may also incorporate additional mitigation methods if necessary. Examples of additional design features that have been employed on pipelines in earthquake-prone regions include:

- trapezoidal trench design using loose granular backfill (most common);
- trapezoidal trench design using geofoam as backfill;
- installation of the pipe within a culvert;
- increasing the wall thickness or pipe grade;
- specialty in-line fittings to accommodate pipe movement;

- installation of the pipe above ground on elevated supports or pipe hangers;
- modification of the pipeline configuration;
- installation of isolation/automatic shutdown valves on either side of the fault crossing; and
- modification of emergency response procedures.

North Baja would provide a copy of the final design for the Imperial Fault crossing, as well as any related geotechnical information, to the CSLC and the FERC before construction of the IID Lateral. The final design would also address any measures necessary to mitigate for liquefaction hazards.

The strength and ductility of the pipeline facilities would further reduce the potential impacts associated with displacement caused by surface faulting, liquefaction, and mass wasting. In the unlikely event of a pipeline rupture caused by a seismic event (or any other cause), North Baja would implement its emergency response procedures, as described in Section 4.14.2. All facilities would be designed with remote manual pipeline block valves with automatic shutdown capability that are programmed to sense pipeline ruptures and to isolate a specific pipeline valve section in the case of a catastrophic rupture in that valve section. As shown in Table 4.1.4-3, the estimated response time for valve closure is 10 minutes. In the event of an emergency, North Baja currently has a procedure in place to utilize the Spokane, Washington operations center as an emergency call center. However, the call center in Spokane is currently in the process of being changed to Redmond, Oregon. By the time the proposed Project would be in operation, the Redmond center would likely be operational. There would also be a corporate call center in Calgary, Alberta, Canada. The purpose of the call centers in the first few minutes following a rupture is to mobilize company resources to secure the incident site and notify local first responders of the incident. The incident site is surrendered to local first responders upon their arrival. Procedures are also in place to notify Semptra of any incident occurring on the North Baja facilities so that it can respond appropriately with regard to its facilities and jurisdictions in Mexico. Further discussion of North Baja's proposed operation, maintenance, and safety controls is presented in Sections 2.6 and 4.14.

Because North Baja would design and construct the pipelines and associated facilities in accordance with the guidelines, Federal standards, and building codes described above, and the empirical studies as cited above indicate that the ductility of pipelines makes them highly resistant to rupturing as a result of earthquakes or moderate displacement, the potential for seismic-related events to cause a rupture or failure of the pipeline or cause damage to related facilities would not present a significant threat to public safety except in the case of the most severe earthquake displacement across the pipeline route. In case of severe earthquake displacement across the pipeline route, the threat to public safety would be minimized through the use of remote manual block valves with automatic shutdown capability that would isolate the rupture, and automated detection and notification of first responders of the incident; therefore, the potential for a seismic event to cause a rupture or failure of the pipeline or cause damage to related facilities that would present a significant threat to public safety would be less than significant.

As previously discussed, a review of USGS documents indicates that the majority of the Project does not cross landslide-prone areas. The B-Line would parallel the A-Line, which was rerouted to avoid the Palo Verde Mountain foothills, eliminating a landslide hazard identified at that location. With the exception of the Palo Verde Mesa that would be crossed by the B-Line between MPs 11.6 and 11.8, neither the B-Line, the Arrowhead Extension, nor the IID Lateral cross steep terrain that was identified as having a high potential for landslides or slumping.

In areas of steep terrain, the potential hazard can be reduced by creating a stable and/or level right-of-way work area during the grading operation and implementing restoration practices in the CM&R Plan (see Appendix E). To prevent a potential instability of the B-Line at the Palo Verde Mesa, the pipeline and the grade immediately to each side of the pipeline would be laid back to no more than 30 percent gradient for the estimated 60-foot-high lower terrace slope. North Baja anticipates minor cuts would be needed to accommodate this grade transition. In other areas of steep terrain, North Baja would:

- restore damaged slope breakers on the existing permanent easement where the B-Line parallels the existing A-Line;
- install slope breakers to control surface water on the new construction right-of-way;
- install trench breakers to control groundwater flow in the pipe trench;
- route discharge of surface water away from the slope breakers, and divert or collect surface water coming onto the construction right-of-way to pipes in an outflow below the slope;
- adhere strictly to erosion control and revegetation measures required by Federal, State, and local authorities;
- bury the pipeline in a deeper trench than normal or place armor above it in areas of potential debris flow hazards; and
- monitor geotechnical conditions for signs of mass wasting, and respond appropriately to any indications of instability.

If these measures are followed, the potential for impacts from slope stability hazards to cause a rupture or failure of the pipeline or cause damage to related facilities that would present a significant threat to public safety would be less than significant.

Although the banks of the Colorado River may be susceptible to failure during an earthquake or flooding, use of the HDD method to install the pipeline crossing would place the pipeline well below and away from the potential areas of bank instability. Therefore, mass wasting of the banks would not affect the pipeline.

The IID Lateral would cross the Algodones Sand Dunes. As previously discussed, active sand dunes can either expose or bury pipelines as the dunes laterally migrate. CalTrans has stabilized a segment of the dunes and actively manages the area to keep Interstate 8 open to vehicle traffic. The IID Lateral would be just south of the CalTrans-managed area and is, therefore, somewhat protected from sand dune migration. North Baja would bury the IID Lateral 6 feet deep between MPs 2.7 and 5.7, which includes the area most susceptible to blowing/shifting sands and pipeline exposure. If sand depth were to increase slightly over the pipeline, this would increase its protection from the elements and from vandalism. Therefore, the potential for sand dunes to cause a rupture or failure of the pipeline or cause damage to related facilities that would present a significant threat to public safety would be less than significant.

As discussed in Section 4.14, North Baja would prepare and implement an Operation and Maintenance Plan and an Emergency Response Plan in accordance with the requirements in Title 49 CFR Part 192. Implementation of North Baja's Operation and Maintenance Plan would further reduce the potential threat from the facilities to public safety during their operation.

4.1.5 Paleontological Resources

The significance of paleontological remains can be determined by the types of fossils, the geologic age of the remains, the assemblage association (the unique biological association or organisms), the lithology and age of the rock units, and feature rarity or uniqueness. A paleontological resource can be considered to have scientific or educational value if it:

- provides important information on the evolutionary trends among organisms, relating living inhabitants of the earth to extinct organisms;
- provides important information regarding development of biological communities or the interaction between botanical and zoological biota;
- demonstrates unusual or spectacular circumstances in the history of life;
- is in short supply and in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation and is not found in other geographic locations;
- is recognized as a natural aspect of our national heritage;
- lived before the Holocene (less than 11,000 years ago); and
- is not associated with an archaeological resource, as defined in Section 3(1) of the Archaeological Resources Protection Act of 1979 (16 USC § 470bb[1]).

A fossil specimen would be significant if it is: (1) identifiable; (2) complete; (3) well preserved; (4) age diagnostic; (5) useful in environmental reconstruction; (6) a type or topotypic specimen; (7) a rare taxon; or (8) part of a diverse assemblage.

Pipeline Facilities

Before construction of the A-Line, paleontological literature and museum archival reviews for previously recorded fossil sites in the vicinity of the A-Line were undertaken. All known geological and paleontological literature was reviewed for references to fossils. In addition, museum archival reviews were conducted at the University of California Museum of Paleontology (UCMP) at Berkeley, the San Diego Natural History Museum, and the San Bernardino County Museum. The UCMP at Berkeley is considered the primary repository for fossils in the State of California, and the UCMP collections are considered the most comprehensive of all California institution collections.

Detailed information on the stratigraphy of the area was obtained from numerous geological publications. The geology in the vicinity of the proposed right-of-way has been mapped or described extensively, including Brown (1923), Dibblee (1954), Strand (1962), Jennings (1967), Metzger et al. (1973), Loeltz et al. (1975), Morton (1977), and Stone (1990). Dibblee (1954), Metzger et al. (1973), and Morton (1977) provided the most comprehensive and detailed accounts.

A field survey was then undertaken by North Baja to supplement the literature and museum archival reviews. The objective of the field survey was to verify that sensitive rock units occurred at mapped points, to document the condition of recorded fossil sites, to identify potentially unrecorded fossil sites, and to determine if special mitigation measures need to be implemented.

With the exception of the Colorado River and All-American Canal crossings, the B-Line would be 25 feet from the A-Line for its entire length and cross the same rock types/formations that have the potential to contain significant paleontological resources. While most geologic formations have the potential to contain fossils, those containing vertebrate fossils are considered to be the most significant. Vertebrate fossils tend to be rare and fragmentary, and thus have greater scientific importance than the more common invertebrate and plant fossils.

The B-Line would cross stratigraphic units that could contain paleontological resources, including Holocene and Pleistocene alluvial sediments, Pliocene marine sediments of the Bouse Formation, Miocene fanglomerates, and Early Tertiary volcanic and volcanoclastic rocks. Rock formations older than the Early Tertiary volcanics typically consist of igneous and metamorphic type rocks not known to contain fossils. The Arrowhead Extension would extend from MP 7.4 of the B-Line north for 2.1 miles and cross the same stratigraphy as found in the first 11 miles of the A-Line.

The regional stratigraphy along the IID Lateral route can be summarized into four sedimentary units proceeding from east to west between MPs 0.0 and 45.7. The oldest of these, between MPs 0 and 2.0, consists of Pleistocene non-marine sedimentary deposits locally derived from the flanks of the Mesozoic crystalline (granitic) rocks of the Cargo Muchacho Mountains. Between MPs 2.0 and 7.6 west of these arkosic sediments, are aeolian (windblown) sands designated "Qs" on the State geologic maps. West of the dune fields between MPs 7.6 and 27.6 is a 20-mile-long stretch of alluvial deposits that include fluvial as well as some aeolian/fluvial deposits (dune sands redeposited by streams). This heterogeneous unit denoted as "Qal" or Quaternary alluvium is mapped as "Recent," but Pleistocene intervals are present at about 4 to 6 feet below the surface.

The most remarkable unit identified along the proposed IID Lateral is the lacustrine sands and silts of ancient Lake Cahuilla between MPs 27.6 and 45.7. In addition to these fine-grained arenites there are some intervals rich in clay and even occasional beach sands marking the gradual retreat of this large lake occupying the center of the Salton Trough. Mapped as "Pleistocene and Recent," Lake Cahuilla sediments date back as far as the Pliocene epoch up to 4 million years in the past in the deeper parts of the trough. A thick rich soil profile sits atop these predominantly fine-grained arenites and the entire interval is nearly completely unconsolidated.

Based on the literature and museum archival review, field survey, the paleontological sensitivity for the stratigraphic units crossed by the proposed pipeline facilities was determined. The potential for fossils to occur based on paleontological sensitivity along the B-Line, Arrowhead Extension, and IID Lateral is summarized by milepost in Table 4.1.5-1.

As shown in Table 4.1.5-1, Pleistocene older alluvium and the Pliocene Bouse Formation units both have a moderate potential to contain fossils. These units would be crossed only by the B-Line. The remaining stratigraphic units that would be crossed by the pipelines have a low potential for fossils.

The paleontological monitoring conducted by qualified personnel during the construction of the A-Line revealed a very limited presence of paleontological resources (see Table 4.1.5-2). Of the several areas identified during preconstruction analysis as moderate sensitivity along the A-Line, only about a 1-mile-long stretch from MPs 28.1 to 29.1 yielded a single significant paleontological find. Areas of older Pleistocene alluvium, and potentially of moderate sensitivity identified from MPs 11.5 to 22.3 yielded no paleontological materials. Other areas of older Pleistocene alluvium between MPs 35.0 and 75.2 yielded only occasional paleontological materials and no significant finds.

TABLE 4.1.5-1		
Paleontological Sensitivity of Stratigraphic Units Found Along the North Baja Pipeline Expansion Project		
Mileposts	Stratigraphic Unit	Potential for Fossils
B-Line		
0.0 – 11.5	Holocene alluvium	low
11.5 – 22.3	Pleistocene older alluvium	moderate
22.3 – 25.2	Holocene alluvium	low
25.2 – 25.8	Pleistocene older alluvium	moderate
25.8 – 26.0	Holocene alluvium	low
26.0 – 26.6	Miocene fanglomerate	low
26.6 – 27.0	Holocene alluvium	low
27.0 – 27.3	Miocene fanglomerate	low
27.3 – 27.6	Holocene alluvium	low
27.6 – 28.2	Pliocene Bouse Formation	moderate
28.2 – 28.5	Holocene alluvium	low
28.5 – 29.2	Pliocene Bouse Formation	moderate
29.2 – 29.9	Early Tertiary volcanic rocks	low
29.9 – 30.2	Pliocene Bouse Formation	moderate
30.2 – 31.2	Early Tertiary volcanic rocks	low
31.2 – 31.6	Pliocene Bouse Formation	moderate
31.6 – 32.6	Miocene fanglomerate	low
32.6 – 32.8	Holocene alluvium	low
32.8 – 35.8	Miocene fanglomerate	low
35.8 – 36.3	Holocene alluvium	low
36.3 – 75.2	Pleistocene older alluvium	moderate
75.2 – 79.8	Holocene alluvium	low
Arrowhead Extension		
0.0 – 2.1	Holocene alluvium	low
IID Lateral		
0.0 – 2.0	Pleistocene alluvium	low
2.0 – 7.6	Dune sands	low
7.6 – 27.6	Quaternary alluvium	low
27.6 – 45.7	Quaternary lacustrine sands	low

TABLE 4.1.5-2		
Paleontological Resources Discovered During Construction of the A-Line		
Mileposts	Results of Paleontological Monitoring	Significant Paleontological Find
25.7	Unidentified Holocene specimen (bone fragment)	No
27.2	Corals and calcareous algae in Bouse limestone	No
27.7-28.1	Turritelidae fossils, brachiopods, ostracods, foraminifera amphistegina, echinoids, and algae	No
27.7-28.8	Slabs of chert hosting marine invertebrates	No
27.9	Large fossil log in Bouse Formation limestone spoil pile	No
28.1	Slabs of Bouse Formation limestone hosting kummel form echinoids	No
28.1-28.2	Echinoid (sea urchin) fossils of probably Miocene age (14 to 15 million years before present)	Yes
28.1-28.2	Small echinoid crowns, barnacles plates, and shark teeth	No
28.6	Chert/limestone pebbles; crinoids, corals, bryozoans, and sand shark teeth	No
28.5-29.0	Brachiopod in Bouse Formation	No
29.1	Paleozoic brachiopod	No
33.1	Petrified wood specimen	No
33.2	Paleozoic fossiliferous crinoidal limestone	No
32.1-35.0	Limestone nodule with Paleozoic fossil corals	No
41.5	Two petrified wood specimens in Pleistocene older alluvium	No
45.2-45.8	Marine fossils in carbonate pod (coral, bryozoa, crinoid ossicles)	No

Aboveground Facilities

Construction of valve #5 at MP 28.0 on the proposed B-Line would have the potential to affect paleontological resources because it would occur in close proximity to where a significant paleontological find was discovered during construction of the A-Line. No other aboveground facility sites would be in areas anticipated to have significant paleontological resources.

Pipe Storage and Contractor Yards

The four pipe storage and contractor yards would not be located in areas anticipated to have significant paleontological resources.

Impact and Mitigation

Paleontological resources could be affected by construction of the pipeline and associated aboveground facilities as well as by the resulting increased public access to these resources. Without mitigation, ground disturbance during construction could cause adverse impacts on paleontological resources. The FLPMA of 1976 and NEPA mandate the protection of significant paleontological resources on federally owned or controlled lands. The CEQA also requires the protection of paleontological resources in California. Direct physical modifications of paleontological resources could occur during Project construction by activities such as grading or trenching. Indirect impacts on fossil beds could result from erosion caused by slope regrading, vegetation clearing, and unauthorized collection. Avoidance of significant fossil localities is the most effective mitigation method. If avoidance is not possible, scientific excavation to recover fossil materials would reduce the impacts to an acceptable level.

Based on the archival research and monitoring undertaken during the construction of the A-Line, monitoring of the B-Line construction by a paleontologist would be warranted between MPs 27.0 and 29.1, where the outer edge of the Bouse Formation would be crossed. This milepost range includes the location of valve #5. Because the stratigraphic unit that would be crossed by the Arrowhead Extension has a low potential to yield paleontological resources, construction impacts on paleontological resources would not be expected.

The four stratigraphic units that would be crossed by the IID Lateral (Pleistocene alluvial fan deposits, dune sands, Quaternary alluvium, and Quaternary lake deposits) have low potential to yield paleontological resources. Therefore, the construction of the IID Lateral is unlikely to impact such resources.

To address potential impacts on paleontological resources resulting from pipeline construction, North Baja developed a Paleontological Resource Mitigation and Monitoring Plan (PRMM Plan) for the North Baja Pipeline Expansion Project (see Appendix K). The PRMM Plan includes a summary of the literature and museum archival review, field survey results, and assessment of potential impacts on paleontological resources. The PRMM Plan also includes Project-wide and site-specific mitigation and monitoring measures and curation and reporting procedures that would be implemented during construction. Some pertinent measures contained in North Baja's PRMM Plan include:

- availability of a qualified Project paleontologist to be called to the Project area to respond to construction-related issues;
- training of construction personnel and EIs regarding the possibility that fossil resources may be encountered during construction;

- granting of authority for the EI to temporarily halt construction to allow for assessment by the Project paleontologist and implementation of mitigation procedures if warranted;
- salvage of significant fossils as determined necessary by the Project paleontologist; and
- protocol for curation and repository storage of fossils.

Following construction, North Baja's Project paleontologist would prepare a final paleontological report. The final report would be distributed to the FERC, the CSLC, the BLM, the BOR, the Cibola NWR, and other interested parties.

In summary, the overall potential to recover salvageable paleontological resources from the surficial units along the proposed B-Line is low, with the exception of the area between MPs 27.0 and 29.1. During construction, North Baja would conduct paleontological monitoring within this area, which includes the proposed site of valve #5. Similarly, the overall potential to recover salvageable paleontological resources from the surficial units along the proposed IID Lateral route is low. North Baja would conduct spot monitoring between MPs 27.6 and 46.0 of the IID Lateral unless excavation unearths coarse beach intervals or thicker sand/gravel lenses. If these characteristics are exposed, continuous monitoring would be conducted. Because the potential for paleontological resources to occur within the Project area is low, and North Baja would implement its PRMM Plan, which specifies paleontological monitoring in areas identified as having moderate potential for paleontological resources, the potential that construction of the Project would result in damage or loss of vertebrate or invertebrate fossils that are considered important by paleontologists and land management agency staff would be less than significant.

4.1.6 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on geologic, mineral, or paleontological resources identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.2 SOILS

4.2.1 Significance Criteria

An adverse impact on soils would be considered significant and would require mitigation if Project construction or operation would:

- increase erosion rates or reduce soil productivity by compaction or soil mixing to a level that would prevent successful rehabilitation and eventual re-establishment of vegetative cover to the recommended or preconstruction composition and density;
- reduce agricultural productivity for longer than 3 years as a result of soil mixing, structural damage, or compaction;
- increase exposure of human or ecological receptors to potentially hazardous levels of chemicals or explosives due to the disturbance of contaminated soils or to the discharge or disposal into soils of hazardous materials; or
- result in the need for a significantly wider construction right-of-way and/or the increased potential for pipe exposure during operations due to the presence of unconsolidated and unstable soils.

4.2.2 Existing Soil Resources

The soils crossed by the proposed Project were analyzed using the State Soil Geographic (STATSGO) database developed by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) for use in regional, multi-state, river basin, State, and multi-county resource planning. STATSGO spatial data are compiled by combining geologically and topographically related soil series found in county soil surveys into larger map units called Map Unit Identifiers (MUIDs). The B-Line would cross 7 MUIDs comprising 42 soil components (see Figure 4.2.2-1), while the Arrowhead Extension would cross only 1 MUID comprising 14 soil components. The IID Lateral would cross 5 MUIDs comprising 79 soil components (see Figure 4.2.2-2). The characteristics of soils that would be crossed by the small segment of pipeline route in Arizona and at the sites of the Ehrenberg Compressor Station, El Paso Meter Station, Blythe Meter Station, Rannells Trap, Ogilby Meter Station, and El Centro Meter Station were further assessed using county soil surveys.

Pipeline Facilities

The soils that would be crossed by the B-Line in La Paz County, Arizona consist of silt and sandy loams and sands. The soils that would be crossed by the B-Line and Arrowhead Extension in the northern portion of Riverside County, California include sandy loams, silty clay loams, and silty clays. Soils in the southern portion of Riverside County that would be crossed by the B-Line include silty clays, sandy loams, gravelly loamy sands, gravelly sands, sand, dune land, and badlands. In the Palo Verde Valley, the soils are primarily formed in sediments deposited by the Colorado River. These soils are highly productive and are ideal for agricultural use if irrigated due to mineral content. Soil types are diverse along the B-Line in Imperial County, California, with loamy and fine sands; sandy, gravelly, and clay loams; and clay and silty clays, with badland and rock outcrops. Many areas along the southern portion of the B-Line route in Imperial County have a gravelly desert pavement present over the surface soils.

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Figure 4.2.2-1 Map Unit Identifiers Crossed by the B-Line

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Figure 4.2.2-2 Map Unit Identifiers Crossed by the IID Lateral

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Soils that would be crossed by the eastern portion of the IID Lateral, including the area of the Imperial Sand Dunes, are typically loose, sandy, excessively drained soils. West of the dunes area into the East Mesa area, the soils are typically sandy, loamy, and well drained to excessively drained. Many areas within the East Mesa area have a gravelly desert pavement present over the surface soils. West of the East Mesa area through the Imperial Valley, the soils are predominantly fine, silty loamy soils that are well to moderately well drained with patches of coarse loamy, coarse silty, and sandy well- to moderately well-drained soils interspersed. The soils in the Imperial Valley are primarily mineral-rich sediments historically deposited by Lake Cahuilla. These soils are highly productive due to their mineral content, and are ideal for agricultural use if irrigated.

The agricultural land in the Palo Verde and Imperial Valleys is irrigated with systems using water from irrigation drains and canals.

The soils along the B-Line, the Arrowhead Extension, and the IID Lateral were evaluated to identify prime farmland and major soil characteristics that could affect construction or increase the potential for construction-related soil impacts. The primary limiting characteristics include high water erosion potential, high wind erosion potential, and shallow depth to bedrock. Each soil component was evaluated for these limitations, and then the percentage of each MUID with these limitations was summarized. The percentage, along with the length of pipeline route in each MUID, was used to estimate the acreage of soils with limitations that would be crossed by the B-Line, the Arrowhead Extension, and the IID Lateral. Table 4.2.2-1 summarizes by MUID and milepost the acres of soil limitations that would be affected by the proposed pipeline facilities. The nature and prevalence of each major characteristic are discussed below.

Erosion Potential from Water – Erosion is an ongoing, natural process that can be accelerated by human disturbance. Factors such as soil texture, structure, slope, vegetative cover, rainfall intensity, and wind intensity can influence the severity of erosion. Soils most susceptible to erosion by water are typified by bare or sparse vegetative cover, non-cohesive soil particles, and moderate to steep slopes. Soils typically more resistant to erosion include those that occupy low relief areas, are well vegetated, and have high infiltration capacity and internal permeability. Approximately 36 percent of all soils that would be affected by the Project are highly susceptible to erosion by water.

Of the soils along the B-Line, about 45 percent (454.4 acres) would be susceptible to erosion by water. Along the Arrowhead Extension, about 16 percent (3.6 acres) of the soils would be susceptible to erosion by water. Along the IID Lateral, 10 percent (36.4 acres) of the soils would be susceptible to erosion by water. Because the majority of the terrain in the areas that exhibit a high potential for water erosion is relatively flat, erosion by water is not expected to be a significant concern.

Erosion Potential from Wind – Wind erosion processes are less affected by slope angles. Wind-induced erosion often occurs on dry, fine-textured soil where vegetative cover is sparse and strong winds are prevalent. About 26 percent of all soils that would be affected by the Project are susceptible to wind erosion.

Sixteen percent (162.9 acres) of the soils that would be affected by the B-Line would be susceptible to wind erosion, while less than 0.1 percent (0.6 acre) along the Arrowhead Extension would be susceptible. About 53 percent (191.7 acres) of the soils along the IID Lateral route exhibit a high potential for erosion by wind.

TABLE 4.2.2-1

Soil Characteristics Associated with the North Baja Pipeline Expansion Project

Facility/Mileposts	Map Unit Identifiers (MUID)	Affected Acres ^a	High Water Erosion Potential (acres) ^b	High Wind Erosion Potential (acres) ^b	Potential for Shallow Bedrock (acres) ^b
B-Line					
0.0 – 11.4	CA653	145.1	20.4 ^c	5.1 ^c	0.0 ^c
11.4 – 22.3	CA654	138.7	19.1	24.2	11.5
22.3 – 24.1	CA927	22.9	19.1	0.0	1.3
24.1 – 26.6	CA653	31.8	25.5	6.4	0.0
26.6 – 26.9	CA911	3.8	2.5	1.3	2.5
26.9 – 27.7	CA927	10.2	8.9	0.0	0.0
27.7 – 28.2	CA653	6.4	2.5	0.0	6.4
28.2 – 28.5	CA909	3.8	2.5	1.3	0.0
28.5 – 31.0	CA653	33.1	11.5	1.3	29.3
31.0 – 32.0	CA653	11.5	10.2	2.5	0.0
32.0 – 57.8	CA927	328.4	292.7	0.0	16.5
57.8 – 79.8	CA601	280.0	39.5	120.9	0.0
<i>B-Line Subtotal</i>		<i>1,015.6</i>	<i>454.4</i>	<i>162.9</i>	<i>67.5</i>
Arrowhead Extension					
0.0 – 2.1	CA653	22.4	3.6 ^c	0.6 ^c	0.0 ^c
IID Lateral					
0.0 – 0.6	CA601	5.6 ^d	0.8	2.4	0.0
0.6 – 6.9	CA921	61.3 ^d	0.0	61.3	0.0
6.9 – 11.7	CA604	46.5 ^d	0.0	0.0	0.0
11.7 – 12.1	CA921	3.1	0.0	3.1	0.0
12.1 – 19.7	CA604	55.1	0.0	0.0	0.0
19.7 – 23.0	CA921	24.1	0.0	24.1	0.0
23.0 – 26.1	CA604	22.5	0.0	0.0	0.0
26.1 – 26.6	CA921	3.6	0.0	3.5	0.0
26.6 – 27.8	CA604	8.7	0.0	0.0	0.0
27.8 – 28.3	CA606	3.6	4.1	0.0	0.0
28.3 – 32.9	CA603	33.5	0.0	33.5	0.0
32.9 – 34.9	CA606	14.5	14.3	0.0	0.0
34.9 – 37.3	CA603	17.5	0.0	17.7	0.0
37.3 – 39.3	CA606	14.5	14.4	0.0	0.0
39.3 – 41.7	CA603	17.5	0.0	17.6	0.0
41.7 – 42.1	CA606	2.9	2.8	0.0	0.0
42.1 – 45.7	CA603	26.2	0.0	28.5	0.0
<i>IID Lateral Subtotal</i>		<i>360.7</i>	<i>36.4</i>	<i>191.7</i>	<i>0.0</i>
Total Acres		1,398.7	494.4	355.2	67.5

^a Affected acres were calculated using a 105-foot-wide construction right-of-way for the B-Line, a 60-foot-wide and 100-foot-wide construction right-of-way for the Arrowhead Extension, and a 60-foot-wide construction right-of-way for the IID Lateral unless otherwise noted. Aboveground facilities, extra workspaces, and access roads are not included.

^b It was assumed that the frequency of occurrence of each individual component soil series along the pipeline route within each MUID is the same as its percent composition within the MUID.

^c Does not include soils in that portion of the route where the pipeline would be within the road or road shoulder.

^d Based on an 80-foot-wide construction right-of-way.

Sources: STATSGO Database; Imperial Irrigation District 1967; U.S. Department of Agriculture, Soil Conservation Service 1974; U.S. Department of Agriculture, Soil Conservation Service 1980.

Shallow Bedrock – Soils were evaluated to identify areas as containing shallow bedrock (hard bedrock within 5 feet of the soil surface). The presence of shallow bedrock could indicate the need for blasting. About 5 percent of all soils that would be affected by the Project have the potential for shallow bedrock. All of these areas occur along the B-Line route. There is the potential for about 7 percent (67.5 acres) of the soils along the B-Line route to exhibit bedrock at a depth of less than 5 feet; however, based on past construction activity associated with the A-Line, shallow bedrock that would require blasting is expected to be encountered only at about MP 29.5. None of the soils along the Arrowhead Extension or the IID Lateral have the potential for shallow bedrock.

Prime Farmland – The NRCS (2003) defines prime farmland as “land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, and oilseed crops.” This designation includes cultivated land, pasture, woodland, or other lands that are either used for food or fiber crops, or are available for these uses. Urbanized land, built-up land, and open water cannot be designated as prime farmland. Prime farmland typically contains few or no rocks, has an adequate and dependable water supply, is permeable to water and air, is not excessively erodible or saturated with water for long periods, and is not subject to frequent, prolonged flooding during the growing season. Soils that do not meet the above criteria may be considered prime farmland if the limiting factor is mitigated (e.g., by draining or irrigating). Additionally, the CDC designates farmlands of Statewide and local importance. Farmland of Statewide importance is similar to prime farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for production of irrigated crops at some time during the 4 years prior to the mapping date. Farmland of local importance is designated as land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee. Areas of prime farmland and farmlands of Statewide and local importance that would be crossed by the B-Line, the Arrowhead Extension, and the IID Lateral are listed in Table 4.2.2-2 by milepost. In total, 71.7 acres of prime farmland and 47.6 acres of farmland of Statewide importance would be affected. No farmland of local importance would be affected by the pipeline facilities.

Aboveground Facilities

Modifications at the Ehrenberg Compressor Station, including the proposed pig receiver, would be completed within the existing fenceline and would not require additional land. Extra workspace, however, would be required outside of the fenceline to install a header pipe associated with the pig receiver. Use of this extra workspace would temporarily affect about 0.7 acre of soils. Modifications at the adjacent El Paso Meter Station would be completed within the fenceline and would not affect additional soil resources. The soils associated with these sites are silt loams, sandy loams, and sands that may exhibit a slight potential for erosion. The majority of these soils are classified as prime farmland. Construction of the Blythe-Arrowhead Meter Station and pig receiver would be completed within the existing fenceline of the SoCalGas Blythe Compressor Station and would not affect additional soil resources.

The pig launcher and receiver proposed for Rannells Trap would require an expansion of the existing site by 0.3 acre during construction and operation. Soils at this location consist of moderately level well-drained sands and loams. These soils are not designated as prime farmland or farmlands of Statewide or local importance. The pig launcher, taps, and crossover piping associated with the Arrowhead Extension would affect 1.0 acre of soils during construction and 0.8 acre of soils during operation. The soils at this location consist of sandy loams, silty clay loams, and silty clays that are designated as prime farmland and farmland of Statewide importance.

TABLE 4.2.2-2				
Prime Farmland and Farmlands of Statewide and Local Importance Crossed by the North Baja Pipeline Expansion Project				
Facility/Designation	La Paz County Mileposts	Riverside County Mileposts	Imperial County Mileposts	Total Acres ^a
B-Line				
Prime Farmland	0.0-0.2	0.8-5.4, 5.5-11.4		47.0
Farmland of Statewide Importance		2.2-5.4, 5.5-11.6		18.4
Farmland of Local Importance		0.3-0.8, 11.7-16.8, 17.0-19.8, 20.2-21.6, 22.1-22.2 ^b	22.3-22.5, 23.4-23.5, 23.9-24.4, 24.5-25.0 ^b	0.0
Arrowhead Extension				
Prime Farmland		0.0-2.1		16.1
Farmland of Statewide Importance		0.0-2.1		16.1
Farmland of Local Importance		-None-		0.0
IID Lateral				
Prime Farmland			27.9-28.2, 28.9-29.9, 30.1-30.5, 30.9-31.1, 32.3-33.0, 33.3-34.2, 34.9-35.1, 37.2-38.7, 39.1-39.3, 39.5-39.8, 40.5-41.1, 42.3-43.3	8.6
Farmland of Statewide Importance			28.2-28.9, 29.9-30.1, 30.5-30.9, 31.1-32.3, 33.0-33.3, 34.2-34.9, 35.1-37.2, 38.7-39.1, 39.3-39.5, 39.8-40.5, 41.1-42.3, 43.3-46.0	13.1
Farmland of Local Importance			9.3-9.7 ^{b, c} , 12.9-13.9 ^{b, c}	0.0
Total Pipeline Facilities				
Prime Farmland				71.7
Farmland of Statewide Importance				47.6
Farmland of Local Importance				0.0
^a Acreage includes pipeline construction right-of-way, extra workspaces, and access roads. Actual rights-of-way widths were used to calculate acres.				
^b Although mapped as "farmland of local importance," this area is not farmed land and is open desert.				
^c Located on the north side of Evan Hewes Highway.				
Source: California Department of Conservation 1995a,b.				

Modifications at the Ogilby Meter Station, including the proposed pig launcher and receiver, would affect about 0.2 acre of soils outside the existing fenced facility during construction and operation. The tap to the B-line and pig launcher associated with the IID Lateral would affect 0.2 acre of soils for the construction and operation of these facilities. The soils in the vicinity of the Ogilby Meter Station and the B-Line tap and pig launcher sites consist of desert pavement, clay loams, loams, sandy clay loams, and sandy loams. These soils may be limited by a slight potential for erosion. No prime farmland or farmlands of Statewide or local importance would be affected at these sites.

The El Centro Meter Station and pig receiver would affect about 2.5 acres of soils during construction and about 0.2 acre of soils during operation, all located within the existing fenceline of the IID El Centro Power Generating Station. The soils associated with these facility sites consist of fine silty

to coarse loamy soils. No prime farmland or farmlands of Statewide or local importance would be affected by these facilities.

Pipe Storage and Contractor Yards

All four proposed pipe storage and contractor yards have been previously disturbed for industrial/commercial activities and some have been graveled and/or paved.

4.2.3 General Impact and Mitigation

Pipeline construction activities such as clearing, grading, trench excavation, backfilling, and the movement of construction equipment along the right-of-way may affect soil resources. Clearing removes protective vegetative cover and exposes the soil to the effects of wind, rain, and runoff, which increases the potential for soil erosion and sedimentation of sensitive areas. Grading, spoil storage, and equipment traffic can compact soil, reducing porosity and percolation rates and increasing runoff potential. Construction activities can also affect soil fertility and facilitate the dispersal and establishment of weeds.

Erosion is a continuing, natural process that can be accelerated by human activities. Clearing, grading, and the movement of equipment on the right-of-way can accelerate the erosion process and, without adequate protection, result in discharges of sediment to wetlands and waterbodies and lower soil fertility. Factors that influence the rate of erosion include soil texture and structure, the length and percent of slope, vegetative cover, and rainfall or wind intensity. The most erosion-prone soils are generally bare or sparsely vegetated, non-cohesive, fine textured, and situated on moderate to steep slopes. Soils more resistant to erosion include those that are well vegetated, well structured with high percolation rates, and located on flat to nearly level terrain.

Construction equipment operating and traveling on the construction right-of-way, especially during wet periods and on poorly drained soils, can compact the soil. Soil compaction can also result from the storage of heavy spoil piles on certain types of soil for extended periods of time. Soil compaction destroys soil structure, reduces pore space and the moisture holding capacity of the soil, and increases runoff potential. If unmitigated, compaction results in soils with a reduced revegetation potential and an increased erosion hazard. The degree of compaction depends on the moisture content and texture of the soil. Wet soils with fine clay textures are the most susceptible to compaction. Compaction of fine-grained sediments such as clays is of particular concern in areas where clay soils are accompanied by a high water table because it may contribute to subsidence or the loss of surface elevation due to removal of subsurface support. Although clay soils occur in the Imperial Valley, the water table is generally low along the B-Line and IID Lateral routes, ranging from 9 to more than 400 feet below ground along the B-Line and 20 to 310 feet below ground along the IID Lateral route. Therefore, increases in compaction levels or the occurrence of subsidence that could damage the pipeline are not anticipated.

Construction activities such as grading, trenching, and backfilling can also cause mixing of soil horizons. Mixing of topsoil with subsoil, particularly in agricultural lands, dilutes the superior chemical and physical properties of the topsoil and lowers soil fertility and the ability of disturbed areas to revegetate successfully. Trenching of stony or shallow-depth-to-bedrock soils can bring stones or rock fragments to the surface. Soils with bedrock present at depths of 5 feet or less may require blasting, which also often results in excess rock being brought to the soil surface. Excess rocks on or near the soil surface could interfere with agricultural practices and hinder restoration of the right-of-way.

During the scoping process, a commentor expressed concern that the use of screened subsoil for padding material during pipeline installation could cause negative impacts on the soil's revegetation

potential. Screening subsoil for padding material would result in a backfill material with less soil fines, and the resultant coarser textured soil would likely have less nutrient and water holding capacity, which could affect the revegetation potential of the soil. However, screened subsoil is only one option for padding material; imported sand or sandbags could also be used. For the A-line, North Baja used a combination of screened subsoil and sandbags as pipe padding material. Although North Baja did not provide the specific locations where pipe padding was required or where each method was used during construction of the A-Line, the B-line would cross about 5.3 miles of soils with the potential for shallow bedrock or rocky soils to be encountered where it is likely that pipe padding would be necessary. Soils with these characteristics are not anticipated along the IID Lateral. The pipe padding methods proposed for the North Baja Pipeline Expansion Project are the same as those used during the A-Line construction, and the results of revegetation monitoring for the A-Line do not indicate a reduction in the recruitment of native species over the trenchline. Moreover, native seedling recruitment was in some locations higher over the disturbed right-of-way than in the control plots off of the right-of-way. Revegetation of the A-Line is discussed in Section 4.5.3 and in North Baja's CM&R Plan (see Appendix E).

Construction can also facilitate the establishment of noxious weeds where none or few existed. The clearing of existing perennial vegetation provides an opportunity for weed species to invade the right-of-way, and the movement of equipment along the right-of-way could transport weed seed and plant parts from one location to another (see Section 4.5.5). The seriousness of these effects would depend on the prevalence of weeds in the area of the pipeline route, the type of weed and its method of reproduction and dispersal, and the weed's effect on current or future land use.

No areas of contaminated soils are expected to be crossed by the Project; however, all of the soils crossed by the Project would be susceptible to contamination from spills or leaks of fuels, lubricants, and coolants from construction equipment. Although these impacts would typically be minor because of the low frequency and volumes of these occurrences, the introduction of these contaminants to soils can adversely affect productivity.

The impact of construction on soils can be effectively minimized through the use of erosion control and revegetation plans such as the FERC's Plan. To minimize impacts on soils associated with this Project, North Baja developed its CM&R Plan that includes the portions of the FERC's Plan that are relevant to the Project area and Project-specific measures developed in consultation with the BLM, the FWS, and the CDFG that address the special issues associated with construction and restoration in an arid environment. The CM&R Plan is included in Appendix E and consists of three parts as discussed below.

Desert Restoration Plan – This plan identifies the unique natural characteristics of the Project area and describes the procedures that were successful during construction of the A-Line that would be implemented during construction of the B-Line to preserve and restore habitat values affected by pipeline construction in the desert environment. The Desert Restoration Plan also summarizes the results of North Baja's post-construction revegetation and weed control monitoring that was conducted for the A-Line.

Upland Erosion and Sediment Control – This includes portions of the FERC's Plan that are relevant to the Project area and that are designed to minimize Project-related construction impacts on soils and minimize erosion.

Wetlands and Waterbodies – This includes portions of the FERC's Procedures that are relevant to the Project area and are designed to minimize Project-related disturbance to waterbodies and wetlands.

The Desert Restoration Plan and the Upland Erosion and Sediment Control sections of the CM&R Plan pertain to construction-related impacts on soils and provide mitigation measures that North Baja would implement to reduce these impacts during construction. These measures include:

- restricting the construction right-of-way width for the B-Line to 105 feet and further reducing the width of the right-of-way in areas with high concentrations of native trees;
- restricting the construction right-of-way width for the IID Lateral to 80 feet where the lateral would be parallel to existing powerlines and to 60 feet where the lateral would be installed between a powerline and a road or within or abutting the traveled portion of county roads;
- preserving the native seed bank by segregating topsoil to a depth of 2 to 8 inches in non-agricultural areas where grading would be conducted and redistributing material over the right-of-way during cleanup;
- preserving and redistributing cut vegetation over the right-of-way;
- restricting grading and crushing or cutting of vegetation where possible, leaving rootstock and minimizing soil disturbance;
- imprinting areas with a sheepsfoot or similar device to provide indentations to catch water/seed and anchor native plant material that has been respread over the right-of-way, thereby aiding in natural revegetation and erosion control;
- segregating and redistributing topsoil to its actual depth up to 2 feet in agricultural areas;
- maintaining water flow in crop irrigation systems, unless shutoff is coordinated with affected parties;
- testing for and alleviating compacted soils in agricultural and residential areas (details regarding North Baja's compaction testing plans are included in its CM&R Plan [see Appendix E] and discussed below);
- implementing procedures to prevent or minimize the spread of noxious weeds or other undesirable species by limiting disposal of plant materials to suitable areas and cleaning of clearing and grading equipment before entering native species areas; and
- placing intact salvaged plant materials or rock at specific locations where visual blocking would be employed to discourage use of the pipeline right-of-way by unauthorized vehicles.

The CM&R Plan modifies or omits several measures of the FERC's Plan because portions of the FERC's Plan are not applicable due to the arid climate crossed by the pipeline route. North Baja states that the arid climatic conditions in the Project area would limit the use or decrease the practical effectiveness of many traditional erosion control measures. For example, North Baja does not propose to install temporary erosion controls because of the level topography along most of the route and the stony soil where slopes are somewhat steeper along portions of the B-Line route east of SR 78. In the Project area, rainfall amounts average less than 5 inches annually. The infrequent rain events often occur in intense cloudbursts that result in flash flooding, which renders typical erosion controls (silt fence, hay bales, etc.) ineffective.

The Agency Staffs have reviewed North Baja's CM&R Plan and generally agree with the level of mitigation proposed and the appropriateness of the differences between the CM&R Plan and the FERC's Plan. Additionally, while the BLM, the FWS, and the CDFG were consulted during development of the

CM&R Plan for the A-Line, it is possible that these agencies may include additional construction or mitigation measures when issuing permits and agreements for the proposed Project, including the CDFG's SAA (see Section 4.3.3.4). In accordance with its CM&R Plan, North Baja would prepare and submit an updated CM&R Plan before construction if necessary to incorporate any additional requirements of Federal, State, and local permits.

Although revegetation of the disturbed areas in native desert habitats would be slow, the rate of revegetation would be primarily attributable to the arid climate. Artificial revegetation is not practical on a large scale due to the extremely arid conditions. If North Baja implements its CM&R Plan, the Project would not result in significantly increased erosion rates and a reduction of soil productivity by compaction or soil mixing to a level that would prevent successful rehabilitation and eventual re-establishment of vegetative cover to the recommended or preconstruction composition and density. Further, if the mitigation measures in the CM&R Plan that pertain to agricultural areas are implemented, the Project would not result in a significant reduction in agricultural productivity for longer than 3 years as a result of soil mixing, structural damage, or compaction.

The CM&R Plan includes the measures of the FERC's Plan to mitigate potential soil compaction in residential and agricultural areas, and also includes a measure to conduct compaction testing and alleviate compaction along the IID Lateral if fine-textured soils, as identified by the EI or the BLM, are encountered. Additional measures to mitigate construction-related impacts on soils are included in North Baja's Dust Control Plan, which is described in Section 4.12.4 and provided in Appendix L. Fugitive dust disturbed by construction is a visible indication of soil loss through wind erosion. The Dust Control Plan outlines measures that would be implemented to control fugitive dust during construction.

North Baja's SPCC Plan specifies cleanup procedures to minimize the potential for soil contamination from spills or leaks of fuels, lubricants, and coolants used during construction (see Appendix F). Implementation of North Baja's SPCC Plan would effectively reduce the potential impact on soils from spills of the hazardous materials used during construction and would not significantly increase the exposure of human or ecological receptors to potentially hazardous levels of chemicals.

North Baja would employ full-time EIs to ensure compliance with the CM&R Plan, the SPCC Plan, the Dust Control Plan, and other Project-specific plans and specifications during construction and restoration. At least two EIs would be assigned to each construction spread. The EIs would have peer status with other activity inspectors and would have the authority to stop and order corrective actions for activities that violate the environmental conditions of the FERC Certificate or other authorizations. Implementation of North Baja's proposed mitigation measures would reduce impacts on soil resources to less than significant levels.

4.2.4 Site-specific Impact and Mitigation

Pipeline Facilities

As indicated in Table 4.2.2-1, about 7 percent of the soils that would be crossed by the B-Line may exhibit shallow depth to bedrock. Based on North Baja's experience during construction of the A-line, shallow bedrock would be a concern primarily in the vicinity of MP 29.5 and would likely require blasting in order to excavate the trench through this area. Specific construction procedures would be used to minimize impact on soils. Excess rock would be removed from the upper 12 inches of soil to the extent practicable in cropland, hayfields, pastures, residential areas, and other areas at the landowner's request. Excess rock would not be windrowed along the right-of-way unless written approval was obtained from landowners or land management agencies. All blasting would be done according to North Baja's construction specifications for blasting (see Sections 2.3.2 and 4.1.2, and Appendix I). North

Baja's blasting specifications include detailed requirements for the use, storage, transportation, and handling of explosives; therefore, the Project would not significantly increase the exposure of human or ecological receptors to explosives.

Other soil limitations that would be encountered during construction of the Project would include 494.4 acres of soils with high water erosion potential. The majority of these soils would occur along the B-Line (454.4 acres), with 3.6 acres affected along the Arrowhead Extension, and 36.4 acres affected along the IID Lateral. In addition, a total of 355.2 acres of soils along the B-Line (162.9 acres), the Arrowhead Extension (0.6 acre), and the IID Lateral (191.7 acres) routes exhibit high wind erosion potential. As discussed in Section 4.2.3, implementation of the mitigation measures outlined in North Baja's CM&R Plan and Dust Control Plan would satisfactorily minimize and mitigate construction-related effects on these soils to less than significant levels.

Comments were received during the scoping process that reported increased erosion along the restored A-Line right-of-way and requested that culverts be installed where dry washes cross Stallard Road. A review of the affected areas indicates that the specific erosion events were not related to the pipeline right-of-way but rather were the result of high intensity runoff in wash areas due to storm-related events. The installation of culverts where washes are crossed by Stallard Road would be an issue to be addressed with Riverside County, which is the agency that has jurisdiction over the road. However, the BLM recently identified various degrees of erosion along the A-line in steeply sloped areas south of Stallard Road. North Baja would work with the BLM to correct these areas.

The IID Lateral would cross the ISDRA between MPs 0.0 and 7.0. The sand dunes consist of loose wind-blown sand. North Baja would cross portions of this area in association with the HDDs of the two All-American Canal crossings; however, the portion of this area between the two canals would be crossed using conventional overland construction methods. Crossing this area would require a wider trench to be excavated because trench walls in unconsolidated, unstable soils tend to collapse. Despite the need for a wider trench, North Baja anticipates that it would be able to construct through this area within its proposed 80-foot-wide construction right-of-way. Therefore, the presence of unconsolidated and unstable soils would not result in the need for a significantly wider construction right-of-way.

The loose sandy soil conditions in this area could increase the potential for pipe exposure. North Baja proposes to bury the IID Lateral 6 feet deep between MPs 2.7 and 5.7, which includes the area most susceptible to blowing/shifting sands. This added depth of cover would reduce the potential for pipe exposure; therefore, the presence of unconsolidated and unstable soils would not result in an increased potential for pipe exposure during operations.

Because a significantly wider construction right-of-way would not be required and North Baja's proposal to increase the pipeline depth would reduce the potential for pipeline exposure, impacts related to the unconsolidated and unstable soils crossed would be less than significant.

A significant impact on irrigation systems is not anticipated. The majority of irrigation drains and canals would not be affected by construction because they would be crossed either by boring underneath the culverts along 18th Avenue or by installing the pipeline between the drain culvert and the road. Additionally, North Baja would contact landowners in the Palo Verde and Imperial Valleys regarding the location of other irrigation systems that could be affected during construction and would maintain water flow in these systems or coordinate disruption of irrigation flow or any shutoff times with the affected landowners. However, Rannells Drain along the B-Line and two unnamed canals along the Arrowhead Extension would be crossed using the open-cut method (see Section 2.3.2). The impact on Rannells Drain and the two unnamed canals would be temporary and mitigated by restoring the banks and bed to their original configurations. Because of the steepness of the banks at the Rannells Drain crossing,

erosion control fabric would be used for bank stabilization purposes upon completion of pipeline construction at this crossing. Implementation of these mitigation measures would reduce impacts on irrigation systems, Rannells Drain, and the two unnamed canals to less than significant levels.

Between MPs 0.0 and 0.2 and MPs 0.8 and 11.6, the B-Line would cross soils designated as prime farmland and farmland of Statewide importance. In total, 65.4 acres of designated farmland would be temporarily affected along the B-Line. No permanent impacts on prime farmland or farmlands of Statewide or local importance would occur in association with the construction and operation of facilities associated with the B-Line.

The Arrowhead Extension would cross about 1.1 miles of agricultural land between MPs 1.0 and 2.1 that would result in temporary impacts on about 16.1 acres of soils designated as prime farmland and farmland of Statewide importance. Construction of the pig launcher, taps, and crossover piping would permanently affect 0.8 acre of prime farmland and farmland of Statewide importance. The Blythe-Arrowhead Meter Station and pig receiver would be within the fenceline of the existing SoCalGas Blythe Compressor Station site and would not affect farmland soils. This loss would be much less than 0.1 percent of the agricultural lands in the Palo Verde Valley and would be less than significant.

Soils designated as prime farmland and farmland of Statewide importance would be crossed at numerous locations along the IID Lateral between MPs 27.9 and 46.0. In total, about 21.7 acres of designated farmland would be temporarily affected along the IID Lateral. No permanent impacts on prime farmland or farmlands of Statewide or local importance would occur in association with the construction and operation of facilities associated with the IID Lateral.

North Baja would avoid significant impact on prime farmland or farmlands of Statewide or local importance by locating the B-Line, portions of the Arrowhead Extension, and the IID Lateral facilities in road shoulders adjacent to agricultural areas. Impacts that would occur on these soils and other active farmlands would be mitigated by segregating 1 to 2 feet of topsoil before installation of the pipeline and reapplying topsoil over the surface of the right-of-way during restoration as outlined in the CM&R Plan (see Appendix E). In addition, North Baja would implement a post-construction crop monitoring program to maintain the level of production of the affected soils. The program would evaluate crop productivity and success for a period of at least 2 years following construction. North Baja would prepare activity reports during this period documenting any problems identified by North Baja or the landowner and describing corrective actions taken to remedy these problems. These reports would be submitted to the FERC and the CSLC on a quarterly basis, as stipulated in the CM&R Plan. The FERC and CSLC staffs would also monitor the right-of-way after construction. If after 2 years it is determined that cropland crossed by the pipeline has not been restored successfully, North Baja would implement additional restoration measures. Implementation of North Baja's CM&R Plan would reduce impacts on agricultural land to less than significant levels.

For the portions of the Project that cross BLM lands, the BLM would need to assess potential impacts on rangeland health resulting from construction of the Project. One of the attributes included in the rangeland health assessment is soil/site stability (i.e., the capacity of the site to limit redistribution and loss of soil resources by wind and water [Pellant et al. 2005]). As discussed above, soil disturbance during pipeline construction could expose the soils to the erosional forces of wind and water thus affecting soil stability. Implementation of erosion control measures and the revegetation plan contained in North Baja's CM&R Plan (see Section 4.2.3 and Appendix E) would effectively mitigate impacts on soil and avoid impacts on rangeland health.

4.2.5 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on soils identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.3 WATER RESOURCES

4.3.1 Significance Criteria

An adverse impact on groundwater would be considered significant and would require mitigation if Project construction or operation would:

- alter the flow of groundwater to local springs or wetland areas;
- interrupt or degrade groundwater used for private or municipal purposes; or
- result in either short- or long-term violation of Federal, tribal, or State agency numerical water quality standards or water quality objectives.

An adverse impact on surface waters would be considered significant and would require mitigation if Project construction or operation would:

- result in either short- or long-term violation of Federal, tribal, or State agency numerical water quality standards or water quality objectives;
- alter channel bed armoring, bank composition, or stream hydraulic characteristics such that it results in short- or long-term erosion or so that the banks of a waterway must be armored to reduce short- or long-term erosion;
- cause the resuspension of contaminated bottom sediments that would degrade the quality of water downstream in violation of Federal, tribal, or State agency water quality standards;
- result in increased sedimentation that adversely affects the operation of irrigation water control structures, gates, or valves or the quality of municipal water supply reservoirs;
- reduce streamflow quantity where such a flow change would significantly damage either beneficial uses or aquatic life;
- increase the potential for flooding outside the stream channel;
- place permanent structures within the 100-year floodplain that would be damaged by flooding;
- increase soil or wind erosion rates or sedimentation such that degradation of water quality standards would result; or
- degrade the integrity of structures, such as (bridges, pipelines, and utilities) due to erosion and improper conveyance of stormwater during construction and operation.

4.3.2 Groundwater Resources

4.3.2.1 Existing Groundwater Resources

Groundwater in the vicinity of the North Baja Pipeline Expansion Project is primarily derived from unconsolidated to poorly consolidated alluvial sediments consisting of gravel, silt, sand, and clay

associated with a complex system of basin-fill deposits (FERC and CSLC 2002, Planert and Williams 1995, Robson and Banta 1995). Many desert basins are characterized by broad alluvial fans and plains sloping to playas, creating closed drainage basins that are usually dry. Hydrologic characteristics within these desert basins can differ considerably from basin to basin and within basins. The majority of the groundwater underlying the proposed facilities is derived from imported water from the Colorado River that is used for irrigation. Other local uses of groundwater in the Project area include industrial and commercial processes and municipal and domestic water supplies. Small amounts of groundwater may also be found in the underlying bedrock where it collects in fractures or weathered areas, but this groundwater is not considered a primary source.

No EPA-designated sole-source aquifers would be crossed by the proposed Project (EPA 2005, Federal Emergency Management Agency [FEMA] 2005). The nearest sole-source aquifer is the Ocotillo-Coyote Aquifer, which is approximately 42 miles west of the terminus of the IID Lateral. No known municipal/public water supply sources, wellhead protection areas, or springs would be crossed (Langer et al. 1984).

B-Line and Arrowhead Extension

The Colorado River Aquifer underlies the majority of the B-Line, the Arrowhead Extension, and associated aboveground facilities, including all of those portions within La Paz County, Arizona and Riverside County, California, and the northern portion of Imperial County, California. The B-Line would cross a watershed described as the Amos Ogilby and Imperial Hydrological Units in the southern portion of Imperial County from about MP 49.5 south to the All-American Canal. Groundwater recharge in these watersheds occurs within Colorado River floodplain alluvial deposits and is hydraulically connected to the river (FERC and CSLC 2002). Other minor sources of groundwater recharge include groundwater inflow from adjacent areas, infiltration of precipitation that falls to the ground surface, infiltration from irrigation ditches and canals, and local runoff from surrounding mountains.

Groundwater depth in the vicinity of the B-Line and the Arrowhead Extension is variable depending on the proximity of the area to the Colorado River or on drainage from irrigated lands (FERC and CSLC 2002). Depths to groundwater were derived from a combination of databases prepared by the USGS (2005) and a series of maps prepared by Langer et al. (1984). Groundwater levels ranging from 9 to 23 feet below the surface have been recorded in the vicinity of the B-Line in the Palo Verde Valley (approximately MPs 0.0 to 12.0), which is close to the Colorado River. Groundwater in the Palo Verde Valley is artificially augmented by irrigation water diverted from the Colorado River. Further south along the B-Line, depth to groundwater tends to increase. Groundwater levels have been recorded at depths greater than 130 feet beneath the Palo Verde Mesa (approximately MPs 12.7 to 20.5), and depths of more than 400 feet below the land surface have been recorded near the Cargo Muchacho Mountains (approximately MP 66.8) and surrounding areas. Even further south along the B-Line, depths to groundwater gradually decrease and have been recorded as shallow as approximately 35 feet below the ground surface in the vicinity of the All-American Canal near MP 79.8 (USGS 2000).

Groundwater quality is influenced by local geology, the effects of agricultural irrigation, and the chemical characteristics of the Colorado River (FERC and CSLC 2002). High concentrations of total dissolved solids ranging from 400 to 3,000 milligrams per liter (mg/l) cause the chemical quality of groundwater in the areas affected by the B-Line and the Arrowhead Extension facilities to be relatively poor (EPA 2006).

IID Lateral

The IID Lateral would cross a terminal sink basin called the Salton Trough, which is a topographic and structural trough that extends from southeastern California into Mexico (Planert and Williams 1995). The Salton Trough is approximately 130 miles long and 70 miles wide and is a landward extension of the depression that is partially filled by the Gulf of California. The Salton Trough is further divided in California into two parts by the Salton Sea: the Imperial Valley to the south and the Coachella Valley to the north. The IID Lateral would pass entirely through the southern Imperial Valley, which is the largest area of desert irrigation in the United States.

The most important source of groundwater recharge to the Imperial Valley is the Colorado River, with minor recharge resulting from groundwater inflow from adjacent areas (especially canal seepage), infiltration of runoff from surrounding mountains, and local runoff (Planert and Williams 1995). The salinity of the Colorado River is the most important water quality issue in the basin, with concentrations as high as 900 milligrams per liter (mg/l); major ionic constituents are calcium, sulfate, and chloride (USGS 2005). Groundwater within the Imperial Valley generally flows north toward the Salton Sea. Depths to groundwater range between 20 and 310 feet below the ground surface and generally tend to decrease moving from east to west (USGS 2005, California Department of Water Resources [CDWR] 2005).

4.3.2.2 General Impact and Mitigation

Although activities associated with construction of the Project could affect groundwater resources, most potential impacts on groundwater resources would be avoided or minimized by the use of both standard and specialized construction techniques as described in Section 2.3. For the majority of the Project, groundwater levels are generally well below the land surface that would be affected by construction activities. However, shallow aquifers underlying certain construction areas (e.g., the Palo Verde Valley, portions of the route in the Cibola NWR, and the Imperial Valley) could experience minor impacts from clearing, grading, trenching, dewatering, soil mixing, and compaction that could temporarily alter overland flow and groundwater recharge. Near-surface soil mixing and compaction caused by heavy construction vehicles could also reduce the soil's ability to absorb water. These impacts would be temporary and minor and would not significantly affect groundwater resources or groundwater quality. In accordance with North Baja's CM&R Plan, vegetation would be cleared only where necessary. After completion of construction, North Baja would restore the ground surface as closely as practicable to original contours and allow vegetation to regenerate to provide restoration of preconstruction overland flow and recharge patterns. Routine operation and maintenance of the Project facilities would not result in disturbance or contamination of groundwater resources.

Unconfined aquifers and shallow groundwater areas could be vulnerable to contamination caused by inadvertent surface spills of petroleum or hazardous materials used during construction. Accidental spills and leaks of hazardous materials associated with equipment trailers; the refueling or maintenance of vehicles; and the storage of fuel, oil, and other fluids pose the greatest risk to groundwater resources. If not cleaned up, contaminated soils would continue to leach and add pollutants to groundwater long after a spill has occurred. Impacts associated with spills or leaks of hazardous liquids could be avoided or minimized by restricting the location of refueling and storage facilities and by requiring cleanup in the event of a spill or leak.

North Baja's SPCC Plan addresses preventive and mitigative measures that would be used to avoid or minimize the potential impact of petroleum or hazardous material spills during pipeline construction. Some pertinent measures in North Baja's SPCC Plan include:

- proper storage and handling of containers and tanks, including storage of containers with hazardous liquids in secondary containment structures;
- restricting liquid transfer, vehicle and equipment washing, and refueling within 100 feet of wetlands and waterbodies, 200 feet of water supply wells, and 400 feet of municipal or community water wells or protected wellhead or watershed areas;
- training of all employees on the contents of the SPCC Plan;
- maintaining emergency spill kits in all service vehicles;
- periodic inspection of vehicles and equipment for leaks;
- established release notification and emergency response procedures; and
- proper disposal of contaminated materials and soils and replacement of excavated contaminated soil with clean soil.

Implementation of North Baja's CM&R and SPCC Plans would reduce the potential for construction or operation of the Project to result in either short- or long-term violation of Federal, tribal, or State agency numerical water quality standards or water quality objectives to less than significant levels.

In locations where groundwater is close to the land surface (6 to 8 feet deep), the trench excavation could intersect the water table. In these areas, trench dewatering may be required. The potential effect on users of the aquifer would depend on the rate and duration of pumping and the location of the activity, but is expected to be minor. Pipeline construction activities within a particular location are typically completed within several days; consequently, potential impacts would be localized and temporary and water levels would be quickly re-established when backfilling is complete. However, alteration of the natural soil strata could potentially result in new groundwater migration pathways away from surface waterbodies. Implementation of North Baja's CM&R Plan, which requires the use of trench breakers or installation of trench plugs at the edges of waterbodies, would eliminate these potential impacts; therefore, the potential for the Project to alter the flow of groundwater to local springs or wetland areas would be less than significant.

During construction of the B-Line, the Arrowhead Extension, and the IID Lateral, substantial amounts of groundwater may be encountered in the vicinity of the Colorado River and near canal crossings. Additionally, substantial amounts of groundwater may be encountered along the IID Lateral in the agricultural areas from MPs 28 to 46 near canal and drain crossings. To control the influx of groundwater into bore pits, the use of well points in addition to standard sump pump dewatering may be necessary. The water from these dewatering operations would be discharged to dewatering structures and/or otherwise filtered and discharged into field drains or canals. North Baja would obtain the necessary permits to perform these operations. Minor fluctuations in local groundwater levels may occur, but would be temporary and minor.

Although no areas of known groundwater contamination would be affected by construction of the Project facilities, unanticipated, pre-existing contaminated groundwater could be encountered during construction. In the event contaminated groundwater or contaminated soils are encountered as evidenced by refuse and/or other debris in the trench, discoloration, odor, or other signs at these locations or other locations along the pipeline routes, additional observations for the presence of a chemical sheen, free product, and chemical odor would be made and recorded before any further construction activity. Field

observations would be conducted to determine the nature of the contamination, appropriate disposal/treatment options, and the need for sampling. If contaminated groundwater and/or soils are encountered, North Baja would stop work and consult with the appropriate agencies, including the CRWQCB and the Riverside and Imperial Counties Departments of Health on a plan to proceed. The plan would include provisions for characterizing the contaminants, appropriate health and safety measures for workers, and proper discharge of the groundwater. North Baja would notify the appropriate agencies of any discoveries of pre-existing contamination and would perform evaluations on the amount and composition of the contamination. Once the evaluations are completed, North Baja would coordinate with the appropriate agencies to determine appropriate actions and disposal of affected materials.

4.3.2.3 Water Supply Wells

Before construction, North Baja would conduct a field survey to identify public and private water supply wells within 150 feet of the proposed construction work area. This is the distance specified in Title 18 CFR Part 380.12(d)(9). However, a preliminary identification of water supply wells in the vicinity of the Project was conducted by contacting State agency staff and reviewing well location maps and databases at the CDWR and the USGS. Based on this review, 10 water supply wells would be within 150 feet of the centerline of the pipeline facilities (USGS 2005, CDWR 2005). All of these wells would be along the B-Line. Nine of the 10 wells have no records of groundwater data after 2001 and are likely non-operational wells. The exception is well ID #007S023E14C019S at MP 2.5. Table 4.3.2-1 lists the wells within 150 feet of the B-Line by milepost and depicts the distance from the centerline and depth to groundwater.

TABLE 4.3.2-1			
Water Wells Within 150 Feet of the Centerline of the Pipeline Facilities Associated with the North Baja Pipeline Expansion Project			
Facility/Well ID# ^a	Milepost	Distance from Centerline (feet) ^b	Groundwater Depth (feet)
B-Line			
007S023E14C019S	2.5	74	12.4
007S023E15A001S	2.6	116	ND ^c
007S023E08R001S	4.5	131	ND
007S023E17D002S	5.4	11	ND
007S022E12R001S	6.5	17	ND
007S022E14A001S	7.4	23	ND
007S022E10R001S	8.5	147	ND
007S022E15D001S	9.4	7	ND
007S022E17C001S	11.0	92	ND
007S022E18A001S	11.6	27	ND
Arrowhead Extension		-None-	
IID Lateral		-None-	
^a Uses township-range-section nomenclature based on the San Bernardino Base and Meridian. ^b Accuracy of global positioning system data may be as high as +/- 30 meters depending on satellite coverage and geographic information system resolution. ^c ND = No current groundwater data available for the period 2001 through 2006.			

During construction of the A-Line, only one well was identified within 150 feet of the proposed construction work area. This well, probably inactive based on lack of groundwater data since 2001, is north of 18th Avenue near MP 7.9 and is assumed to be associated with an existing residence.

Potential impacts on wells within 150 feet of the construction work area could include: localized decreases in groundwater recharge rates, changes to overland water flow, contamination due to hazardous materials spills, decreased well yields, decreased water quality (such as an increase in turbidity or odor in the water), interference with well mechanics, or complete disruption of the well. These impacts could result from trenching, equipment traffic, or blasting. Many variables such as well depth, well age, surficial geologic material type, and aquifer characteristics would factor into whether a well would actually be impacted by the Project. The primary variable, however, would be the distance between the construction activity and the well. Wells further than 150 feet from the construction work area would be unaffected by the Project under most conditions.

With the landowner's permission, North Baja would test water wells within 150 feet of the construction work area before construction to determine baseline flow conditions as a means of determining any potential construction-related impacts. Where impacts are reported by landowners, North Baja would conduct post-construction water well tests. If it is determined that construction activities have impaired a well's water quality or yield, North Baja would either provide bottled water for drinking and arrange for an alternate source of water (such as a water truck) for other household uses, temporarily relocate the landowner until the water supply is restored, or compensate the landowner for losses. If water quality or yield is permanently impaired as a result of construction activities, North Baja would arrange for a new well to be drilled or compensate the landowner.

The potential for contaminating wells due to spills of petroleum or hazardous materials is generally low because of the relatively small volume of such materials present during construction. Refueling and the storage of hazardous substances would be prohibited within 200 feet of a private well and 400 feet of a community or municipal well. The potential for impacts due to spills would be further reduced by implementation of North Baja's SPCC Plan as described in Section 4.3.2.2.

As discussed previously, blasting is only anticipated near MP 29.5. No water wells have been identified within 0.5 mile of this location. Should additional water wells be identified in the vicinity of a location requiring blasting, North Baja's use of proper blasting techniques, which would fracture bedrock only to the point necessary for removal, would limit the effect of the blast to a local area above the aquifer in the proximity of the trenchline (see Appendix I). Consequently, it is unlikely groundwater quality would be affected.

In summary, no municipal uses of groundwater were identified within the vicinity of the North Baja Pipeline Expansion Project, and only 10 private wells have been identified within 150 feet of the proposed facilities. Because North Baja would implement the measures contained in its CM&R and SPCC Plans and would identify and monitor any water wells within 150 feet of the construction work area, the potential for the Project to interrupt or degrade groundwater used for private or municipal purposes is less than significant.

4.3.3 Surface Water Resources

4.3.3.1 Existing Surface Water Resources

Pipeline Facilities

The North Baja Pipeline Expansion Project would cross two watersheds: the Imperial Reservoir Watershed and the Salton Sea Watershed. The B-Line would cross the Imperial Reservoir Watershed between MPs 0.0 and 49.5 and the Salton Sea Watershed between MPs 49.5 and 79.8, the Arrowhead Extension would lie entirely within the Imperial Reservoir Watershed, and the IID Lateral would lie entirely within the Salton Sea Watershed. Both watersheds have been classified as Category I watersheds

in California's Unified Watershed Assessment (NRCS 2005), which is part of the Clean Water Action Plan. Category I watersheds are high priority candidates for restoration activities to improve impaired water quality or other impaired natural resource goals, with an emphasis on aquatic systems.

Surface waters are classified by the States by the identification of beneficial uses of surface waters. This identification is based strictly on documentation of the existence of those uses, which can also include potential future and intermittent uses. Such uses are protected by the States through the development of water quality objectives for those uses. The beneficial uses of surface waters in the Project area include agricultural irrigation; municipal and domestic water supply; industrial service supply; groundwater recharge; contact (e.g., swimming, wading, waterskiing) and non-contact (e.g., boating, beachcombing, hiking) recreation; freshwater fish habitat; wildlife habitat; and preservation of rare, threatened, or endangered species (CRWQCB 1994, NRCS 2005). The water quality of the surface waters in the Project area is generally poor; these waters are highly saline or alkaline because of the predominance of sedimentary rocks, high evaporation rates, and low precipitation. The primary purpose of the agricultural drains in the Project area is for the collection, transport, and storage of drainage waters from irrigated cropland to maintain adequate soil salinity balance for agriculture (CRWQCB 1994).

All of the waterbodies within the Imperial Reservoir and Salton Sea Watersheds, including agricultural canals and drains, are listed by the California State Water Resources Control Board (CSWRCB) as impaired (California Environmental Protection Agency [CEPA] 2005). This impairment is due to elevated pesticide and selenium levels in fish tissues and toxic bioassay results that identified high pesticide levels in other aquatic organisms. Agricultural runoff from irrigation practices has been identified as the primary source of impairment (CEPA 2005), and contaminated sediments may exist in agricultural canals and drains from extensive pesticide use on irrigated croplands (CRWQCB 1999).

Surface waters in the Project area consist of perennial rivers, man-made irrigation canals and ditches/drains, and desert dry washes. Occasional high-intensity rainfalls contribute to the highly turbid flows that are observed in streams and rivers in the region. Dry washes flow primarily during these precipitation events. Flash floods can be caused by intense, short periods of rainfall and can move large loads of sediment, gravel, and larger debris over wide areas of drainage canals and desert washes.

A total of 2 perennial waterbodies, 73 irrigation canals and drains, and 265 dry desert washes would be crossed by the proposed pipeline facilities. Of these, the B-Line would cross 1 perennial waterbody (the Colorado River) and 31 irrigation canals and drains (including the All-American Canal). All 265 dry washes that would be crossed by the Project occur along the B-Line. The Arrowhead Extension would cross the C-05 Canal and two unnamed canals. The IID Lateral would cross 1 perennial waterbody (the Alamo River) and 39 irrigation canals and drains, including the All-American Canal (two crossings) and the East Highline Canal. Table 4.3.3-1 lists the perennial waterbodies and irrigation canals and drains by milepost, type, crossing width, fishery classification, and proposed crossing method. The dry washes that would be crossed by the B-Line are listed in Appendix M.

No potable water intake sources are within 3 miles downstream of the proposed waterbody crossings (Taylor 2005). However, the East Highline Canal delivers municipal water to the City of Holtville via an intake on Pear Canal (Mendez 2005), which is approximately 6 miles from where the IID Lateral would cross the East Highline Canal.

Neither of the two perennial rivers (the Colorado River and the Alamo River) that would be crossed by the Project are listed on the Nationwide Rivers Inventory or recognized as State-designated scenic rivers (NRCS 2005).

TABLE 4.3.3-1

Perennial Waterbodies, Canals, and Drains Crossed by the North Baja Pipeline Expansion Project

Facility/ Approximate Milepost	Waterbody	Type	Crossing Width (feet)	Fishery Type	Proposed Crossing Method
B-Line					
0.2	Colorado River	Perennial	790	Warmwater	HDD ^a
1.3	D-10-13-42E	Delivery Canal	9	NC ^b	Dry ^c
1.7	D-10-13-45E	Delivery Canal	15	NC	Dry
1.9	D-10-13-47E	Delivery Canal	15	NC	Dry
2.2	D-10-13-49E	Delivery Canal	15	NC	Dry
2.3	D-10-13 (F)	Canal	40	NC	Dry
2.7	D-10-11-2N	Delivery Canal	2	NC	Dry
2.9	D-10-Siphon 48	Canal	15	NC	Dry
3.2	East Side Drain	Drain	2	NC	Dry
3.4	Goodman Drain	Drain	50	NC	Dry
3.6	D-Siphon-89	Canal	40	NC	Dry
3.9	Private	Canal	2	NC	Dry
4.4	D-19	Canal	15	NC	Dry
4.7	D-19-4N	Delivery Canal	2	NC	Dry
5.2	Lovekin Drain	Drain	30	NC	Dry
5.4	Private	Canal	2	NC	Dry
5.9	C-Siphon-56	Canal	42	NC	Dry
6.9	Central Drain	Drain	35	NC	Dry
7.9	C-05 Canal	Canal	17	NC	Dry
8.2	Private	Canal	9	NC	Dry
8.9	West Side Drain	Drain	40	NC	Dry
9.5	C-03 Canal	Canal	35	NC	Dry
9.9	C-03-64N	Delivery Canal	35	NC	Dry
10.3	C-03-16-3N Canal	Delivery Canal	40	NC	Dry
10.5	C-03-16 Canal	Canal	2	NC	Dry
10.7	C-03-16-6S	Delivery Canal	15	NC	Dry
10.9	C-03-16-1	Canal Heading	6	NC	Dry
10.9	C-03-16-8W	Delivery Canal	6	NC	Dry
11.2	Private	Canal	15	NC	Dry
11.4	Rannells Drain	Drain	60	NC	Open Cut
11.4	Private West Side of Drain	Canal	15	NC	Dry
79.8	All-American Canal	Canal	200	NC	HDD
Arrowhead Extension					
0.5	Unnamed Canal	Canal	10	NC	Open Cut
1.5	Unnamed Canal	Canal	10	NC	Open Cut
1.5	C-05 Canal	Canal	53	NC	Dry
IID Lateral					
2.4	All-American Canal	Canal	200	NC	HDD
8.1	All-American Canal	Canal	200	NC	HDD
12.5	All-American Canal Lateral 7	Canal	17	NC	Dry
27.5	East Highline	Canal	190	NC	HDD
28.4	Warren 2E	Drain	4	NC	Dry
28.5	Lateral 7 / Gate 183	Canal	3	NC	Dry
29.1	Lateral 7 / Gate 183A	Canal	2	NC	Dry
29.4	Warren 2C	Drain	3	NC	Dry

TABLE 4.3.3-1 (cont'd)

Perennial Waterbodies, Canals, and Drains Crossed by the North Baja Pipeline Expansion Project

Facility/ Approximate Milepost	Waterbody	Type	Crossing Width (feet)	Fishery Type	Proposed Crossing Method
31.4	Warren 1	Drain	4	NC	Dry
32.3	Alamo	Canal	7	NC	Dry
32.3	Alamo River	Perennial	52	NC	Dry
33.6	Barbara Worth	Drain	3	NC	Dry
33.9	Lateral 12	Canal	6	NC	Dry
34.5	Ash Main	Canal	6	NC	Dry
34.9	Ash Lateral 30	Canal	6	NC	Dry
35.9	Ash Lateral 39	Canal	4	NC	Dry
36.4	Ash Lateral 39 (30A)	Canal	6	NC	Dry
36.9	Ash Lateral 34	Canal	6	NC	Dry
37.2	South Central	Drain	6	NC	Dry
38.0	Ash Lateral 33	Canal	6	NC	Dry
38.2	Ash Lateral 36/Gate 151	Canal	3	NC	Dry
38.4	Central 2A	Drain	3	NC	Dry
38.4	Ash Lateral 36/Gate 151C	Canal	3	NC	Dry
38.9	Central 2C	Drain	4	NC	Dry
38.9	Ash Lateral 15	Canal	6	NC	Dry
38.9	Unnamed	Drain	8	NC	Dry
39.2	Unnamed	Drain	7	NC	Dry
39.2	Ash Lateral 37	Canal	8	NC	Dry
39.4	Unnamed	Drain	12	NC	Dry
39.4	Ash 157	Drain	14	NC	Dry
40.3	Acacia	Drain	4	NC	Dry
40.4	Acacia	Canal	7	NC	Dry
41.9	Acacia Lateral 6A	Canal	3	NC	Dry
42.2	Unnamed	Drain	4	NC	Dry
42.5	Acacia Lateral 8	Canal	3	NC	Dry
43.4	Acacia 6A	Drain	6	NC	Dry
44.1	Alder Lateral 7	Canal	17	NC	Dry
44.6	Alder	Canal	11	NC	Dry
44.8	Central 3	Drain	6	NC	Dry
45.6	Dogwood	Canal	12	NC	Dry

^a HDD = Horizontal directional drill.

^b NC = No fisheries classification.

^c Dry crossings would include boring beneath the existing canals and drains that are enclosed inside drain culverts or installing the pipeline between the drain culvert and the road.

The North Baja Pipeline Expansion Project would cross floodplains at numerous locations along the B-Line and at a single location along the IID Lateral. No floodplains would be crossed by the Arrowhead Extension. The B-Line would cross 4.3 miles of FEMA-designated floodplains at 27 separate locations scattered between MPs 24.0 and 79.6. Seventeen of these locations coincide with dry wash crossings. The floodplain crossings vary in length from 0.02 mile to 0.77 mile with the majority of floodplain crossings less than 0.25 mile long. The IID Lateral would cross one FEMA-designated 100-year flood hazard area at the Alamo River crossing (ESRI & FEMA 2005, FEMA 2005). The only aboveground facility that would be in a floodplain is valve #7 on the B-Line.

Aboveground Facilities

There are no waterbodies at any of the proposed aboveground facility sites, and none of the aboveground facilities would be within a 100-year flood hazard area designated by the FEMA (ESRI & FEMA 2005).

Pipe Storage and Contractor Yards

Use of the proposed pipe storage and contractor yards would not affect surface waters.

Access Roads

Use of the access roads would not affect surface waters.

4.3.3.2 General Impact and Mitigation

Pipeline construction could affect surface waters in several ways. Clearing and grading of streambanks, in-stream trenching, trench dewatering, and backfilling could affect waterbodies through modification of aquatic habitat, increased sedimentation, increased turbidity, decreased dissolved oxygen concentrations, stream warming, or introduction of chemical contamination from fuels or lubricants. The crossing of irrigation canals could interrupt the flow of irrigation water, which could damage crops and reduce crop yields.

Spoil placed in floodplains during pipeline construction could cause an increase in flood levels or could be washed downstream or be deleterious to aquatic life. The removal of floodplain vegetation could reduce the ability of the floodplain to slow flood flows and filter pollutants and suspended sediment, resulting in increased erosion. Occasional high-intensity rainfalls can result in flash flooding within the Project area and can move large loads of sediment, gravel, and larger debris. This flash flooding is typically confined to natural desert washes and manmade drainage canals within the Project area. All construction within floodplains would be temporary, lasting only a few months during clearing, grading, trenching, pipe stringing, welding, lowering in, backfilling, and restoration operations. North Baja states that it would manage spoil piles in accordance with the provisions of the CDFG's SAA. For the A-Line, these provisions required that materials placed in seasonally dry portions of a stream that could be washed downstream or could be deleterious to aquatic life must be removed before inundation by high flows. Dry washes are also regulated by the CRWQCB, which may impose additional stipulations regarding spoil pile management such as requiring North Baja to leave gaps in the spoil piles in dry washes so the washes remain open during construction. In accordance with its CM&R Plan (see Appendix E), North Baja would prepare and submit an updated CM&R Plan before construction if necessary to incorporate any additional requirements of Federal, State, and local permits.

Drainage canals would not be disturbed by construction. All trench spoil would be returned to the trench, and all disturbed areas would be restored to preconstruction contours. Additionally, North

Baja would stabilize the right-of-way following construction. Because the Project would not add permanent fill in the floodplains, potential flood flows would not be displaced and long-term impacts are not anticipated. Valve #7 on the B-Line would be designed according to DOT standards outlined in Title 40 CFR Part 192, which requires valves to be built on a concrete pad that protects the valves from potential flood or erosion damage.

The greatest potential impact of pipeline construction on surface waters would result from the temporary suspension of sediments caused by in-stream construction or by erosion of cleared streambanks and rights-of-way. The extent of the impact would depend on sediment loads, stream velocity, turbidity, bank composition, and sediment particle size. These factors would determine the density and downstream extent of sediment migration. In-stream construction, particularly under flowing conditions, could cause the dislodging and transport of channel bed sediments, which could cause changes in downstream bottom contours and streamflow dynamics that could cause additional erosion and downstream sedimentation. Turbidity resulting from resuspension of sediments from in-stream construction or erosion of cleared right-of-way areas would reduce light penetration and photosynthetic oxygen production. In-stream work could also introduce chemical and nutrient pollutants from sediments if pollutants are present in the sediments at the crossing location and result in the movement of these pollutants to new locations downstream. Resuspension of deposited organic material and inorganic sediments could cause an increase in biological and chemical use of oxygen, resulting in reduced dissolved oxygen concentrations in the affected area. Lower dissolved oxygen concentrations could cause temporary displacement of motile organisms and may kill non-motile organisms within the affected area. Implementation of the measures described in North Baja's CM&R Plan, such as placement of extra work areas, general crossing procedures, spoil pile placement and control, and trench dewatering, would reduce the potential for degradation of downstream water quality as a result of suspension of sediments to less than significant levels.

Clearing and grading of streambanks would expose large areas of soil to erosional forces and would reduce the riparian vegetation along the cleared section of the stream. The use of heavy equipment for construction could cause compaction of near-surface soils, which could result in increased runoff into surface waterbodies. The increased runoff could transport additional sediment into the waterbodies, resulting in increased turbidity levels and sedimentation rates in the receiving waterbody. Erosion prior to right-of-way restoration and revegetation would be controlled through various procedures as described in North Baja's CM&R Plan. These procedures would reduce the potential for erosion, via either wind or water, to less than significant levels.

No alteration of existing drainage patterns would occur during construction that would result in significant erosion or flooding. The capacity of existing or planned stormwater drainage systems, irrigation water control structures, and municipal water supply reservoirs would not be affected. Adherence to the measures and best management practices in North Baja's CM&R Plan would ensure that the Project would not violate narrative and numerical water quality standards or result in polluted runoff.

Refueling of vehicles and storage of fuel, oil, or other hazardous materials near surface waters and spills from equipment working in waterbodies could also create a potential for contamination in waterbodies. If a spill were to occur, immediate downstream users of the water could experience degradation in water quality. Acute and chronic toxic effects on aquatic organisms could also result from such a spill. Implementation of the measures in North Baja's SPCC Plan (see Appendix F) would minimize the potential impact of a spill into surface waters during construction to less than significant levels.

Waterbody Construction and Mitigation Procedures

As discussed in Section 2.3, North Baja's CM&R Plan includes the portions of the FERC's Procedures that are relevant to protect waterbodies in the Project area. These measures include:

- locating all extra work areas at least 50 feet away from waterbody boundaries, where topographic conditions permit;
- limiting clearing of vegetation between extra work areas and the edge of the waterbody to the certificated construction right-of-way;
- maintaining adequate flow rates to protect aquatic life and prevent the interruption of existing downstream uses;
- restricting storage and refueling activities near surface waters;
- restricting spoil placement and control near surface waters;
- limiting use of equipment operating in the waterbody to that needed to construct the crossing;
- adhering to timing restrictions on in-stream work;
- requiring temporary erosion and sediment control at Rannells Drain and the two unnamed canals along the Arrowhead Extension and/or as required by regulatory agencies;
- requiring bank stabilization and recontouring after construction; and
- limiting use of herbicides or pesticides for right-of-way maintenance in or within 100 feet of a waterbody except as specified by the appropriate land management or State agency.

North Baja would obtain waterbody crossing permits from the COE under section 10 of the Rivers and Harbors Act of 1899 and section 404 of the CWA. North Baja would also obtain a section 401 Water Quality Certification from the CRWQCB. In addition, North Baja would obtain an SAA (section 1600 seq. of the California Fish and Game Code) from the CDFG (see Section 4.3.3.4). All construction activities at waterbody crossings would be in accordance with Federal, State, and local permit requirements. North Baja's implementation of its CM&R Plan and these mitigation measures would reduce impacts on surface waters to less than significant levels.

The majority of the waterbodies that would be crossed by the B-Line are dry washes that do not support fisheries, provide critical aquatic habitat, provide migratory passage for aquatic organisms, or have CRWQCB-designated recreation/high quality visual resource values. North Baja would cross these dry washes with typical cross-country construction methods using the same techniques that were implemented to construct the A-Line. As discussed above, the spoil piles would be managed in accordance with the provisions of the CDFG's SAA, which are expected to require that materials placed in seasonally dry portions of a stream that could be washed downstream or could be deleterious to aquatic life must be removed before inundation by high flows. Impacts on dry washes would be limited to the temporary alteration of beds and banks, loss of wildlife habitat, and possibly increased sediment load during initial storm events following construction. Discussions of impacts on the vegetation, wildlife, and special status species associated with these washes are included in Sections 4.5, 4.6, and 4.7, respectively.

With three exceptions, North Baja would cross all flowing waterbodies using the HDD or bore method, or the pipeline would be installed between the drain culverts and a road bed. Specifically, North Baja proposes to cross the Colorado River, the All-American Canal, and the East Highline Canal using the HDD method, which is described in Section 2.3.2. These three waterbodies are greater than 100 feet wide at the crossing location and are discussed in Section 4.3.3.3.

The only flowing waterbody proposed to be crossed using the open-cut method is Rannells Drain, which would be crossed by the B-Line at MP 11.4. Two unnamed canals that would be crossed by the Arrowhead Extension at MPs 0.5 and 1.5 would also be crossed using the open-cut method. The open-cut method is described in Section 2.3.2. Rannells Drain is an agricultural drain in the Palo Verde Valley that is periodically cleared of vegetation by the PVID. North Baja installed the A-Line in 2002 using the open-cut crossing method and the vegetation in the drain has fully recovered. The PVID has indicated it would be willing to perform maintenance clearing/dredging at the Rannells Drain crossing before construction of the B-Line in 2009, as long as it is done between August 2 and March 14 as agreed with the CDFG. Although Rannells Drain is shallow and stagnant, North Baja proposes to use sediment booms downstream of the trenching, which would contain sedimentation to the localized area. In accordance with the CM&R Plan, North Baja would attempt to complete actual in-stream trenching within 48 hours. Any sediment potentially released during construction would be removed the next time the PVID dredges the drain for agricultural purposes (expected to occur 1 year after construction) and would not be a permanent addition to the aquatic environment. Implementation of North Baja's CM&R Plan and the use of sediment booms would reduce the potential for degradation of downstream water quality as a result of suspension of sediments, including contaminated sediments, and any impact on water quality would be temporary.

With the exception of Rannells Drain and the two unnamed canals along the Arrowhead Extension, all other canals and drains along the B-Line are constrained within culverts under 18th Avenue and would either be crossed by locating the pipeline over the culverts and/or by boring underneath them; therefore, construction would avoid disturbance to the beds and banks of these waterbodies. Erosion control devices would be installed in accordance with the CM&R Plan to protect these waterbodies from sedimentation resulting from adjacent construction activities. Construction across canals and drains in the Palo Verde Valley would be completed in accordance with the PVID permit conditions and site-specific agreements with private landowners. Similar construction techniques were used to construct the A-Line resulting in no impact on canals and drains.

All canals and drains that would be crossed by the IID Lateral also flow through culverts. North Baja would cross these canals and drains using the same techniques and mitigation measures as proposed for the canals and drains that would be crossed by the B-Line. The IID Lateral would also cross the Alamo River (MP 32.3), which would be crossed by installing the pipeline in the road shoulder over the culverts that carry the water under Hunt Road. Use of this method would avoid impacts on the Alamo River.

Impacts on the integrity of structures, such as bridges, pipelines, utilities, or culverts due to erosion or conveyance of stormwater during construction or operation would be less than significant through the implementation of the measures proposed in North Baja's CM&R Plan. Additionally, no structures would be placed within waterbodies that could affect normal flow or increase the potential for flooding outside of the waterbody channel.

4.3.3.3 Major and Sensitive Waterbodies

Waterbodies may be considered sensitive to pipeline construction for a number of reasons, including, but not limited to, the width of the crossing; the presence of coldwater aquatic habitat,

fisheries, and imported or special status species; the presence of high-quality recreational, visual resource, or historic value; or the presence of impaired water or contaminated sediments. Waterbodies may also be considered sensitive if they are of special interest to a land management agency, resource agency, or Native American tribe.

Two major waterbodies (greater than 100 feet wide) would be crossed by the B-Line: the Colorado River (MP 0.2, 790 feet wide) and the All-American Canal (MP 79.8, 200 feet wide). The Colorado River is the primary source for most of the irrigation water in the Project area and is regulated by the COE under section 10 of the Rivers and Harbors Act of 1899 for navigable waters. The Colorado River is also considered sensitive because it provides potential habitat for the razorback sucker, a Federal and State-listed endangered fish species (see Section 4.7.4.4). The All-American Canal is under the jurisdiction of the BOR as part of a Federal irrigation system that diverts water from the Colorado River at the Imperial Dam near Yuma, Arizona, and takes it across the Colorado Desert to provide water through a series of smaller canals into the Imperial and Coachella Valleys. The canal is managed by the IID and is scheduled to have a lining installed between 2006 and 2007, before the proposed construction of the IID Lateral (BOR 1994, Remington 2005).

The IID Lateral would cross two waterbodies greater than 100 feet wide: the All-American Canal (MPs 2.4 and 8.1, 200 feet wide) and the East Highline Canal (MP 27.5, 190 feet wide). The East Highline Canal delivers municipal water to the City of Holtville via an intake on Pear Canal (Mendez 2005). This municipal water intake is located at gate 30L, approximately 6 miles downstream from the East Highline Canal crossing.

North Baja proposes to cross the Colorado River, All-American Canal (three crossings), and the East Highline Canal using the HDD method. As discussed in Section 2.3, this technique involves drilling a pilot hole under the waterbody and banks, then enlarging that hole through successive reamings until the hole is large enough to accommodate the pipe. Throughout the process of drilling and enlarging the hole, a slurry made of naturally occurring non-toxic materials, such as bentonite clay and water, would be circulated through the drilling tools to lubricate the drill bit, remove drill cuttings, and hold the hole open. This slurry is referred to as drilling mud. Pipe sections long enough to span the entire crossing would be staged and welded along the construction work area on the opposite side of the waterbody and then pulled through the drilled hole.

Unlike a conventional open-cut crossing, the HDD method would not alter or remove streambed or streambank habitat, cause in-stream sedimentation, or interfere with fish movement. The primary impact that could occur as a result of an HDD is an inadvertent release of drilling mud (frac-out) directly or indirectly into the waterbody. Drilling mud may leak through previously unidentified fractures in the material underlying the river or canal bed, in the area of the mud pits or tanks, or along the path of the drill due to unfavorable ground conditions. Although drilling mud consists of naturally occurring nontoxic materials, such as bentonite clay and water, in larger quantities the release of drilling mud into a waterbody could affect fisheries or other aquatic organisms by settling and temporarily inundating the habitats used by these species. This impact is less likely in fast-moving water, which can disperse the drilling mud over a large area. Moreover, the impact of a frac-out is substantially less than the impact associated with an open-cut crossing.

The Colorado River and the All-American Canal were crossed by the A-Line in 2002 using the HDD method. One minor frac-out occurred on land near the HDD entry point at the Colorado River; no frac-outs occurred in the water. Geotechnical investigations conducted at these crossing locations indicate that stiff cohesive soils are present that are conducive for the HDD crossing method. Preliminary geotechnical investigations conducted at the IID Lateral crossing locations of the All-American and East

Highline Canals indicate that the HDD crossing method would be appropriate at these locations, although North Baja would conduct additional geotechnical investigations to confirm this preliminary assessment.

North Baja has submitted site-specific HDD crossing plans for the Colorado River, All-American Canal, and East Highline Canal that show the drill entry and exit workspaces, the pipe fabrication and stringout areas, and the drill profiles. North Baja has also submitted an HDD Plan (see Appendix G) that describes the HDD process and how it would be monitored. The HDD Plan describes the agency notification procedures and the corrective action and cleanup procedures that would be followed in the event of a frac-out to land and the abandonment procedures that would be followed if it is necessary to abandon the drill hole. Although the HDD Plan addresses corrective action and cleanup procedures for a frac-out to land, it does not provide this information for a frac-out that occurs in the water. Therefore, **the Agency Staffs recommend that:**

- **North Baja shall prepare a revised HDD Plan that specifies the corrective action and cleanup procedures that would be followed in the event a frac-out occurs in the water during an HDD operation. North Baja shall file the revised plan with the FERC and the CSLC for the review and written approval of the Director of the Office of Energy Projects (OEP) and the Executive Officer of the CSLC before commencement of any HDD operation.**

With the implementation of the Agency Staffs' recommendation, North Baja's site-specific crossing plans and HDD Plan would reduce potential impacts to less than significant levels.

4.3.3.4 Streambed Alteration Agreement

The Colorado River, the Alamo River, 73 irrigation drains and canals, and 265 dry desert washes would be crossed by the North Baja Pipeline Expansion Project in California. The CDFG requires project Applicants to notify the CDFG of any activity that would divert, obstruct, or change the natural flow of the bed, channel, or bank (including associated riparian habitat) of a river, stream, or lake; or use material from a streambed prior to the Applicant's commencement of the activity. Streams include, but are not limited to, intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with subsurface flow. The irrigation drains and canals that would be crossed by the Project are not under the jurisdiction of the CDFG. The issuance of an SAA (section 1600 seq. of the California Fish and Game Code) for projects subject to the CEQA requires CEQA compliance actions by the CDFG as a responsible agency. For the CDFG to process an SAA, the EIS/EIR document must incorporate information regarding impacts on lakes, streams, and associated habitat, including but not limited to the following items:

- a delineation of lakes, streams, and associated habitat that would be directly or indirectly impacted by the proposed Project;
- details on the biological resources (flora and fauna) associated with the lands and/or streams;
- identification of the presence or absence of sensitive plants, animals, or natural communities;
- a discussion of environmental alternatives;
- a discussion of avoidance measures to reduce Project impacts;

- a discussion of potential mitigation measures required to reduce Project impacts to less than significant levels; and
- a discussion of potential adverse impacts from any increased runoff, sedimentation, soil erosion, and/or urban pollutants on streams and watercourses on or near the Project site, with mitigation measures proposed to alleviate such impacts.

The CDFG, as a responsible agency under the CEQA, may consider the local jurisdiction's (lead State agency) Negative Declaration or EIS/EIR for the Project. If the EIS/EIR does not fully identify potential impacts on lakes, streams, and associated resources, and provide adequate avoidance, mitigation, monitoring, and reporting commitments, additional CEQA documentation would be required before execution (signing) of the SAA.

Existing Biological Resources

Biological resources, including wetlands, vegetation, fish, wildlife, and special status species present in streambeds along the proposed pipeline routes are discussed in detail in Sections 4.4, 4.5, 4.6, and 4.7. These discussions include descriptions of habitat types crossed, aquatic and terrestrial species occurring or potentially occurring along the routes, and detailed reviews of protected species and their habitats.

The Colorado River is the prominent surface water feature in the region. This waterbody is a warmwater fishery that provides habitat for several special status species. The riparian vegetation adjacent to the river also provides habitat for a variety of wildlife. Additionally, the Colorado River is an important contributor to the region's biodiversity.

Two vegetative types are generally found along the desert washes crossed by the Project: Sonoran creosote bush scrub and desert wash woodland. Desert wash woodland is the dominant community along well-defined washes. Although not the most common vegetation type crossed by the pipeline routes, desert wash woodland provides greater structural diversity than the Sonoran creosote bush scrub due to its taller vegetation and higher density of vegetation. These characteristics increase wildlife value of the desert wash woodland habitat type.

Biological Studies Conducted

In accordance with the requirements of the SAA, a field-based habitat assessment of the proposed B-Line route was conducted before construction of the A-Line in 2000, and similar habitat assessments of the IID Lateral and the Arrowhead Extension were conducted in 2005 and 2006, respectively, to determine the potential for the occurrence of protected species or their habitats and to ascertain information on vegetative communities within the Project area. Species-specific surveys were conducted for protected species identified by agencies as potentially occurring along the route throughout 2005 and in the Spring of 2006. North Baja's survey methods were designed in consultation with appropriate Federal and State agencies. Additional discussion of surveys for protected species is included in Section 4.7.

Impact Analysis

The evaluation of potential impacts of the Project on streambeds focuses on biological resources associated with the feature, including wetlands, vegetation, fish, wildlife, and special status species. In general, impacts on biological resources within the Project area would be minor and temporary. Direct impacts would be limited to increased erosion and potential sedimentation of the dry washes during initial

storm events following construction. Clearing of riparian vegetation would remove some available habitat and would temporarily displace wildlife species to available adjacent habitats. Some individuals of less mobile species may be killed or injured by construction activities.

No impact on the Colorado River and associated riparian corridor is expected because the river and associated riparian vegetation would be crossed using the HDD method (see Sections 2.3.2 and 4.3.3.3) and the drill entry and exit points would be outside of the riparian zone.

Detailed discussions of potential impact on biological resources resulting from the North Baja Pipeline Expansion Project are included throughout Section 4. Impacts on waterbodies that would be crossed by the Project are discussed in Section 4.3.3, impacts on vegetation are discussed in Section 4.5, impacts on wildlife and aquatic resources are discussed in Section 4.6, and impacts on special status species are discussed in Section 4.7.

Impact Avoidance, Minimization, and Mitigation Measures

Specific mitigation measures to minimize impact on biological resources are discussed in the respective subsections of Section 4. Additionally, North Baja has developed its CM&R Plan (see Appendix E) to minimize impacts on the Project area during construction. The CM&R Plan includes a discussion of proposed restoration activities and other mitigation measures.

4.3.4 Groundwater and Surface Water Uses During Construction

Hydrostatic Test Water

Pipeline integrity would be verified through hydrostatic testing, which is conducted by filling the pipeline with water, pressurizing it, and then checking for pressure loss resulting from leakage. North Baja would use both groundwater and surface water sources for hydrostatic testing.

Water for testing the piping within the Ehrenberg Compressor Station would be obtained from an existing irrigation canal adjacent to the compressor station property or an existing well located on the compressor station site. Both sources are hydrologically connected to the Colorado River. After testing, the water would be discharged into lined irrigation canals at the site or into the D-10 Canal.

North Baja would hydrostatically test the B-Line with water obtained either from the same water sources at the Ehrenberg Compressor Station site or directly from the All-American Canal at the location of the pipeline crossing. The water would be discharged to the All-American Canal when testing is complete.

The Arrowhead Extension and piping within the Blythe-Arrowhead Meter Station would be tested with water obtained from the PVID, local wells, or a commercial water source. After testing, the water would be discharged into the C-05 Canal.

North Baja would hydrostatically test the IID Lateral with water obtained from the All-American Canal through an agreement with the IID to use approximately 7 acre-feet of water and discharge it directly back into the All-American Canal or into other IID irrigation facilities. The quantities of hydrostatic test water required for each facility and the water sources are listed in Table 4.3.4-1.

TABLE 4.3.4-1 Hydrostatic Test Water Requirements for the North Baja Pipeline Expansion Project		
Facility	Water Withdrawn (gallons)	Source
B-Line; Ehrenberg Compressor Station	11,201,000 ^a	Existing well at the Ehrenberg Compressor Station site, existing irrigation canal adjacent to the Ehrenberg Compressor Station Site, or the All-American Canal
Arrowhead Extension; Blythe-Arrowhead Meter Station	586,256	Palo Verde Irrigation District, local wells, or commercial water source
IID Lateral	2,366,000	All-American Canal
^a The water would be withdrawn in phases coinciding with North Baja's proposed construction schedule (see Section 2.4).		

The withdrawal of large volumes of water from surface water sources could temporarily affect the recreational and biological uses of the resource if the diversions constitute a large percentage of the source's total flow or volume. Hydrostatic test water withdrawals could also result in the temporary loss of habitat, changes in water temperature and dissolved oxygen levels, and entrainment or impingement of fish or other aquatic organisms. The withdrawal of large volumes of water from private or public water supply wells could exceed the delivery capacity of the system or well.

North Baja would minimize the potential for these effects by adhering to the hydrostatic testing measures included in its CM&R Plan (see Appendix E). These measures include screening intake hoses and regulating the withdrawal of hydrostatic test water at a rate that would not adversely affect aquatic resources or downstream flows. The fill volume would be limited to 1,500 gallons per minute or 10 percent of streamflow, whichever is less. Maintaining the prescribed withdrawal rate would avoid a reduction in streamflow quantity such that there would not be a flow change that would significantly damage either beneficial uses or aquatic life within the source waters. The rate of water withdrawal from private sources would be limited so as not to exceed the delivery capacity of the system or well. Water would be filtered before entering the pipe and no chemicals would be added to the test water. North Baja would conduct all hydrostatic test activities in accordance with its applicable permits (including coordination with the BOR) and DOT pipeline safety regulations as set forth in Title 49 CFR Part 192. Implementation of these measures would reduce impacts on groundwater and surface waters resulting from hydrostatic testing to less than significant levels. Sections 4.6.3 and 4.7 describe potential impacts of hydrostatic testing on aquatic resources and special status species, respectively.

The potential impacts resulting from the discharge of hydrostatic test water include soil erosion and stream scour and subsequent degradation of water quality. North Baja would discharge hydrostatic test water in accordance with the requirements of its NPDES permit. The discharge rate would be regulated, and water would be discharged through energy dissipation devices and sediment barriers, as necessary, to prevent erosion or excessive flow. The use of such devices would prevent adverse effects on the operation of irrigation water control structures, gates, or valves. No municipal water supply reservoirs would be affected by the proposed Project.

Dust Control Water

Water would also be needed to control fugitive dust generated during construction activities (see Sections 4.2 and 4.11 and Appendix L). The water would likely be obtained from the same sources that would provide water for hydrostatic testing activities (see Table 4.3.4-1). The impacts on water resources due to water withdrawals for dust control would be the same as those discussed above for hydrostatic test

water withdrawals. The rate of water withdrawal for dust control would be limited so as not to exceed the delivery capacity of the system or affect downstream uses.

Because North Baja did not provide estimates of the quantities of water that would be required for dust control or specify the water sources or measures to protect aquatic resources during dust control water withdrawals, **the Agency Staffs recommend that:**

- **North Baja shall prepare a revised Project-wide Dust Control Plan that specifies the following:**
 - a. **the sources of water that would be used for dust control;**
 - b. **the anticipated quantities of water that would be required; and**
 - c. **the measures that would be implemented to prevent fish and fish egg entrainment during dust control water withdrawals.**

The revised Project-wide Dust Control Plan shall be filed with the FERC and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC before construction.

4.3.5 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on groundwater and surface water resources identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.4 WETLANDS

4.4.1 Significance Criteria

An adverse impact on wetlands would be considered significant and would require mitigation if Project construction or operation would:

- fill or alter a wetland resulting in an adverse change in its hydrology or soils, or the composition of vegetation of a unique, rare, or special concern wetland community; or
- cause short- or long-term violations of Federal, tribal, or State water quality standards for streams that lead to wetlands, measured as in-stream elevated turbidity readings or decreased dissolved oxygen levels.

4.4.2 Existing Wetland Resources

Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of wetland vegetation adapted for life in saturated soil conditions (COE 1987). Wetlands can be a source of substantial biodiversity and serve a variety of functions that include providing wildlife habitat, recreational opportunities, flood control, and naturally improving water quality.

Wetlands in the Project area are regulated at the Federal and State levels. On the Federal level, the COE has authority under section 404 of the CWA to review and issue permits for activities that would result in the discharge of dredged or fill material into waters of the United States, including wetlands. Section 401 of the CWA requires that proposed dredge and fill activities under section 404 be reviewed and certified by the designated State agency, in this case the CRWQCB, so that the proposed Project would meet State water quality standards.

For the North Baja Pipeline Expansion Project, wetlands were delineated using the methodology described in the COE Wetlands Delineation Manual (COE Manual), Technical Report Y-87-1. The delineations were conducted during July through October 2000 for the wetlands that would be crossed by the B-Line and during September 2005 for the wetlands that would be crossed by the IID Lateral. On September 23, 2005, North Baja met with representatives from the COE who approved of North Baja's wetland delineation methods after reviewing selected wetlands along the B-Line and IID Lateral. A total of 18 COE jurisdictional wetlands (2.7 miles) would be crossed by the proposed Project. No isolated, non-COE jurisdictional wetlands would be crossed by the Project. The location, wetland identifier, FWS National Wetlands Inventory (NWI) classification, crossing length, and approximate acreage that would be affected by construction and operation of each wetland are listed in Table 4.4.2-1.

Pipeline Facilities

Based on North Baja's field surveys, the proposed pipeline facilities would cross 18 wetlands for a total distance of approximately 2.7 miles. The B-Line would cross 13 of these wetlands for a total crossing length of 13,995 feet (2.7 miles). Ten of these would be palustrine scrub-shrub wetlands and three would be palustrine emergent wetlands. Two of the scrub-shrub wetlands are adjacent to the Colorado River between MPs 0.1 and 0.2. Vegetation in these wetlands includes arrow weed, tamarisk, and willow, as well as a few other species. Eight other scrub-shrub wetlands are between MPs 28.2 and 31.3. All of these wetlands are sodic seasonal wetlands with visible efflorescence (salt) covering the surface. The vegetation in these wetlands is dominated by tamarisk, iodine bush, and greasewood.

TABLE 4.4.2-1

Wetlands Crossed by the North Baja Pipeline Expansion Project ^a

Approximate Milepost	County, State	Wetland Identifier	National Wetlands Inventory (NWI) Classification ^b	Crossing Length (feet)	Temporary Construction Impact (acres) ^c	Permanent Impact (acres) ^d
B-Line						
0.1	La Paz, AZ	P26-WE-1	PSS/PEM	250 ^d	0.0	0.0
0.2	La Paz, AZ	P24-WE-1	PSS	50 ^d	0.0	0.0
2.7	Riverside, CA	N55-WE-3	PEM	70	0.2	0.0
28.2	Imperial, CA	N68-WE-29	PSS	360	1.0	0.1
28.3	Imperial, CA	N69-WE-29	PSS	970	2.5	0.2
28.5	Imperial, CA	N70-WE-29	PSS	515	1.7	0.1
28.8	Imperial, CA	CWE-1	PSS	194	0.5	<0.1
29.1	Imperial, CA	CWE-2	PSS	151	0.4	<0.1
29.1	Imperial, CA	CWE-3	PSS	287	0.7	0.1
29.7	Imperial, CA	CWE-4	PSS	9,630	23.2	2.2
31.3	Imperial, CA	CWE-5	PSS	1,483	5.4	0.3
79.8	Imperial, CA	D18-WE-81C	PEM	15 ^e	0.0	0.0
79.8	Imperial, CA	P1-WE-80	PEM	20 ^e	0.0	0.0
<i>Subtotal B-Line</i>				13,995	35.6	3.0
Arrowhead Extension						
			-None-			
<i>Subtotal Arrowhead Extension</i>				0.0	0.0	0.0
IID Lateral						
27.5	Imperial, CA	East Highline Canal – East	PSS	50 ^e	0.1	0.0
27.6	Imperial, CA	East Highline Canal – West	PSS	50 ^e	0.0	0.0
32.3	Imperial, CA	Alamo River	PSS	340 ^f	0.0	0.0
43.4	Imperial, CA	Acacia Lateral Canal	PSS	40 ^g	0.0	0.0
44.1	Imperial, CA	Alder Lateral Canal	PSS	18 ^g	0.0	0.0
<i>Subtotal IID Lateral</i>				498	0.0	0.0
Project Total				14,493	35.7	3.0

^a Does not include dry wash crossings (see Section 4.3.3.2).

^b NWI Wetland Classification (Cowardin et al. 1979):

PSS = Palustrine scrub-shrub

PEM = Palustrine emergent

^c Acres include the construction right-of-way and extra workspaces.

^d Permanent wetland vegetation type conversion impacts are associated with scrub-shrub wetlands. Operational requirements (corrosion/leak surveys) allow a 10-foot-wide corridor centered over the pipeline to be maintained in an herbaceous state; however, North Baja does not plan to conduct regular vegetation maintenance.

^e Would be crossed by horizontal directional drill.

^f Would not be affected because the pipeline would be installed in the road shoulder outside the wetland boundary.

^g Would be crossed by the bore method.

Of the three palustrine emergent wetlands that would be crossed by the B-Line, one wetland is in a topographic depression between an irrigation canal levee road and an adjacent agricultural field at MP 2.7. Dominant species in this wetland include nut sedge, Bermuda grass, and barnyard grass. The other two emergent wetlands are on the north and south banks of the All-American Canal at MP 79.8.

The drains that would be crossed in the Palo Verde Valley contain vegetation typical of the wetland communities in the area. However, these drains are not considered jurisdictional by the COE and are occasionally dredged.

No wetlands would be crossed by the Arrowhead Extension.

The IID Lateral would cross five palustrine scrub-shrub wetlands for a total crossing length of 498 feet (less than 0.1 mile). Of these, two wetlands are adjacent to the East Highline Canal between MPs 27.5 and 27.6. Vegetation in these wetlands includes arrow weed, tamarisk, and salt bush. A scrub-shrub wetland dominated by tamarisk is adjacent to the Alamo River at MP 32.3. At the Acacia Lateral Canal crossing at MP 43.4, a tamarisk-dominated scrub-shrub wetland would be crossed. A scrub-shrub wetland associated with the Alder Lateral Canal that is dominated by tamarisk, salt bush, and arrow weed would be crossed at MP 44.1.

Aboveground Facilities

No wetlands are present at any of the aboveground facility sites.

Pipe Storage and Contractor Yards

No wetlands are at the four proposed pipe storage and contractor yards.

Access Roads

No wetlands are along the proposed access roads.

4.4.3 General Impact and Mitigation

Although wetlands occur along both the B-Line and the IID Lateral, construction impacts would primarily occur on wetlands along the B-Line. Construction of the B-Line would affect a total of 35.6 acres of wetlands, including 0.2 acre of emergent wetland and 35.4 acres of scrub-shrub wetlands (see Table 4.4.2-1). Of the total 35.6 acres of disturbance along the B-Line, about 26.9 acres were previously disturbed during construction of the A-Line. About 8.7 acres of new wetland disturbance would result from construction of the B-Line. Four wetlands, two associated with the Colorado River crossing and two associated with the All-American Canal crossing, would be avoided by the use of the HDD crossing method at these river and canal crossings (see Table 4.4.2-1).

Wetland impacts along the IID Lateral would be avoided by use of the HDD crossing method at the East Highline Canal, constructing in the road shoulder outside of the wetland boundary at the Alamo River, or by use of the bore crossing method at the Acacia Lateral and Alder Lateral Canals. However, about 0.1 acre of scrub-shrub wetlands would be affected by North Baja's request to locate extra workspace within the wetland that would be crossed on the east side of the Highline Canal at MP 27.5.

The primary impact of pipeline construction and right-of-way maintenance activities on wetlands would be the temporary and permanent alteration of wetland vegetation. These effects would be greatest during and immediately following construction. Generally, the wetland vegetation community would

eventually transition back into a community with functionality similar to that of the wetland before construction. In emergent wetlands, the herbaceous vegetation would regenerate quickly (typically within 1 to 3 years). Scrub-shrub wetlands could take several years to reach functionality similar to preconstruction conditions depending on the age and complexity of the system. However, given the fast growing species (primarily tamarisk) that dominate the scrub-shrub wetlands that would be affected and the results of North Baja's revegetation monitoring for the A-Line, regeneration is expected to occur within a shorter time frame.

Following revegetation, there would be little permanent impact on emergent wetland vegetation in the maintained right-of-way because these areas naturally consist of and would remain as open and herbaceous communities. Herbaceous wetland vegetation in the pipeline right-of-way is not generally mowed or otherwise maintained, although the FERC's Procedures allows annual maintenance of a 10-foot-wide strip centered over the pipeline. A 10-foot-wide corridor centered over the pipeline could potentially be maintained in an herbaceous condition to facilitate corrosion/leak surveys. Permanent impacts would occur on scrub-shrub wetlands if annual maintenance were conducted within this 10-foot-wide strip preventing the scrub-shrub species in this area from reaching mature size. Approximately 3.0 acres of scrub-shrub wetlands along the B-Line could be permanently affected by vegetation type conversions that would be primarily impacts on the structure of the wetlands (i.e., result in more herbaceous vegetation and fewer shrubs), but would not greatly reduce the existing wetland functions or amount of wetlands in the Project area. However, North Baja does not routinely conduct vegetation maintenance along its right-of-way; therefore, permanent impacts on wetlands would not be expected to occur.

Of the 13 wetlands along the B-Line route, 9 were affected during construction of the A-Line, and 4 were previously avoided by HDD crossings. North Baja conducted post-construction monitoring of the nine previously affected wetlands and reports that the wetlands have rapidly revegetated to their preconstruction condition with both native (salt bush) and non-native (tamarisk) species. Because of the high concentration of salts within these wetlands, few native species are able to colonize these areas, and the presence of tamarisk propagules in the wetland topsoil and in adjacent areas favors recolonization and dominance by this non-native species.

Other types of impacts associated with construction of the pipeline could include temporary changes in wetland hydrology and water quality. During construction, failure to segregate topsoil over the trenchline in non-saturated wetlands could result in the mixing of the topsoil with the subsoil. This disturbance could result in altered biological activities and chemical conditions in wetland soils and could affect the re-establishment and natural recruitment of native wetland vegetation after restoration. In addition, inadvertent compaction and rutting of soils during construction could result from the movement of heavy machinery and the transport of pipe sections. The resulting alteration of the natural hydrologic patterns of the wetlands could inhibit seed germination or increase the potential for siltation. The discharge of stormwater, trench water, or hydrostatic test water could result in silt-laden water entering a wetland and cause the release of chemical and nutrient pollutants from sediments. Construction clearing activities and disturbance of wetland vegetation could also temporarily affect the wetland's capacity to buffer flood flows and/or control erosion. The procedures that North Baja would implement to avoid or minimize these impacts are discussed below.

Wetland Construction and Mitigation Procedures

In general, wetland impacts would be minimized by avoidance, mitigation of impacts, and compensation in accordance with Federal, State, and local regulations.

North Baja would avoid impacts on wetlands by implementing the HDD crossing method at six wetland crossings, and implementing the bore crossing method at two wetland crossings. North Baja would further avoid impacts on wetlands by locating the IID Lateral within existing road shoulders. Additionally, North Baja would avoid and minimize impacts on wetlands by its proposal to install the B-Line 25 feet south and west of North Baja's existing A-Line and work over the existing pipeline.

North Baja would mitigate construction-related impacts by implementing its CM&R Plan as discussed below and by complying with the COE's section 404 and the CRWQCB's section 401 permit conditions. The COE has determined that the North Baja Pipeline Expansion Project would qualify for a nationwide permit under the COE's section 404 permit program. Nationwide permits are a type of general permit issued by the COE for certain activities having minimal impacts. Projects that qualify for a nationwide permit are not required to demonstrate compliance with the section 404(b)(1) guidelines that restrict discharges of dredged or fill material where a less environmentally damaging alternative exists. Should the COE later determine that an individual section 404 permit is necessary, as part of its section 404 permit application North Baja would be expected to demonstrate that it has taken appropriate and practicable steps to minimize wetland impacts in compliance with the section 404(b)(1) guidelines that restrict discharges of dredged or fill material where a less environmentally damaging alternative exists. In order for the COE to determine whether practicable alternatives have been taken, North Baja is required to avoid wetland impacts to the maximum extent possible. When unavoidable wetland impacts are proposed, the COE and the CRWQCB would require that all practicable actions be taken to mitigate those impacts. This is consistent with the CEQ's *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act* (Title 40 CFR Part 1508.20), which defines mitigation to include the following criteria:

- avoiding the impact altogether by not taking a certain action or parts of an action;
- minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
- compensating for the impact by replacing or providing substitute resources or environments.

North Baja would implement the wetland construction and restoration measures contained in its CM&R Plan (see Appendix E). The CM&R Plan incorporates many of the measures of the FERC's Procedures that are relevant to protect wetlands within the Project area. Some of the measures pertaining to wetland crossings specified in the FERC's Procedures and/or to which North Baja has committed, include:

- prohibiting storage of hazardous materials, chemicals, fuels, and lubricating oils within a wetland or within 100 feet of a wetland boundary;
- requiring that native vegetation on the right-of-way within wetlands be cut at ground level, leaving existing root systems in place to promote regrowth;
- requiring segregation of the uppermost 1 foot of wetland topsoil from the underlying subsoil in areas disturbed by trenching;

- limiting the operation of construction equipment within wetlands to that equipment essential for clearing, excavation, pipe installation, backfilling, and restoration activities;
- requiring all nonessential equipment to traverse around wetlands using upland access roads where wetland soils are prone to rutting and/or cannot be appropriately stabilized; and
- minimizing duration of construction-related disturbance within wetlands.

One measure of the FERC's Procedures that North Baja did not incorporate into its CM&R Plan is the provision to limit the width of the construction right-of-way in wetlands to 75 feet or less. North Baja did not incorporate this requirement because, of the 18 wetlands that would be affected by the Project, 6 would be avoided by HDD crossings, 2 would be avoided by bore crossings, and 1 would be avoided by constructing within the road shoulder adjacent to the Alamo River. The one emergent wetland that would be affected would be crossed within the 60-foot-wide construction right-of-way along 18th Avenue. The remaining eight wetlands that would be crossed are scrub-shrub wetlands that contain a high percentage of tamarisk, which is considered a noxious weed species.

Additionally, North Baja is requesting approval to locate extra workspaces within five wetlands, four along the B-Line and one along the IID Lateral. The FERC's Procedures requires that all extra workspaces (such as staging areas and additional spoil storage areas) be located at least 50 feet away from wetland boundaries, except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land. North Baja states that use of these extra workspaces would affect 2.7 acres of tamarisk-dominated scrub-shrub wetlands (2.6 acres along the B-Line and 0.1 acre along the IID Lateral). Of the total 2.7 acres that would be affected, 1.8 acres were previously disturbed during construction of the A-Line. Table E-2 in the CM&R Plan (see Appendix E) lists the specific wetlands and workspace requirements.

The Agency Staffs agree that it would not be necessary for North Baja to reduce the width of its construction right-of-way to 75 feet in wetlands that are predominantly tamarisk. The Agency Staffs approve North Baja's request to locate extra workspaces in the five wetlands specified in Table E-2 of its CM&R Plan, and also agree that the other measures of the FERC's Procedures that are omitted from the CM&R Plan (e.g., do not cut trees outside of the approved construction work area to obtain timber for riprap or equipment mats; use no more than two layers of timber riprap to support equipment on the construction right-of-way) are not necessary in the arid climate that would be crossed or are not directly applicable to the Project.

North Baja indicated that it has initiated consultation with the CRWQCB. In its review of the Project to determine whether to issue a section 401 permit, the CRWQCB may impose permit conditions requiring mitigation measures in addition to those described above. In accordance with the CM&R Plan, North Baja would prepare and submit an updated CM&R Plan before construction if necessary to incorporate any additional requirements of Federal, State, and local permits. North Baja's adherence to its CM&R Plan and compliance with the COE's section 404 and the CRWQCB's section 401 permit conditions would adequately protect wetland resources crossed by the pipeline route and reduce impacts to less than significant levels.

4.4.4 Site-specific Impact and Mitigation

The two wetlands associated with the Colorado River, two wetlands associated with the All-American Canal, and two wetlands associated with the East Highline Canal would be avoided by the HDDs of these waterbodies. Two wetlands associated with the Acacia Lateral and Alder Lateral Canals

would be avoided by North Baja's proposal to bore beneath these features. In addition, the wetland associated with the Alamo River would be avoided by constructing the pipeline within the road shoulder outside of the wetland boundaries.

North Baja's clearing of a 105-foot-wide construction right-of-way through the eight scrub-shrub wetlands located between MPs 28.2 and 31.3 would reduce the amount of tamarisk occurring along the pipeline route. The CM&R Plan contains a measure to remove all tamarisk trees and shrubs including stumps and root systems. North Baja has the right to maintain a 10-foot-wide strip centered over the pipeline if necessary for periodic corrosion/leak surveys. A 10-foot-wide maintained corridor would result in the permanent conversion of about 3.0 acres of scrub-shrub wetland to emergent wetland. However, as previously discussed, North Baja has not conducted vegetation maintenance along the A-Line and does not propose to conduct annual vegetation maintenance in the areas associated with the North Baja Pipeline Expansion Project. As documented in North Baja's post-construction monitoring reports, wetlands affected by construction of the A-Line have largely revegetated to a state similar to preconstruction conditions. Therefore, no long-term or significant adverse impact on wetlands is expected to result from the North Baja Pipeline Expansion Project.

The emergent wetland at MP 2.7 would be within the 60-foot-wide construction right-of-way along 18th Avenue. Impacts on this wetland would be temporary and minor, and the wetland would be expected to revegetate quickly.

The Project would not result in the placement of fill within wetlands, and wetland topsoil and hydrology would be restored at the affected wetlands. No streams run through the affected wetlands, therefore, construction through wetlands would not result in significant water quality impacts on streams.

4.4.5 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on wetlands identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.5 VEGETATION

4.5.1 Significance Criteria

An adverse impact on vegetation would be considered significant and would require mitigation if Project construction or operation would:

- disturb a substantial portion of the vegetation type within a local region to the point where natural or enhanced regeneration could not restore the vegetation to its preconstruction condition within 3 years;
- result in the long-term (more than 5 years) reduction or alteration of unique, rare, or special concern vegetation types; riparian vegetation; or natural communities;
- introduce new, or lead to the expanded range of existing, invasive noxious weed species or soil pests, so that they interfere with crop production or successful revegetation of natural communities; or
- cause a spill or leak that would contaminate the soil to the extent of eradicating the existing vegetation, inhibiting revegetation, or migrating to other areas and affecting soil and water ecology via erosion and sedimentation.

4.5.2 Existing Vegetation Resources

The proposed pipeline route is entirely within the Lower Colorado River Valley subdivision of the Sonoran Desert, and vegetation communities found in the Project vicinity are typical of that subdivision. The characterization of vegetation communities presented in this EIS/EIR is based on the published and unpublished literature (Holland 1986, Sawyer and Keeler-Wolf 1995) as well as information from field surveys.

Distinct vegetation communities have been identified that occur within the Project area as discussed below. Table 4.5.2-1 lists these communities; provides general descriptions, including common vegetative species typical of each community; and identifies the facility and milepost ranges where each community occurs. Wetland vegetation communities that would be affected by the Project are discussed in Section 4.4. Areas of riparian vegetation would be avoided by the Project.

Pipeline Facilities

The B-Line would cross three native desert vegetation communities as well as agricultural and urban/ruderal lands that have been significantly altered by human settlement.

The primary vegetation community that would be crossed by the B-Line is creosote scrub. This community comprises about 78 percent of the vegetation communities crossed by the B-Line. The next two most prevalent vegetation communities crossed are urban/ruderal and desert wash woodland, comprising about 12 and 10 percent, respectively, of the vegetation communities crossed by the B-Line. The remaining upland vegetation community that would be crossed by the B-Line is the agricultural community, which would account for less than 1 percent of the vegetation crossed.

TABLE 4.5.2-1			
Vegetation Communities Affected by the North Baja Pipeline Expansion Project			
Vegetation Community	General Description	Common Species	Location of Occurrence (Facility/Milepost Range)
Creosote bush scrub	Generally less than 10 feet tall and widely spaced, usually with bare ground between plants. Perennial vegetation is less than 25 percent of the landscape. Also included are non-wetland tamarisk scrub, rocky slopes, stabilized sand dunes, and desert saltbush scrub communities.	White bursage, brittlebush, ocotillo, saltbushes, desert-holly, mesquites, tamarisk	B-Line, MPs 11.7-28.2, 28.6-29.7, 31.7-79.8 IID Lateral, MPs 0.0-3.5, 7.7-27.5
Desert wash woodland	Open to dense, drought deciduous, microphyllous riparian thorn scrub woodlands, less than 60 feet tall.	Cat-claw acacia, desert broom, fairy duster, burrobrush, Anderson's thornbush, tamarisk	B-Line, MPs 11.7-28.2, 28.6-29.7, 31.7-79.8
Desert sand dune	Sparsely vegetated, actively moving, sand dunes.	Creosote bush, mesquite, dune buckwheat, dune sunflower, Peirson's milk-vetch	IID Lateral, MPs 0.0-7.7
Agricultural	Consists of commercial agricultural crops dependent on irrigation.	Cotton, alfalfa, wheat, melons	B-Line, MPs 0.4-2.9, 10.5-11.7 Arrowhead Extension, MPs 1.0-2.1 IID Lateral, MPs 27.6-42.8, 44.1-45.6
Urban/ruderal	Sparsely vegetated, previously disturbed areas. May include improved landscaped areas.	Wild oats, mustard, thistle, landscape species	B-Line, MPs 0.0-0.2, 2.9-10.5 Arrowhead Extension, MPs 0.0-1.0 IID Lateral, MPs 42.8-44.1, 45.6-45.7

Along the Arrowhead Extension, 52 percent of the vegetation communities that would be crossed are agricultural and 48 percent are urban/ruderal.

The primary vegetation community that would be crossed by the IID Lateral is urban/ruderal, which accounts for about 74 percent of the vegetation communities crossed. The next most prevalent vegetation community that would be crossed is creosote bush scrub, which accounts for 16 percent of the vegetation communities crossed. The desert sand dune and agricultural communities account for 9 percent and less than 1 percent, respectively, of the vegetation communities crossed by the IID Lateral.

Aboveground Facilities

The modifications proposed at the Ehrenberg Compressor Station would take place primarily within the fenceline; however, the installation of about 400 feet of header piping outside the fenced site would affect the urban/ruderal community. The Blythe-Arrowhead Meter Station and pig receiver would be within the existing SoCalGas Blythe Compressor Station site and would not affect additional vegetation resources. Modifications at the Ogilby Meter Station (including the pig launcher and receiver) would affect the creosote bush scrub community. Construction of the El Centro Meter Station would affect the urban/ruderal community.

Nine valves would be constructed along the B-Line, all of which would be collocated with existing aboveground facilities. Four of the B-Line valves (#s 2, 5, 6, and 7) would be collocated with existing valves along the A-Line; however, the permanently maintained area at the existing valve sites

would need to be expanded in order to accommodate these new valves. Expansion of these existing sites would affect the following vegetation communities: urban/ruderal (valve #2) and creosote bush scrub (valve #s 5, 6, and 7). Construction of the remaining five valves (#s 1, 3, 4, 8, and 9) would take place within currently maintained aboveground facility sites and would not affect additional vegetation resources.

Four valves would be constructed in association with the IID Lateral. Valve #1 would be within the Ogilby Meter Station site and would not require any additional land. Valve #2 would affect the desert sand dune community, valve #3 would affect the creosote bush scrub community, and valve #4 would affect the agricultural community.

The pig launcher, taps, and related crossover piping associated with the Arrowhead Extension would affect the agricultural community. The creosote bush scrub community would be affected by construction of the pig launcher and receiver at the Rannells Trap, as well as the construction of the tap at the B-Line and the pig launcher associated with the IID Lateral.

Pipe Storage and Contractor Yards

North Baja identified four pipe storage and contractor yards to be used during construction, three of which were used during construction of the A-Line. All four of these sites are previously disturbed sites used for industrial/commercial purposes and occur primarily within the urban/ruderal community although the creosote bush scrub community would also be affected.

Access Roads

Improvements or modifications to 44 existing access roads and construction of 1 new permanent access road (less than 0.1 mile long) associated with the B-Line would affect the creosote bush scrub, agricultural, and desert wash woodland communities. The construction of one permanent access road (less than 0.1 mile long) associated with the Arrowhead Extension would affect the urban/ruderal community. Construction of the IID Lateral would require improvements or modifications to six existing access roads and the construction of one new permanent access road (less than 0.1 mile long) that would affect the creosote bush scrub, urban/ruderal, agricultural, and desert sand dune communities.

4.5.3 General Impact and Mitigation

Pipeline Facilities

The primary impact of the pipeline facilities on vegetation would be the cutting, clearing, and/or removal of existing vegetation within the construction work area. The degree of impact would depend on the type and amount of vegetation affected, the rate at which the vegetation would regenerate after construction, and the frequency of vegetation maintenance conducted during operation. Existing vegetation would be disturbed everywhere along the construction right-of-way. In general, the swath of vegetation that would be disturbed during construction would be 105 feet wide for the length of the B-Line, between 60 and 100 feet wide for the Arrowhead Extension, and between 60 and 80 feet wide for the IID Lateral. Because North Baja would work over its existing pipeline to construct the B-Line, it would minimize the area of new disturbance and, therefore, would minimize impacts on vegetation. About 75 percent of the vegetation disturbance associated with the B-Line would be within North Baja's existing, previously disturbed right-of-way.

Secondary effects associated with disturbances to vegetation could include increased soil erosion (see Section 4.2), increased potential for the introduction and establishment of invasive weedy species

(see Section 4.5.5), and a local reduction in available wildlife habitat (see Section 4.6.1). Other potential effects on vegetation could include the contamination of soils from spills or leaks of fuels, lubricants, and coolants from construction equipment that would restrict the ability of vegetation to become re-established.

North Baja's proposed construction right-of-way and temporary extra workspaces would disturb a total of about 1,533.6 acres of vegetation. Table 4.5.3-1 lists the amount of each vegetation community that would be affected by construction and operation of the pipeline facilities.

The most common vegetation communities that would be affected are creosote bush scrub (942.1 acres) and urban/ruderal (374.0 acres), which account for about 86 percent of the vegetation that would be cleared or affected by construction. The next most common communities that would be disturbed are agriculture (93.5 acres) and desert wash woodland (82.9 acres) accounting for about 12 percent of the affected vegetation. The least common vegetation community that would be affected is desert sand dunes (41.1 acres), which accounts for less than 3 percent of the vegetation that would be disturbed by the construction of the pipeline facilities.

After cleanup and reseeded of the right-of-way, the agricultural community would typically regenerate quickly and impacts on these vegetation communities would be short term. Cultivated areas are regularly disturbed, generally receive ample water through irrigation if necessary, and would quickly re-establish on the right-of-way following replanting by the landowners.

The removal of desert vegetation would have a long-term impact. The arid environment characteristic of these habitats is not conducive to plant growth and would slow the regeneration of vegetation following construction. Moreover, because of the dryness of these areas, regeneration by active seeding or planting is typically ineffective. Natural regeneration of these areas would take several years and in some cases could take over 50 years.

Of the vegetation communities that would be disturbed, the most sensitive is the desert wash woodland, which would be crossed by the B-Line. Desert wash species growing in microphyll woodland, such as ironwood, blue palo verde, and smoke tree, provide structural diversity, cover, and forage for many more wildlife species than the creosote bush scrub habitat. Although this vegetation type provides important habitat, it has not been officially designated as a vegetation community of special concern or value.

Of the total 82.9 acres of desert wash woodland that would be cleared, 22.0 acres (about 26 percent) would be new disturbance (i.e., not disturbed during construction of the A-Line). Because of the importance of microphyll woodland, North Baja proposes to minimize tree clearing in woodland areas by reducing the width of the construction right-of-way in certain locations. Based on field surveys, North Baja adopted a selection criteria that identified areas of vegetation with at least 20 percent crown cover within the non-construction or "passing lane" portion of the construction right-of-way where it proposes to minimize tree clearing by reducing the width of the right-of-way from 105 feet to 80 feet. The BLM and the CDFG approved this approach to identify tree groupings to be preserved during construction of North Baja's A-Line. For the B-Line, North Baja identified 16 woodland areas of native trees (about 24.1 acres) along the proposed route where the right-of-way width would be reduced. The reduction of the right-of-way width from 105 feet to 80 feet at these 16 areas would preserve 5.6 acres of desert wash woodland trees, which would reduce the amount new clearing in desert wash woodlands by about 20 percent. Table 4.5.3-2 identifies the location and extent of these areas.

TABLE 4.5.3-1

Acres of Vegetation Communities Affected by the North Baja Pipeline Expansion Project

Facility	Creosote Bush Scrub			Urban/Ruderal			Agriculture			Desert Wash Woodland ^a			Desert Sand Dunes			Total		
	Const.	Oper.	New	Const.	Oper.	New	Const.	Oper.	New	Const.	Oper.	New	Const.	Oper.	New	Const.	Oper.	New
B-Line																		
Pipeline Facilities																		
Pipeline Right-of-Way	761.2	0.0	198.0	117.7	0.0	0.5	28.0	0.0	8.5	75.6	0.0	19.6	0.0	0.0	0.0	982.5	0.0	226.6
Temporary Extra Workspace	<u>83.6</u>	<u>0.0</u>	<u>36.1</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>34.7</u>	<u>0.0</u>	<u>11.4</u>	<u>7.3</u>	<u>0.0</u>	<u>2.4</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>125.6</u>	<u>0.0</u>	<u>49.9</u>
<i>Pipeline Facilities Subtotal</i>	<i>844.8</i>	<i>0.0</i>	<i>234.1</i>	<i>117.7</i>	<i>0.0</i>	<i>0.5</i>	<i>62.7</i>	<i>0.0</i>	<i>19.9</i>	<i>82.9</i>	<i>0.0</i>	<i>22.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>1,108.1</i>	<i>0.0</i>	<i>276.5</i>
Aboveground Facilities	1.5	0.5	1.5	0.8	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.5	2.3
Pipe Storage and Contractor Yards	5.0	0.0	0.0	45.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.4	0.0	0.0
Access Roads	<u>97.1</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>2.3</u>	<u>0.0</u>	<u>0.0</u>	<u>0.3</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>99.7</u>	<u>0.0</u>	<u>0.0</u>
<i>B-Line Subtotal</i>	<i>948.4</i>	<i>0.5</i>	<i>235.6</i>	<i>163.9</i>	<i>0.0</i>	<i>1.3</i>	<i>65.0</i>	<i>0.0</i>	<i>19.9</i>	<i>83.2</i>	<i>0.0</i>	<i>22.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>1,260.5</i>	<i>0.5</i>	<i>278.8</i>
Arrowhead Extension																		
Pipeline Facilities																		
Pipeline Right-of-Way	0.0	0.0	0.0	7.2	0.0	7.2	13.4	4.7	13.4	0.0	0.0	0.0	0.0	0.0	0.0	20.6	4.7	20.6
Temporary Extra Workspace	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>1.7</u>	<u>0.0</u>	<u>1.7</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>1.7</u>	<u>0.0</u>	<u>1.7</u>
<i>Pipeline Facilities Subtotal</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>7.2</i>	<i>0.0</i>	<i>7.2</i>	<i>15.1</i>	<i>4.7</i>	<i>15.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>22.3</i>	<i>4.7</i>	<i>22.3</i>
Aboveground Facilities	0.0	0.0	0.0	1.0	0.3	1.0	1.0	0.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.1	2.0
Pipe Storage and Contractor Yards	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Access Roads	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
<i>Arrowhead Extension Subtotal</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>8.2</i>	<i>0.3</i>	<i>8.2</i>	<i>16.1</i>	<i>5.5</i>	<i>16.1</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>24.3</i>	<i>5.8</i>	<i>24.3</i>

TABLE 4.5.3-1 (cont'd)

Acres of Vegetation Communities Affected by the North Baja Pipeline Expansion Project

Facility	Creosote Bush Scrub			Urban/Ruderal			Agriculture			Desert Wash Woodland ^a			Desert Sand Dunes			Total		
	Const.	Oper.	New	Const.	Oper.	New	Const.	Oper.	New	Const.	Oper.	New	Const.	Oper.	New	Const.	Oper.	New
IID Lateral																		
Pipeline Facilities																		
Pipeline Right-of-Way	72.8	42.5	72.8	245.7	59.7	245.7	1.0	0.0	1.0	0.0	0.0	0.0	40.7	0.0	40.7	360.2	102.2	360.2
Temporary Extra Workspace	<u>24.5</u>	<u>0.0</u>	<u>24.5</u>	<u>3.4</u>	<u>0.0</u>	<u>3.4</u>	<u>14.7</u>	<u>0.0</u>	<u>14.7</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.4</u>	<u>0.0</u>	<u>0.4</u>	<u>43.0</u>	<u>0.0</u>	<u>43.0</u>
<i>Pipeline Facilities Subtotal</i>	<i>97.3</i>	<i>42.5</i>	<i>97.3</i>	<i>249.1</i>	<i>59.7</i>	<i>249.1</i>	<i>15.7</i>	<i>0.0</i>	<i>15.7</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>41.1</i>	<i>0.0</i>	<i>41.1</i>	<i>403.2</i>	<i>102.2</i>	<i>403.2</i>
Aboveground Facilities	0.4	0.2	0.4	2.5	0.2	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.4	2.9
Pipe Storage and Contractor Yards	0.0	0.0	0.0	22.7	0.0	22.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.7	0.0	22.7
Access Roads	<u>2.9</u>	<u>0.1</u>	<u>0.2</u>	<u>1.3</u>	<u>0.0</u>	<u>0.0</u>	<u>6.1</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.9</u>	<u>0.0</u>	<u>0.0</u>	<u>11.2</u>	<u>0.1</u>	<u>0.2</u>
<i>IID Lateral Subtotal</i>	<i>100.6</i>	<i>42.8</i>	<i>97.9</i>	<i>275.6</i>	<i>59.9</i>	<i>274.3</i>	<i>21.8</i>	<i>0.0</i>	<i>15.7</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>42.0</i>	<i>0.0</i>	<i>41.1</i>	<i>440.0</i>	<i>102.7</i>	<i>429.0</i>
Project Total																		
Pipeline Facilities																		
Pipeline Right-of-Way	834.0	42.5	270.8	370.6	59.7	253.4	42.4	4.7	22.9	75.6	0.0	19.6	40.7	0.0	40.7	1,363.3	106.9	607.4
Temporary Extra Workspace	108.1	0.0	60.6	3.4	0.0	3.4	51.1	0.0	27.8	<u>7.3</u>	<u>0.0</u>	<u>2.4</u>	<u>0.4</u>	<u>0.0</u>	<u>0.4</u>	<u>170.3</u>	<u>0.0</u>	<u>94.6</u>
<i>Pipeline Facilities Subtotal</i>	<i>942.1</i>	<i>42.5</i>	<i>331.4</i>	<i>374.0</i>	<i>59.7</i>	<i>256.8</i>	<i>93.5</i>	<i>4.7</i>	<i>50.7</i>	<i>82.9</i>	<i>0.0</i>	<i>22.0</i>	<i>41.1</i>	<i>0.0</i>	<i>41.1</i>	<i>1,533.6</i>	<i>106.9</i>	<i>702.0</i>
Aboveground Facilities	1.9	0.7	1.9	4.3	0.5	4.3	1.0	0.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	2.0	7.2
Pipe Storage and Contractor Yards	5.0	0.0	0.0	68.1	0.0	22.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	73.1	0.0	22.7
Access Roads	100.0	0.1	<u>0.2</u>	<u>1.3</u>	<u>0.0</u>	<u>0.0</u>	<u>8.4</u>	<u>0.0</u>	<u>0.0</u>	<u>0.3</u>	<u>0.0</u>	<u>0.0</u>	<u>0.9</u>	<u>0.0</u>	<u>0.0</u>	<u>110.9</u>	<u>0.1</u>	<u>0.2</u>
Project Total	1,049.0	43.3	333.5	447.7	60.2	283.8	102.9	5.5	51.7	83.2	0.0	22.0	42.0	0.0	41.1	1,724.8	109.0	732.1
Percent of Total	60.8	39.6	45.5	26.0	55.1	38.7	6.0	5.0	7.1	4.8	0.0	3.0	2.4	0.0	5.6	100.0	100.0	100.0

^a Acres include areas with at least 20 percent tree cover where the right-of-way width was reduced (see Table 4.5.3-2).

Const. = Construction.

Oper. = Operation.

New = New disturbance (i.e., not disturbed during construction of the A-Line).

TABLE 4.5.3-2				
Locations Along the B-Line Where the Construction Right-of-Way Would be Reduced to 80 Feet to Minimize Tree Clearing				
Starting Milepost	Length (feet)	Crown Cover (percent)	Previous Disturbance (A-Line) (acres)	New Disturbance (acres)
16.9	345	25	0.4	0.2
17.9	270	31	0.3	0.2
20.0	700	30	0.8	0.5
22.3	480	20	0.6	0.3
22.5	250	43	0.3	0.2
22.6	1,000	33	1.1	0.7
22.8	180	42	0.2	0.1
23.3	340	50	0.4	0.2
23.4	250	63	0.3	0.2
23.5	590	41	0.7	0.4
25.8	850	35	1.0	0.6
34.5	860	25	1.0	0.6
45.1	500	48	0.6	0.3
51.1	1,800	30	2.1	1.2
51.7	1,100	30	1.3	0.8
64.5	500	31	0.6	0.3
Total	10,015		11.7	6.8

As proposed in the CM&R Plan, trees that cannot be avoided would be subjected to one of several treatments (prune, limb, or remove) based on proximity to the pipeline centerline. By pruning or limbing trees rather than removing them, many trees within the right-of-way would be preserved.

During the scoping process, the FWS identified impacts on desert wash woodland as a significant concern and requested that mitigation/restoration efforts be concentrated in the desert wash woodlands that would be crossed by the B-Line north and adjacent to the Cibola NWR and the Milpitas Wash. Additionally, the FWS suggested that North Baja consider conducting vegetation maintenance (i.e., noxious weed control) beyond the limits of the construction right-of-way in areas of microphyll woodland as part of off-site mitigation. As noted in North Baja's CM&R Plan, tree and shrub seedling recruitment was generally higher in areas of desert wash woodlands than in areas of creosote bush scrub. Moreover, seedling recruitment within the disturbed right-of-way was generally higher than in control plots located off of the right-of-way. Noxious weeds (e.g., African mustard and tamarisk), while present, were found in areas where weeds were present before construction. North Baja proposes to conduct the same restoration and maintenance activities for desert wash woodland that were conducted for the A-Line, which, as evidenced by the results of North Baja's mitigation and monitoring reports, were successful.

As was required by the CDFG to construct the A-Line, North Baja proposes compensatory mitigation for the loss of desert wash woodland vegetation. North Baja proposes an assessed financial contribution at a 2:1 ratio for the clearing of the 22.0 acres (new disturbance) of desert wash woodland in addition to the 1:1 compensation ratio it proposes to offset impacts on desert tortoise habitat. North Baja would negotiate off-site mitigation requirements with the FWS and the CDFG (see Section 4.7).

The BLM identified the Milpitas Wash SMA as a significant concern, noting that it consists of relatively unfragmented native vegetation communities. Further detail regarding the potential effects of the Project on managed wildlife habitats, including the Milpitas Wash SMA, is included in Section 4.6.2.4.

No impact on the riparian corridor adjacent to the Colorado River is anticipated because the crossing would be completed using the HDD method. The HDD would pass 60 feet below the bed of the Colorado River. Because the root zones of the vegetation adjacent to the Colorado River are primarily less than 15 feet deep, the adjacent riparian vegetation would not be affected by the HDD and removal of riparian vegetation along the Colorado River would not occur during construction or maintenance of the pipeline. Therefore, the habitat diversity added to the region by the Colorado River and its adjacent vegetation would not be compromised by the proposed Project. Similarly, implementation of the HDDs at the All-American Canal would avoid impacts on the riparian vegetation at these crossing locations.

Open-cut trenching through Rannells Drain (MP 11.4) would have a short-term impact on both wetland (cattails and bulrush) and upland (arrow weed, quailbush, and tamarisk) vegetation growing in and on the steep banks of the drain. This vegetation is routinely removed during drain maintenance by the PVID. The banks of the drain would be restored and stabilized following construction (see Section 4.2.4). Because vegetation has re-established following the construction of the A-Line in 2002, it is expected that the vegetation in Rannells Drain would regenerate on its own from existing seed and vegetative propagules within 2 years after construction.

Construction of the B-Line (primarily along 18th Avenue) and the IID Lateral (primarily along Hunt Road and East Ross Road) could affect mature landscaping associated with residential development. In many cases this mature vegetation provides shade and helps attenuate the effects of ambient dust. A total of 11 residences along the B-Line were identified where construction would affect landscaping. Impacts on landscaping along the Arrowhead Extension and the IID Lateral would largely be avoided. Based on North Baja's evaluation, no trees on residential properties are proposed for removal. Mitigation measures such as tree protection fencing would be employed to protect existing trees during construction. North Baja would restore landscaping following construction as part of site-specific plans. If mature trees or shrubs need to be removed during construction, landowners would be compensated for the loss of irreplaceable vegetation as part of agreements between North Baja and the landowners. Additional information about impacts on and potential mitigation measures for residential areas, including landscaping, is presented in Section 4.8.3.

To reduce impacts on vegetation within the construction and permanent rights-of-way and improve revegetation potential, North Baja would implement its CM&R Plan (see Appendix E). Specifically, North Baja would implement the following measures that were found to be successful for the A-Line:

- Segregate topsoil in all agricultural areas and in native habitats where grading is required. This measure would preserve the superior chemical and biological qualities of the topsoil and, in nonagricultural habitats, would preserve the native seed bank contained in the soil.
- Crush or skim vegetation within the construction right-of-way in areas where grading is not required, which would result in less soil disturbance. The remaining root crowns would aid in soil stabilization, help retain organic matter in the soil, aid in moisture retention, and have the potential to resprout following construction.
- Preserve native vegetation removed during clearing operations. The cut vegetation would be windrowed along the right-of-way during construction and then respread over the disturbed areas as part of restoration activities. This measure would be considered "vertical mulch" and would aid in seedling recruitment by trapping seeds, providing shade, and improving water infiltration. Additionally, this cut vegetation would add to the organic matter in the topsoil layer as it decomposes.

- Replant desert wash woodland species at specified locations along the right-of-way providing a visual barrier to the right-of-way to deter OHV traffic on the right-of-way (see Section 4.8.5). Although this vegetation would not be expected to survive, it would provide many of the benefits of vertical mulch described above in addition to preventing vegetation damage by OHV use on the right-of-way.
- Recontour disturbed areas as needed. The contours would be reshaped after backfilling the trench and replacing the topsoil to restore preconstruction contours and natural drainage patterns. This treatment would reduce erosion and the loss of topsoil, which would improve revegetation potential.
- Imprint areas of soil disturbance using a “sheep’s-foot” roller or other methods. Imprinting would provide micro-catchment areas for seed retention and would improve water infiltration.
- Maintain water flow in crop irrigation systems, unless shutoff is coordinated with affected parties.
- Test for and alleviate compacted soils in agricultural and residential areas.
- Implement procedures to prevent or minimize the spread of noxious weeds or other undesirable species by limiting disposal of plant materials to suitable areas and the cleaning of clearing and grading equipment before beginning work on the Project (see Section 4.5.5).
- Monitor the revegetation of the right-of-way the year following construction and again during the second growing season. In agricultural areas, crop monitoring would be conducted to determine if additional restoration is required. Additional revegetation efforts would be conducted until revegetation is deemed successful. In non-agricultural lands, revegetation monitoring would be conducted until 2012 and would be considered successful if upon visual survey, the density and cover are similar to adjacent undisturbed lands.

Although construction of the pipeline facilities would result in long-term impacts on about 1,066.1 acres of native desert vegetation (i.e., creosote bush scrub, desert wash woodland, and desert sand dunes), North Baja’s plan to overlap its construction right-of-way onto its existing pipeline right-of-way would reduce new impacts on undisturbed desert vegetation by about 63 percent. North Baja’s plan to reduce its construction right-of-way through areas of desert wash woodland would further reduce impact on desert vegetation types and the implementation of its CM&R Plan would improve the success of natural restoration. The North Baja Pipeline Expansion Project would not represent a significant impact on vegetation because the Sonoran Desert encompasses more than 5.4 million acres in southeast California alone (Ceres 2006), and the Project would affect less than 0.01 percent of the regional desert vegetation type. Therefore, impacts on vegetation would be considered less than significant.

During the scoping process, several landowners expressed concern about the removal of native desert vegetation. As discussed above, the revegetation of desert areas could take from 5 to 50 years. A review of North Baja’s post-construction monitoring reports for the A-Line indicates that following construction in 2002, natural seedling recruitment along the construction right-of-way has occurred within creosote bush scrub and desert wash woodlands. Seedlings of both annual species and perennial shrubs and trees were found growing on the right-of-way during annual vegetation monitoring.

As discussed in Section 4.2.4, the BLM would need to assess potential impacts on rangeland health on BLM lands attributable to the Project. One of the attributes that would be assessed is the integrity of the biotic community (i.e., the capacity of the area to support characteristic functional and structural communities, to resist loss of this function and structure due to disturbance, and to recover following disturbance [Pellant et al. 2005]). The removal of desert vegetation and disturbance of soils could affect the ability of the Project area to support vegetation and wildlife communities. However, North Baja's CM&R Plan, which includes measures to control erosion and preserve topsoil and scarce organic matter, would minimize impacts on the revegetation potential of the Project area. Similar measures were implemented during construction and restoration of the A-Line, and the results of revegetation monitoring indicate that revegetation is occurring within the disturbed areas.

All of the vegetation communities affected by the Project would be susceptible to secondary impacts related to soil contamination by materials used during construction activities. While these impacts would typically be minor because of the low frequency and volumes of these occurrences, the introduction of contaminants to soils could adversely affect the potential for revegetation. North Baja's SPCC Plan specifies cleanup procedures to minimize the potential for soil contamination from spills or leaks of fuels, lubricants, and coolants (see Appendix F). Adherence to North Baja's SPCC Plan would reduce the potential for a spill or leak to contaminate the soil to the extent of eradicating existing vegetation, inhibiting revegetation, or migrating to other areas and affecting soil and water ecology via erosion and sedimentation to a less than significant level.

Aboveground Facilities

The modifications proposed at the Ehrenberg Compressor Station would not permanently affect additional vegetation resources, although about 0.7 acre of the urban/ruderal community would be temporarily affected by the installation of header piping. At the Ogilby Meter Station, 0.2 acre of the creosote bush scrub community would be permanently affected by construction of a pig launcher and receiver. Construction of the El Centro Meter Station would temporarily affect 2.5 acres and permanently affect 0.2 acre of the urban/ruderal community, all of which occurs within the existing fenceline of the IID El Centro Generating Station.

The four valves along the B-Line that would require an expansion of existing valve sites (valve #s 2, 5, 6, and 7) would permanently affect 0.3 acre of urban/ruderal and 0.8 acre of creosote bush scrub communities. The three valves to be constructed along the IID Lateral would each affect less than 0.1 acre of the desert sand dune (valve #2), creosote bush scrub (valve #3), and agricultural (valve #4) communities.

Construction and operation of the pig launcher and receiver proposed at Rannells Trap would affect 0.3 acre of the creosote bush scrub community. Construction of the pig launcher, taps, and crossover piping associated with the Arrowhead Extension would permanently affect about 0.8 acre of the agricultural community. Permanent impacts on about 0.2 acre of the creosote bush scrub community would result from the construction of the tap to the B-Line and the pig launcher associated with the IID Lateral.

Access Roads

The construction, modification, and improvement to access roads used during construction of the proposed Project would primarily have temporary impacts on vegetation resources. Access road disturbance associated with the B-Line would temporarily affect 97.1 acres of the creosote bush scrub community, 2.3 acres of the agricultural community, and 0.3 acre of desert wash woodland. For the Blythe-Arrowhead Meter Station, a new permanent access road would be constructed, affecting less than

0.1 acre of the urban/ruderal community. Access roads associated with the IID Lateral would temporarily affect 6.1 acres of agricultural, 2.9 acres of creosote bush scrub, 1.3 acres of urban/ruderal, and 0.9 acre of desert sand dunes communities. About 0.1 acre of the creosote bush scrub community would be permanently affected by construction of the permanent access road to the tap facility.

Pipe Storage and Contractor Yards

The temporary use of four pipe storage and contractor yards would temporarily affect 68.1 acres of the urban/ruderal community and 5.0 acres of the creosote bush scrub community. No permanent impacts on vegetation would result from the use of these sites.

4.5.4 Vegetation Communities of Special Concern or Value

No designated vegetation communities of special concern or value were identified along the proposed pipeline routes or at aboveground facility sites.

Because no vegetation communities of special concern or value would be affected and any riparian vegetation crossed would be largely avoided, the potential for the Project to result in the long-term (more than 5 years) reduction or alteration of unique, rare, or special concern vegetation types; riparian vegetation; or natural communities would be less than significant.

4.5.5 Noxious Weeds and Other Invasive Plants

Noxious weeds and other invasive plants are non-native, undesirable native, or introduced species that are able to exclude and outcompete desirable native species, and thereby decrease overall species diversity. Noxious weeds often invade and persist in areas after disturbance (e.g., after construction of a pipeline) and can hinder restoration. Other aggressive plant species, both native and introduced, may also outcompete desirable native and other beneficial species. Noxious weeds are addressed by Executive Order 13112 (February 1999), which directs Federal agencies to prevent the introduction of invasive species; provide for their control; and minimize the economic, ecological, and human health impacts that invasive species cause. The order further specifies that a Federal agency shall not authorize, fund, or carry out actions likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless it has determined that the benefits of such actions outweigh the potential harm caused by invasive species and that all feasible and prudent measures to minimize risk of harm would be taken in conjunction with the actions.

The removal of existing vegetation and the disturbance of soils during construction could create conditions for the invasion and establishment of exotic-nuisance species. Construction equipment traveling from invasive weed-infested areas into weed-free areas could also facilitate the dispersal of invasive weed seed and propagules and result in the establishment of noxious weeds in weed-free areas. The spread of exotic or noxious weeds has been identified as one of the most harmful threats to the biodiversity of the Sonoran Desert area (Marshall et al. 2000). The potential severity of the noxious weed impacts depends upon the species, the prevalence in the area before construction, and the intensity of the construction-induced dispersal.

Botanical surveys for the A-Line were conducted using the California Invasive Plant Council's (CIPC) List A and Red Alert lists to identify invasive weed species. Four invasive species were identified in significant numbers; African mustard, Australian saltbush, fountain grass, and tamarisk. No Red Alert species were found. North Baja conducted post-construction weed and revegetation surveys for the A-Line, the most recent of which occurred in the Spring of 2005. The surveys indicate that although weeds (specifically mustard and tamarisk) have reoccurred in areas where they were present before construction

of the A-Line, they have not spread to new areas along the right-of-way. Additionally, the surveys indicate that fountain grass has been eliminated from the right-of-way. Because there has been no spreading of noxious weeds as a result of construction of the A-Line, North Baja has not conducted post-construction noxious weed control measures with the exception of manual removal of tamarisk during revegetation surveys.

North Baja has not yet provided information regarding noxious weed species that may occur along the IID Lateral route; however, in accordance with the CM&R Plan (see Appendix E), surveys for noxious weeds along the IID Lateral would be conducted before construction.

The use of construction equipment and the importation of Project materials from areas outside the local region could introduce weed or soil pests that could interfere with crop production or successful revegetation of natural communities. North Baja would reduce the potential to spread noxious weeds and soil pests by implementing the measures that were successful during construction of the A-Line. These measures include:

- In accordance with Executive Order 13112, the construction area within lands administered by the BLM would be surveyed by a qualified noxious weed authority that would identify all noxious weeds present and provide a list to the authorized officer. A determination would be made by the authorized officer of any noxious weeds that require flagging for treatment before construction. Treatment would be according to the instructions of the authorized officer. Only BLM-approved herbicides would be used on BLM lands, and North Baja would coordinate with the appropriate BLM office prior to use of herbicides. Any use of herbicides in California would be handled by properly licensed county agricultural agents.
- Before construction, populations of plants listed as invasive exotics by the CIPC in its most recent invasive plant List A (including lists A-1 and A-2) and Red Alert list, as well as any other species listed on the BLM National List of Invasive Weed Species of Concern would be identified on the ground and on maps through a preconstruction survey. This would establish a baseline from which to evaluate post-construction monitoring surveys.
- Disposal of soil and plant materials from non-native areas would not be allowed in native areas. Weed propagules or soil pests that could occur in excess spoils or plant materials from non-native areas would not be allowed to be transferred to or disposed of within areas comprising native vegetation communities.
- All construction equipment would be washed before beginning work on the Project, equipment working in Arizona would be cleaned before beginning work in California, and equipment used to clear tamarisk would be washed before working elsewhere on the Project to prevent the spread of invasive weeds from other areas. Equipment would be washed at existing commercial wash stations.
- Construction personnel would be educated on weed identification and the importance of controlling and preventing the spread of invasive non-native species.
- Gravel and/or fill material to be placed in relatively weed-free areas would come from weed-free sources. Certified weed-free hay bales would be used. Post-construction monitoring and treatment of invasive weeds would be implemented.

- Tamarisk trees would be removed from all portions of the right-of-way in native areas. In non-native areas, tamarisk trees would be removed as necessary as part of clearing operations. To prevent dispersal of tamarisk propagules, debris would either be burned onsite under an appropriate burning permit or hauled offsite. All loads hauled offsite would be properly covered to prevent the spread of propagules by wind. On federally administered lands, tamarisk debris would be hauled offsite and disposed of at an approved disposal site. Burning on Federal lands would require the approval of the authorized officer.

The portion of the Cibola NWR that would be crossed is dominated by a tamarisk monoculture both within the proposed right-of-way and areas adjacent to the right-of-way; therefore, attempting to control tamarisk in these areas would not be practical. During the scoping process, representatives from the Cibola NWR suggested that North Baja offset Project-related impacts on vegetation in the Cibola NWR by conducting tamarisk control outside the Project area in native stands of mesquite for a period of 3 to 4 years. Specific restoration measures conducted within the Cibola NWR would be determined during easement negotiations with the NWR.

North Baja would continue to conduct surveys for non-native plant species after construction is complete. The results of these surveys would be compared to the preconstruction surveys and to surveys from prior years to determine locations of weed infestations attributable to the Project. North Baja would conduct surveys and implement control measures (e.g., herbicide application, pulling by hand as permitted by landowner or land management agency) at Project-related infestations twice a year for 2 years after construction is complete or until the infestations have been controlled. North Baja would also implement weed control measures annually as part of routine operation and maintenance of the pipeline.

Implementation of the mitigation measures proposed by North Baja would reduce the potential for the Project to introduce new, or lead to the expanded range of existing, invasive noxious weed species or soil pests, so that they interfere with crop production or successful revegetation of natural communities to a less than significant level.

4.5.6 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on vegetation identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.6 WILDLIFE AND AQUATIC RESOURCES

4.6.1 Significance Criteria

An adverse impact on wildlife and aquatic resources would be considered significant and would require mitigation if Project construction or operation would:

- change the diversity or substantially alter the numbers of a local population of any wildlife or aquatic species, or interfere with the survival, growth, or reproduction of affected wildlife and fish populations;
- substantially interfere with the movement or range of migratory birds and other wildlife, or the movement, range, or spawning of any resident or anadromous fish;
- substantially reduce the abundance of species under the protection of the Migratory Bird Treaty Act;
- result in a substantial long-term loss of existing wildlife or aquatic habitat;
- cause substantial deterioration of existing fish habitat; or
- create a potential health hazard or involve the use, production, or disposal of materials that pose a hazard to wildlife or fish populations in the Project area.

4.6.2 Wildlife

4.6.2.1 Existing Wildlife Resources

In general, large mammals, except for the coyote, are unusual in the Project area (Brown 1982). However, mule deer, desert bighorn sheep, mountain lion, and wild horses and burros could occur as transients. Most of the mammals common to the general Project area have adapted to high diurnal temperatures by spending much of the day underground or aestivating. Consequently, the area may host large populations of burrowing rodents.

With the exception of microphyll woodlands, the open, sparsely vegetated habitats of the Project area do not typically support diverse avifauna that are usually associated with structurally taller and denser habitats found in areas receiving more annual rainfall (Brown 1982). The Project area's avian inhabitants are largely arid-adapted desert species.

Rock outcrops, bajadas,¹ washes, and gravel plains each support a varied and often different herpetofauna; however, certain species are common across most habitats (Brown 1982).

Pipeline Facilities

As described in Section 4.5, the proposed pipeline facilities would cross five distinct upland vegetation communities. Each of these communities provides nesting, cover, and foraging habitat for a variety of wildlife. Other resources including open water and wetland habitats also provide these same functions for wildlife species. Impacts on these resources are described and quantified in Sections 4.3.2, 4.4, and 4.5, respectively. Table 4.6.2-1 identifies some of the wildlife species that are common to these

¹ Bajadas generally consist of shallow slopes at the base of rocky hills, typically exhibiting deep soils and a more complex soil structure that retains water and supports a diverse vegetation community.

habitats. The most prevalent habitat is creosote bush scrub, accounting for about 60 percent of the wildlife habitat that would be affected. Although creosote bush scrub is the most common habitat type affected by the Project, many more wildlife species depend on desert wash woodland and wetland areas for their sources of water, cover, and forage. Desert wash woodlands account for about 5 percent and wetlands account for about 2 percent of the habitat affected. The urban/ruderal community, which provides the least favorable wildlife habitat, is the next most prevalent community accounting for about 24 percent of the habitat affected. Other habitats that would be affected are agricultural (6 percent) and desert sand dunes (3 percent).

TABLE 4.6.2-1	
Wildlife Species by Habitat Type Common in the North Baja Pipeline Expansion Project Area	
Species	Habitat Type
Mammals	<p><u>Creosote bush scrub/desert wash woodland/wetland/riparian:</u> mountain lion, coyote, mule (burro) deer, desert bighorn sheep, feral burro, coyote, striped skunk, desert shrew, white-tailed antelope, squirrel, desert pocket mouse, desert kangaroo rat, Merriam kangaroo rat, white-throated woodrat, long-tailed pocket mouse, round-tailed ground squirrel, desert cottontail rabbit, kit fox, southwestern yellow bat, little brown myotis, western mastiff bat, western pipistrelle, pallid bat, cave myotis, and California myotis.</p> <p><u>Dune areas:</u> Coyote, mule deer, rabbit, ground squirrels, desert kangaroo rat.</p> <p><u>Agricultural/urban/Ruderal:</u> Opossum.</p>
Birds	<p><u>Sonoran creosote bush scrub/desert wash woodland/wetland/riparian:</u> Burrowing owl, red-tailed hawk, Gambel's quail, cactus wren, Anna's hummingbird, Gila woodpecker, white-winged dove, mourning dove, white-winged dove, greater roadrunner, lesser nighthawk, common raven, verdin, black-tailed gnatcatcher, black-throated sparrow, Say's phoebe, ash-throated flycatcher, and loggerhead shrike.</p> <p><u>Agricultural/Urban/Ruderal Land:</u> European starling, American crow, mockingbird, house finch, and great egret.</p>
Reptiles	<p><u>Sonoran creosote bush scrub/desert wash woodland/wetland/riparian:</u> Desert glossy snake, western whiptail, sidewinder, southern desert whiptail, gopher snake, chuckwalla, Mojave fringe-toed lizard, Colorado fringe-toed lizard, side-blotched lizard, desert night lizard, zebra-tailed lizard, side-blotched lizard.</p> <p><u>Dune areas:</u> banded gecko, flat-tailed horned lizard (edges of sand dune area).</p>
Sources: Holland and Keil 1995; BLM 2006.	

Aboveground Facilities

Wildlife use of the areas of the proposed aboveground facility sites is similar to adjacent habitats. Limited wildlife habitat exists in the agricultural land adjacent to the Ehrenberg Compressor Station and the El Paso Meter Station. The Blythe-Arrowhead Meter Station and pig receiver site consists of the urban/ruderal community within an existing, fenced compressor station site; consequently, wildlife habitat is minimal. Wildlife use of the Rannells Trap site is similar to that described above for creosote bush scrub habitats. Wildlife use of the Ogilby Meter Station location is limited due to the disturbed nature of the area and its proximity to Interstate 8. The El Centro Meter Station occurs within the urban/ruderal community and would be located within a previously developed area with minimal habitat value.

Valve sites along the B-Line are generally collocated with existing facilities, although four valve sites would be expanded and would permanently affect agricultural and creosote bush scrub habitats. Construction of the three valves along the IID Lateral that would be outside of existing facility sites would affect creosote bush scrub, desert sand dune, and agricultural habitat.

Agricultural habitat would be affected by the construction of the pig launcher, taps, and crossover piping associated with the Arrowhead Extension. Creosote bush scrub habitat would be affected by the

pig launcher and receiver that would be constructed at Rannells Trap and the tap to the B-Line and pig launcher associated with the IID Lateral.

Pipe Storage and Contractor Yards

The proposed pipe storage and contractor yards would all be located in urban/ruderal and creosote bush scrub habitat types at previously disturbed sites.

Access Roads

The construction of new temporary and permanent access roads would primarily affect creosote bush scrub habitat, although agricultural, urban/ruderal, and desert sand dune habitats would also be affected.

4.6.2.2 General Impact and Mitigation

Pipeline Facilities

The impact of the Project on wildlife species and their habitats would vary depending on the requirements of each species and the existing habitat present in the areas crossed by the pipeline facilities. Direct impacts of construction on wildlife would include the displacement of wildlife on the right-of-way and direct mortality of some individuals. Wildlife, such as birds and larger mammals, would leave the vicinity of the right-of-way as construction activities approach. Depending on the season, construction could also disrupt bird courting or nesting and breeding of other wildlife on and adjacent to the right-of-way. Many of these animals may relocate into similar habitats nearby; however, a lack of adequate territorial space could force some animals into suboptimal habitats. This could increase inter- and intra-specific competition and lower reproductive success and survival. The influx and increased density of animals in some undisturbed areas caused by these dislocations could also reduce the reproductive success of animals that are not displaced by construction. Additionally, some smaller, less mobile wildlife, such as small mammals and burrowing species (e.g., burrowing owl, opossums, shrew, rats, mice) and reptiles, could be crushed by construction equipment or trapped in trenches. Bird nests located within the construction work area could be destroyed by clearing activities. The loss of these species could result in a decrease in the food stock available for predators of these species. These effects, however, would cease after construction, and wildlife would return to the newly disturbed areas and adjacent, undisturbed habitats after right-of-way restoration is completed. Additionally, the majority of impacts on native desert vegetation (about 63 percent) would occur over North Baja's previously disturbed existing pipeline right-of-way. Therefore, the proposed Project would not be expected to substantially alter the local wildlife populations.

The cutting, clearing, and/or removal of existing vegetation would also affect wildlife by reducing the amount of available habitat. The degree of impact would depend on the type of habitat affected and the rate at which vegetation regenerates after construction. The impact on urban/ruderal habitats (374.0 acres) would be minor because they provide minimal habitat value and would be restored to near original condition following construction. The impact on agricultural habitats (93.5 acres) would be relatively minor because these areas receive regular disturbance (e.g., crop planting, harvesting,) and would be replanted either immediately following, or during the next growing season following construction.

However, native desert upland habitats could take up to 50 years to become re-established. About 942.1 acres of creosote bush scrub, 82.9 acres of desert wash woodland, and about 41.1 acres of desert sand dune habitats would be affected by the Project. The effect on these areas would be much

greater because these native desert habitats would take the longest amount of time to regenerate. The impact on dune habitat would be less than on other desert habitats because wildlife has adapted to the existing minimal vegetative cover that is common to these areas. In general, the effects on native desert habitats are not expected to have a significant impact on wildlife populations because the amounts of the habitats that would be affected are relatively minor compared to the amounts present in the surrounding areas. The majority of the right-of-way through desert habitats (96 percent) would be only temporarily expanded and would affect a 25-foot-wide swath of land that is adjacent to the existing previously disturbed construction right-of-way used for the A-Line. In addition, approximately 99 percent of the right-of-way would be adjacent to existing utility or transportation corridors. Furthermore, North Baja's implementation of its CM&R Plan would improve the potential for successful revegetation of the right-of-way in the long term (see Section 4.5.3 and Appendix E). Although the loss of native desert habitats would be long term, the loss would amount to less than 0.01 percent of the regionally available habitat; therefore, the potential for the Project to change the diversity or substantially alter the numbers of a local population of any wildlife species, or interfere with the survival, growth, or reproduction of affected wildlife, or result in a substantial long-term loss of existing wildlife habitat is less than significant.

Construction of the B-Line would result in a 105-foot-wide cleared right-of-way for a majority of its length that could contribute to habitat fragmentation and affect the movement of wildlife species. However, this impact would be minimized because North Baja would overlap the majority of its construction right-of-way (80 feet) onto the previously cleared right-of-way used to construct the A-Line. Because, in general, construction of the B-Line would result in about 25 feet of new disturbance adjacent to an existing disturbed right-of-way, the potential for the Project to substantially interfere with the movement or range of wildlife species would be less than significant.

The B-Line and IID Lateral would cross several areas of wetland and numerous open water systems (rivers, canals, and drains). The only undisturbed riparian areas that would be crossed are adjacent to the Colorado River and would be effectively avoided by the use of the HDD crossing method. These areas are important habitats for a number of resident wildlife species although only the Colorado River supports fishery resources. Additionally, North Baja plans to implement the HDD crossing method at four other waterbody crossings and would avoid in-stream impacts at most other canals and drains by crossing at locations where these features are constrained within culverts. These crossing plans would minimize impacts on open water habitats. The only open water habitat that would be disturbed would be Rannells Drain. Rannells Drain is an agricultural drain that is subject to the clearing of vegetation periodically by the PVID. Disturbance to this habitat would be minimized through implementation of North Baja's CM&R Plan (see Appendix E).

Following construction and restoration, North Baja would monitor the revegetation of the right-of-way in areas of desert vegetation through the year 2012. Post-construction monitoring would be conducted in all other areas for a period of 2 years following construction.

Fires inadvertently started by construction activities (e.g., welding), equipment, or personnel could also affect wildlife in the Project area by igniting vegetation along the right-of-way. This habitat loss could cause crowding in adjacent habitats reducing productivity and increasing stress-induced mortality. Fire would likely have temporary impacts on urban/ruderal and agricultural communities and longer-term impacts on native desert communities. North Baja has developed a Fire Prevention and Suppression Plan to minimize the potential for wildfires (see Appendix N). Some of the measures contained in the plan include: requiring the contractor to train all personnel on fire prevention measures, restricting smoking and parking to cleared areas, requiring all combustion engines to be equipped with a spark arrestor, and requiring vehicles and equipment to maintain a supply of fire suppression equipment (e.g., shovels and fire extinguishers). A Fire Guard would be assigned to each construction spread that

would be responsible for maintaining contact with local fire control agencies. North Baja would restrict activities on Federal lands during conditions of high fire danger in coordination with the BLM.

Aboveground Facilities

At the Ehrenberg Compressor Station, 0.7 acre of urban/ruderal habitat would be temporarily disturbed; however, there would be no permanent impacts on habitat. At the Ogilby Meter Station, 0.2 acre of the urban/ruderal cover type would be permanently affected by the construction of a pig launcher and receiver. Construction of the El Centro Meter Station would occur within an existing industrial facility site and would temporarily affect 2.5 acres of urban/ruderal habitat, while 0.2 acre would be affected permanently.

Valve sites along the B-Line are generally collocated with existing facilities, although four would permanently affect 0.3 acre of urban/ruderal habitat and 0.8 acre of creosote bush scrub habitat. The installation of three valves along the IID Lateral would affect less than 0.1 acre each of desert sand dune, creosote bush scrub, and agricultural habitats.

Construction of the pig launcher, taps, and crossover piping associated with the Arrowhead Extension would permanently affect about 0.8 acre of agricultural habitat. Permanent impacts on creosote bush scrub habitat would result from the construction of a pig launcher at Rannells Trap (0.3 acre), and the construction of a tap and pig launcher for the IID Lateral (0.2 acre).

The construction, improvement, and modification of access roads would affect a total of 110.9 acres, primarily creosote bush scrub habitat, although agricultural (8.4 acres), urban/ruderal (1.3 acres), desert sand dune (0.9 acre), and desert wash woodland (0.3 acre) habitats would also be affected. About 0.1 acre of creosote bush scrub and less than 0.1 acre of urban/ruderal habitat would be permanently affected by the construction of two permanent access roads.

Pipe Storage and Contractor Yards

The temporary use of four pipe storage and contractor yards would affect 68.1 acres of urban/ruderal habitat and 5.0 acres creosote bush scrub habitat. As previously discussed, the urban/ruderal community provides minimal habitat values. The area of creosote bush scrub has been previously disturbed. No permanent impacts on wildlife would result from the use of these sites.

4.6.2.3 Migratory Birds

A variety of migratory bird species, including both songbirds and raptors, utilize the vegetation communities identified within the Project area. Migratory birds are species that nest in the United States and Canada during the summer, and then migrate south to the tropical regions of Mexico, Central and South America, and the Caribbean for the non-breeding season. The North Baja Pipeline Expansion Project lies within the Sonoran/Mohave bird conservation region as identified by the U.S. North American Bird Conservation Initiative (NABCI) Committee.² Of the 61 migratory bird species likely to occur within the Project area, 28 species are considered by the FWS to be birds of conservation concern including but not limited to: the burrowing owl, Crissal thrasher, Le Conte's thrasher, and Gila woodpecker (FWS 2002a). General impacts on migratory birds are discussed below; specific impacts on many of these species are discussed in Section 4.7.

² The NABCI Committee is a coalition of government agencies, private organizations, and bird initiatives in the United States working to advance integrated bird conservation (NABCI 2006).

Executive Order 13186 (January 2001) directs Federal agencies to consider the effects of agency actions and plans on migratory birds, with emphasis on species of concern. The California Species Preservation Act of 1970 (California Fish and Game Code, sections 900 to 903), which is administered by the CDFG, prohibits the taking or possessing of any bird egg or nest. Native desert habitats, including desert wash woodland habitat, provide some of the most significant habitat for migratory birds within the Project area. The majority of this habitat occurs along the portion of the B-Line that would be constructed over a 4- to 6-month period in the latter part of 2009 (see Section 2.4). This proposed construction schedule would partially overlap the nesting season (February through September) for a majority of the migratory birds in the Project area, which could result in the mortality of eggs and young birds that have not yet fledged.

The North Baja Pipeline Expansion Project would also result in short-term and long-term losses of habitat available to migratory birds. Short-term losses of habitat available for use by migratory birds would include 86.8 acres of agricultural habitat, and 35.7 acres of wetland/riparian vegetation. Because these habitats would quickly recover following construction, they would be available for use by migratory birds during the next nesting season following construction.

Construction of the Project would disturb a total of 1,174.2 acres of desert habitat including 1,049.0 acres of creosote bush scrub, 83.2 acres of desert wash woodland, and 42.0 acres of desert sand dune habitat, which would result in long-term losses of habitat available for use by migratory birds because these habitats would require many years to recover following construction. Along the B-Line, this loss of habitat would be minimized by North Baja's proposal to overlap its construction right-of-way over the previously disturbed right-of-way reducing new long-term habitat loss by 671.6 acres. Additionally, North Baja would reduce the right-of-way width from 105 feet to 80 feet in 16 areas of microphyll woodlands, which would reduce impacts on this desert wash woodland habitat by 5.6 acres. North Baja would also preserve individual trees within the construction right-of-way where possible. Construction along the IID Lateral would not result in a significant loss of habitat as only 142.6 acres of native desert habitats would be disturbed of which about 42 acres would occur in the dunes area. Because the existing vegetation resources in the dunes area are sparse, the long-term loss of vegetation would have a minimal effect on migratory bird habitat in this area. Of the remaining 100.6 acres of desert habitat affected by the IID Lateral, 98 percent would occur within or immediately adjacent to existing disturbed utility and transportation rights-of-way. The measures contained in North Baja's CM&R Plan would promote revegetation of disturbed areas by restoring original contours, segregating topsoil where grading is required, and respreading cut vegetation over the restored areas.

Although the loss of native desert habitats that would be utilized by migratory birds would be long term, 66 percent of the habitat would be previously disturbed, and a majority of the affected habitat would occur within or immediately adjacent to existing disturbed utility and transportation rights-of-way. In addition, the loss would amount to less than 0.01 percent of the regionally available Sonoran desert habitat; therefore, the potential for the Project to substantially interfere with the movement or range of migratory birds would be less than significant.

North Baja would attempt to schedule construction in native habitats outside of the breeding season for migratory birds. If, however, construction activities are necessary during the bird breeding season, in accordance with its CM&R Plan, North Baja would remove vegetation that could provide nesting substrate from the right-of-way before the breeding season, thus eliminating the possibility that birds could nest on the right-of-way. Qualified biologists would conduct preconstruction surveys to confirm the absence of nesting birds before construction begins.

If, in spite of vegetation removal, nesting birds are found on the construction right-of-way, the nest would not be removed until fledging has occurred or unless authorized after consultation with the FWS, the CDFG, and, if the nest is located on Federal lands, the Federal land management agency.

Although North Baja states that it would preclear vegetation, no details of the preclearing proposal have been provided. Therefore, **the Agency Staffs recommend that:**

- **North Baja shall, in consultation with the FWS, the BLM, and the CDFG, develop Preclearing Plans to protect migratory bird species during construction. These plans shall include specific details of the preclearing methods to be implemented, the specific locations where preclearing would occur, and the dates preclearing would be initiated and completed. North Baja shall file these plans with the FERC and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC before initiation of Phase I-A and Phase II construction activities.**

With the implementation of North Baja's proposed measures and the Agency Staffs' recommendation, the Project would not substantially reduce the abundance of species under the protection of the Migratory Bird Treaty Act and, therefore, the impact of the Project on migratory bird species would be less than significant.

4.6.2.4 Sensitive or Managed Wildlife Habitats and Species

The B-Line would cross the Cibola NWR, located about 20 miles south of Blythe along the lower Colorado River, between MPs 29.5 to 33.0. The Cibola NWR encompasses about 16,630 acres of land bisected by the Colorado River and provides habitat for over 240 species of birds, and numerous mammals, including several protected species. The B-Line would cross only a small portion of the NWR, on the western edge of the refuge through monotypic tamarisk stands that provide very low quality wildlife habitat.

On BLM lands between MPs 29.2 and 52.0, the B-Line would cross two SMAs in the vicinity of the Milpitas Wash. Between MPs 29.2 and 33.8, the area is managed by the BLM Yuma Field Office as an SMA under the Yuma District Plan. The Yuma District Plan designates the 4,760-acre area as an SMA for its undisturbed desert vegetation, wildlife habitat, and cultural resources (BLM 1985). Between MPs 33.8 and 52.0, the area is managed by the BLM El Centro Field Office as a Wildlife Habitat Area under the Milpitas Wash Wildlife Habitat Management Plan (BLM 1986). Management objectives for this 180,800-acre area include consolidation, protection, and enhancement of wildlife habitat and habitat for plants of special management concern; expansion of habitat used by burro deer and other native wildlife species; consideration of wildlife species in development and management decisions; and obtaining good ecological condition of 70 percent of the area covered by the habitat management plan.

The Project would cross a Wildlife Habitat Management Area (WHMA) established under the NECO Plan. The NECO Plan is an amendment to the BLM's CDCA Plan and includes most of the California portion of the Sonoran Desert ecosystem. The B-Line would cross a WHMA for 14.8 miles between approximate MPs 35.2 and 50.0. The WHMA is designated as a multi-species WHMA and includes two corridor portions of proposed WHMAs for bighorn sheep between MPs 35.2 and 42.0 and MPs 49.0 and 50.0, although no bighorn sheep habitat is included. The management goals for this area include the maintenance of naturally occurring distributions of 28 special status animal species and 30 special status plant species in the planning area; the maintenance of proper functioning condition in all natural communities with special emphasis on communities that: (a) are present in small quantity, (b) have a high species richness, and (c) support many special status species; and the maintenance of

ecological processes by maintaining naturally occurring interrelationships among various biotic and abiotic elements of the environment (BLM 2002).

As described in Section 4.7, North Baja proposes a number of conservation measures protecting wildlife and special status plants that are generally consistent with objectives of the management plans addressing activities in the Milpitas Wash SMA and the multi-species WHMA. Although much of the Cibola NWR near the proposed pipeline route is dominated by relatively poor quality habitat (tamarisk monoculture), overall the refuge is inhabited by a diverse species community. Construction of the North Baja Pipeline Expansion Project would not directly affect sensitive wildlife habitat within the refuge. Noise associated with construction activities could, however, indirectly impact wildlife by temporarily displacing wildlife from areas within the refuge that would be near the construction right-of-way. The impact would be greater if construction activities coincide with the breeding season of wildlife that use the refuge. Because of the year-round vehicle and boat traffic associated with SR 78 and the Colorado River, wildlife in the area is expected to be somewhat acclimated to noise.

The BLM manages wild horse and burro herds in accordance with the Wild and Free Roaming Horses and Burros Act, which was passed by the U.S. Congress in 1971 to protect, manage, and control wild horses and burros on the public lands. Through the BLM planning process, the areas where wild horses and burros can be managed as a component of the public land have been designated as Herd Management Areas (HMAs). In Arizona, the Project would cross a small portion of the Cibola-Trigo HMA where there is a slight potential that wild horses and/or burros could be found watering at the Colorado River crossing. In California, the B-Line would cross the Chocolate-Mules HMA between approximate MPs 34.9 and 75.3 where there is a slight potential for wild burros to occur. Precipitation within the Project area would increase the potential for wild horses or burros to occur. Construction of the pipeline could affect wild horses or burros if the animals were to fall into the open trench. The BLM commented that mitigation measures to prevent animals from being trapped in the open trench, specifically measures to be implemented to minimize impact on desert tortoise, would be sufficient to minimize impacts on wild horse and burro herds. As discussed in Section 4.7.4.3, North Baja would install tortoise escape ramps in the excavated trench at 1-mile intervals.

The Nature Conservancy, with assistance from others, completed *An Ecological Analysis of Conservation Priorities in the Sonoran Desert Ecoregion* (Ecological Analysis) (Marshall et al. 2000). The objective of the Ecological Analysis was to identify landscape-scale conservation sites that, with proper management, would help ensure the long-term persistence of the biodiversity in the Sonoran Desert. Generally, these conservation sites are areas containing sensitive vegetative communities or rare species at a density considered ecologically significant by regional experts. One of the 100 landscape-scale conservation sites identified by the Ecological Analysis would be crossed by the B-Line at MP 0.2. This 434,141-acre conservation site includes the Colorado River and adjacent riparian areas. The Ecological Analysis reports 31 sensitive species or biotic communities associated with the river, including 18 species with protected status under Federal or State laws. The Colorado River and adjacent riparian habitat would be avoided by the HDD crossing of the river.

The IID Lateral would be adjacent to the East Mesa ACEC and flat-tailed horned lizard management area, which was designated to protect wildlife species (especially the flat-tailed horned lizard). Evan Hewes Highway, an unmaintained frontage road for the adjacent Interstate 8, is the southern border for this ACEC. The IID Lateral would be within the road right-of-way, just outside of the management area (Flat-tailed Horned Lizard Interagency Coordinating Committee [FTHLICC] 2003). The management area reaches to the road right-of-way just north of MPs 8.5 to 8.8, 9.8 to 14.8, and 15.8 to 21.0. All construction activities would occur within the road right-of-way for Evan Hewes Highway.

Impacts on sensitive or managed wildlife habitats and species are not expected to substantially affect local wildlife populations or adversely affect biological diversity in the region.

4.6.3 Aquatic Resources

4.6.3.1 Existing Aquatic Resources

Pipeline Facilities

Fishery resources in the waterbodies that would be crossed by the B-Line are limited to the Colorado River (MP 0.2), the All-American Canal (MP 79.8), and the 33 irrigation canals and drains in the PVID near Blythe, California (MPs 0.2 to 11.7 of the B-Line and MPs 0.0 to 2.1 of the Arrowhead Extension). Fishery resources in the waterbodies that would be crossed by the IID Lateral are limited to the All-American Canal (MPs 2.4 and 8.1), the East Highline Canal (MP 27.5), the Alamo River (MP 32.3), and 36 other irrigation canals and drains.

The CDFG classifies the Colorado River as a warmwater fishery (CDFG 2000). Representative fish species in the Colorado River include bass, bluegill, crappie, catfish, carp, sunfish, and sucker. The CDFG has indicated that the fish species found in some reaches of the larger irrigation canals associated with the Colorado River are similar to those in the Colorado River (Hayes 2000). However, the irrigation canals and the Alamo River do not have a classified fishery.

In the Project area, the Colorado River flows have been reduced and confined behind a series of dams, forming large reservoirs. The normal heavy silt load has been reduced with reservoirs acting as settling basins. This change in the flow of the river has led to a deposition of salts, fertilizers, and other products of irrigation and agriculture in the sediments of the river and has altered fish fauna composition over the last 100 years.

The B-Line would also cross 265 dry desert washes. Because flow in these washes is minimal and limited to the time period following rain events, aquatic ecosystems have not developed in these washes. However, as discussed in Section 4.6.2, the washes provide habitat for terrestrial wildlife species.

Potential habitat for the razorback sucker, a Federal- and State-listed endangered fish species, occurs in the Colorado River. Details regarding this species are found in Section 4.7.3. No other Federal or State-listed special status fish species are known to occur in the surface waters crossed by the proposed pipeline routes.

There is no designated Essential Fish Habitat in the Project area.

Aboveground Facilities

There are no surface waters within or immediately adjacent to the boundaries of the aboveground facility sites; therefore, no fishery resources would be affected by the construction or operation of the aboveground facilities.

Pipe Storage and Contractor Yards

There are no surface waters within or immediately adjacent to the proposed pipe storage and contractor yards; therefore, no fishery resources would be affected by use of the yards.

Access Roads

No surface waters or fishery resources would be affected by use of the access roads.

4.6.3.2 General Impact and Mitigation

Construction of the pipeline across waterbodies would increase the sedimentation and turbidity of the water, the potential for streambank erosion, and the potential for fuel and chemical spills. These effects could impact aquatic resources. Construction-related impacts on aquatic resources could also result from in-stream blasting, hydrostatic testing, and water withdrawals for dust control. No in-stream blasting would be required. The remaining impacts are discussed in more detail below. The degree of impact would depend on the proposed crossing method, the existing conditions at each crossing location, the mitigation measures employed, and the timing of construction.

Sedimentation and Turbidity

Sedimentation can adversely affect fish eggs and juvenile fish survival, benthic community diversity and health, and spawning habitat. The B-Line and the IID Lateral would cross several flowing waterbodies, mostly irrigation canals and ditches in the PVID and the IID that would be crossed by boring or installing the pipeline between drain culverts and roads. The Colorado River, All-American Canal, and East Highline Canal would be crossed using the HDD method. Only one flowing waterbody, Rannells Drain, would be crossed using the open-cut crossing method. Two unnamed canals along the Arrowhead Extension would also be crossed using the open-cut crossing method.

The open-cut crossing method is a wet trench method and has a higher potential for sedimentation and turbidity than the other crossing methods. However, the open-cut method is also the quickest crossing method. Because the effects of increased sedimentation and turbidity are generally limited to the period of in-stream work, the duration of these effects would be relatively short. Additional discussion on the potential impacts associated with the proposed open-cut crossing of Rannells Drain is provided in Section 4.6.3.3.

Streambank Erosion

Waterbodies crossed by the proposed Project facilities that would be susceptible to streambank erosion are primarily limited to perennial rivers and major canals. Crossing these features using the HDD method would avoid disturbance of the streambank vegetation. Retaining the existing bank composition at these waterbodies would prevent the need for bank armoring following construction. Irrigation canals and drains would be crossed at locations where these waterbodies are constrained within culverts, which would avoid any bank disturbance. Clearing of vegetation at intermittent waterbodies (dry washes) would not be expected to increase the susceptibility of those features to streambank erosion due to the limited flow in each waterbody. Further, adherence to North Baja's CM&R Plan would facilitate revegetation of the banks following construction. Therefore, impacts on streambank erosion from the proposed Project would be less than significant.

Fuel and Chemical Spills

A chemical or fuel spill in or near a waterbody could release contaminants, which could affect fish directly or indirectly through changes in food sources or by contaminating the water resources. North Baja would adhere to the measures detailed in its CM&R Plan (Appendix E) and the SPCC Plan (Appendix F) to prevent a large spill from occurring near surface waters. Hazardous materials storage and vehicle or equipment refueling would be restricted within 100 feet of surface waters. Should a spill occur, the implementation of the measures in the SPCC Plan, such as maintaining adequate emergency response equipment, would decrease the response time for control and cleanup of the spill and minimize exposure of aquatic resources to hazardous materials released into a waterbody. Although some individual fish or invertebrates could be harmed by a spill of hazardous materials into a waterbody, these impacts would not change the numbers of a local population or cause a substantial deterioration of

existing fish habitat. Therefore, the overall impact on aquatic resources from a spill would be less than significant.

Hydrostatic Testing and Dust Control Water Withdrawals

Potential impacts associated with hydrostatic testing and dust control water withdrawals include entrainment of fish, reduced downstream flows, impaired downstream uses associated with water withdrawals, erosion, scouring, and a release of chemical additives associated with hydrostatic test water discharges. North Baja proposes to obtain test water for the B-Line and piping within the Ehrenberg Compressor Station from an existing irrigation canal that withdraws water from the Colorado River just south of North Baja's Ehrenberg Compressor Station property, a well on the Ehrenberg Compressor Station site, or the All-American Canal. Groundwater associated with the well at the compressor station site is hydrologically connected to the Colorado River. The Arrowhead Extension and piping within the Blythe-Arrowhead Meter Station would be tested with water obtained from the PVID, local wells, or a commercial water source. The IID Lateral would be tested in sections with water obtained directly from the All-American Canal. These same sources of water are expected to be used for dust control. North Baja would screen intake piping to prevent fish and fish egg entrainment during hydrostatic test water withdrawal. In Section 4.3.4, the Agency Staffs have recommended that North Baja file a revised Dust Control Plan that specifies the sources of water that would be used for dust control, the anticipated quantities of water that would be required, and measures to minimize fish and fish egg entrainment during dust control water withdrawals. Because water withdrawals would occur from existing wells, irrigation canals, or commercial water sources and would not affect current flow levels in the Colorado River or other waterbodies containing fishery resources, and fish and fish egg entrainment would be minimized during water withdrawals, the effects of the proposed Project on the movement, range, or spawning of resident fish would be less than significant.

After hydrostatic testing, the water would be discharged into irrigation canals or returned to the All-American Canal. No chemicals would be added to the test water, and energy dissipation devices would be employed to minimize channel erosion. Dust control water would be sprayed directly on the ground surface. Therefore, changes in water quality would not be expected from hydrostatic testing or dust control activities. Implementation of these measures would reduce impacts on fishery resources to less than significant levels.

Timing of Construction

The degree of impact associated with in-stream activities can be affected by the season of construction. Construction during periods of sensitive fish activities (i.e., spawning and migration) can have a greater impact on fish than construction during other periods. Because in-stream activities would only occur at Rannells Drain and two unnamed canals that do not support fisheries resources, there would be no impact on fish spawning and migration from construction of the proposed Project.

4.6.3.3 Site-specific Impact and Mitigation

The proposed open-cut trenching through Rannells Drain would create a temporary increase in sediment load in the drain. The PVID cleared and dredged the drain in 2002 before the construction of the A-Line, but the drain has subsequently revegetated with tamarisk, *Arundo* sp., and native vegetation, and has limited free water. The PVID has indicated it would be willing to perform maintenance clearing/dredging at the Rannells Drain crossing before construction of the B-Line in 2009, as long as it is done between August 2 and March 14 as agreed with the CDFG.

Rannells Drain is connected to the Colorado River through the Palo Verde Lagoon and a series of other drainage structures, but is generally unsuitable as fish habitat because of its shallow depth and

stagnant conditions. As such, Rannells Drain does not have a classified fishery and no fisheries habitat would be lost as a result of construction across Rannells Drain. Nonetheless, North Baja proposes to use sediment booms downstream of the trenching, which would contain sedimentation to the localized area. Any sediment potentially released during construction would be removed the next time the PVID dredges the drain for agricultural purposes (expected to occur 1 year after construction) and would not be a permanent addition to the aquatic environment.

North Baja proposes to cross the Colorado River, the All-American Canal, and the East Highline Canal using the HDD method. Although the HDD method avoids in-stream impacts because it eliminates the need for in-stream excavation, it does not completely eliminate the possibility of impacts on aquatic resources due to the possibility of a frac-out into the waterbody (see Section 4.3.3.3). Drilling mud primarily consists of water mixed with bentonite, which is a naturally occurring clay material. A frac-out could occur if the drilling head hits a subterranean fracture in the substrate. When the drilling mud reaches the fracture, it can follow the fracture up or otherwise be forced to the surface or into the water if drilling is occurring under a waterbody. If drilling mud is released into the water, the settling bentonite could cover fish or amphibian eggs and cut off their oxygen supply. Bentonite has not been shown to adversely affect gills or feeding of fish or invertebrates.

During construction of the A-Line, there were no inadvertent releases of drilling mud into the Colorado River or the All-American Canal, and none is expected during construction of the B-Line and IID Lateral. However, North Baja has prepared an HDD Plan (see Appendix G) that requires North Baja to continuously monitor the drilling operations. If monitoring indicates an in-stream release, the EIs would immediately notify North Baja's construction management personnel. North Baja would notify the appropriate Federal and State agencies as soon as possible of an in-stream release event, detailing the nature of the release and corrective actions being taken. The notified agencies would determine whether additional measures need to be implemented. If it is determined that the release cannot be remedied without causing additional environmental impact, North Baja would request agency approval to continue the drilling operations. If a release occurs that may migrate downstream and affect water quality, downstream water users would be contacted by North Baja. The contacts and telephone numbers of downstream users would be assembled before commencement of construction, and maintained on site. Implementation of these measures would minimize adverse impacts of a frac-out in or near these waters on the aquatic communities to less than significant levels. Minimizing the effects of a frac-out in accordance with North Baja's HDD Plan would also prevent the substantial deterioration of existing fish habitat.

4.6.4 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on wildlife and aquatic resources identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.7 SPECIAL STATUS SPECIES

4.7.1 Significance Criteria

An adverse impact on federally or State-listed or other special status species would be considered significant and would require mitigation if Project construction or operation would:

- reduce the abundance of sensitive species that occur within the Project area;
- result in the loss or alteration of designated or proposed critical habitat for one or more listed species;
- cause a temporary loss or alteration of habitat important for one or more listed species that could cause increased mortality or lowered reproductive success of the species (i.e., avoidance for greater than one breeding season);
- result in direct or indirect impacts on candidate or sensitive species populations, or habitat, that would contribute to or result in the Federal or State listing of the species (e.g., by substantially reducing species numbers or by resulting in the permanent loss of habitat essential for the continued existence of a species); or
- create a potential health hazard or involve the use, production, or disposal of materials that pose a hazard to special status species populations in the Project area.

4.7.2 Regulatory Requirements and Species Identification

Federal agencies are required by section 7 of the ESA (Title 19 USC Part 1536[c]), as amended (1978, 1979, and 1982), to ensure that any actions authorized, funded, or carried out by the agency do not jeopardize the continued existence of a federally listed endangered or threatened species, or result in the destruction or adverse modification of designated critical habitat of a federally listed species. The action agency (e.g., the FERC) is required to consult with the FWS and/or the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) to determine whether federally listed endangered or threatened species or designated critical habitat are found in the vicinity of the proposed Project, and to determine the proposed action's potential effects on those species or critical habitats. For actions involving major construction activities with the potential to affect listed species or designated critical habitat, the Federal agency must submit its Biological Assessment (BA) to the FWS and/or NOAA Fisheries and, if it is determined that the action may adversely affect a listed species, the Federal agency must submit a request for formal consultation to comply with section 7 of the ESA. In response, the FWS and/or the NOAA Fisheries would issue a Biological Opinion (BO) as to whether or not the Federal action would likely jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of designated critical habitat.

In compliance with section 7 of the ESA, the FERC requested that the FWS consider the draft EIS/EIR, along with various survey reports prepared by North Baja, as the BA for the North Baja Pipeline Expansion Project. No species under NOAA Fisheries' jurisdiction would be affected by the proposed Project. On April 20, 2007, the FWS issued the BO (see Appendix R).

Under the CEQA, the CSLC must take into account the impacts on special status species. Additionally, California has its own Endangered Species Act (CESA) that requires State agencies to protect and promote the recovery of State-listed endangered or threatened species. Similar to the ESA,

the CESA requires that State lead agencies consult with the CDFG to ensure that actions are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of essential habitat. In addition to species listed as threatened or endangered under the ESA and CESA, agencies and organizations such as the FWS, the BLM, the CDFG, and the California Native Plant Society (CNPS) maintain lists of special concern, sensitive, or rare species that are also appropriate to consider in this NEPA and CEQA analysis.

For purposes of this environmental analysis, special status plants and animals include the following:

- species officially listed by California or the Federal government as endangered, threatened, or rare;
- species that are proposed for Federal listing as threatened or endangered or considered candidates for listing;
- species noted as sensitive or of special concern by the FWS, the BLM, the Arizona Game and Fish Department (AGFD), or the CDFG; and
- plants occurring on Lists 1A, 1B, 2, 3, and 4 of the CNPS' *Inventory of Rare and Endangered Vascular Plants of California* (Skinner and Pavlik 1994).

North Baja participated in extensive coordination efforts with the FWS, the BLM, the CDFG, and the AGFD before and during construction of the A-Line. Those efforts were summarized in the final Biological Report for that project and submitted to the agencies in 2002 (North Baja 2002). Building on that information base, and using data from the California Natural Diversity Database (CNDDB), AGFD Heritage Data Management System, and through discussions with plant and wildlife specialists with knowledge of the Project area, North Baja prepared a list of threatened, endangered, and special status species that potentially occur in the vicinity of the proposed Project. In addition to those communications, meetings were held with representatives of the FWS, the BLM, and the CDFG to present an overview of the Project and solicit issues of concern from the agencies.

A total of 51 special status species were identified as potentially occurring within the Project area (see Table 4.7.2-1). Following focused habitat evaluations and species-specific surveys in 2005, 24 of the 51 species were eliminated from consideration due to lack of habitat, lack of potential impact, or both (see Table 4.7.2-1). The remaining 27 species are discussed below.

4.7.3 General Impact and Mitigation

In general, the impacts of the Project on special status species would be the same as described for vegetation, wildlife, and aquatic resources. However, the magnitude and duration of these impacts could be greater for special status species because their distribution and relative abundance usually are more limited. Construction could remove special status plants living within the construction right-of-way and could disturb, displace, or harm special status animals on and adjacent to construction work areas. Construction could also affect special status plants and wildlife by temporarily altering the habitat along the pipeline right-of-way and permanently altering the habitat at aboveground facility sites.

TABLE 4.7.2-1

**Special Status Species Initially Identified as Potentially Occurring in the Vicinity
of the North Baja Pipeline Expansion Project**

Species	Status ^a			Eliminated from Further Consideration	Facility/General Milepost Range Where Species May Occur
	Federal	State	Other		
Mammals					
American badger (<i>Taxidea taxus</i>)		SC		Yes. Suitable habitat not present in Project area.	
Arizona myotis (<i>Myotis occultus</i>)		SC		Yes. Occasional transient only in Project area.	
Big free-tailed bat (<i>Nyctinomops macrotis</i>)		SC		Yes. Occasional transient only in Project area.	
California leaf-nosed bat (<i>Macrotus californicus</i>)		SC	BLM-S	Yes. Occasional transient only in Project area.	
Cave myotis (<i>Myotis velifer</i>)		SC	BLM-S	Yes. Suitable habitat not present in Project area.	
Colorado River cotton rat (<i>Sigmodon arizonae plenus</i>)		SC		No	B-Line: MP 0.2
Desert bighorn sheep (<i>Ovis canadensis nelsoni</i>)			BLM-S	No	B-Line: MP 31.0
Pale big-eared bat (<i>Corynorhinus townsendii pallescens</i>)		SC		Yes. Occasional transient only in Project area.	
Pallid bat (<i>Antrozous pallidus</i>)		SC	BLM-S	Yes. Occasional transient only in Project area.	
Pallid San Diego pocket mouse (<i>Chaetodipus fallax pallidus</i>)		SC		Yes. Limited range of species does not include Project area.	
Western mastiff bat (<i>Eumops perotis californicus</i>)		SC	BLM-S	Yes. Occasional transient only in Project area.	
Yuma mountain lion (<i>Puma concolor browni</i>)		SC		Yes. Suitable habitat not present in Project area.	
Birds					
Arizona Bell's vireo (<i>Vireo bellii arizonae</i>)		SE		No	B-Line: MPs 0.0 to 3.0 and 31.0 to 33.0
Bald eagle (<i>Haliaeetus leucocephalus</i>)	FT	SE		Yes. No suitable nesting/roosting sites in Project area. Occasional transient only.	
Brown-crested flycatcher (<i>Myiarchus tyrannulus</i>)		SC		No	B-Line: MPs 22.0 to 23.0, 35.0 to 36.0, 41.0 to 46.0, 50.0 to 53.0, and 59.0 to 66.0
Brown pelican (<i>Pelecanus occidentalis</i>)	FT	SE		Yes. Suitable habitat not present in Project area.	
Burrowing owl (<i>Athene cunicularia</i>)		SC	BLM-S	No	B-Line: MPs 0.0 to 12.0 Arrowhead Extension: MPs 0.0 to 2.1 IID Lateral: MPs 28.0 to 46.0
California black rail (<i>Laterallus jamaicensis coturniculus</i>)		ST		No	B-Line: MPs 0.0 to 12.0 and 31.0 to 33.0 IID Lateral: MP 33.0
Crissal thrasher (<i>Toxostoma crissale</i>)		SC		No	B-Line: MPs 0.0 to 3.0, 24.0 to 29.0, and 31.0 to 33.0
Elf owl (<i>Micrathene whitneyi</i>)		SE		Yes. Suitable habitat not present in Project area.	

TABLE 4.7.2-1 (cont'd)

**Special Status Species Initially Identified as Potentially Occurring in the Vicinity
of the North Baja Pipeline Expansion Project**

Species	Status ^a			Eliminated from Further Consideration	Facility/General Milepost Range Where Species May Occur
	Federal	State	Other		
Ferruginous hawk (<i>Buteo regalis</i>)		SC		No	Occasional migrant in the Project area
Gila woodpecker (<i>Melanerpes uropygialis</i>)		SE		No	B-Line: MPs 0.2, 17.6, 21.8, 22.2 to 25.3, 35.6 to 36.4, 46.4, 50.2 to 52.4, 55.5, 59.5, and 64.8 to 65.2
Le Conte's thrasher (<i>Toxostoma lecontei</i>)		SC	BLM-S	No	B-Line: MPs 12.0 to 79.8 IID Lateral: MPs 8.0 to 28.0
Sonoran yellow warbler (<i>Dendroica petechia sonorana</i>)		SC		Yes. Occasional transient only in Project area.	
Southwestern willow flycatcher (<i>Empidonax trailii extimus</i>)	FE	SE		No	B-Line: MPs 0.0, 25.0, and 33.0
Summer tanager (<i>Piranga rubra</i>)		SC		No	B-Line: MPs 22.0 to 23.0, 35.0 to 36.0, 41.0 to 46.0, 50.0 to 53.0, and 59.0 to 66.0
Vermilion flycatcher (<i>Pyrocephalus rubinus</i>)		SC		No	B-Line: MPs 0.0 to 12.0, 22.0 to 29.0, 31.0 to 33.0, 35.0 to 53.0, 59.0 to 66.0, and 79.0 to 79.8
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	FC	SE		No	B-Line: MP 0.2
Yellow breasted chat (<i>Icteria virens</i>)		SC		No	B-Line: MPs 0.0 to 3.0, 22.0 to 23.0, and 31.0 to 33.0
Yuma clapper rail (<i>Rallus longirostris yumanensis</i>)	FE	ST		No	B-Line: MPs 0.0 to 12.0 and 31.0 to 33.0 IID Lateral: MP 32.3
Amphibians/Reptiles					
Colorado River toad (<i>Bufo alvarius</i>)		SC		No	B-Line: MP 0.2
Couch's spadefoot toad (<i>Scaphiopus couchii</i>)		SC		No	B-Line: MPs 25.0 and 35.3
Desert tortoise (<i>Gopherus agassizii</i>)	FT	ST		No	B-Line: MPs 17.0 to 75.2
Flat-tailed horned lizard (<i>Phrynosoma mcallii</i>)		SC	BLM-S	No	B-Line: MPs 71.0 to 79.8 IID Lateral: MPs 8.0 to 28.0
Fish					
Bonytail chub (<i>Gila elegans</i>)	FE	SR		Yes. Not expected to occur in Project area.	
Desert pupfish (<i>Cyprinodon macularius</i>)	FE	SE		Yes. Not expected to occur in Project area.	
Razorback sucker (<i>Xyrauchen texanus</i>)	FE	SE		No	B-Line: MPs 0.2 and 24.0 to 31.0
Plants					
Algodones Dune sunflower (<i>Helianthus niveus tephrodes</i>)		SE	1B	No	IID Lateral: MPs 0.5 to 7.9
Crucifixion thorn (<i>Castela emoryi</i>)			2	Yes. Not expected to occur in Project area. Not identified during previous surveys.	

TABLE 4.7.2-1 (cont'd)

**Special Status Species Initially Identified as Potentially Occurring in the Vicinity
of the North Baja Pipeline Expansion Project**

Species	Status ^a			Eliminated from Further Consideration	Facility/General Milepost Range Where Species May Occur
	Federal	State	Other		
Fairyduster (<i>Calliandra eriophylla</i>)			2	No	B-Line: MPs 45.1 to 49.8, 53.6 to 57.4, and 65.1 to 66.6 IID Lateral: MPs 0.5 to 7.9 IID Lateral: MPs 0.5 to 7.9
Giant Spanish-needle (<i>Palafoxia arida</i> var. <i>gigantea</i>)			1B/BLM- S	No	
Glandular ditaxis (<i>Ditaxis clariana</i>)			2	Yes. Not expected to occur in Project area. Not identified during previous surveys.	
Harwoods milk-vetch (<i>Astragalus insularis</i> var. <i>harwoodii</i>)			2	Yes. Not expected to occur in Project area. Not identified during previous surveys.	
Las Animas colubrina (<i>Colubrina californica</i>)			2	Yes. Not expected to occur in Project area. Not identified during previous surveys.	
Munz's cholla (<i>Opuntia munzii</i>)			1B/BLM- S	Yes. Not expected to occur in Project area. Not identified during previous surveys.	
Peirson's milk-vetch (<i>Astragalus magdalenae</i> var. <i>peirsonii</i>)	FT	SE	1B	No	B-Line: MPs 72.0 to 79.8 IID Lateral: MPs 0.5 to 7.5
Saguaro (<i>Carnegiea gigantea</i>)			2	Yes. Not expected to occur in Project area. Not identified during previous surveys.	
Sand food (<i>Pholisma sonora</i>)			1B	No	IID Lateral: MPs 0.5 to 7.9
Slender woolly-heads (<i>Nemacaulis denudata</i> var. <i>gracilis</i>)			2	Yes. Not expected to occur in Project area. Not identified during previous surveys.	
Wiggins's cholla (<i>Opuntia wigginsii</i>)			3	Yes. Not expected to occur in Project area. Not identified during previous surveys.	
Wiggins's croton (<i>Croton wigginsii</i>)		SR	2	No	IID Lateral: MPs 0.5 to 7.9

^a

Status:

FE = Federally listed as endangered

FT = Federally listed as threatened

FC = Candidate for Federal listing as endangered or threatened

SE = California State-listed as endangered

ST = California State-listed as threatened

SR = California State-listed as rare (California Native Plant Protection Act)

SC = Federally/California State-listed as special concern

1B = CNPS list of plants that are rare, threatened, or endangered in California and elsewhere

2 = CNPS list of plants that are rare, threatened, or endangered in California, but more common elsewhere

3 = CNPS list of plants about which more information is needed to determine their status

BLM-S = Bureau of Land Management lists as sensitive

North Baja has proposed to implement the following general minimization and conservation measures to reduce the impact of the Project on special status species:

- North Baja would use its environmental training program, successfully implemented for the A-Line construction, as a basis for a site-specific environmental training program to be implemented before the start of work. All employees and contractors working in the field would be required to complete an environmental training session before beginning work on the right-of-way. The program would include discussions of the biology, distribution, and ecology of special status species within the geographic area of construction; protection afforded such species under applicable Federal and State laws and regulations; all protection measures that must be followed to protect such species during Project activities; penalties for noncompliance; reporting requirements; and the importance of compliance with all protection measures. To ensure proper focus, emphasis would be placed on the specific aspects of compliance applicable to the particular audience's activities on the Project.
- Employees and contractors would be informed during one or more training sessions that they are not authorized to handle or otherwise move listed species at any time, including while commuting to work sites or at a work site.
- North Baja would hire and designate at least two EIs per construction spread who would be responsible for overseeing Project environmental protection measures, including those for special status species. Environmental inspection procedures would be in compliance with the relevant provisions of North Baja's CM&R Plan. North Baja would also hire and designate at least one authorized biologist who would be responsible for identification of habitat and individuals of special status species and for implementation of all measures requiring an authorized biologist's intervention. The biologist would, if needed, hold the required permits or formal agreements with appropriate Federal and State agencies for the survey or handling of any special status species.
- An authorized biologist would conduct species-specific surveys of each Project facility located within areas identified during North Baja's surveys as listed species habitat no more than 7 days before the onset of activities.
- Project personnel would exercise caution when commuting to the construction area to minimize any chance for the inadvertent injury or mortality of species encountered on roads leading to and from the construction area. North Baja's contractors and employees would report all such incidents directly to an EI.
- Only existing routes of travel and approved access roads would be used to and from construction areas. Cross-country travel by vehicles and equipment would be prohibited. Except on county- or State-maintained roads, vehicle and equipment speeds would not exceed 25 miles per hour within potential habitat of a listed species. On the B-Line, between MPs 48.0 and 68.0 (an area of relatively high tortoise density), North Baja states that it would limit vehicle and equipment speeds to 10 miles per hour except for stringing trucks, which North Baja proposes to allow to travel at 25 miles per hour.
- Authorized biologists would monitor all work where prior North Baja surveys have documented the occurrence of one or more listed species and where construction activities can reasonably be expected to adversely affect those species. In conjunction with North Baja's EIs, the biologists would have the authority to halt all non-emergency

actions that might result in harm to a listed species, and would assist in the overall implementation of protection measures for listed species during Project activities.

- All trash and food items generated by construction and maintenance activities would be promptly placed in a closed container and regularly removed from the Project site to reduce the attractiveness of the area to common ravens and other desert predators.
- Firearms and domestic pets would be prohibited from work sites.
- In the construction work area and along access roads, employees and contractors would look under vehicles and equipment for the presence of special status species before movement. If a special status species is observed, no vehicles or equipment would be moved until the animal has left voluntarily or is removed by an authorized biologist.
- Pipeline construction activities between dusk and dawn would be limited to emergencies only (i.e., issues involving human health and safety) with the exception of the HDD operations (including those at the Colorado River, the All-American Canal, Interstate 8, the East Highline Canal) and the open-cut crossing of Rannells Drain.
- Open pipeline trenches, auger holes, or other excavations that could entrap wildlife would be inspected by an authorized biologist a minimum of three times per day, and immediately before backfilling. In habitats supporting special status species, pipe segments would either be capped or taped closed each night or raised on supports of sufficient height to prevent the entry and entrapment of special status species. Such pipe segments would be inspected regularly before sealing and before using in the morning. For open trenches, earthen escape ramps would be maintained at 1-mile intervals. Other excavations that remain open overnight would be covered, ramped, or fenced to prevent entrapment of wildlife.
- If a listed species is located during construction, and a contingency for avoidance, removal, or transplant has not been approved by the FWS or appropriate agency, North Baja would not proceed with Project activities in that location until specific consultation with the FERC, the FWS, the BLM, and/or other appropriate agency is completed.
- All encounters with listed species would be reported to the biologist, who would record the following information:
 - species;
 - location (narrative and maps) and dates of observations;
 - general condition and health, including injuries and state of healing;
 - diagnostic markings, including identification numbers or markers; and
 - locations moved from and to.
- Upon locating a dead or injured listed species, North Baja would notify the FWS and the CDFG in California or the AGFD in Arizona. Written notification would be made within 15 days of the date and time of the finding or incident (if known) and would include: location of the carcass, a photograph, cause of death (if known), and other pertinent information.
- As described in Section 2.2.1, in general, the construction right-of-way would be limited to a width of 105 feet along the B-Line. North Baja proposes to generally use a 100-foot-

wide construction right-of-way for the Arrowhead Extension except when in the Arrowhead Boulevard roadway or road shoulder where a 60-foot-wide construction right-of-way would be used. The construction right-of-way for the IID Lateral would be limited to a width of 60 feet for the majority of its length and 80 feet where it parallels existing utility corridors. The construction right-of-way would be clearly staked and flagged in advance of construction. The construction work area includes approved work areas for the pipelines, compressor station, and meter stations; the facilities at Rannells Trap; the taps, crossover piping, and pig launcher associated with the Arrowhead Extension; access roads; the tap to the B-line and pig launcher associated with the IID Lateral; and staging and pipe storage areas.

- As described in Section 4.6.2.3, North Baja would attempt to schedule construction in native habitats outside of the breeding season for migratory birds. If, however, construction activities are necessary in native habitats during the bird breeding season, North Baja would remove vegetation that could provide nesting substrate from the right-of-way before the breeding season, thus eliminating the possibility that birds could nest on the right-of-way. In accordance with the Agency Staffs' recommendation in Section 4.6.2.3, specific plans relating to preclearing of vegetation would be coordinated with the FWS, the BLM, and the CDFG. Qualified biologists would conduct preconstruction surveys to confirm the absence of nesting birds before construction begins.
- If, in spite of vegetation removal, nesting birds are found on the construction right-of-way, the nest would not be removed until fledging has occurred or unless authorized after consultation with the FWS, the CDFG, and, if the nest is located on Federal lands, the Federal land management agency.
- At specified locations in areas of high-density microphyll woodland (see Table 4.5.3-2), North Baja would narrow the construction right-of-way width to 80 feet. Areas of this narrower construction width would be identified in the field, staked, and flagged in advance of construction.
- At the conclusion of work, all trenches and holes would be completely filled, surfaces cleaned and smoothed, and each site recontoured to match the original profiles as closely as possible.
- With the exception of fenced facilities, all materials and equipment would be removed from the area upon completion of work. All stakes, flagging, and fencing used to delineate and protect any environmental or cultural feature in the construction area would be removed no later than 30 days after construction and restoration are complete.
- Upon completion of Project activities, North Baja would submit a final report to the FERC for distribution to other agencies, including the FWS. The report would document the effectiveness and practicality of the conservation measures, the number of individuals of each species excavated from their burrows or removed from the site, the number of individuals killed or injured, and other pertinent information. The report would also recommend modifications of the Project stipulations in order to enhance the protection of species in the future. In addition, the final report would provide the actual acreage disturbed by Project activities by habitat type.

These measures would be applied Project-wide and would reduce most impacts on special status species to less than significant levels. The Agency Staffs believe, however, that North Baja's proposal to

allow stringing trucks to travel at 25 miles per hour between MPs 48.0 and 68.0 of the B-Line would not adequately protect special status species. North Baja has indicated that limiting vehicles, other than stringing trucks, to 10 miles per hour would provide maximum protection to special status species due to the increased frequency of non-stringing truck traffic along the right-of-way. North Baja further indicated that stringing trucks would enter and exit the right-of-way at locations that minimized the time the trucks were operating along the right-of-way, and that decreasing the allowed speed of the stringing trucks could have schedule and associated cost implications. However, the Agency Staffs continue to have concerns about allowing these large, generally heavily loaded, trucks to operate at an increased speed along the right-of-way in areas of known special status species occurrence given the longer required stop time for these vehicles. Because the speed restriction would only occur along a 20-mile stretch and the restriction would be known well before the construction bids would be prepared, it does not appear that this restriction should significantly impact the construction schedule or costs. Furthermore, limiting the speed of the stringing trucks would aid in dust control, which is a concern of the BLM. Therefore, **the Agency Staffs recommend that:**

- **North Baja shall restrict stringing trucks to a 10-mile-per-hour speed limit on the right-of-way between MPs 48.0 and 68.0 of the B-Line.**

As discussed in Section 2.5, North Baja would employ EIs who would be responsible for overseeing the implementation of environmental protection measures; full-time third-party Compliance Monitors would be present on the construction spreads to monitor compliance with the Project mitigation measures and requirements; and the FERC, CSLC, and BLM staff would conduct periodic inspections of the Project for compliance with the Project's environmental conditions. Other Federal, State, and local agencies would conduct oversight of inspection and monitoring to the extent determined necessary by the individual agency.

Site-specific impacts and species-specific conservation measures are discussed below.

4.7.4 Federally Listed Threatened and Endangered Species

Based on consultations with the Arizona and Carlsbad Field Offices of the FWS as well as the CDFG and a search of the CNDDDB, nine federally listed endangered or threatened species or species proposed for listing as endangered or threatened were identified as potentially occurring in the Project area (see Table 4.7.2-1). Following preliminary field surveys and further consultations with the FWS offices, four species were eliminated from further consideration: the bald eagle, brown pelican, bonytail chub, and desert pupfish. These species are only known from sites well away from the proposed Project area. Therefore, the Agency Staffs have determined that there would be *no effect* on these species from construction or operation of the North Baja Pipeline Expansion Project. The Agency Staffs have determined that the proposed Project has the potential to affect the remaining five federally listed species that are known or suspected to occur within the Project area. A discussion of these five species is presented below.

4.7.4.1 Southwestern Willow Flycatcher

The southwestern willow flycatcher is federally and California-listed as endangered. This species breeds in riparian habitats along rivers, streams, or other wetlands where dense growths of willows or other shrubs and medium-sized trees are present. Similar habitats are used during migration. All willow flycatcher subspecies winter in Mexico, Central America, and possibly northern South America, but specific wintering grounds and migration routes for the southwestern subspecies are unknown. Southwestern willow flycatchers are late migrants and typically arrive on their breeding grounds in mid-May where they remain until late-August (Tibbitts et al. 1994).

Surveys for southwestern willow flycatchers were conducted in accordance with FWS survey protocols during May, June, and July 2005 in known areas of habitat along the B-Line as identified during surveys for the A-Line. These areas include the Ehrenberg area (MP 0.0), the Stallard Road area (MP 25.0), and near the Cibola NWR Davis Lake Area (MP 33.0). No breeding southwestern willow flycatchers were identified at any of the habitat locations surveyed along the B-Line in 2005. However, migrants were identified between May 17 and June 12, 2005 at Ehrenberg and between May 16 and June 11, 2005 at Stallard Road. No southwestern willow flycatchers were identified at the Cibola NWR, or during a June 29, 2005 survey or two July 2005 surveys. These results are consistent with the 2001 surveys and the 2002 monitoring efforts conducted at the same locations for the A-Line. There is no suitable habitat for this species along the proposed Arrowhead Extension or the IID Lateral.

Southwestern willow flycatchers are known to migrate through the area that would be crossed by the B-Line, specifically near the Colorado River and in the vicinity of Stallard Road, but there is no evidence of these birds nesting in the area. Although the removal of desert wash woodland trees during the installation of the B-Line would reduce habitat for this species, in accordance with its general conservation measures, North Baja proposes to clear vegetation outside of the breeding season, thereby avoiding impacts on potential breeding individuals. Also, because the habitat loss would occur adjacent to an existing pipeline in the area, clearing would not fragment suitable habitat, but rather would be a minor, incremental loss of desert wash woodland. Nonetheless, if suitable habitat was occupied during clearing, construction could increase stress on migrating flycatchers and increase their susceptibility to predators or reduce their physical condition during the critical migrating period. These potential impacts, however, would not ultimately be expected to occur as there is sufficient desert wash woodland throughout the Project vicinity along the Colorado River and in the Cibola NWR. It is expected that migrating individuals would use these adjacent areas for foraging and cover. Thus, there would be no direct adverse impacts from Project construction on individual birds or bird populations aside from a temporary relocation from one area of suitable habitat to another similar and nearby area. North Baja's implementation of measures included in its CM&R Plan would facilitate the long-term restoration and revegetation of desert wash woodlands affected by construction such that these areas would be suitable for use by migrating flycatchers in the future.

Southwestern willow flycatchers potentially using habitat along the Colorado River could be disturbed by activities associated with the HDD of that waterbody. Specifically, noise and light associated with HDD equipment and activities could dissuade individuals from using habitat in the vicinity of the HDD and/or could interrupt resting individuals. However, because migrating individuals could easily relocate to other nearby areas of suitable resting habitat, adverse impacts on migrants are not expected. To minimize the potential for construction activities to affect southwestern willow flycatchers at the Colorado River crossing, **the Agency Staffs recommend that:**

- **North Baja shall implement the following measures at the Colorado River during activities associated with the HDD:**
 - a. **all individuals working within or adjacent to southwestern willow flycatcher habitat shall complete southwestern willow flycatcher training before working within the construction right-of-way in those areas; and**
 - b. **dust shall be strictly controlled by watering construction areas within 1,000 feet of potential habitat at the Colorado River.**

As a result of North Baja's proposed measures as well as the Agency Staffs' recommendation above and in Section 4.6.2.3, although the North Baja Pipeline Expansion Project may affect habitat used by the southwestern willow flycatcher, the Project is *not likely to adversely affect* the species. Further,

although construction-related disturbances could cause individuals to avoid suitable habitats, with implementation of the measures outlined above, the Agency Staffs believe that disturbances of individuals are unlikely and impacts on the southwestern willow flycatcher associated with the Project would be less than significant.

4.7.4.2 Yuma Clapper Rail

The Yuma clapper rail is federally listed as endangered and California-listed as threatened. In California, the Yuma clapper rail is found between February and August in freshwater and brackish emergent wetlands along the Colorado River and around the Salton Sea. Although this species requires mature stands of cattails and bulrushes for cover, it can be found foraging in adjacent areas of shallow water and mudflats for crayfish, clams, and insects.

Preliminary evaluations along the B-Line indicated that potential habitat for this species is found in freshwater marshes, wetlands, and drains near the Colorado River, the Palo Verde Valley, and the Davis Lake areas (MPs 0.0 to 12.0 and MPs 31.0 to 33.0). A focused survey was conducted at each location of identified potential habitat in 2001 and again in May 2005. The survey was conducted to determine the number and location, if any, of the Yuma clapper rail. Surveys were conducted following a modified survey protocol (survey window extended to May 30, 2005), as discussed with and approved by the FWS on May 10, 2005. Each area of potential habitat was surveyed twice between May 16 and May 25, 2005. No Yuma clapper rails were detected during these survey efforts, consistent with survey and monitoring results from 2001 and 2002 and species records in the area. No potential habitat for the Yuma clapper rail was identified along the proposed Arrowhead Extension.

Preliminary evaluations along the IID Lateral indicated that potential habitat for this species may occur near the Alamo River (MP 32.3). North Baja has not yet conducted surveys for this species at this river crossing.

Although this species was not identified along other areas of the B-Line during previous surveys, in order to avoid impacts on the species during construction of the A-Line, the FWS required that vegetation be cleared before construction in the areas of direct impacts along Rannells Drain as well as an area extending 150 feet on either side of the direct zone of impact. Further, the CDFG has recommended that if Rannells Drain is not cleared before construction, North Baja would be required to conduct surveys for the Yuma clapper rail at this location. North Baja has agreed to conduct these surveys, if necessary. However, North Baja has not proposed conservation measures to avoid impacts on individual Yuma clapper rails if identified during such surveys, nor has North Baja proposed to conduct surveys for the Yuma clapper rail at the Alamo River. Therefore, **the Agency Staffs recommend that:**

- **North Baja shall implement the following measures to minimize impact on the Yuma clapper rail unless North Baja provides documentation from the FWS and the CDFG that such measures are not necessary or if site-specific surveys fail to identify individuals at the Alamo River or Rannells Drain:**
 - a. **ensure vegetation at the proposed crossing location of Rannells Drain, extending 150 feet on either side of the proposed construction work area, is cleared before February 1, 2009;**
 - b. **ensure vegetation at the proposed crossing location of the Alamo River is cleared before February 1, 2009; and**

- c. **initiate all construction activities at Rannells Drain and the Alamo River between the hours of 8:30 AM and 3:30 PM to avoid periods of peak Yuma clapper rail vocalizations.**

Direct impacts on Yuma clapper rail and/or rail habitat along the Colorado River would be avoided through North Baja's proposed HDD crossing of this waterbody and the adjacent habitat. Additionally, the measures recommended by the Agency Staffs to avoid impacts on the southwestern willow flycatcher at the Colorado River would also avoid impacts on the Yuma clapper rail at the Colorado River.

Disturbance of wetlands and drains during Project construction would reduce available foraging and nesting habitat for the species. The reduction in this habitat type could reduce the ability of the area to support clapper rails or affect the overall suitability of habitat in the region. However, impacts on wetland and drain habitat would be temporary because these vegetation communities typically revegetate within 1 year following construction. As a result of the Agency Staffs' recommendations and given that impacts on Yuma clapper rail habitat would be minor and temporary, the proposed Project *is not likely to adversely affect* the species.

4.7.4.3 Desert Tortoise

The desert tortoise, a federally and California-listed threatened species, is widely distributed throughout the Mojave and Colorado deserts from below sea level to elevations of about 4,130 feet or higher. It is most common in desert scrub, desert wash, and Joshua tree habitats, but occurs in almost every desert habitat except on the most precipitous slopes. Highest tortoise densities are found in creosote bush communities with extensive annual wildflower blooms. This species requires friable soil for burrow and nest construction, but does not occupy areas of blown sand or very sandy soils due to burrow collapse.

The BLM's CDCA Plan, completed in 1980, has been amended by the NECO Plan. The NECO planning area is in the southeastern CDCA, primarily in the Sonoran Desert, and provides a landscape approach to managing desert ecosystems. The CDCA includes a system of large DWMA's for the desert tortoise. Specific DWMA prescriptions include standardization of BLM management classes, tortoise categories, and critical habitat; 5:1 ratio for surface disturbance compensation; and an overall 1 percent disturbance limit for any development within a DWMA.

The North Baja Pipeline Expansion Project would be outside the designated DWMA's. All of the land defined in BLM records as tortoise habitat that would be crossed by the proposed pipeline and lateral routes was previously defined as Category II lands, which recognize that the desert tortoise habitat is of lesser quality than that classified as Category I lands (most of which were incorporated into a DWMA). All categories of desert tortoise habitat outside the DWMA's were defined under the NECO Plan to be Category III for the purposes of compensation for disturbance, and have been assigned a compensation ratio of 1:1.

In the vicinity of the proposed B-Line, the creosote bush scrub habitats east of the Mule Mountains extending south to Interstate 8 (MPs 16.0 to 75.2) are potentially suitable habitat for the desert tortoise. A portion of this, MPs 34.0 to 58.4, is part of the Chuckwalla Unit, an area designated by the FWS as critical habitat for the desert tortoise. The Chuckwalla Unit includes privately owned land as well as land managed by the BLM.

Surveys for desert tortoise were conducted along the A-Line in 2001 and for the proposed B-Line between April 18 and April 27, 2005. The purpose of the surveys was to determine the number and

location of desert tortoise sign, including live and dead tortoise, burrows, scat, and tracks. Although one potential tortoise burrow was found in Riverside County at MP 11.8 in 2001, tortoise sign reliably associated with active tortoise use was noted only along the proposed B-Line route from MPs 17.0 to 69.0. In general, tortoise sign found in the 2001 survey, tortoise encounters documented during construction in 2002, and tortoise sign found in 2005 were closely correlated. The highest density of tortoise sign was found between MPs 41.0 and 67.0, with very high concentrations in the area of Indian Wash between MPs 62.5 and 65.5.

Construction of the B-Line would impact a total of 832 acres of desert tortoise habitat; however, only 237 acres would be new disturbance and 595 acres would overlap the previously disturbed (and compensated for) A-Line construction right-of-way. A total of 358 acres of critical habitat would be impacted, of which 106 acres would be new disturbance. The FWS has stated that only new disturbance would require compensation (Robleck 2005). The primary impact on critical habitat would occur during the construction phase of the Project. During construction, critical habitat would be temporarily disturbed at work areas, temporary access roads, and along the construction right-of-way. Although these areas would be restored and not used again during routine operation or maintenance, recovery in the arid climate is expected to take more than 10 years. Through desert tortoise critical habitat, the B-Line would be immediately adjacent to the existing A-Line, as well as portions of Stallard Road, SR 78, and Ogilby Road, which would minimize habitat fragmentation. The proposed Project would use existing access roads to the extent practicable with new access road construction limited to 0.25 mile as permanent access to the Blythe Meter Station. Thus, while the area of the right-of-way is within critical habitat, North Baja would limit disturbance of previously unaffected areas to the narrowest extent practicable. The proposed Project would not cross public lands within the DWMA that are managed for the conservation of the desert tortoise.

To compensate for the loss of desert tortoise habitat not previously compensated for during construction of the A-Line, North Baja would implement the following measures:

- Compensation rates for new impacts on desert tortoise habitat of 1:1 would be calculated and an assessed financial contribution would be paid to the BLM. In accordance with accepted guidelines previously implemented by the FERC, the FWS, and the BLM, areas of new impacts would include only those areas not previously affected by construction of the A-Line.
- North Baja would provide funding to the CDFG to manage acquired lands in addition to an enhancement fee based on the same compensation rate, which would be based on the CDFG published or calculated rates per acre at the time of issuance of the final EIS/EIR for the proposed Project.

In addition to the loss of potential desert tortoise habitat, construction-related impacts on the desert tortoise could include direct mortality or injury as a result of being crushed by vehicles, movement of soils, and entrapment in burrows and open trenches. North Baja would minimize the potential for impacts on the desert tortoise by implementing the following measures:

- North Baja would submit the names, permit numbers, and relevant tortoise experience resumes of all individuals who might need to handle desert tortoises to the FWS for approval at least 15 days before the initiation of clearance surveys. North Baja would also submit the list to the BLM for its records. Project activities would not begin until an authorized biologist has been approved. Although other biologists may be employed as biological monitors, only those approved by the FWS as authorized biologists would be permitted to handle tortoises.

- All persons authorized by the FWS to handle desert tortoises would follow the guidelines established in the *Guidelines for Handling Desert Tortoises During Construction Projects* (Desert Tortoise Council 1999).
- A clearance survey for the desert tortoise would be conducted by an authorized biologist within 24 hours before ground disturbance.
- Burrows outside of the limits of the construction right-of-way would be flagged so that the biological monitor would be able to more easily locate them during construction.
- All desert tortoise burrows or pallets in the construction area would be excavated by an authorized biologist. All desert tortoise handling and burrow excavation would be in accordance with the handling procedures developed by the FWS and would be conducted by authorized biologists.
- Desert tortoises that are found above ground and need to be moved from potential harm would be placed in the shade of a shrub by the authorized biologist. All desert tortoises removed from burrows would be placed in an unoccupied burrow of approximately the same size as the one from which it was removed.
- If an existing burrow is unavailable, the authorized biologist would construct or direct the construction of a burrow of similar size, shape, depth, and orientation as the original burrow. Desert tortoises moved during inactive periods would be monitored for at least 2 days after placement in the new burrows to ensure their safety. The authorized biologist would be allowed some judgment and discretion to ensure that the survival of the desert tortoise is likely.
- Should a tortoise wander into the construction area during construction, adjacent activities would be halted until the tortoise is moved out of the construction work area and out of harm's way.
- North Baja would install exclusion fencing along the right-of-way in areas where tortoise density is sufficiently high to warrant fencing, in the opinion of the authorized biologist in charge of tortoise surveys and in consultation with the FWS and the CDFG, to prevent tortoises from entering the construction work area and getting in harm's way.
- A worker bonus program would be implemented that would reward construction staff who spot a tortoise within the construction work area and, without touching or disturbing the animal, notify the authorized biologist for action.
- If a tortoise is located in the construction work area and is not moving, adjacent activities would be halted until an authorized biologist is able to move it out of harm's way.
- All pipeline marker signs within desert tortoise habitat would be fitted with "bird-be-gone" or similar bird repellent devices.
- Only approved access roads would be used. Only approved areas would be used for temporary storage areas, laydown sites, and any other surface-disturbing activities. Any routes of travel that require construction or modification, or any additional work areas, would be surveyed for tortoises by an authorized biologist(s) before modification or construction of the route or construction or use of a new work area.

- Trench segments or other excavations would be provided with tortoise escape ramps at 1-mile intervals. All excavations would be inspected for tortoises three times daily and before backfilling.
- Any time a vehicle is parked, the ground around and under the vehicle would be inspected for desert tortoises before the vehicle is moved. If a desert tortoise is observed, it would be left to move on its own. If this does not occur within 15 minutes, an authorized biologist would remove and relocate the tortoise.
- Within desert tortoise habitat, construction pipe, culverts, or similar structures with a diameter of 3 inches or greater that are stored on the construction site for one or more nights would be inspected for tortoises before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored on the construction site.
- All construction-related activities in desert tortoise habitat would be conducted between dawn and dusk.

Although these measures would substantially reduce impacts on the desert tortoise, the construction of the proposed Project *is likely to adversely affect* the desert tortoise and its critical habitat and, as such, impacts on this species would be considered significant. Therefore, approval of the Project would be subject to a Statement of Overriding Considerations under the CEQA. As part of the section 7 formal consultation process, the FWS included non-discretionary terms and conditions in the BO to ensure that the Project would not jeopardize the continued existence of the desert tortoise (see Appendix R). North Baja would not be authorized to make any irreversible or irretrievable commitments of resources that would foreclose formulation or implementation of any reasonable or prudent alternatives needed to avoid jeopardizing the continued existence of the species and adverse modification of its critical habitat.

4.7.4.4 Razorback Sucker

The razorback sucker is a federally and California-listed endangered fish species found only in large rivers of western North America's Colorado River basin (Mueller 2000). Both a riverine and lacustrine species, razorback suckers are found in low-velocity main channel backwaters or off-channel wetlands. This fish spawns in areas of sand, gravel, or rocks in shallow water.

The razorback sucker may occur along the proposed B-Line at the Colorado River crossing (MP 0.2). The razorback sucker is also known to occur throughout the Palo Verde Outfall Drain. The proposed B-Line route would parallel, but would not affect, the Palo Verde Outfall Drain from MPs 24.0 to 31.0.

The FWS has designated a portion of the Colorado River crossed by the B-Line as critical habitat for the species. As currently proposed, North Baja would install the pipeline under the Colorado River using the HDD method. Unlike a conventional open-cut crossing, an HDD crossing would not alter or remove streambed or streambank habitat, cause in-stream sedimentation, or interfere with fish movement. This method would avoid effects on the razorback sucker during the crossing of the Colorado River.

North Baja may withdraw water from sources hydrologically connected to the Colorado River for use in dust control activities and hydrostatic testing of the pipeline (see Section 4.3.3.4). Pursuant with its CM&R Plan, North Baja would screen intake piping to prevent fish and fish egg entrainment during hydrostatic test water withdrawals. In Section 4.3.4, the Agency Staffs have recommended that North

Baja file a revised Dust Control Plan that includes measures to prevent fish and fish egg entrainment during dust control water withdrawal.

It is possible that geologic irregularities could be encountered during the HDD crossing of the Colorado River that could result in the inadvertent release of drilling mud (frac-out) or the inability to complete the crossing using the HDD method. North Baja has prepared an HDD Plan (see Appendix G) that would minimize the adverse impact of a frac-out on aquatic resources. During construction of the A-Line, there were no frac-outs into the Colorado River and, based on geotechnical studies, none are expected to occur during the B-Line crossing of the river. Therefore, although the potential exists for the Project to affect the species in the event of a frac-out during the HDD crossing of the Colorado River, the potential for this to occur is low. Because of the low likelihood of a frac-out and the measures that would be implemented during water withdrawals from the Colorado River, the Agency Staffs have determined that construction of the proposed Project is *not likely to adversely affect* the razorback sucker or its critical habitat and, as such, impacts on this species would be less than significant.

4.7.4.5 Peirson's Milk-vetch

The Peirson's milk-vetch is a federally listed threatened and California-listed endangered plant found in southern California, Arizona, and Baja California. In California, the Peirson's milk-vetch occurs on sand dunes in the Algodones Dunes system of Imperial County. Historically, the plant was known from Borrego Valley in San Diego County and at a site southwest of the Salton Sea in Imperial County, but it has not been identified at those locations in recent years (Sawyer and Keeler-Wolf 1995). It is thought that the species responds positively to substrate disturbance, due in part to the redistribution of sandy substrate and nutrients to the ground surface.

Critical habitat for the Peirson's milk-vetch was designated by the FWS in 2004. Critical habitat in the Project area consists of Subunits A and B of the Algodones Dunes Critical Habitat Unit, which includes both Federal and private land. Subunit A is north of SR 78 and encompasses portions of the Mammoth and North Algodones Dunes Wilderness. Subunit B lies south of SR 78 and north of Interstate 8 and encompasses the Ogilby Management Area. The proposed Project does not cross Subunits A or B and, therefore, would be outside designated critical habitat.

North Baja conducted a focused survey for the portion of the proposed B-Line route south of the intersection with Interstate 8 (MPs 72.0 to 79.8) on May 14, 2005, and a supplemental survey on the west side of the right-of-way on September 4, 2005. Individuals and small populations of the Peirson's milk-vetch were found along the proposed B-Line route in areas of sandy substrate off the existing A-Line right-of-way, while the three larger populations (greater than 100 plants each) were found on the A-Line right-of-way. Plant populations varied in density, generally occurring as single plants or relatively isolated populations of several dozen plants. The survey extended up to 30 feet west of the existing right-of-way, but only one plant was seen west of the previously disturbed right-of-way, approximately 5 feet off of the existing right-of-way. The remainder of the plants occurred within the disturbed right-of-way.

North Baja did not conduct a focused survey for the Peirson's milk-vetch along the proposed IID Lateral. However, the BLM conducted an annual focused survey for the Peirson's milk-vetch in 2005 in the ISDRA, which included the area that would be crossed by the IID Lateral. The results of this survey showed populations of the Peirson's milk-vetch close to the proposed IID Lateral route between MPs 0.5 and 7.5. Therefore, the presence of the Peirson's milk-vetch is assumed between MPs 0.5 and 7.5 of the IID Lateral.

Although no Peirson's milk-vetch were identified during preconstruction monitoring for the A-Line, after the heavy rains of 2004 and 2005 large numbers of Peirson's milk-vetch were found in the

disturbed post-construction right-of-way. Based on the survey results of the proposed B-Line and existing A-Line rights-of-way, it appears that there is a substantial seed bank of Peirson's milk-vetch available that was not adversely affected by construction of the A-Line. Additionally, it appears as if the topsoil and seed bank conservation measures implemented during construction of the A-Line in 2002 successfully preserved and distributed Peirson's milk-vetch seeds and provided for the quick re-establishment of this species. North Baja would utilize the same techniques used during construction and restoration of the A-Line for the proposed B-Line, including topsoil segregation to conserve the existing seed bank, respreading of topsoil upon completion of construction, and imprinting the right-of-way during restoration with equipment (e.g., sheepsfoot roller) to provide micro-catchment areas for seed retention. Clearing could result in the loss of the current season's seed production depending on construction timing; however, Peirson's milk-vetch seed is able to remain viable for several years (FWS 2002b). Therefore, re-establishment would not be dependent upon construction occurring after a single season's seed-production period.

North Baja would similarly segregate topsoil along the IID Lateral, but would not use a sheepsfoot roller in the area of the dunes along the lateral because this equipment is ineffective in sand. Construction of the IID Lateral through potential Peirson's milk-vetch habitat would be conducted in the summer months after adult plants (if present) have already set seed, which should allow for the re-establishment in the next growing season after construction is completed.

Proposed mitigation measures, including topsoil segregation and timing of construction, would substantially reduce impacts on the Peirson's milk-vetch. Additionally, construction through previously undisturbed areas adjacent to the existing right-of-way could actually benefit the species by providing open areas for the species to develop. Nonetheless, the proposed Project would result in direct impacts on the species, including crushing and cutting of individuals and populations. Thus, although construction in locations adjacent to populations of this species may increase habitat suitability or otherwise make the area suitable for proliferation of the species, the likelihood of overall positive benefits is uncertain. The clearing and grading of areas currently containing individuals and populations of this species would result in direct and adverse impacts on existing populations. Therefore, the Agency Staffs believe that the North Baja Pipeline Expansion Project *is likely to adversely affect* the Peirson's milk-vetch and, as such, impacts on this species would be considered significant and approval of the Project would be subject to a Statement of Overriding Considerations under the CEQA. As part of the section 7 formal consultation process, the FWS concluded in the BO that the Project would not jeopardize the continued existence of the Peirson's milk-vetch (see Appendix R).

4.7.5 State-listed Threatened and Endangered Species

Based on consultations with the AGFD and the CDFG and a search of the CNDDDB, 16 State-listed or proposed listed rare, threatened, or endangered species were identified as potentially occurring within the proposed Project area. The Agency Staffs have determined that due to lack of habitat, the proposed Project would not affect the bald eagle, the brown pelican, the elf owl, or the desert pupfish, and they have been eliminated from further consideration. Based on habitat evaluations and species-specific surveys, the Agency Staffs have determined that the North Baja Pipeline Expansion Project has the potential to affect the remaining 11 species. Five of these species are also federally listed (southwestern willow flycatcher, Yuma clapper rail, desert tortoise, razorback sucker, Peirson's milk-vetch) and are discussed in Section 4.7.4. The remaining six species are discussed below.

4.7.5.1 Arizona Bell's Vireo

The Arizona bell's vireo is a California-listed endangered bird that inhabits desert riparian communities where thickets of willow and other low shrubs are found along water and intermittent

streams. In California, the Arizona bell's vireo is limited in distribution to a few locations along the Colorado River.

Habitat evaluation surveys along the proposed B-Line identified potential habitat for this species at the Colorado River (MPs 0.0 to 3.0) and the Davis Lake area (MPs 31.0 to 33.0). As discussed previously, the use of the HDD method to cross the Colorado River and implementation of North Baja's general conservation measures would serve to avoid or minimize potential impact on areas adjacent to the Colorado River, including habitat for the Arizona bell's vireo. The proposed B-Line would cross no closer than 1,300 feet to Davis Lake between MPs 31.0 and 33.0 and, therefore, would not be considered a noise impact. In addition, riparian habitat would not be affected at this location. Therefore, construction of the pipeline would have no adverse effect on the Arizona Bell's vireo or its habitat. As such, the Project is not expected to reduce the overall abundance of the species in the area or cause a temporary loss or alteration of important habitat for the species. As a result, impacts on this species would be less than significant.

4.7.5.2 California Black Rail

The California black rail is a California-listed threatened species. This freshwater marsh bird requires mature stands of cattails and bulrushes for cover, and it can be found foraging in adjacent areas of shallow water and mudflats for crayfish, clams, and insects.

Preliminary habitat evaluations indicate that potential habitat for the California black rail is found in freshwater marshes, wetlands, and drains along the B-Line route near the Colorado River (MPs 0.0 to 3.0), the Palo Verde Valley (MPs 0.0 to 12.0), and the Davis Lake area (MPs 31.0 to 33.0). Habitat for this species may also occur near the Alamo River (MP 32.3) along the IID Lateral.

North Baja conducted a focused survey at each location of potential rail habitat along the A-Line in 2001 and along the proposed B-Line in May 2005. No California black rails were detected at any of the survey locations.

Because this species was not identified during surveys along the B-Line, no special mitigation measures are proposed besides North Baja's general conservation measures. However, areas of suitable habitat could become occupied prior to construction beginning in 2009, if the Project is approved. As recommended by the CDFG, North Baja has agreed to conduct preconstruction surveys for the California black rail if habitat for this species is not cleared before construction. Habitat for this species is similar to the Yuma clapper rail, previously discussed in Section 4.7.4.2. Per the Agency Staffs' recommendation for the Yuma clapper rail (see Section 4.7.4.2), suitable habitat for both the Yuma clapper rail and the California black rail at both Rannells Drain and the Alamo River would be cleared before construction. This measure would avoid direct impacts on the California black rail during construction of the B-Line.

Disturbance of wetlands and drains during Project construction would reduce available foraging and nesting habitat for the species. Impacts on wetland and drain habitat would be temporary because these vegetation communities typically revegetate within 1 year following construction. Given that no individuals were found to be using the areas along the proposed Project corridor during several recent surveys and that impacts on California black rail habitat would be minor and temporary, construction of the proposed Project would have no adverse effect on the California black rail and impacts on this species would be less than significant.

4.7.5.3 Gila Woodpecker

The Gila woodpecker is a California-listed endangered species. This species is common in Arizona, but is limited to a few scattered locations in the Colorado River Valley in California. The Gila woodpecker inhabits areas of desert riparian, mesquite, saguaro, or Joshua tree woodlands. It may sometimes be found in trees, palms, and even wooden utility poles in urban and suburban areas.

Before construction of the A-Line, 10 areas were identified as potential Gila woodpecker nesting habitat. These areas include the Colorado River crossing (MP 0.2) and areas at MPs 17.6, 21.8, 22.2 to 25.3 (Stallard Road Wash), MPs 35.6 to 36.4 (Milpitas Wash), MPs 46.4, 50.2 to 52.4, 55.5, 59.5, and 64.8 to 65.2 (Gold Rock Ranch). A focused survey and preconstruction surveys were conducted before construction of the A-Line in 2002.

The 2002 surveys identified two occupied cavities at MPs 50.7 and 51.7. One active nest cavity was identified in a power pole approximately 54 feet from the right-of-way. The other active nest cavity was located in a Palo Verde tree with a single male woodpecker within 16 feet of the right-of-way. The birds persisted during and after construction, and appeared unaffected by the pipeline installation process (Foster Wheeler Environmental Corporation [FWENC] 2002).

The CDFG recommended that North Baja conduct preconstruction surveys to determine the presence of the Gila woodpecker in the vicinity of the proposed B-Line in areas of suitable nesting habitat. North Baja has agreed to conduct surveys for Gila woodpeckers in areas of suitable nesting habitat before initiation of construction of the B-Line if construction is scheduled to occur during the breeding season. If active Gila woodpecker nest cavities are identified within 100 feet of the right-of-way during preconstruction surveys, North Baja would monitor cavities during construction to determine if nesting individuals are being disturbed by construction activities. If disturbance (e.g., avoidance of the cavity by individuals) is noted, and young are present in the cavity, North Baja would cease construction within 200 feet of the nest cavity until the young have fledged.

With implementation of North Baja's proposed surveys and conservation measures, if necessary, no direct adverse effect on the Gila woodpecker is expected from construction of the proposed B-Line. As a result, impacts on this species would be less than significant.

4.7.5.4 Western Yellow-billed Cuckoo

The western yellow-billed cuckoo is a California-listed endangered species and is also a candidate for Federal listing as endangered or threatened. This bird is uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in California. Habitat loss has resulted in drastically reduced numbers of this species. Western yellow-billed cuckoos are most frequently found along perennial streams, wetlands, and other riparian areas with large stands of cottonwood and willow trees and an understory of mesquite, tamarisk, and cattail marshes.

Marginal habitat for the western yellow-billed cuckoo is present along some areas of the Colorado River near MP 0.2 of the proposed B-Line. North Baja's biologists conducted protocol surveys for this species before construction of the A-Line in June and July 2001. No individuals were identified during these surveys (FWENC 2002). Due to the highly degraded nature of the habitat in the Colorado River vicinity of the Project, this species is not expected to occur. Additionally, the Agency Staffs have determined that through implementation of North Baja's general conservation measures, the proposed Project would have no adverse effect on the western yellow-billed cuckoo. As such, Project-related impacts that would reduce the overall abundance of the species in the area or cause a temporary loss or

alteration of important habitat for the species are not expected. As a result, impacts on the western yellow-billed cuckoo would be less than significant.

4.7.5.5 Algodones Dune Sunflower

The Algodones Dune sunflower is a Federal species of concern, a California-listed endangered species, and is designated 1B (rare throughout all or portions of its range) by the CNPS. The Algodones Dune sunflower is a perennial herb found in partially stabilized desert dunes in the lee of prevailing winds in the southern Sonoran Desert in Imperial County and in southwestern Arizona and New Mexico. The species blooms from September to May, and is threatened primarily by OHV traffic (Skinner and Pavlik 1994, CDFG 2000).

Suitable habitat for this species is found along the IID Lateral route in the southern Algodones Dunes within the ISDRA (MPs 0.5 to 7.9). The IID Lateral would cross approximately 76 acres of Algodones Dune sunflower habitat in the ISDRA. In lieu of conducting species-specific surveys, North Baja has indicated that it is assuming that the species is present throughout the area of suitable habitat. North Baja would segregate topsoil along the IID Lateral, but would not use a sheepsfoot roller in the area of the dunes along the lateral because this equipment is ineffective in sand. Construction of the IID Lateral through potential Algodones Dune sunflower habitat would be conducted in the summer months after adult plants (if present) have already set seed, which should allow for the re-establishment in the next growing season after construction is completed. Although North Baja's general conservation measures would substantially reduce impact on this species, construction of the IID Lateral may result in the removal of individual plants. However, the reproduction potential of the local population would not be affected; therefore, construction of the IID Lateral would not have an adverse impact on the population of Algodones Dune sunflower. As a result, with the implementation of North Baja's general conservation measures, including the efforts to minimize the spread of non-native species, the Project is not expected to reduce the overall abundance of the species in the area or cause a temporary loss or alteration of important habitat for the species. Therefore, impacts on the Algodones Dune sunflower would be less than significant.

4.7.5.6 Wiggins's Croton

The Wiggins's croton is a California-listed rare plant species and is designated 2 (rare throughout all or portions of its range in California, but common beyond the boundaries of California) by the CNPS. This species occurs in the southeastern Sonoran Desert in southeastern Imperial County in California. It can be found on desert dunes and Sonoran desert scrub habitats, and is commonly associated with sand dunes and sandy arroyos. The Wiggins's croton blooms from March to May and is threatened by OHV traffic (Skinner and Pavlik 1994, CDFG 2000).

Suitable habitat for the Wiggins's croton is found along the IID Lateral route in the southern Algodones Dunes within the ISDRA (MPs 0.5 to 7.9). The IID Lateral would cross approximately 76 acres of Wiggins's croton habitat in the ISDRA. In lieu of conducting species-specific surveys, North Baja has indicated that it is assuming that the species is present throughout the area of suitable habitat. North Baja would segregate topsoil along the IID Lateral, but would not use a sheepsfoot roller in the area of the dunes along the lateral because this equipment is ineffective in sand. Construction of the IID Lateral through potential Wiggins's croton habitat would be conducted in the summer months after adult plants (if present) have already set seed, which should allow for the re-establishment in the next growing season after construction is completed. Although North Baja's general conservation measures would substantially reduce impact on this species, construction of the IID Lateral may result in the removal of individual plants. However, the reproduction potential of the local population would not be affected; therefore, construction of the IID Lateral would not have an adverse impact on the population of

Wiggins's croton. As a result, with the implementation of North Baja's general conservation measures, including the efforts to minimize the spread of non-native species, the Project is not expected to reduce the overall abundance of the species in the area or cause a temporary loss or alteration of important habitat for the species. Therefore, impacts on the Wiggins's croton would be less than significant.

4.7.6 Other Special Status Species

Based on consultations with the FWS, the BLM, the AGFD, and the CDFG and a search of the CNDDDB, 35 special status species (i.e., those not federally or State-listed or proposed listed endangered or threatened) were identified as potentially occurring within the Project area. Based on habitat evaluations and species-specific surveys, the proposed Project has the potential to affect 16 of these species. A discussion of potential impacts and measures to avoid or minimize impacts on these species is presented below.

4.7.6.1 Colorado River Cotton Rat

The Colorado River cotton rat is a California species of special concern. This species is limited to the marshes of the Colorado River. The B-Line would cross the Colorado River and associated riparian areas at about MP 0.2 using the HDD method. This method would not require surface disturbance within the river or in the adjacent banks or wetlands. If a frac-out occurred during the HDD of the river, drilling mud could be released into areas adjacent to the river, and North Baja's efforts to contain the drilling mud could further affect potential habitat for the Colorado River cotton rat. However, successful HDDs of the Colorado River have been completed in the vicinity of the B-Line crossing and North Baja does not anticipate difficulties with the crossing for the proposed Project. The Agency Staffs anticipate that the proposed HDD is likely to be successful; therefore, the North Baja Pipeline Expansion Project is not expected to reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts on the Colorado River cotton rat that could contribute to a trend towards Federal or State listing. As a result, impacts on the Colorado River cotton rat would be less than significant.

4.7.6.2 Desert Bighorn Sheep

The desert bighorn sheep is listed as a sensitive species by the BLM. Desert bighorn sheep usually occur in small herds of about 10 animals in open, rocky, steep areas with available water and herbaceous forage. The sheep generally have two distinct, separate ranges in summer and winter, with corresponding spring and fall migrations. The summer ranges for desert bighorn sheep are typically smaller than winter ranges due to the sheep's dependence on water sources in the summer. The BLM reported that the proposed Project could encounter desert bighorn sheep near the Palo Verde Wilderness Area, which is approximately 1 mile west of the B-Line near MP 31.0. As discussed in Section 4.6.2.4, the multi-species WHMA that would be crossed by the B-Line between approximate MPs 35.2 and 50.0 includes two corridor portions of proposed WHMAs for bighorn sheep between MPs 35.2 and 42.0 and MPs 49.0 and 50.0.

Impacts on desert bighorn sheep are likely to be indirect in nature, resulting from noise-related disturbance during construction. All construction activities would occur within the approved construction work area and North Baja would inform workers that bighorn sheep may occur in the area.

Based on the distance of the Project from the Palo Verde Wilderness Area and because desert bighorn sheep are highly mobile and wide ranging and would likely avoid construction activities, impacts on the desert bighorn sheep would be less than significant.

4.7.6.3 Brown-crested Flycatcher

The brown-crested flycatcher is a California species of special concern. It inhabits desert riparian habitat along the lower Colorado River and requires thickets, trees, snags, and shrubs for foraging and perching, as well as nesting cavities and appropriate cover (CDFG 2000). This species breeds from May through September along the Colorado River south to Yuma; however, excessive clearing of the riparian forest along the lower Colorado River south to Yuma has made this species a rare breeder in the area (Small 1994).

Suitable riparian and desert wash woodland habitat for the brown-crested flycatcher occurs along the proposed B-Line in the lower Colorado River basin between MPs 22.0 to 23.0, 35.0 to 36.0, 41.0 to 46.0, 50.0 to 53.0, and 59.0 to 66.0 (Konecny 2000). Clearing of suitable habitat during construction of the proposed Project during the breeding season could result in injury or death of adults and young, if still in the nest, or abandonment of nests if they are located near the right-of-way. North Baja currently proposes to complete construction of the B-Line after the breeding season. Per its general conservation measures, North Baja would preclear vegetation along the B-Line if the schedule was modified such that construction would be necessary during the breeding season, thereby preventing individuals from nesting in areas that would be disturbed during construction. Additionally, per the Agency Staffs' recommendation in Section 4.6.2.3, preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. The minor, incremental loss of unoccupied habitat would not be expected to have direct or indirect impacts on individuals or reduce the abundance of brown-crested flycatchers in the area because the proposed Project would be adjacent to an existing cleared right-of-way. Thus, fragmentation of undisturbed suitable habitat would not occur. With implementation of North Baja's general mitigation measures, the North Baja Pipeline Expansion Project is not expected to reduce the abundance of or alter habitat important for the brown-crested flycatcher that could contribute to a trend towards Federal or State listing. As a result, impacts on this species would be less than significant.

4.7.6.4 Burrowing Owl

The burrowing owl is a California species of special concern and a BLM sensitive species. This species is found in parts of the western United States, and inhabits open, dry grasslands, deserts, agricultural areas, and scrublands with low-growing vegetation. Burrowing owls are subterranean nesters and are typically found using burrows made by small mammals, such as ground squirrels or badgers.

Burrowing owls are known to occur in the irrigated desert agricultural areas along the proposed B-Line and along the IID Lateral in the Imperial Valley, showing that burrowing owl populations have adapted to agricultural activities in these areas. The B-Line would cross suitable burrowing owl habitat from MPs 0.0 to 12.0 (which includes 18th Avenue), and the IID Lateral would cross suitable burrowing owl habitat from MPs 28.0 to 46.0. FERC staff observed several burrowing owls adjacent to the road shoulders along 18th Avenue in summer 2005. North Baja conducted a survey for special status species along the proposed Arrowhead Extension in the Spring of 2006. North Baja identified one probable burrowing owl burrow and an individual burrowing owl adjacent to a burrow at approximate MP 1.5. Burrowing owls are also occasionally seen in the open desert. One pair was noted south of Interstate 8 in an OHV area during construction of the A-Line in 2002.

A primary component of North Baja's impact minimization efforts would include identification of active burrows before construction. Owls occupying burrows within 250 feet of the construction work area would be left alone and monitored or passively or actively relocated to appropriate and previously installed artificial or available alternate natural burrows. Only biologists approved by the CDFG in advance would handle owls or install one-way doors during relocation activities. The management

strategy utilized would be determined on a case-by-case basis. In addition to relocation or monitoring efforts, North Baja would implement the following measures to minimize impacts on the burrowing owl:

- Direct impacts on burrowing owl habitat would be minimized by constructing in the road pavement or road shoulder in agricultural areas or by boring/drilling beneath habitat areas (e.g., canals and drains).
- Preconstruction surveys during the breeding season would be conducted by biologists who would visually check all potential habitat within 250 feet of both sides of the proposed construction work area within 1 week before construction.
- Unoccupied burrows discovered within the construction right-of-way during preconstruction surveys would be collapsed or excavated before construction activities to prevent occupancy by burrowing owls.
- Artificial burrows, installed to minimize the effect of burrow loss, would be placed within the home range of individual owls that would be affected before burrow excavation or installation of one-way doors.

In addition to these avoidance and minimization efforts, if any active burrows are damaged by construction activities, North Baja would provide compensation at the equivalency rate of 6.5 acres of foraging habitat for burrowing owls for each active burrow damaged.

North Baja has indicated that implementation of these measures through an adaptive management plan during construction of the A-Line effectively avoided or minimized impacts on burrowing owls. Although individual burrowing owls could be affected by construction activities, with implementation of North Baja's proposed measures, the Project is not expected to reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the burrowing owl. As a result, impacts on this species would be less than significant.

4.7.6.5 Crissal Thrasher

The Crissal thrasher is a species of special concern in California. This migratory bird species is generally intolerant of human disturbance and occurs in the southwestern deserts of the United States, including along the lower Colorado River in California. This species inhabits brushy thickets or dense understories of desert riparian and desert wash habitats. Loose soils (not too firm or sandy) suitable for digging up insect prey are a strong habitat indicator for this species.

Potential habitat for the Crissal thrasher occurs along the B-Line near the Colorado River and the town of Blythe (MPs 0.0 to 3.0), the town of Palo Verde (MPs 24.0 to 29.0), and the Davis Lake area (MPs 31.0 to 33.0). One individual was observed near the pipeline route along 18th Avenue in Blythe during construction of the A-Line in 2002. Additionally, a Crissal thrasher was reported in the area of Stallard Road (MP 25.0) during the southwestern willow flycatcher surveys in 2005. No potential habitat for the Crissal thrasher was identified along the Arrowhead Extension or the IID Lateral.

Because habitat for this species would recover slowly after construction, any impacts would result in a long-term reduction of available habitat. If Crissal thrashers are present during the breeding season (early February to June), the noise from construction could indirectly affect these birds. Birds disturbed by construction of the proposed Project would most likely be displaced into adjacent habitats, potentially disrupting breeding activities and annual production for one season. North Baja currently proposes to

complete construction of the B-Line after the breeding season. Per its general conservation measures, North Baja would preclear vegetation along the B-Line if the schedule was modified such that construction would be necessary during the breeding season, thereby preventing individuals from nesting in areas that would be disturbed during construction. Additionally, per the Agency Staffs' recommendation in Section 4.6.2.3, preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. The minor, incremental loss of unoccupied habitat would not be expected to have direct or indirect impacts on individuals or reduce the abundance of the Crissal thrasher in the area because the proposed Project would be adjacent to an existing cleared right-of-way. Thus, fragmentation of undisturbed suitable habitat would not occur.

Further, North Baja would minimize the potential for long-term impacts on the Crissal thrasher by compensating for loss of microphyll woodland habitat through payment of an assessed financial contribution at a ratio approved by the FWS, the BLM, and the CDFG for those areas not already covered by desert tortoise habitat compensation.

With the implementation of North Baja's conservation measures and compensatory mitigation proposal, the Project is not expected to reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the Crissal thrasher. As a result, impacts on this species would be less than significant.

4.7.6.6 Ferruginous Hawk

The ferruginous hawk is a California species of special concern. This hawk is a migratory, non-breeding winter resident of California from September through April. Ferruginous hawks prefer open grasslands, desert scrub, and low foothills surrounding valleys where they hunt for small mammals, birds, reptiles, and amphibians. They are considered uncommon migrants in the Colorado River area and in grasslands and agricultural areas in southern California.

The ferruginous hawk is an occasional migrant within the Project area. Construction of the proposed Project would have no impact on this species.

4.7.6.7 Le Conte's Thrasher

The Le Conte's thrasher is a migratory California species of special concern and a BLM sensitive species. This species lives mainly in the lowest, most barren and hottest desert plains of southwestern and western Arizona and southeastern California. The Le Conte's thrasher occupies desert scrub, open washes, and Joshua tree habitats.

Potential habitat for the Le Conte's thrasher occurs along the proposed B-Line from MPs 12.0 to 79.8. This species may also be present along the proposed IID Lateral in the scattered creosote bush scrub habitat between the ISDRA and the Imperial Valley from MPs 8.0 to 28.0. In lieu of conducting species-specific surveys, North Baja has indicated that it is assuming that the species is present throughout the area of suitable habitat.

Because the habitat for this species would recover slowly after construction, any impacts would result in a long-term reduction of available habitat. If Le Conte's thrashers are present during the breeding season (early February to June), the noise from construction could indirectly affect these birds. Birds disturbed by construction of the proposed Project would most likely be displaced into adjacent habitats, potentially disrupting breeding activities and annual production for one season. However, North Baja currently proposes to complete construction of the B-Line after the breeding season. Per its general

conservation measures, North Baja would preclear vegetation along the B-Line if the schedule was modified such that construction would be necessary during the breeding season, thereby preventing individuals from nesting in areas that would be disturbed during construction. Additionally, per the Agency Staffs' recommendation in Section 4.6.2.3, preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. The minor, incremental loss of unoccupied habitat would not be expected to have direct or indirect impacts on individuals or reduce the abundance of the Le Conte's thrasher in the area because the proposed Project would be adjacent to an existing cleared right-of-way. Thus, fragmentation of undisturbed suitable habitat would not occur.

Further, North Baja would minimize the potential for long-term impacts on the Le Conte's thrasher by compensating for loss of microphyll woodland habitat through payment of an assessed financial contribution at a ratio approved by the FWS, the BLM, and the CDFG for those areas not already covered by desert tortoise habitat compensation.

With the implementation of North Baja's general conservation measures and compensatory mitigation proposal, the Project is not expected to reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the Le Conte's thrasher. As a result, impacts on this species would be less than significant.

4.7.6.8 Summer Tanager

The summer tanager is a California species of special concern that has historically utilized southern California as a major breeding area along the lower Colorado River and the Imperial Valley. This species is a rare fall and winter visitor and a late spring transient (Small 1994). The summer tanager inhabits desert riparian habitat along the lower Colorado River and requires cottonwood-willow riparian areas for nesting and foraging (CDFG 2000). Deforestation along the lower Colorado River has destroyed much of the available habitat, and the population has been much reduced (Small 1994).

Suitable habitat for the summer tanager is present along the proposed B-Line along the lower Colorado River basin (MPs 22.0 to 23.0, 35.0 to 36.0, 41.0 to 46.0, 50.0 to 53.0, and 59.0 to 66.0) (Konecny 2000). Because habitat for this species would recover slowly after construction, any impacts would result in a long-term reduction of available habitat. If summer tanagers are present during the breeding season (early February to June), the noise from construction could indirectly affect these birds. Birds disturbed by construction of the proposed Project would most likely be displaced into adjacent habitats, potentially disrupting breeding activities and annual production for one season. However, North Baja currently proposes to complete construction of the B-Line after the breeding season. Per its general conservation measures, North Baja would preclear vegetation along the B-Line if the schedule was modified such that construction would be necessary during the breeding season, thereby preventing individuals from nesting in areas that would be disturbed during construction. Additionally, per the Agency Staffs' recommendation in Section 4.6.2.3, preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. The minor, incremental loss of unoccupied habitat would not be expected to have direct or indirect impacts on individuals or reduce the abundance of the summer tanager in the area because the proposed Project would be adjacent to an existing cleared right-of-way. Thus, fragmentation of undisturbed suitable habitat would not occur.

With the implementation of North Baja's general conservation measures, Project-related impacts that would reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the summer tanager are not expected. As a result, impacts on this species would be less than significant.

4.7.6.9 Vermilion Flycatcher

The vermilion flycatcher is a species of special concern in California, and is a common and widespread breeder along the lower Colorado River and in the Coachella and Imperial Valleys. The vermilion flycatcher occurs in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures, and other open mesic sites.

Suitable habitat for the vermilion flycatcher occurs along the proposed B-Line in the desert riparian areas of the lower Colorado River basin (MPs 0.0 to 12.0, 22.0 to 29.0, 31.0 to 33.0, 35.0 to 53.0, 59.0 to 66.0, and 79.0 to 79.8). The vermilion flycatcher is not known to occur in the area of the proposed Arrowhead Extension or the IID Lateral. Because habitat for this species would recover slowly after construction, any impacts would result in a long-term reduction of available habitat. If vermilion flycatchers are present during the breeding season (early February to June), the noise from construction could indirectly affect these birds. Birds disturbed by construction of the proposed Project would most likely be displaced into adjacent habitats, potentially disrupting breeding activities and annual production for one season. However, North Baja currently proposes to complete construction of the B-Line after the breeding season. Per its general conservation measures, North Baja would preclear vegetation along the B-Line if the schedule was modified such that construction would be necessary during the breeding season, thereby preventing individuals from nesting in areas that would be disturbed during construction. Additionally, per the Agency Staffs' recommendation in Section 4.6.2.3, preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. The minor, incremental loss of unoccupied habitat would not be expected to have direct or indirect impacts on individuals or reduce the abundance of the vermilion flycatcher in the area because the proposed Project would be adjacent to an existing cleared right-of-way. Thus, fragmentation of undisturbed suitable habitat would not occur.

Potential habitat for the vermilion flycatcher at the B-Line Colorado River crossing location is substantially degraded. Additionally, the use of the HDD method to install the pipeline beneath the river would serve to avoid impacts on this already degraded habitat. The implementation of the HDD method in addition to North Baja's general conservation measures would serve to substantially reduce the potential impacts of the Project on the vermilion flycatcher. As such, Project-related impacts that would reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the vermilion flycatcher are not expected. As a result, impacts on this species would be less than significant.

4.7.6.10 Yellow-breasted Chat

The yellow-breasted chat is a California species of special concern. This species is a fairly common breeder and is local to the lower Colorado River extending south to Yuma (Small 1994). The yellow-breasted chat inhabits riparian thickets of willow and other bushy tangles near watercourses (CDFG 2000). Widespread habitat deterioration and elimination, coupled with brood parasitism by brown-headed cowbirds, has diminished its status to an uncommon spring migrant from early-April to mid-May.

Suitable habitat for the yellow-breasted chat was identified along the proposed B-Line along the Colorado River in Blythe (MPs 0.0 to 3.0), the town of Palo Verde (MPs 22.0 to 23.0), and the Davis Lake area (MPs 31.0 to 33.0) (Konecny 2000). There is no suitable habitat for this species along the proposed Arrowhead Extension or the IID Lateral. Because habitat for this species would recover slowly after construction, any impacts would result in a long-term reduction of available habitat. If yellow-breasted chats are present during the breeding season (early February to June), the noise from

construction could indirectly affect these birds. Birds disturbed by construction of the proposed Project would most likely be displaced into adjacent habitats, potentially disrupting breeding activities and annual production for one season. However, North Baja currently proposes to complete construction of the B-Line after the breeding season. Per its general conservation measures, North Baja would preclear vegetation along the B-Line if the schedule was modified such that construction would be necessary during the breeding season, thereby preventing individuals from nesting in areas that would be disturbed during construction. Additionally, per the Agency Staffs' recommendation in Section 4.6.2.3, preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. The minor, incremental loss of unoccupied habitat would not be expected to have direct or indirect impacts on individuals or reduce the abundance of the yellow-breasted chat in the area because the proposed Project would be adjacent to an existing cleared right-of-way. Thus, fragmentation of undisturbed suitable habitat would not occur.

With the implementation of North Baja's general conservation measures, Project-related impacts that would reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the yellow-breasted chat are not expected. As a result, impacts on this species would be less than significant.

4.7.6.11 Colorado River Toad

The Colorado River toad, also called the Sonoran Desert toad, is a California species of special concern. This species is closely associated with permanent or semi-permanent water sources, usually flowing water, and was historically present in California along the channel of the lower Colorado River and in the southern Imperial Valley. These toads are documented to occur up the Colorado River from Fort Yuma to the Blythe-Ehrenberg area. Severe habitat alteration in the lower Colorado River region has impacted this species.

The proposed B-Line would cross the Colorado River and associated riparian areas at about MP 0.2 using the HDD method. This method would not require surface disturbance within the river or in the adjacent banks or wetlands. If a frac-out occurred during the HDD of the river, drilling mud could be released into areas adjacent to the river and North Baja's efforts to contain those drilling mud could further affect potential habitat for the Colorado River toad. However, successful HDDs of the Colorado River have been completed in the vicinity of the B-Line crossing and North Baja does not anticipate difficulties with the crossing for the proposed Project. The Agency Staffs agree that the proposed HDD crossing is likely to be successful; therefore, the North Baja Pipeline Expansion Project is not expected to reduce the abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts on the Colorado River toad that could contribute to a trend towards Federal or State listing. As a result, impacts on this species would be less than significant.

4.7.6.12 Couch's Spadefoot Toad

The Couch's spadefoot toad is a California species of special concern that can be found in a variety of vegetation types, including desert dry wash woodland, creosote bush scrub, and alkali sink scrub. This species is adapted to an arid environment and spends up to 11 months a year in underground burrows surviving off stored fat reserves. During wet conditions, spadefoot toads breed in temporary rain pools or temporary overflow areas.

The CDFG has indicated that a population of spadefoot toads is historically known to occur along one of the dry washes crossed by the proposed B-Line (the Milpitas Wash [MP 35.3]). Additionally, one

Couch's spadefoot toad was found during construction of the A-Line in the Stallard Road wash area (MP 25.0) in 2002 (North Baja 2002). There are no recorded occurrences of this species in the CNDDB database quadrangles of the IID Lateral.

Construction of the proposed Project in areas of occupied habitat could result in mortality or injury to individual Couch's spadefoot toads due to entrapment in open trenches or as a result of being crushed by vehicles and displaced soil. Construction disturbances to rain pools or temporary overflow areas could disrupt breeding activities and annual production for one season, which could potentially significantly affect local populations of Couch's spadefoot toad.

To minimize impacts on individuals and populations of the Couch's spadefoot toad, North Baja has proposed the following mitigation measures:

- If local thunderstorms occur in the habitat identified by the CDFG and provide substantial moisture under warm conditions (temperatures over 90 °F) in July, August, or September, and if construction has not already been completed in that area, North Baja biologists would examine potential Couch's spadefoot toad habitat for persistent pools. The CDFG would notify North Baja if appropriate conditions prevail, and North Baja would coordinate with the CDFG to complete the surveys.
- Authorized biologists would monitor temporary pools for persistence and would examine them daily for eggs, tadpoles, or toadlets.
- Construction activities would not be conducted within 150 feet of temporary pools. If water fails to persist within shallow pools for 10 days, or if no Couch's spadefoot toad eggs, tadpoles, or toadlets are found within 10 days, then construction would resume in the area.
- If any Couch's spadefoot toads are found, the CDFG would be immediately notified. A report on the findings would be submitted to the CDFG within 30 days of completion of the construction activities within the area.

With implementation of North Baja's general conservation measures as well as the specific measures detailed above, Project-related impacts that would reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the Couch's spadefoot toads are not expected. As a result, impacts on this species would be less than significant.

4.7.6.13 Flat-tailed Horned Lizard

The flat-tailed horned lizard is a California species of special concern and a BLM sensitive species. The proposal to list the flat-tailed horned lizard as a federally threatened species under the ESA was withdrawn by the FWS on June 20, 2006 (Federal Register 71:36745). The range of the flat-tailed horned lizard includes the Salton Sea and the Imperial Sand Dunes of California, as well as the low deserts of southwestern Arizona, northern Baja California, and the northwestern Sonoran Desert. This species is most abundant in areas of creosote bush, but may also be found in desert scrub, desert wash, succulent scrub, and alkali scrub habitats. Vegetation is usually scant in occupied areas, consisting of creosote bush or other scrubby growth. The present range of this species, and abundance in that range, has been greatly reduced over recent years by human activities such as development and recreational use of prime habitat.

Suitable habitat for the flat-tailed horned lizard occurs along the proposed B-Line route from Ogilby extending south to the All-American Canal (MPs 71.0 to 79.8). North Baja's biologists conducted surveys in the suitable habitat area in 2001 and categorized habitats as favorable (0.4 mile), transitional (4.1 miles), or unfavorable (4.3 miles) according to the *Flat-tailed Horned Lizard Range Management Strategy* (FTHLICC 2003). Flat-tailed horned lizards were observed between MPs 77.0 and 78.0 during surveys in 2000 and 2001, and were abundant between MPs 75.2 and 79.6 during construction of the A-Line. They are assumed to still be present in that area and are expected to occur in the same general locations during construction of the B-Line.

Suitable habitat for the flat-tailed horned lizard is present along the IID Lateral from MPs 8.0 to 28.0, and the presence of the flat-tailed horned lizard is assumed within this milepost range. The IID Lateral would be adjacent to the East Mesa Management Area, which is set aside primarily for protection of flat-tailed horned lizard habitat (BLM 2004). However, the *Flat-tailed Horned Lizard Range Management Strategy, Revision 2003* specifies that areas within the road right-of-way of Evan Hughes Highway are not considered flat-tailed horned lizard habitat, and that the management area stops at the north edge of the road right-of-way (FTHLICC 2003). The IID Lateral would be entirely within the road right-of-way and, in some places, would be in the road shoulder. From MPs 13.6 to 16.2, the IID Lateral would be north of the existing transmission lines within the road right-of-way. A total of 25.2 acres of suitable flat-tailed horned lizard habitat would be disturbed during construction of the IID Lateral.

Construction of the pipeline through habitat occupied by the flat-tailed horned lizard could result in direct mortality or injury of individual lizards as a result of being crushed by vehicles, movement of soil, and entrapment in open trenches. If construction occurs during extremely hot summer months, lizards can die if entrapped in open trenches. Ten lizards were known to have died and 15 were successfully relocated during construction of the A-Line in 2002. Construction noise and activity could also indirectly affect lizards by pushing them into similar adjacent habitat farther away from the construction work area; however, flat-tailed horned lizards would likely return to the habitat in the immediate vicinity of the right-of-way upon completion of construction activities.

Based on the experience gained during construction of the A-Line, North Baja would implement the following mitigation measures to reduce impacts on flat-tailed horned lizards during construction of the B-Line (MPs 75.2 to 79.6) and the IID Lateral (MPs 8.0 to 28.0):

- Authorized biologists would conduct preconstruction surveys to verify all flat-tailed horned lizard habitat in the construction area. Within 7 days before construction, biologists would identify habitat areas subject to direct construction-related ground disturbance.
- Biologists would conduct a final clearance survey 1 to 2 days before construction activities, which would include excavating potential burrows and relocating lizards to nearby suitable habitat. North Baja would implement the management strategy guidelines for relocation of flat-tailed horned lizards described in the *Flat-tailed Horned Lizard Range Management Strategy* (FTHLICC 2003).
- A field contact representative would initiate a worker education program and would have the authority to ensure compliance with protective measures for flat-tailed horned lizards.
- A biological monitor would be present in each area of active construction within flat-tailed horned lizard habitat throughout the work day from initial clearing through habitat restoration. The biological monitors would have sufficient education, field experience, and training with this species to understand its biology and behavior. The monitors

would ensure that all activities are in compliance with the management strategy guidelines for relocation of flat-tailed horned lizards. The biological monitors would also have the authority and responsibility to halt activities that are in violation of the management strategy guidelines.

- In areas of suitable habitat (MPs 75.2 to 79.6 of the B-Line and MPs 8.0 to 28.0 of the IID Lateral), North Baja would restrict the amount of trench open at any one time to 2 miles. Trench walkers would be employed in those areas such that each portion of open trench would be observed every 30 minutes when ground temperatures exceed 85°F (29.5 °C). Each trench walker can cover 2 miles per hour; therefore, the open portion of trench (2 miles) would require two trench walkers during hot weather to provide the desired coverage. Trench walkers would be construction workers with no other duties than to walk along the side of the open trench and look for flat-tailed horned lizards. These workers would receive specialized flat-tailed horned lizard training under the supervision of the BLM biologist and would be directly supervised by a qualified biologist who has also received flat-tailed horned lizard training. Additionally, all hazardous sites, such as open pipes, trenches, holes, or deep excavations would be inspected for the presence of lizards before backfilling.
- If lizards are found trapped in an excavation, the authorized biologist would capture by hand and relocate the affected lizard. The management strategy guidelines for relocation of flat-tailed horned lizards described in the *Flat-tailed Horned Lizard Range Management Strategy* (FTHLICC 2003) would be used.

The Agency Staffs recognize that individual lizards may be harmed or killed, reducing abundance of the species in the area, and that occupied habitat would be adversely impacted by construction. However, based on the mitigation measures described above (e.g., preconstruction clearance surveys, biological monitors present during construction, lizard relocation as necessary, restricted open trench lengths), the Project is not expected to reduce the overall population of the species in the area or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the flat-tailed horned lizard.

Nonetheless, based on impacts expected during construction of the proposed Project, including direct impacts temporarily lowering abundance of the species in the area, impacts on this species and its habitat would be considered significant. Therefore, approval of the Project would be subject to a Statement of Overriding Considerations under the CEQA.

4.7.6.14 Fairyduster

The fairyduster has been listed as a category 2 species (rare throughout all or portions of its range in California, but common beyond the boundaries of California) by the CNPS. This species is a deciduous shrub known to occur in Imperial and San Diego Counties in California, and is found in Sonoran Desert scrub, creosote bush scrub, and desert dry wash woodland habitats, as well as along desert washes (Skinner and Pavlik 1994).

North Baja's botanists surveyed the proposed B-Line route and identified fairyduster plants from a series of locations between MPs 45.1 to 49.8, 53.6 to 57.4, and 65.1 to 66.6. Marginal habitat for this species may occur along the IID Lateral. In lieu of conducting species-specific surveys, North Baja has indicated that it is assuming that the species is present throughout the area of suitable habitat along the IID Lateral.

Pipeline construction activities (e.g., clearing, grading, trenching, backfilling, excavation) would directly affect plants found within the construction work area. However, the loss of individual plants is not anticipated to affect the local or regional population of the species due to the relative abundance in the area. Construction would temporarily affect suitable habitat for the fairyduster. However, post-construction surveys of the A-Line right-of-way have shown that restoration of the pipeline right-of-way allows native plants to re-establish in areas disturbed by construction.

Although North Baja's general conservation measures, including topsoil segregation, would substantially reduce impact on this species, construction of the B-Line and the IID Lateral may result in the removal of individual plants. However, the reproduction potential of the local population would not be affected; therefore, construction of the B-Line and IID Lateral would not have an adverse impact on the population of fairyduster. As such, the Project is not expected to reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the fairyduster. Therefore, impacts on this species would be less than significant.

4.7.6.15 Giant Spanish-needle

The giant Spanish-needle is a Federal species of concern, has been designated category 1B by the CNPS, and is a BLM sensitive species. This plant is an annual herb that occurs in the Sonoran Desert of southeastern Imperial County within active and stable sand dunes (Skinner and Pavlik 1994). The giant Spanish-needle blooms from February to May, and its main threat is OHV traffic (CDFG 2000).

Suitable habitat for the giant Spanish-needle is found along the IID Lateral in the southern Algodones Dunes within the ISDRA (MPs 0.5 to 7.9). In lieu of conducting species-specific surveys, North Baja has indicated that it is assuming that the species is present throughout the area of suitable habitat. Although the general mitigation measures, including topsoil segregation, would substantially reduce impact on this species, construction of the IID Lateral may result in the removal of individual plants. However, construction of the IID Lateral would not adversely impact the reproduction potential of the local population of the giant Spanish-needle. As a result, with the implementation of North Baja's general conservation measures, including the efforts to minimize the spread of non-native species, the Project is not expected to reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the giant Spanish-needle. Therefore, impacts on this species would be less than significant.

4.7.6.16 Sand Food

The sand food is a category 1B species as designated by the CNPS. This plant is a perennial herb that occurs in the Sonoran Desert of southeastern Imperial County, western Arizona, and northwestern New Mexico (Skinner and Pavlik 1994), and occurs on the lee side of stabilized and partially stabilized desert dunes (CDFG 2000). The sand food blooms from April to June and is primarily threatened by OHV traffic and military activities (Skinner and Pavlik 1994).

Suitable habitat for the sand food is found along the proposed IID Lateral in the southern Algodones Dunes within the ISDRA (MPs 0.5 to 7.9). In lieu of conducting species-specific surveys, North Baja has indicated that it is assuming that the species is present throughout the area of suitable habitat. Although North Baja's general conservation measures, including topsoil segregation, would substantially reduce impact on this species, construction of the IID Lateral may result in the removal of individual plants. However, the reproduction potential of the local population would not be affected; therefore, construction of the IID Lateral would not adversely impact the population of the sand food. As

a result, with the implementation of North Baja's general conservation measures, including the efforts to minimize the spread of non-native species, the Project is not expected to reduce the overall abundance of the species in the area, cause a temporary loss or alteration of important habitat for the species, or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the sand food. Therefore, impacts on this species would be less than significant.

4.7.7 Cumulative, Interdependent, and Interrelated Effects

Section 7 of the ESA requires the Federal action agency to provide an analysis of cumulative effects when it requests initiation of formal consultation. Under the ESA, cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area. Future Federal actions that are unrelated to the proposed action are not considered because they would require a separate consultation pursuant to section 7 of the ESA.

Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. Several other existing or planned activities in the general area of the proposed Project could have a cumulative impact with North Baja's proposed Project. Table 4.15-1 lists the projects that the Agency Staffs are aware of through the scoping process and additional research. In general, the projects listed that have the potential to impact wildlife and vegetation are those most likely to have a cumulative impact on special status species.

The geographic area considered in determining past, present, and reasonably foreseeable projects that could also have impacts on wildlife and vegetation includes the planning areas as designated by the BLM, the Palo Verde Valley, and the Imperial Valley. To determine non-Federal projects that are reasonably foreseeable, the Agency Staffs included those that have made formal proposals or engaged in a permitting process, and those that are included in agency plans or forecasts. A detailed discussion of projects considered for this cumulative impact analysis is included in Section 4.15.

When projects are constructed at the same time or are timed closely together, they could have a cumulative impact on vegetation and wildlife living in the area where the projects are built, even if the impacts are temporary. The removal of desert vegetation could have long-term consequences because the regeneration of vegetation in arid desert environments is slow. This effect is more severe in desert wash woodlands, which are less prevalent locally and provide more diverse wildlife habitat than creosote bush scrub. In addition to the proposed Project, the transmission line projects, the landfill, and the Mesquite Mine expansion would all adversely impact desert wash woodlands. Each of these projects is required to provide compensatory payments or land purchases equivalent to at least 3 acres for each acre disturbed. This, and the minimization of construction in desert wash woodlands, as required in each project by the terms of the section 1603 permit issued by the CDFG would reduce or mitigate the individual and cumulative impacts of these projects on desert wash woodlands. Further, none of the pipeline facilities would result in permanent impacts on vegetation or habitat, although regrowth would be slow.

The amount of desert wash woodland, desert dunes, and creosote bush scrub habitat that may be affected by these projects is relatively small compared to the abundance of habitat in the area. These projects would not fragment vegetation/habitat in addition to the fragmentation already existing due to the A-Line right-of-way, Interstate 8, the existing canal, and the existing recreation and Border Patrol access roads. All of the projects in California would involve mitigation measures designed to minimize the potential for long-term chronic erosion, increase the stabilization of site conditions, control the spread of noxious weeds, minimize the potential for accidental spills of materials into surface waters, and minimize the impact on special status species. This mitigation would minimize the degree and duration of the cumulative impacts of these projects.

4.7.8 Summary of Determinations of Effect for Federally Listed Species

Based on informal consultation with the FWS, 9 federally listed species were identified as potentially occurring in the general vicinity of (within the counties crossed by) the Project. After further consultations with the FWS, the BLM, and the CDFG, and completion of field surveys, a determination of effect for each of these species was developed. Two of the 9 species (desert tortoise and Peirson's milk-vetch) were identified as likely to be adversely affected by the proposed Project. Critical habitat for the desert tortoise was also identified as likely to be adversely affected. Table 4.7.8-1 provides a summary of the impact evaluation for federally listed species (and critical habitat, if present in the Project area) and for State-listed species with the potential to occur in the North Baja Pipeline Expansion Project area. Despite the potential for direct and indirect impacts of the proposed Project on listed species, the proposed Project would not restrict the range of endangered, rare, or threatened species.

In compliance with section 7 of the ESA, the Agency Staffs submitted the draft EIS/EIR to the FWS with a request for concurrence with the determinations of effect and to initiate formal consultation for the desert tortoise and the Peirson's milk-vetch. In a letter dated November 1, 2006, the FWS concurred with the determinations of effect. In the BO issued on April 20, 2007, the FWS concluded that the proposed action is not likely to jeopardize the continued existence of the desert tortoise and its critical habitat and the continued existence of the Peirson's milk-vetch.

TABLE 4.7.8-1			
Summary of Assessment of Project Impacts on Listed Species			
Species or Critical Habitat	Federal Status	State Status	Project Impact
Species listed under both Federal and California Endangered Species Acts			
Peirson's milk-vetch	Threatened	Endangered	May affect, likely to adversely affect
Razorback sucker	Endangered	Endangered	May affect, not likely to adversely affect
Razorback sucker critical habitat			May affect, not likely to adversely affect
Desert pupfish	Endangered	Endangered	No effect
Bonytail chub	Endangered	Rare	No effect
Desert tortoise	Threatened	Threatened	May affect, likely to adversely affect
Desert tortoise critical habitat			May affect, likely to adversely affect
Brown pelican	Threatened	Endangered	No effect
Bald eagle	Threatened	Endangered	No effect
Southwestern willow flycatcher	Endangered	Endangered	May affect, not likely to adversely affect
Yuma clapper rail	Endangered	Threatened	May affect, not likely to adversely affect
Species listed only under the California Endangered Species Act			
Algodones Dune sunflower		Endangered	May affect individuals, unlikely to adversely affect population
Wiggins's croton		Rare	May affect individuals, unlikely to adversely affect population
Arizona Bell's vireo		Endangered	No adverse effect
Western yellow-billed cuckoo	Candidate	Endangered	No adverse effect
Elf owl		Endangered	No effect
California black rail		Threatened	No adverse effect
Gila woodpecker		Endangered	No adverse effect

As required by the CESA, consultation has occurred with the CDFG to determine the proposed Project's effect on California-listed species. As described above, it is expected that the North Baja Pipeline Expansion Project would avoid adverse impacts on individuals or populations of the following California-listed threatened or endangered species: razorback sucker, desert pupfish, brown pelican, bald eagle, southwestern willow flycatcher, Yuma clapper rail, Algodones dune sunflower, Arizona bell's

vireo, western yellow-billed cuckoo, elf owl, California black rail, and Gila woodpecker. However, the Federal and California-listed threatened desert tortoise and the federally listed threatened and California-listed endangered Peirson's milk-vetch would likely be adversely affected by construction of the Project. Because these species are California-listed as well as federally listed, the CDFG would review the BO prepared by the FWS and consider the issuance of a consistency determination pursuant to section 2080.1 of the California Fish and Game Code. Alternatively, the CDFG may issue an Incidental Take Permit under section 2081 of the California Fish and Game Code. Additionally, approval of the Project would require the CSLC to prepare a Statement of Overriding Considerations under the CEQA if, after mitigation is applied, the CSLC finds that the impacts of the Project would not be reduced to a level that is less than significant.

Because the CDFG has not yet issued its conclusions regarding the impact of the Project on California-listed species, **the Agency Staffs recommend that:**

- **North Baja shall not begin Phase I-A or Phase II construction activities until:**
 - a. **the CDFG makes a consistency determination on the FWS' BO pursuant to section 2080.1 of the California Fish and Game Code or issues an Incidental Take Permit that covers both federally and State-listed species that may be affected;**
 - b. **North Baja obtains an Incidental Take Permit under section 2081 of the California Fish and Game Code for all State-listed species that may be affected, or receives concurrence from the CDFG that an Incidental Take Permit is not required; and**
 - c. **North Baja has received written notification from the Executive Officer of the CSLC that construction or use of conservation measures may begin.**

Construction of the proposed Project is currently scheduled to be completed in three phases, with construction of the last phase beginning in late summer of 2009. Due to the potential inhabitation of suitable habitats found to be lacking individuals during surveys in 2005, and the potential for new species to become listed under State or Federal law in the future, **the Agency Staffs recommend that:**

- **For those portions of the Project facilities where construction would occur more than 1 year from the date of issuance of the FERC and CSLC approvals for the Project, North Baja shall consult with the FWS, the BLM, and the CDFG to update the species list and to verify that previous consultations and determinations of effect are still current. Documentation of these consultations, and the need for additional surveys and survey reports (if required), and FWS, BLM, and CDFG comments on the surveys and survey reports and their conclusions (as applicable), shall be filed with the FERC and the CSLC before construction begins on those facilities.**

4.7.9 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the

potential impacts on federally and State-listed or other special status species identified for the construction and operation of the proposed Project would occur. |

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.8 LAND USE, SPECIAL MANAGEMENT AREAS, RECREATION AND PUBLIC INTEREST AREAS, AND AESTHETIC RESOURCES

4.8.1 Significance Criteria

An adverse impact on land use, special management areas, recreation and public interest areas, and aesthetic resources would be considered significant and would require mitigation if Project construction or operation would:

- conflict with existing land use plans, policies, or regulations established by a jurisdiction directly affected by the Project (see Section 1.5);
- convert more than 1 percent of agricultural lands in a county to a non-agricultural use or impair the productivity of more than 1 percent of agricultural land in a county;
- result in the loss of more than 1 percent of the acreage planted in a county's most valuable crop;
- displace a business or permanent residence from its established location, or disrupt access to a business or permanent residence for more than 14 days;
- conflict with any approved residential or commercial development plans;
- cause long-term property damage and create construction-related hazards to residents of dwellings within 100 feet of the pipeline;
- physically divide an established community;
- prevent access to an established recreation area during its peak use periods or for more than 1 year;
- result in the loss of 10 percent or more of an established or planned recreation site, or prevent access to the site, during its peak use periods or for more than 1 year;
- adversely affect ACECs, wilderness areas, wilderness study areas, or other areas of special environmental concern;
- provide access to previously inaccessible, environmentally sensitive areas;
- result in reductions in the quality of the recreation experience for more than one visitor use season (such as from increased noise and dust, reduced visual quality from landscape modifications and night illumination, reduced visibility, and reduced water quality);
- cause inconsistency with adopted Visual Resource Management (VRM) Plans or local ordinances. In those areas where no VRM Plans exist, significant impacts are determined by examining the study area for sensitive viewsheds, areas of high user volumes, and areas of unique visual resources. Sensitive resources are then examined on a case-by-case basis to determine level of impact. Significant impacts are those that dominate the viewshed from sensitive locations and change the character of the landscape both in terms of physical characteristics and land uses;

- result in a substantial adverse effect on a scenic area or vista;
- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic area or highway;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

4.8.2 Land Use and Ownership

Construction of the North Baja Pipeline Expansion Project would disturb approximately 1,760.5 acres of land, including the pipeline facilities, aboveground facilities, pipe storage and contractor yards, and access roads. Approximately 109.0 acres of the 1,760.5 acres used for construction would be required for operation of the Project. Of this total, about 106.9 acres would be for the pipeline facilities, 2.0 acres would be for the aboveground facilities, and 0.1 acre would be for permanent access roads associated with the proposed facilities. The remaining 1,651.5 acres of land would be restored and allowed to revert to former use. Table 4.8.2-1 summarizes the acres of each land use that would be affected by construction and operation of the Project.

Pipeline Facilities

The Project would involve the construction of 127.6 miles of pipeline facilities of various diameters in La Paz County, Arizona and Riverside and Imperial Counties, California (see Table 2.1.1-1). Of the 127.6 miles of proposed pipeline route, approximately 126.9 miles (99 percent) would be constructed in or adjacent to various existing rights-of-way (see Table 2.2.1-1). The B-Line and the Arrowhead Extension would be entirely in or adjacent to existing rights-of-way. Of the 45.7 miles associated with the IID Lateral, 0.7 mile (2 percent) would be constructed on newly created right-of-way that does not parallel existing rights-of-way.

Table 4.8.2-2 lists the land uses that would be crossed by the proposed pipeline facilities. The predominant land use that would be crossed is open land, comprising about 80.1 miles (63 percent) of the pipeline routes. Anthropogenic (i.e., industrial/commercial/utility) uses are the second most prevalent land use, comprising 43.9 miles (34 percent) of the proposed pipeline routes. Other land uses that would be crossed by the pipeline facilities include 3.3 miles (3 percent) of agricultural land and 0.4 mile (less than 1 percent) of open water.

Land use impacts associated with the Project would include the disturbance of existing land uses within the construction right-of-way during construction and retention of a new permanent right-of-way for operation of the pipeline facilities. North Baja proposes to generally use a 105-foot-wide construction right-of-way for the B-Line, consisting of North Baja's existing 50-foot-wide permanent right-of-way and 55 feet of temporary workspace. In most areas, about 80 feet of the construction right-of-way would overlap the previously disturbed right-of-way. The B-Line would be installed within North Baja's existing 50-foot-wide permanent right-of-way using a standard 25-foot offset from the existing A-Line. No new permanent right-of-way would be required for operation of the B-Line.

TABLE 4.8.2-1

Acres of Land Affected by Construction and Operation of the North Baja Pipeline Expansion Project

Facility	Open Land ^a		Anthropogenic ^b		Agriculture ^c		Open Water ^d		Total		
	Const.	Oper.	Const.	Oper.	Const.	Oper.	Const.	Oper.	Const.	New Dist.	Oper.
B-Line											
Pipeline Facilities											
Pipeline Right-of-Way	869.8	0.0	117.7	0.0	28.0	0.0	0.0	0.0	1,015.5	234.0	0.0
Temporary Extra Workspace	<u>93.5</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>34.7</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>128.2</u>	<u>51.2</u>	<u>0.0</u>
<i>Pipeline Facilities Subtotal</i>	<i>963.3</i>	<i>0.0</i>	<i>117.7</i>	<i>0.0</i>	<i>62.7</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>1,143.7</i>	<i>285.2</i>	<i>0.0</i>
Aboveground Facilities	1.5	0.5	0.8	0.0	0.0	0.0	0.0	0.0	2.3	2.3	0.5
Pipe Storage and Contractor Yards	5.0	0.0	45.4	0.0	0.0	0.0	0.0	0.0	50.4	0.0	0.0
Access Roads	<u>97.4</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>2.3</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>99.7</u>	<u>0.0</u>	<u>0.0</u>
<i>B-Line Subtotal</i>	<i>1,067.2</i>	<i>0.5</i>	<i>163.9</i>	<i>0.0</i>	<i>65.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>1,296.1</i>	<i>287.5</i>	<i>0.5</i>
Arrowhead Extension											
Pipeline Facilities											
Pipeline Right-of-Way	0.0	0.0	7.2	0.0	13.4	4.7	0.0	0.0	20.6	20.6	4.7
Temporary Extra Workspace	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>1.7</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>1.7</u>	<u>1.7</u>	<u>0.0</u>
<i>Pipeline Facilities Subtotal</i>	<i>0.0</i>	<i>0.0</i>	<i>7.2</i>	<i>0.0</i>	<i>15.1</i>	<i>4.7</i>	<i>0.0</i>	<i>0.0</i>	<i>22.3</i>	<i>22.3</i>	<i>4.7</i>
Aboveground Facilities	0.0	0.0	1.0	0.3	1.0	0.8	0.0	0.0	2.0	2.0	1.1
Pipe Storage and Contractor Yards	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Access Roads	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.</u>	<u>0.0</u>
<i>Arrowhead Extension Subtotal</i>	<i>0.0</i>	<i>0.0</i>	<i>8.2</i>	<i>0.3</i>	<i>16.1</i>	<i>5.5</i>	<i>0.0</i>	<i>0.0</i>	<i>24.3</i>	<i>24.3</i>	<i>5.8</i>
IID Lateral											
Pipeline Facilities											
Pipeline Right-of-Way	113.5	42.5	245.7	59.7	1.0	0.0	0.0	0.0	360.2	360.2	102.2
Temporary Extra Workspace	<u>25.0</u>	<u>0.0</u>	<u>3.4</u>	<u>0.0</u>	<u>14.7</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>43.1</u>	<u>43.1</u>	<u>0.0</u>
<i>Pipeline Facilities Subtotal</i>	<i>138.5</i>	<i>42.5</i>	<i>249.1</i>	<i>59.7</i>	<i>15.7</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>403.3</i>	<i>403.3</i>	<i>102.2</i>
Aboveground Facilities	0.4	0.2	2.5	0.2	0.0	0.0	0.0	0.0	2.9	2.9	0.4
Pipe Storage and Contractor Yards	0.0	0.0	22.7	0.0	0.0	0.0	0.0	0.0	22.7	22.7	0.0
Access Roads	<u>3.8</u>	<u>0.1</u>	<u>1.3</u>	<u>0.0</u>	<u>6.1</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>11.2</u>	<u>0.2</u>	<u>0.1</u>
<i>IID Lateral Subtotal</i>	<i>142.7</i>	<i>42.8</i>	<i>275.6</i>	<i>59.9</i>	<i>21.8</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>440.1</i>	<i>429.1</i>	<i>102.7</i>

TABLE 4.8.2-1 (cont'd)

Acres of Land Affected by Construction and Operation of the North Baja Pipeline Expansion Project

Facility	Open Land ^a		Anthropogenic ^b		Agriculture ^c		Open Water ^d		Total		
	Const.	Oper.	Const.	Oper.	Const.	Oper.	Const.	Oper.	Const.	New Dist.	Oper.
Project Subtotal											
Pipeline Facilities											
Pipeline Right-of-Way	983.3	42.5	370.6	59.7	42.4	4.7	0.0	0.0	1,396.3	614.8	106.9
Temporary Extra Workspace	<u>118.5</u>	<u>0.0</u>	<u>3.4</u>	<u>0.0</u>	<u>51.1</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>173.0</u>	<u>96.0</u>	<u>0.0</u>
<i>Pipeline Facilities Subtotal</i>	<i>1,101.8</i>	<i>42.5</i>	<i>374.0</i>	<i>59.7</i>	<i>93.5</i>	<i>4.7</i>	<i>0.0</i>	<i>0.0</i>	<i>1,569.3</i>	<i>710.8</i>	<i>106.9</i>
Aboveground Facilities	1.9	0.7	4.3	0.5	1.0	0.8	0.0	0.0	7.2	7.2	2.0
Pipe Storage and Contractor Yards	5.0	0.0	68.1	0.0	0.0	0.0	0.0	0.0	73.1	22.7	0.0
Access Roads	<u>101.2</u>	<u>0.1</u>	<u>1.3</u>	<u>0.0</u>	<u>8.4</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>110.9</u>	<u>0.2</u>	<u>0.1</u>
Project Total	1,209.9	43.3	447.7	60.2	102.9	5.5	0.0	0.0	1,760.5	740.9	109.0

^a Open land includes undeveloped, desert scrub-shrub lands, and wetlands.

^b Anthropogenic land includes paved or unpaved roadways (e.g., 18th Avenue and Imperial County roadways) as well as road crossings and other industrial/commercial/utility uses.

^c Agricultural land includes cropland, which typically consists of alfalfa, wheat, cotton, and irrigated pasture, and, to a lesser extent, vegetable truck crops.

^d Open water includes open expanses of water such as the Colorado River, All-American Canal, and Highline Canal crossings. Because these waterbodies would be crossed using the horizontal directional drill method, no open water would be affected by construction or operation of the Project.

Const. = Construction.

Oper. = Operation.

New Dist. = New disturbance (i.e., not disturbed during construction of the A-Line).

Note: The totals shown in this table may not equal the sum of addends due to rounding.

TABLE 4.8.2-2

Land Uses Crossed by the Pipeline Facilities Associated with the North Baja Pipeline Expansion Project (miles)

Facility	Open Land ^a	Anthropogenic Land ^b	Agricultural Land ^c	Open Water ^d	Total
B-Line	68.3	9.1	2.2	0.3	79.8
Arrowhead Extension	0.0	1.0	1.1	0.0	2.1
IID Lateral	11.8	33.8	0.0	0.1	45.7
Project Total	80.1 (63%)	43.9 (34%)	3.3 (3%)	0.4 (<1%)	127.6 (100%)

^a Open land includes undeveloped, desert scrub-shrub lands, and wetlands.

^b Anthropogenic land includes paved or unpaved roadways (e.g., 18th Avenue and Imperial County roadways) as well as road crossings and other industrial/commercial/utility uses.

^c Agricultural land includes cropland, which typically consists of alfalfa, wheat, cotton, and irrigated pasture, and, to a lesser extent, vegetable truck crops.

^d Open water includes open expanses of water such as the Colorado River, All-American Canal, and Highline Canal crossings. Because these waterbodies would be crossed using the horizontal directional drill method, no open water would be affected by construction or operation of the Project.

Note: The totals shown in this table may not equal the sum of addends due to rounding.

Where the B-Line would be installed within or abutting the paved portion of 18th Avenue (a distance of about 7.6 miles), rights to build and operate the pipeline within the county road right-of-way would be authorized under a franchise agreement with Riverside County. Franchise agreements do not typically grant a specific strip of land, but simply allow the pipeline to be installed and operated within the road right-of-way. North Baja proposes to use a 60-foot-wide construction right-of-way to install the B-Line in the paved portion of 18th Avenue.

North Baja proposes to generally use a 100-foot-wide construction right-of-way for the Arrowhead Extension except when in the Arrowhead Boulevard roadway or road shoulder where a 60-foot-wide construction right-of-way would be used. The permanent right-of-way in all areas except when in the Arrowhead Boulevard roadway or road shoulder would be 35 feet wide. Rights to build and operate the pipeline within the Arrowhead Boulevard right-of-way would be authorized under an agreement between North Baja and Riverside County.

Where the IID Lateral parallels existing electric transmission lines, North Baja proposes to generally use an 80-foot-wide construction right-of-way and a 30-foot-wide permanent right-of-way. North Baja proposes to use a 60-foot-wide construction right-of-way and a 30-foot-wide permanent right-of-way where the lateral would be installed between a transmission line and a road. A 60-foot-wide construction right-of-way would also be used where the IID Lateral would be installed within or abutting the traveled portion of county roads. Rights to build and operate the IID Lateral within county road rights-of-way would be authorized under a franchise agreement between North Baja and Imperial County. Franchise agreements do not typically grant a specific strip of land, but simply allow the pipeline to be installed and operated within the road right-of-way. For the portion of the IID Lateral located in Evan Hewes Highway and other county roads, a 2-foot-wide permanent right-of-way has been assumed. In some cases, where the road right-of-way has not been expressly dedicated to the county, North Baja may acquire additional easements from private landowners. In these areas, a 30-foot-wide permanent right-of-way has been assumed.

Comments were received during the scoping process expressing concern that there is not enough room in the easements of Imperial County roadways for a pipeline. North Baja selected the proposed route in Imperial County roadways based, in part, on a field reconnaissance survey to identify roads with

fewer existing surface and buried utilities as well as consultation with the Imperial County Department of Public Works. Few obstacles were identified or noted that would prevent placement of a pipeline in the road easements. Where such constraints were identified (e.g., the Holtville-Orchard Road Overpass of Hunt Road), North Baja adjusted the proposed route to move outside the road right-of-way for a short distance.

In addition to the construction right-of-way, North Baja has identified temporary extra workspaces that would be required for staging areas and construction at waterbodies, roads, and railroads, and in areas of steep slopes and rugged terrain. The approximate locations and sizes of temporary extra workspaces identified by North Baja are listed in Table D-1 in Appendix D.

Construction of the pipeline facilities would affect a total of about 1,569.3 acres of land, including 1,396.3 acres for the pipeline rights-of-way and 173.0 acres for temporary extra workspace. About 858.5 acres or 55 percent is previously disturbed area associated with construction and operation of North Baja's existing A-Line. Open land would be the primary land use affected by construction of the pipeline facilities totaling about 1,101.8 acres (70 percent) (see Table 4.8.2-1). The remaining land uses that would be disturbed consist of 374.0 acres (24 percent) of anthropogenic land and 93.5 acres (6 percent) of agricultural land. No open water would be affected by construction of the pipeline facilities because open expanses of water such as the Colorado River, All-American Canal, and Highline Canal would be crossed using the HDD method (see Section 2.3.2).

Of the 1,569.3 acres of land that would be affected by construction of the pipeline facilities, about 106.9 acres would be retained as new permanent right-of-way. Of the 106.9 acres permanently retained, 59.7 acres (56 percent) is anthropogenic land, 42.5 acres (40 percent) is open land, and 4.7 acres (4 percent) is agricultural land. The land retained as permanent right-of-way would be allowed to revert to former use; however, tree crops such as orchards and aboveground structures would be prohibited on the permanent right-of-way. There are no restrictions on how close structures (e.g., houses) can be to the permanent pipeline right-of-way. The remaining 1,462.4 acres used for temporary construction right-of-way and temporary extra workspace would be allowed to revert to prior uses following construction with no restrictions.

The most valuable crops in the Project area include alfalfa in La Paz County, nursery stock in Riverside County, and vegetables and melons in Imperial County. Approximately 4.7 acres of agricultural land would be affected by operation of the proposed pipeline facilities and an additional 0.8 acre would be affected by operation of the proposed aboveground facilities. Because Riverside County has about 572,000 acres of farmland, the 5.5 acres that would be affected by operation of the proposed Project represents less than 0.001 percent of the total farmland in the county. Therefore, the Project would not result in the conversion of more than 1 percent of agricultural lands to a non-agricultural use or impair the productivity of more than 1 percent of agricultural land in a county. The Project would also not result in the loss of more than 1 percent of the acreage planted in a county's most valuable crop.

Construction and operation activities on approximately 89 percent of the lands affected by the Project would be authorized by various governmental entities including: the BLM (for Federal lands managed by the BLM, the BOR, and the FWS [53 percent]), California counties (36 percent), the States of Arizona or California or cities (less than 1 percent), or the CSLC (less than 1 percent). The remainder of the land that would be affected (11 percent) is privately owned. Table 4.8.2-3 summarizes the land ownership along the proposed pipeline facilities.

An easement would be used to convey both temporary (for construction) and permanent rights-of-way to North Baja. The easement gives the company the right to construct, operate, and maintain the pipelines, and establish a permanent right-of-way. In return, the company compensates the landowner for

use of the land. The easement agreement between the company and the landowner typically specifies compensation for loss of use during construction, loss of nonrenewable or other resources, damage to property during construction, and allowable uses of the permanent right-of-way after construction.

TABLE 4.8.2-3						
Summary of Land Ownership Crossed by the North Baja Pipeline Expansion Project (miles)						
Facility	Federal ^a	County	Private	CSLC	Other (State or City)	Total
B-Line	59.3	8.2	11.7	0.2	0.4	79.8
Arrowhead Extension	0.0	1.0	1.1	0.0	0.0	2.1
IID Lateral	8.1	36.5 ^b	0.7	0.0	0.4	45.7
Project Total	67.4	45.7	13.5	0.2	0.8	127.6
	(53%)	(36%)	(11%)	(<1%)	(<1%)	(100%)
^a Lands authorized by the BLM, including lands managed by the BLM, BOR, and the FWS. The BLM would issue a Right-of-Way Grant that would apply to all affected Federal lands after receipt of concurrence from the BOR and the FWS.						
^b Of this total, about 17.6 miles would be located within county road rights-of-way across BLM land.						
Note: The totals shown in this table may not equal the sum of addends due to rounding.						

If an easement cannot be negotiated with a landowner and the Project has been certificated by the FERC, North Baja may use the right of eminent domain granted to it under section 7(h) of the NGA and the procedures set forth under the Federal Rules of Civil Procedure (Rule 71A) to obtain the right-of-way and temporary extra workspace areas. North Baja would still be required to compensate the landowner for the right-of-way and damages incurred during construction. However, the level of compensation would be determined by a court according to State or Federal law. In either case, North Baja would compensate landowners for use of the land. Eminent domain does not apply to lands under Federal ownership (i.e., BLM, BOR, and FWS land).

Aboveground Facilities

Modifications at existing and construction of new aboveground facilities associated with the proposed Project would affect 7.2 acres of land. Of the 7.2 acres, 2.0 acres would be permanently converted for operation of these facilities. Table 4.8.2-4 summarizes the land requirements and land use for the aboveground facilities associated with the North Baja Pipeline Expansion Project.

The installation of a new pig receiver at the Ehrenberg Compressor Station would take place within the existing fenceline of the facility and would not require any additional land for construction or operation; however, a header pipe associated with the new pig receiver would be outside of the fenceline of the facility and would require 0.7 acre of anthropogenic land for construction (no permanent right-of-way would be required because the line would be installed on North Baja fee property). The aboveground modifications at the Ehrenberg Compressor Station and the adjacent El Paso Meter Station to allow for northbound flow of gas would take place within the existing fencelines of the facilities.

The addition of a pig launcher and receiver at Rannells Trap would require an expansion of the facility by 0.3 acre on private land during both construction and operation. The modifications and additional pig launcher and receiver at the Ogilby Meter Station would require an expansion of the facility by 0.2 acre for both construction and operation. This expansion would affect anthropogenic land managed by the BLM.

TABLE 4.8.2-4

Aboveground Facilities Associated with the North Baja Pipeline Expansion Project

Facility	Approx. Milepost	Existing Land Use	Land Affected During Construction (acres)	Land Affected During Operation (acres)
B-Line				
Ehrenberg Compressor Station Modifications and Pig Receiver ^a	0.0	Anthropogenic (Industrial/ Commercial/Utility)	0.7	0.0
El Paso Meter Station Modifications ^a	0.0	Anthropogenic (Industrial/ Commercial/Utility)	0.0	0.0
Rannells Trap Pig Launcher and Receiver	11.7	Open Land	0.3	0.3
Valve #1 ^b	0.0	Anthropogenic (Industrial/ Commercial/Utility)	0.0	0.0
Valve #2	5.7	Anthropogenic (Industrial/ Commercial/Utility)	0.3	0.01
Valve #3 ^c	11.7	Open Land	0.0	0.0
Valve #4 ^c	11.7	Open Land	0.0	0.0
Valve #5	28.0	Open Land	0.3	0.0
Valve #6	41.6	Open Land	0.3	0.0
Valve #7	60.3	Open Land	0.3	0.0
Valve #8 ^d	75.2	Anthropogenic (Industrial/ Commercial/Utility)	0.0	0.0
Valve #9 ^d	75.2	Anthropogenic (Industrial/ Commercial/Utility)	0.0	0.0
Ogilby Meter Station Modifications, and Pig Launcher and Receiver	75.2	Anthropogenic (Industrial/ Commercial/Utility)	0.2	0.2
<i>B-Line Subtotal</i>			2.3	0.5
Arrowhead Extension				
Two Taps at the A-Line and B-Line, Crossover Piping, and Pig Launcher	0.0	Agricultural	1.0	0.8
Blythe-Arrowhead Meter Station and Pig Receiver	2.1	Anthropogenic (Industrial/ Commercial/Utility)	1.0	0.3
<i>Arrowhead Extension Subtotal</i>			2.0	1.1
IID Lateral				
Tap at B-Line and Pig Launcher	0.0	Open Land	0.2	0.2
Valve #1 ^e	0.0	Open Land	0.0	0.0
Valve #2	7.6	Open Land	<0.1	0.0
Valve #3	27.2	Open Land	<0.1	0.0
Valve #4	38.7	Agricultural	<0.1	0.0
El Centro Meter Station and Pig Receiver	45.7	Anthropogenic (Industrial/ Commercial/Utility)	2.5	0.2
<i>IID Lateral Subtotal</i>			2.9	0.4
Project Total			7.2	2.0

^a Modifications at the Ehrenberg Compressor Station and the adjacent El Paso Meter Station would take place within the existing fencelines of these facilities; however, a header pipe associated with the new pig receiver would be outside of the fenceline of the facility and would require 0.7 acre for construction.

^b This facility would be collocated with the Ehrenberg Compressor Station and would not require any additional land during construction and operation.

^c This facility would be collocated with Rannells Trap and would not require any additional land during construction and operation.

^d This facility would be collocated with the Ogilby Meter Station and would not require any additional land during construction and operation.

^e This facility would be collocated with the tap at the B-Line and would not require any additional land during construction and operation.

Note: The totals shown in this table may not equal the sum of addends due to rounding.

Four new valves associated with the B-Line would be collocated with existing valves along the A-Line and would require an expansion of the existing 50-foot by 50-foot sites to 75-foot by 150-foot sites during construction. A total of about 1.0 acre of open and anthropogenic land would be affected by construction of these facilities. No new permanent right-of-way would be required for the new valves, except for valve #2 along 18th Avenue. This valve would require a 12-foot by 24-foot expansion of the existing fenced site, which would affect privately owned anthropogenic land. The other five valves would be within the sites of the Ehrenberg Compressor Station, Rannells Trap, and Ogilby Meter Station and would not require any additional land for construction or operation.

The taps, crossover piping, and pig launcher associated with the Arrowhead Extension would require a 150-foot by 225-foot site on private land on the northeast corner of the intersection of 18th Avenue and Arrowhead Boulevard. A total of 1.0 acre and 0.8 acre of agricultural land would be required for construction and operation, respectively. A 115-foot by 110-foot site within the fenced yard of SoCalGas' existing Blythe Compressor Station would be required for operation of the proposed Blythe-Arrowhead Meter Station and pig receiver. A total of 1.0 acre and 0.3 acre of anthropogenic land would be required for construction and operation, respectively.

The tap at the B-Line and pig launcher for the IID Lateral would require an 80-foot by 100-foot site on BLM land for construction and operation. A total of 0.2 acre of open land would be required for construction and operation of these facilities. The proposed El Centro Meter Station and pig receiver would be installed within the existing fenceline of the El Centro Power Generating Station but would require 2.5 acres of anthropogenic land for construction and would also require North Baja to obtain a 0.2-acre easement from the IID within the generating station yard. One of the four new valves would be collocated with the tap at the B-Line and pig launcher and would not require any additional land for construction or operation. The three remaining valves along the IID Lateral would each require 10-foot by 25-foot fenced sites within North Baja's permanent right-of-way. Two of these valves would be on open land and the third would be on agricultural land (see Table 4.8.2-4). Valve #4 would permanently affect less than 0.1 acre of agricultural land. Because this permanent conversion of agricultural land represents less than 1 percent of the agricultural land in Imperial County, impacts associated with this conversion would be less than significant.

Pipe Storage and Contractor Yards

To support construction activities, North Baja proposes to use four pipe storage and contractor yards on a temporary basis. These yards would temporarily affect about 73.1 acres of land consisting of about 68.1 acres of anthropogenic (i.e., industrial/commercial/utility) land and 5.0 acres of open land.

Access Roads

North Baja proposes to use several existing roads for temporary right-of-way access during construction. These access roads are primarily paved or dirt roads and/or jeep trails that would be graded or otherwise improved as needed to move equipment and materials to the construction right-of-way. An additional 485 feet of new temporary access roads would be required for the Project, of which about 60 feet would be retained as permanent access to the proposed Blythe-Arrowhead Meter Station at the end of the Arrowhead Extension and 160 feet would be retained as permanent access to the proposed tap at the B-Line and pig launcher at the beginning of the IID Lateral. A permanent access road would also be required to proposed valve #2 at MP 7.6 of the IID Lateral, but North Baja would utilize existing roads with some modification and would not need to construct a new road. A total of about 110.9 acres of land would be affected by using these access roads during construction (101.2 acres of open land, 8.4 acres of agricultural land, and 1.3 acres of anthropogenic land). Of the 110.9 acres, about 0.1 acre would be required for operation of the permanent access road to the Blythe-Arrowhead Meter Station and proposed tap at the B-Line and pig launcher at the beginning of the IID Lateral. The locations, conditions, lengths, and acres of the proposed access roads are listed in Table D-2 in Appendix D.

4.8.3 Existing Residences and Planned Developments

4.8.3.1 Existing Residences

Although no residential land would be directly crossed by the proposed pipeline facilities, the adjacent land uses along 18th Avenue on the B-Line, Arrowhead Boulevard on the Arrowhead Extension, and Imperial County roads on the IID Lateral include a mix of rural residential and agricultural land. A total of 24 residences and 2 businesses are along the portion of 18th Avenue that would be affected by construction of the Project. Of the 24 residences, 18 would be within 100 feet of North Baja's proposed construction work area (i.e., construction right-of-way and temporary extra work areas). Both of the businesses along 18th Avenue would also be within 100 feet of the proposed construction work area. There are three residences along the portion of Arrowhead Boulevard that would be affected by construction of the Project; however, no residences or businesses would be located within 100 feet of the Arrowhead Extension. The closest residence, at MP 1.2, is approximately 126 feet from the edge of the construction right-of-way. Along the roadways in Imperial County that would be affected by the proposed IID Lateral, a total of 28 residences and 6 businesses are present. Of these structures, 19 residences and 4 businesses would be within 100 feet of North Baja's proposed construction work area. Table 4.8.3-1 lists the residences within 100 feet of North Baja's proposed construction work area by milepost and indicates the distance and orientation of each from the construction work area. There are no residences within 100 feet of the modified or proposed aboveground facilities.

In residential areas, the two most significant impacts associated with construction and operation of a pipeline are disturbance during construction and encumbrance of property for future uses caused by the easement. This includes the limitation on future permanent structures within the permanent right-of-way. The residences and businesses within 100 feet of the construction work area may experience the effects of construction and operation of the Project. In general, as the distance from the construction work area increases, the impacts on residences decrease. No permanent residences or businesses would be displaced from their established locations as a result of the Project.

Temporary construction impacts on residential areas could include inconvenience caused by noise and dust generated by construction equipment, personnel, and trenching of roads or driveways; ground disturbance of lawns; removal of trees, landscaped shrubs, or other vegetative screening between residences and/or adjacent rights-of-way; potential damage to existing septic systems or wells; disruption of access to the property; and removal of aboveground structures, such as fences, sheds, or trailers, from within the right-of-way.

In general, construction in the 7.6-mile-long paved segment of 18th Avenue in Riverside County, in the Arrowhead Boulevard roadway or road shoulder in Riverside County, and in the various Imperial County roadways would be accomplished using urban construction techniques. All construction activities would be confined to the width of the roadways, including the paved roadway and road shoulders. Excavated materials would be used as a temporary road base for construction traffic to reduce wear on the existing road surface. Through traffic would be routed around segments of road where construction is active; however, North Baja would maintain access to residents, farm workers, and emergency response vehicles throughout the period of construction (estimated to be about 2 weeks in any given location). North Baja has developed Traffic Management Plans for 18th Avenue and Imperial County Roads (see Appendix H). These plans are discussed in further detail in Section 4.10.2 along with the Agency Staffs' recommendation that North Baja develop a Traffic Management Plan for Arrowhead Boulevard.

TABLE 4.8.3-1

Residences and Businesses Within 100 Feet of the Construction Work Area Associated with the North Baja Pipeline Expansion Project

Facility/ Milepost	Residence/ Business	Distance from Edge of Construction Work Area (feet)	Orientation from the Construction Work Area	Site-Specific Plan Number(s) ^a	Feature(s) Potentially Affected	North Baja's Proposed Mitigation Measure(s)
B-Line						
2.92	Residence	6	North	4200-E-SS-101	Driveway, lawn, access, gravity flow irrigation system	Repair driveway, replant lawn, shift stockpiled material, install temporary ditch
3.30	Residence	51	South	4200-E-SS-102	Driveway access	Repair driveway, use stove-pipe construction technique
3.62	Residence	19	South	4200-E-SS-103	Access	Temporary use of PVID canal
3.64	Residence	75	South	4200-E-SS-104	Access	Temporary use of PVID canal
3.72	Residence	86	North	4200-E-SS-105	Driveway, palm trees	Repair driveway, install barrier fencing to protect palm trees, install plate over trench
3.75	Residence	62	North	4200-E-SS-106	Driveway, shrubs, access	Repair driveway, replant shrubs and install barrier fencing to protect others, install plate over trench
3.77	Residence	83	North	4200-E-SS-107	Driveway, mailbox	Repair driveway, replace mailbox, install plate over trench
3.84	Residence	72	North	4200-E-SS-108	Driveway, mailbox	Repair driveway, replace mailbox, install plate over trench
3.92	Residence	60	South	4200-E-SS-110	None	NA
4.23	Business	49	North	4200-E-SS-112	Driveway, mailbox, lawn, access	Repair driveway, replace mailbox, replant lawn, install plate over trench, use stove-pipe construction technique
4.42	Residence	91	North	4200-E-SS-113	Driveway, palm trees, lawn, access	Repair driveway, install barrier fencing to protect trees, replant lawn, install plate over trench, use stove-pipe construction technique
4.64	Residence	40	North	4200-E-SS-114	Driveway, fence, shrubs, access	Repair driveway, replace fence, replant shrubs, install plate over trench, use stove-pipe construction technique
4.93	Residence	76	South	4200-E-SS-115	Driveway, palm trees, lawn, restricted access	Repair driveway, install barrier fencing to protect trees, replant lawn, use stove-pipe construction technique
5.25	Business	49	North	4200-E-SS-116	Driveway, access	Repair driveway, install plate over trench
5.72	Residence	84	South	4200-E-SS-117	Driveway, lawn	Repair driveway, replant lawn
6.38	Residence	52	North	4200-E-SS-120	Driveway, lawn	Repair driveway, replant lawn, install plate over trench, use stove-pipe construction technique

TABLE 4.8.3-1 (cont'd)

Residences and Businesses Within 100 Feet of the Construction Work Area Associated with the North Baja Pipeline Expansion Project

Facility/ Milepost	Residence/ Business	Distance from Edge of Construction Work Area (feet)	Orientation from the Construction Work Area	Site-Specific Plan Number(s) ^a	Feature(s) Potentially Affected	North Baja's Proposed Mitigation Measure(s)
7.66	Residence	84	South	4200-E-SS-121	Lawn, access	Replant lawn, use stove-pipe construction technique
7.91	Residence	74	North	4200-E-SS-122	Driveway, palm trees, shrubs, mailbox, access	Repair driveway, install barrier fencing to protect trees, replant shrubs shift stockpiled material, install plate over trench
8.20	Residence	54	North	4200-E-SS-123	Driveway, trees and shrubs, mailbox, access	Repair driveway, install barrier fencing to protect trees and shrubs, shift stockpiled material, use stove-pipe construction technique
8.66	Residence	70	South	4200-E-SS-124	Shrubs	Replant shrubs
Arrowhead Extension IID Lateral				-None-		
8.90	Residence	79	North	4200-E-SS-201	None	NA
27.84	Residence	71	North	4200-E-SS-202	Gravel driveway	Repair driveway, install plate over trench
27.94	Residence	60	North	4200-E-SS-203	Gravel driveway	Repair driveway, install plate over trench
28.12	Residence	93	North	4200-E-SS-204	Gravel driveway, mailbox	Repair driveway, install plate over trench, replace mailbox
29.54	Residence	80	South	4200-E-SS-205	None	NA
40.40	Business	37	North	4200-E-SS-207	Driveway, fence, trees, mailbox	Repair driveway, install plate over trench, install barrier fencing to protect trees and fence, replace mailbox
40.44	Residence	19	North	4200-E-SS-207	Driveway, tree, fence, trees, mailbox	Repair driveway, install plate over trench, install barrier fencing to protect trees and fence, replace mailbox
41.40	Residence	68	North	4200-E-SS-209	Gravel driveway, mailbox	Repair driveway, install plate over trench, replace mailbox
41.42	Residence	45	West	4200-E-SS-210	None	NA
41.94	Residence	66	West	4200-E-SS-211	None	NA
41.99	Residence	95	West	4200-E-SS-212	None	NA
42.12	Residence	57	West	4200-E-SS-215	None	NA
42.89	Residence	59	Northeast	4200-E-SS-216	Mailbox	Replace mailbox
42.92	Residence	100	North	4200-E-SS-217	Mailbox	Replace mailbox

TABLE 4.8.3-1 (cont'd)

Residences and Businesses Within 100 Feet of the Construction Work Area Associated with the North Baja Pipeline Expansion Project

Facility/ Milepost	Residence/ Business	Distance from Edge of Construction Work Area (feet)	Orientation from the Construction Work Area	Site-Specific Plan Number(s) ^a	Feature(s) Potentially Affected	North Baja's Proposed Mitigation Measure(s)
43.04	Business	58	North	4200-E-SS-218	None	NA
43.72	Business	89	South	4200-E-SS-219	Gravel road, fence, scales and scale house	Repair road, replace fence, install barrier fencing to protect scales and scale house, use stove-pipe construction method
45.24	Residence	76	North	4200-E-SS-220	None	NA
45.26	Residence	88	North	4200-E-SS-221	None	NA
45.30	Residence	70	North	4200-E-SS-222	None	NA
45.32	Business	74	North	4200-E-SS-223	None	NA
45.34	Residence	56	North	4200-E-SS-223	None	NA
45.36	Residence	80	North	4200-E-SS-224	None	NA
45.40	Residence	91	North	4200-E-SS-225	Transmission tower	Install barrier fencing around tower

^a Site-specific plans are in Appendix O.

NA = Not applicable.

North Baja would implement the following general measures to minimize construction-related hazards and maintain access to the residences and businesses that would be affected by the Project:

- minimize the amount of trench left open at the end of the workday and cordon off the trench during non-work hours;
- cover the trench with steel plates where necessary to allow traffic passage and reduce safety hazards;
- install safety fencing for a minimum of 100 feet on either side of residences that are within 100 feet of the construction work area;
- secure and patrol construction areas during non-work hours to minimize safety issues associated with open trenches;
- maintain an emergency ingress and egress near all residences and businesses throughout the construction process;
- maintain at least one lane of restricted traffic movement through the construction area for access to residences and for emergency vehicles;
- minimize noise by maintaining equipment in good operating condition; and
- suppress dust with the use of water trucks and regular spraying.

In addition to the measures identified above, North Baja has prepared and would follow Site-specific Residential Construction Mitigation Plans to minimize disruption and to maintain access to the residences and businesses within 100 feet of the construction work area associated with the B-Line and IID Lateral. The site-specific mitigation measures North Baja would use for each of the features potentially affected at the residences and businesses identified along 18th Avenue and Imperial County roadways are summarized in Table 4.8.3-1. Appendix O contains dimensioned site plans that show the following items within a minimum of 100 feet of the construction work area:

- the proposed centerline of the pipeline;
- the limits of the construction work area;
- the edge of the paved road surface;
- each residence/business and associated structures;
- existing pipelines and powerlines;
- waterbodies, roads, driveways, fences, trees or other landscaping, and private wells; and
- the location of safety fencing that would be installed during construction.

Implementation of North Baja's general mitigation measures as well as its Site-specific Residential Construction Mitigation Plans and Traffic Management Plans would reduce the potential impacts of construction on residences and businesses to less than significant levels.

Because the pipeline facilities in residential areas would be located in county road rights-of-way, which already restrict land use, operation of the pipelines would not have an incremental effect upon residential owners' current land uses or activities and would not cause any long-term property damage. In addition, because the pipelines would be buried, they would not physically divide an established community.

4.8.3.2 Planned Developments

Planned developments within 0.25 mile of the proposed pipeline facilities and associated aboveground facilities were identified through consultations with local planning agencies and landowners and are summarized below. Section 4.15 includes an analysis of potential cumulative effects of these projects when considered in conjunction with the proposed Project. Based on contact with county planning officials and landowners, North Baja is not aware of any planned developments that would affect current land uses near the Arrowhead Extension.

Development plans for the Edgewater Lane Planned Residential Community have been submitted and approved by the City of Blythe. The residential development would be located along Riviera Drive, adjacent to the Colorado River and North Baja's existing pipeline easement for the A-Line. Construction of the development is scheduled to occur in 2007. North Baja has reached an agreement with the developer of the Edgewater Lane Planned Residential Community regarding the mutual compatibility of the proposed pipeline easement across the property and the residential development.

The Imperial County Planning Department has prepared a specific plan for "Felicity," a 2,345-acre master planned community that would be north of Interstate 8 and primarily west of Sidewinder Road (Imperial County 1998). At its nearest point, the existing A-Line and proposed B-Line, as well as the expanded Ogilby Meter Station, would be approximately 2 miles west of the proposed development. Although the specific plan has been approved and adopted by the Imperial County Board of Supervisors, implementation of the Felicity planned community has been put on hold indefinitely (Imperial County 2005).

Although not residential in nature, several other projects have been proposed by various agencies and could be affected by the proposed Project. These projects include the All-American Canal Lining Project, the Drop 2 Storage Reservoir Project, and the USCIS Border Fence.

The IID has issued plans to line 23 miles of the 82-mile-long All-American Canal to prevent the continual seepage that has been occurring since the canal originally started delivering water to Imperial Valley in 1940. The final EIS for the project was issued in 1997; however, a scheduled start date for the project has not yet been established. The IID Lateral would be constructed in the same vicinity as the lining project between MPs 2.3 and 7.9. North Baja has consulted with the IID on the location of the two projects to avoid locational conflicts and would continue to coordinate with the IID as both projects move forward. Details on alternatives evaluated in this area are presented in Section 3.2.3.2.

The BOR has proposed a water storage reservoir at the former Brock Research Station, referred to as the Drop 2 Storage Reservoir Project. A new canal would extend eastward from the reservoir. The alignment of the new canal would either be just north of Evan Hewes Highway or in the center of the highway itself (the highway would be removed). The proposed IID Lateral alignment would be just south of the current paved roadway but it may be moved to an alignment just north of the highway if the new canal is built where Evan Hewes Highway now lies (see Section 3.2.4.1). North Baja has consulted with the BOR to avoid conflicts and would continue to coordinate with the BOR as both projects move forward.

The U.S. Congress is considering a bill to authorize construction of a fence along the entire U.S.-Mexico border to assist in homeland security and border control issues. Currently the USCIS only maintains a 15-mile-long border fence in the San Diego area. There are no definitive plans for constructing a border fence along the border at MP 79.8 where the B-Line crosses from the United States into Mexico or along the IID Lateral where it is closest to the border between MPs 7.9 and 16.0.

Because North Baja would continue to work with the developers and applicable agencies associated with these projects to ensure that the proposed Project does not conflict with the development plans, impacts on these areas are expected to be less than significant.

4.8.4 Special Management Areas

4.8.4.1 California Desert Conservation Area

Approximately 64.4 miles (81 percent) of the B-Line route in California are within the CDCA (MPs 3.5 to 22.3 and MPs 34.2 to 79.8). The entire 2.1 miles of the Arrowhead Extension and 45.7 miles of the IID Lateral route are within the CDCA. Pursuant to the FLPMA, the BLM prepared a comprehensive land use management plan for the area (the CDCA Plan) in 1980. The intent of the CDCA Plan is to "...provide for the immediate and future protection and administration of the public lands in the California Desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality" (BLM 1980). Figure 4.8.4-1 shows the location of the CDCA boundary in relation to BLM land and the proposed pipeline routes.

None of the 2.1 miles associated with the Arrowhead Extension would cross BLM-managed land within the CDCA. About 50.7 miles of the B-Line and 25.7 miles³ of the IID Lateral within the CDCA are managed by the BLM (see Figure 4.8.4-1). All of the public lands within the CDCA under BLM management have been designated geographically into four MUCs (BLM 1980): Controlled Use ("C"), Limited Use ("L"), Moderate Use ("M"), and Intensive Use ("I"). Along the proposed B-Line route MUCs "L" (25.2 miles) and "M" (25.5 miles) would be crossed. Along the proposed IID Lateral route MUCs "L" (20.8 miles) and "I" (4.9 miles) would be crossed. The CDCA Plan stipulates that new gas transmission facilities located in MUCs "L," "M," and "I" lands may be allowed only within designated corridors.

Under the Energy Production and Utility Corridors Element of the CDCA Plan, 16 planning corridors were identified to address utility facilities, including all pipelines with diameters greater than 12 inches (BLM 1980). Eight additional corridors are currently identified as contingent corridors. Approximately 35.1 miles of the B-Line route within the CDCA would be within designated Utility Corridors J and L, of which 29.9 miles are managed by the BLM (see Figure 4.8.4-1). Utility Corridor J is a 2-mile-wide corridor that runs north-south through the southeastern portion of California. The B-Line is within Utility Corridor J between MPs 10.8 and 22.3, MPs 36.5 and 53.8, and MPs 65.2 and 68.3. Between MPs 74.3 and 77.4, the proposed B-Line crosses Utility Corridor L, which is an east-west running corridor along Interstate 8.

Approximately 20.4 miles of the IID Lateral route within the CDCA would be within designated Utility Corridor L, of which 18.9 miles are managed by the BLM (see Figure 4.8.4-1). The IID Lateral is within Utility Corridor L between MPs 0.0 and 18.9 and MPs 26.0 and 27.5.

All other portions of the proposed B-Line and IID Lateral within the CDCA would be outside a designated utility corridor. The portions of the proposed route that are on lands within the CDCA and managed by the BLM but outside a designated utility corridor (approximately 20.8 miles for the B-Line and 6.8 miles for the IID Lateral) are in conflict with the CDCA Plan and would require an amendment to the plan.

³ Of this total, about 17.6 miles would be located within county road rights-of-way across BLM land.

Non-Internet Public

| FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR
THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
Docket Nos. CP06-61-000 and CP01-23-003

Figure 4.8.4-1 Location of Special Management Areas in
Relation to BLM Land and the Proposed Pipeline Routes

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public.referenceroom@ferc.gov.

Although approximately 20.8 miles of the proposed B-Line on BLM lands are in conflict with the CDCA Plan because they are outside of a designated utility corridor, approximately 1.5 miles of the 20.8 miles are within a contingent utility corridor. Between MPs 69.7 and 72.5, the proposed B-Line bisects Utility Corridor T, which runs in a general northwest to southeast direction adjacent to the Southern Pacific Railroad (see Figure 4.8.4-1). The CDCA Plan identifies this corridor as a contingent utility corridor having some potential for use in the future (BLM 1980). A contingent utility corridor is not an officially designated utility corridor until a plan amendment for the use of the corridor is approved. While this portion of the proposed route would still require a plan amendment, it would be within a utility corridor that has been identified for future potential use.

Although the proposed Project is not consistent with the current CDCA Plan, it would be consistent with previous projects and the goal of grouping similar land uses. The proposed B-Line would be entirely adjacent to North Baja's existing A-Line, which was the subject of an amendment to the CDCA Plan and previously approved by the BLM in 2002. In addition, the portion of the IID Lateral route outside of designated utility corridors would be within or adjacent to existing transportation (Interstate 8 and Imperial County roadways) and transmission line rights-of-way.

North Baja submitted an amended Right-of-Way Grant application to the BLM in May 2005 and would need to receive the BLM's approval in order to locate the pipeline facilities on BLM lands. It would also be the BLM's responsibility to amend the CDCA Plan (see Section 1.7). The plan amendment would avoid conflict with the CDCA Plan and would, therefore, not be a significant impact. The amendment would only accommodate the North Baja Pipeline Expansion Project and would not create a new corridor or modify existing corridors.

4.8.4.2 Milpitas Wash Special Management Area

The proposed B-Line crosses the Milpitas Wash SMA generally between MPs 29.4 and 34.2, crossing approximately 4.4 miles of BLM managed land (see Figure 4.8.4-1). The Milpitas Wash SMA is managed by the BLM Yuma Field Office under the Yuma District Plan. The purpose of the Yuma District Plan is to provide a comprehensive framework for managing public land and resources in the Yuma District. The Yuma District Plan adopted the preferred alternative analyzed during an EIS process addressing six major issues and concerns identified by the public, other agencies, and BLM staff. The six issues included wildlife habitat, special management areas, grazing, land ownership adjustment, rights-of-way, and recreation. The theme of the preferred alternative adopted by the Yuma District Plan is to "balance competing demands by providing for development of needed resources while protecting important and sensitive environmental values" (BLM 1985). As part of the Yuma District Plan, several areas were identified to be managed under special management prescriptions, including the Milpitas Wash SMA. The Milpitas Wash SMA was designated for its natural values, which include undisturbed desert vegetation, wildlife habitat, and cultural resources. The Yuma District Plan prohibits new utilities or rights-of-way across the Milpitas Wash SMA.

Of the approximately 4.4 miles crossed by the proposed B-Line within the Milpitas Wash SMA, 2.5 miles are managed by the BLM. Allowing construction of the proposed B-Line across these 2.5 miles would require an amendment to the Yuma District Plan.

This EIS/EIR proposes to modify the land use plan decisions to the extent needed to allow the BLM to issue North Baja a permit to cross the Milpitas Wash SMA. The Yuma District is currently in the process of revising its plan and is considering a proposal that would reroute the utility corridor to follow SR 78. The revision to the Yuma District Plan is a separate action from the proposed North Baja Pipeline Expansion Project. On December 15, 2006, the EPA published a Notice of Availability of the *Yuma Field Office Draft Resource Management Plan and Draft Environmental Impact Statement* in the Federal

Register.⁴ Because the B-Line would be within this new utility corridor, adoption of this revision would eliminate the need for a plan amendment for the proposed North Baja Pipeline Expansion Project. The revised plan, however, is not expected to be completed before the environmental review process for the proposed Project is completed. Therefore, for the North Baja Pipeline Expansion Project, this EIS/EIR will be used by the BLM to consider amending the current Yuma District Plan.

Although the B-Line deviates from designated utility corridors within the Milpitas Wash SMA, it would be collocated with North Baja's existing A-Line. The BLM approved an amendment to the Yuma District Plan to accommodate this pipeline in 2002. North Baja submitted an amended Right-of-Way Grant application to the BLM in May 2005 and would need to receive the BLM's approval to locate the B-Line on BLM lands. It would also be the BLM's responsibility to amend the Yuma District Plan to accommodate the B-Line (see Section 1.7). The plan amendment would avoid conflict with the Yuma District Plan and would, therefore, not be a significant impact. The amendment would only accommodate the North Baja Pipeline Expansion Project and would not create a new corridor or modify existing corridors.

4.8.4.3 Imperial Sand Dunes Recreation Area

The ISDRA was created in 1977 for the purpose of providing a formal space for OHV use (Congressional Resources Committee 2005). The ISDRA covers 248 square miles, with a length of more than 40 miles and an average width of about 5 miles (see Figure 4.8.4-1). The ISDRA is managed by the BLM El Centro Field Office and is a popular OHV use area. OHV recreation in the dunes became an important recreational activity in the post-World War II era with the availability of surplus U.S. Army Jeeps (BLM 2003). The ISDRA typically hosts 1.4 million OHV visitors per year, mostly between the months of September and May, when the weather is cooler (summer dunes temperatures reach well past 110 °F). Camping (with recreational vehicles or vacation trailers) and sightseeing are also popular activities in this area.

The ISDRA is divided into eight management areas, of which six are open to OHV use. The two management areas not open to OHV use are the North Algodones Dunes Wilderness, which is completely closed to motorized traffic, and the Adaptive Management Area, where limited use has been established while monitoring is taking place. The management areas that are open to OHV use include: Mammoth Wash, Ogilby, Glamis, Gecko, Dune Buggy Flats, and Buttercup (BLM 2003). The Gecko and Buttercup Management Areas have formal campgrounds; these include pit toilets, some paved driving surfaces, and signage. The B-Line would cross the Ogilby Management Area between MPs 71.1 and 74.5. The IID Lateral would cross the Ogilby Management Area between MPs 0.0 and 2.3 and the Buttercup Management Area between MPs 2.3 and 7.9.

The Ogilby Management Area is designated MUC "M" by the ISDRA Plan and is popular with families and groups that enjoy OHV use away from intensively used areas in the ISDRA. The Buttercup Management Area is designated MUC "I" by the ISDRA Plan and is used for camping, sightseeing, commercial vending, education, filming, and rights-of-way.

Between MPs 71.1 and 74.5, the B-Line would be within North Baja's existing right-of-way associated with the A-Line and would also be adjacent to Ogilby Road, which marks the eastern edge of the ISDRA and the Ogilby Management Area. This portion of the route is in an area of lighter OHV use and away from any developed recreational facilities. As a result, the B-Line is not expected to have a significant impact on this area and agencies have not expressed concern about this portion of the Project.

⁴ The Yuma Field Office Draft Resource Management Plan and Draft Environmental Impact Statement is available for viewing on the Internet at <http://www.blm.gov/az/LUP/planning.htm> or at the Yuma Field Office.

However, agencies have expressed concern about locating the IID Lateral through the more heavily used portions of the ISDRA.

North Baja selected the proposed IID Lateral route based on an evaluation of alternative routes and in consultation with the BOR, the IID, the BLM, and the members of the ISDRA Technical Review Team. Alternatives that were considered for the route through this area are discussed in Section 3.2.3.2. The location of the proposed route alignment accounts for concerns that arose during consultation meetings.

The eastern end of the proposed IID Lateral (west of the All-American Canal and Interstate 8) would be adjacent to an existing 500-kilovolt (kV) transmission line from MPs 0.1 to 2.3. This portion of the route is in the Ogilby Management Area in an area of lighter OHV use and away from any developed recreational facilities. Between MPs 2.3 and 2.6, the pipeline would be installed beneath Interstate 8 and the All-American Canal using the HDD method. From MP 2.6, the alignment continues west adjacent to the CalTrans right-of-way associated with Interstate 8 as well as existing transmission lines for 3.1 miles to MP 5.7. In this segment the route traverses the northern edge of the Buttercup Campground, avoiding the main parking and vendor area by staying close to the CalTrans right-of-way. This alignment was suggested by the ISDRA Technical Review Team. North Baja made other alignment adjustments in this stretch at the suggestion of the BLM, with the goal of avoiding the most intensively used areas.

At MP 5.7, the IID Lateral would cross Interstate 8 to an area between the freeway and the All-American Canal where there is no access for OHV users. The IID Lateral would cross this area between MPs 5.7 and 7.9, adjacent to an area that would be used by the IID for its All-American Canal Lining Project (see Section 4.8.3.2). The IID Lateral would be installed beneath the All-American Canal (and exit the ISDRA) at MP 7.9. A valve would be located at MP 7.6 in an area between the Interstate 8 right-of-way and the All-American Canal, which is closed to OHV activity.

Peak OHV use season in the ISDRA is from Labor Day to Easter, and is especially high in November and December. This prompted a suggestion from BLM recreation planners and the ISDRA Technical Review Team that construction of the IID Lateral take place during the summer months to avoid conflict with the high-use recreational season (BLM 2005). North Baja has incorporated this suggestion into its proposed construction schedule (see Section 2.4). The ISDRA Technical Review Team also raised concerns that various recreational activities might conflict with the pipeline if it was buried at standard depths. In response to these concerns, North Baja would bury the IID Lateral to ensure 6 feet of cover (3 feet more than typical pipeline depths) between MPs 2.7 and 5.7.

During construction, the work area within the ISDRA would be fenced to prevent recreational users from entering the construction area. This would result in a short-term restriction on recreational use in the area. Because it would be short term (i.e., considerably less than 1 year) and would occur during the summer months when use of the area is at its lowest, this impact would not be considered significant. Once the IID Lateral has been installed, surface contours would be re-established and the pipeline right-of-way would not be restricted for OHV use. As a result, no significant impacts on recreational use would occur during normal pipeline operations. Short-term recreational impacts could result from operation and maintenance activities if North Baja needed to perform major maintenance work, such as pipeline repairs; however, such major work would be rare and, if needed, would be completed in less than 1 year so no significant impacts would occur. Routine maintenance at the valve at MP 7.6 would occur inside the fenced valve site and would not affect recreational use.

4.8.5 Recreation and Public Interest Areas

The proposed pipeline facilities would not cross any national or State forests, National or California Wild and Scenic Rivers, registered national natural landmarks, lands designated under a Habitat Conservation Plan, golf courses, or areas designated under the National Trails System. However, the B-Line and IID Lateral would cross 11 recreation or public interest areas and be adjacent to several others. Table 4.8.5-1 lists the locations and crossing length (if applicable) for each of these areas. A more detailed discussion of each area is provided below. The Arrowhead Extension would not cross or be adjacent to any recreation or public interest areas. Schools in the Project area are discussed in Section 4.9.4.

TABLE 4.8.5-1 Recreation and Public Interest Areas Crossed by or Adjacent to the North Baja Pipeline Expansion Project			
Facility	Milepost Location	Name of Area	Crossing Length
B-Line	0.0	Ehrenberg Sandbowl Off-Highway Vehicle (OHV) Area	NA – 1.0 mile southeast
	0.1	Colorado River access area	NA – 0.1 mile south
	0.2	Colorado River	768 feet
	15.7	Mule Mountains Area of Critical Environmental Concern (ACEC)	NA – 0.9 mile west
	18.3	Bradshaw Trail	50 feet
	19.2-22.3	Metropolitan Water District Property	3.1 miles
	25.0	Palo Verde Mountains County Park	NA – 1.3 miles east
	25.5	Oxbow Recreation Site	NA – 1.1 miles east
	29.2-29.6	Bureau of Reclamation quarry	NA – 0.1 mile west
	31.0	Palo Verde Wilderness Area	NA – 1.0 mile west
	29.9-32.3 ^a	Cibola National Wildlife Refuge	1.2 miles
	35.2-50.0	Wildlife Habitat Management Area	14.8 miles
	49.0	Indian Pass Wilderness Area	NA – 1.9 miles east
	66.5	Tumco Mine Area Landmark	NA – 1.2 miles east
	71.1-74.5	Imperial Sand Dunes Recreation Area (ISDRA), Ogilby Management Area	3.4 miles
	79.6	Pilot Knob ACEC	NA - 1.0 mile east
Arrowhead Extension		-None-	
IID Lateral	0.0-2.3	ISDRA, Ogilby Management Area	2.3 miles
	2.3-4.3	Plank Road ACEC	NA – 0.1 mile southeast
	4.9-5.6	Plank Road ACEC	0.7 mile
	6.8	Plank Road Interpretive Site	NA – 0.1 mile southeast
	2.3-7.9	ISDRA, Buttercup Management Area	5.6 miles
	13.7-18.7	East Mesa ACEC	5.0 miles
	13.7-21.1	East Mesa Flat-tailed Horned Lizard Management Area	7.4 miles
	27.4	Hot Springs Long Term Visitor Area	NA – 0.1 mile north
	27.3-27.6	Lake Cahuilla ACEC	0.3 mile
^a The B-Line would cross the Cibola National Wildlife Refuge intermittently between MPs 29.9 and 32.3 for a total of 1.2 miles. Specifically, the B-Line would cross the Cibola National Wildlife Refuge between MPs 29.9-30.0, 30.3-30.4, 30.7-30.8, 30.9-31.3, and 31.8-32.3.			
NA = Not applicable.			

One of the primary concerns when crossing recreation and public interest areas is the impact of construction on the purpose for which the area was established (e.g., the recreational activities, public access, and resources the area aims to protect). Construction would alter visual aesthetics by removing existing vegetation and disturbing soils. Construction would also generate dust and noise, which could be a nuisance to recreational users. Construction could also interfere with or diminish the quality of the recreational experience by affecting wildlife movements or disturbing trails. In general, impacts on recreational and public interest areas would be temporary and would be limited to the period of active construction, which typically would last only several days to several weeks in any one area.

In general, North Baja would minimize construction-related impacts on these areas by:

- installing the B-Line entirely within the existing right-of-way maintained for the A-Line;
- installing the IID Lateral almost entirely within or adjacent to existing road and transmission line rights-of-way;
- timing construction to avoid peak usage periods, when practical; and
- ensuring effective post-construction reclamation of the right-of-way to preconstruction conditions.

Off-Highway Areas and Use

OHV use in the Project area is variable in terms of both season and location. OHV use occurs most frequently during the winter months with the heaviest use occurring on the weekends. The Ehrenberg Sandbowl OHV Area is 1.0 mile southeast of the Ehrenberg Compressor Station site. Further south, along the terminus of the proposed B-Line and along the beginning of the proposed IID Lateral, the ISDRA provides a large area of OHV use (see Section 4.8.4.3). In addition, OHV use is common but regulated on BLM lands outside of these areas and along the routes of the B-Line and IID Lateral.

BLM land within the CDCA is designated open, closed, or limited for vehicle use. Route designations are generally made on the basis of MUCs. MUC “M” (approximately 25.5 miles of the B-Line), MUC “L” (approximately 25.2 miles of the B-Line and 20.8 miles of the IID Lateral), and MUC “I” (approximately 4.9 miles of the IID Lateral) fall under the limited vehicle use designation. Limited vehicle access means that motorized-vehicle access is allowed only on certain routes of travel, which include roads, trails, and washes (BLM 1980). At a minimum, use is restricted to existing routes of travel. An existing route of travel is a route that was established before approval of the CDCA Plan in 1980 with a minimum width of 2 feet, showing significant surface evidence of prior vehicle use or, for washes, history of prior use. On MUC “M” lands, access is allowed on existing routes unless it is determined that use on specific routes must be limited further. On MUC “L” lands, vehicle access is directed toward use of approved routes of travel due to higher levels of resource sensitivity in this MUC. On MUC “I” lands, those areas not designated as open are limited to existing routes.

During construction, the Project could have an impact on OHV areas and users by restricting access to areas designated for OHV use. Conversely, the pipeline rights-of-way could increase accessibility for OHV use into previously inaccessible, environmentally sensitive areas. To reduce the potential for interference between pipeline construction activities and authorized OHV use, as well as unauthorized OHV use of the pipeline rights-of-way after construction, North Baja developed an Off-Highway Vehicle Management Plan (OHV Plan) that addresses the initial siting, construction, and operation of the proposed facilities. North Baja’s OHV Plan was developed in consultation with BLM recreation specialists and biologists in 2001 and 2002 during planning for the original North Baja Pipeline

Project and again in 2005 during planning for the proposed Project. The OHV Plan is also based on experience North Baja has gained while operating, maintaining, and managing the A-Line right-of-way since 2002. The OHV Plan is provided in Appendix P.

In the area that would be crossed by the B-Line, OHV use is permitted only on BLM-designated routes of travel except between MPs 71.1 and 74.5 (see Section 4.8.4.3). Before construction, North Baja would clearly mark the extent of the construction work area. Where active construction is underway, the right-of-way would be occupied by workers and equipment and restricted for OHV use. OHV users would be directed back to designated routes of travel. Additional measures North Baja would implement to minimize construction-related impacts on OHV users in the ISDRA are discussed in Section 4.8.4.3. Because any impacts associated with restricted OHV use would be short term (i.e., considerably less than 1 year), they would not be considered significant.

Where the proposed pipelines would be in areas of authorized OHV use, the pipeline rights-of-way would not be restricted for OHV use. However, to minimize the potential for the pipeline rights-of-way to increase accessibility for OHV use into previously inaccessible, environmentally sensitive areas, North Baja would implement various blocking measures where it has been determined that such measures may be effective in discouraging OHV use. These measures are described below.

- Berms would be placed across the right-of-way where it intersects an existing OHV road. Berm slopes would not exceed 30 percent.
- Berms would be placed across the right-of-way as part of erosion control and strategically placed to reduce visibility and mimic local topography.
- Rock redistribution and strategic placement, without making it into a challenging obstacle course, would occur across the right-of-way where large rock is available and such work would “erase” the visual cues of “road.”
- The right-of-way would be backbladed or raked by bulldozer or by hand, to erase the traces of the intersection of the right-of-way with an existing OHV route or dirt road.
- Ocotillo and large cacti would be salvaged and replanted where they are available with the understanding that survival criteria would not be applied because even dead specimens provide convincing visual clues of “no road.”
- Other desert species, including creosote bush scrub and desert wash woodland species (e.g., palo verde, ironwood, smoke tree, etc.) would also be salvaged and replanted with the understanding that they would be unlikely to survive but could still provide value as a visual block.
- Woody material removed during construction would be redistributed across the right-of-way to both disguise the right-of-way and serve as “vertical mulch.”

An assessment and detailed description of where these blocking measures would be implemented is presented in the OHV Plan (see Appendix P).

The Yuma District of the BLM commented that it would like North Baja to place additional signs and vegetative barriers at access points along the right-of-way to prohibit OHV use. North Baja has agreed to place signs and/or vegetative barriers at access points along the right-of-way if requested by the Yuma District.

A scoping comment was received regarding OHV management within or near the Cibola NWR. North Baja met with the manager of the Cibola NWR to review the effects of construction of the A-Line within the refuge and to determine the appropriate OHV management measures to be considered for the proposed B-Line. The refuge manager recommended that North Baja replace fencing originally installed after construction of the A-Line but subsequently destroyed by OHV users. It was also suggested that North Baja maintain the fence for 2 years because in remote parts of the refuge, it takes 2 years for fencing to become an effective OHV barrier. North Baja has agreed to install and maintain the fencing for 2 years along this portion of the B-Line.

A scoping comment was also received regarding OHV management on the Nowell property near Riviera Drive at approximately MP 0.4 of the B-Line. After construction of the A-Line, an earthen berm was installed across North Baja's right-of-way on the western edge of Riviera Drive to discourage OHV users from gaining access to other parts of the property from that location. North Baja states that the berm proved effective in discouraging access down the right-of-way from this location; however, OHV traffic originating from other locations has been relatively heavy on North Baja's and the adjacent SoCalGas rights-of-way. According to North Baja, this appears to be a continuation of an OHV use pattern established before its right-of-way was created. North Baja proposes to reconstruct the earthen berm at Riviera Drive after construction of the B-Line and, with the property owner's concurrence, would leave the right-of-way with a rougher surface instead of the smooth finished grade that matches the adjacent ground surface. This could make the right-of-way less attractive as a travel way. North Baja would also offer to procure and install signs for the property owner, should he choose to attempt to discourage OHV access at the main entry points on the property (unrelated to the pipeline right-of-way).

In comments on the draft EIS/EIR, the EPA and the ICAPCD expressed concern about the generation of fugitive dust emissions associated with OHV use of the right-of-way. These agencies also commented that North Baja's OHV Plan did not address enforcement and future monitoring of the proposed OHV blocking measures. Therefore, **the Agency Staffs recommend that:**

- **North Baja shall revise its OHV Plan to include:**
 - a. **the agency or agencies responsible for enforcement of the OHV Plan;**
 - b. **the frequency of monitoring that would be conducted to ensure that the implemented OHV blocking measures are functioning properly;**
 - c. **the methodology for reassessing the implemented OHV blocking measures in the future; and**
 - d. **enforcement measures.**

North Baja shall file the revised OHV Plan with the FERC and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC before construction of Phase I-A and Phase II.

Implementation of North Baja's proposed measures as well as the Agency Staffs' recommendation would reduce the potential impacts associated with unauthorized OHV use of the right-of-way to less than significant levels.

Colorado River and Access

The proposed B-Line would cross the Colorado River at MP 0.2, and an access area to the river is 0.1 mile south of the Ehrenberg Compressor Station. The Colorado River is an area of high recreational use, including boating and fishing. The Colorado River would be crossed using the HDD method, which would minimize impacts on the river and would not limit the use of the river for recreational purposes. However, access to the river may be restricted during welding of the pipe and the pullback for the HDD crossing. The period of limited public access would be short term (i.e., considerably less than 1 year) and would, therefore, not result in any significant impacts on this area.

Areas of Critical Environmental Concern

The FLPMA defines an ACEC as an area within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards. According to the CDCA Plan, the ACEC designation is a process for determining what special management certain important environmental resources or hazards require.

The B-Line would be within 1 mile of two BLM-designated ACECs. The Mule Mountains ACEC is about 0.9 mile west of MP 15.7 and the Pilot Knob ACEC is about 1.0 mile east of MP 79.6. The management objective of both these ACECs is to protect cultural resources. Because these areas would not be crossed by the B-Line, the designated use of these areas would not be affected by the Project and no impacts are anticipated. A detailed discussion of cultural resources potentially affected by the proposed Project is presented in Section 4.11.

The IID Lateral would cross three ACECs: Plank Road, East Mesa, and Lake Cahuilla. The IID Lateral would be within 0.1 mile of the Plank Road ACEC between MPs 2.3 and 4.3 and would cross this ACEC between MPs 4.9 and 5.6. The IID Lateral would cross the Lake Cahuilla ACEC between MPs 27.3 and 27.6. Both of these ACECs are managed to protect cultural resources. Almost all of the route in these locations would be in a designated utility corridor and, therefore, consistent with the designated use of the area. As a result, impacts on these areas would be less than significant. A detailed discussion of cultural resources potentially affected by the proposed Project is presented in Section 4.11.

The IID Lateral would also cross the East Mesa ACEC between MPs 13.7 and 18.7. In 2003, the effective function of the ACEC was replaced by the adoption of a plan amendment providing for a range-wide management strategy for this species within the East Mesa Flat-tailed Horned Lizard Management Area crossed by the IID Lateral between MPs 13.7 and 21.1. The IID Lateral would be at the extreme southern boundary of the area within Imperial County road rights-of-way. Additional information on the flat-tailed horned lizard, including mitigation measures North Baja would implement to minimize impacts on this species, is presented in Section 4.7.6.13.

Designated Trails

At MP 18.3 the proposed B-Line would cross the Bradshaw Trail. The Bradshaw Trail is a BLM-designated Back-Country Byway. Back-Country Byways are a network of low-standard roads and trails or "adventure routes" that are designated as such by the BLM because they cross public lands with high scenic or public interest value. Between 1862 and 1877, the Bradshaw Trail was used to transport miners and supplies to the gold mines of La Paz (now Ehrenberg), Arizona. The trail was also used as a stagecoach route and was the first road through Riverside County. The existing 70-mile-long section of this dirt road extends from the North Shore area near the Salton Sea to within 14 miles of the City of

Blythe. The Bradshaw Trail is periodically graded by the Riverside County Transportation Department. The land at the location of the proposed pipeline crossing is managed by the BLM.

The effects of pipeline construction across the Bradshaw Trail could include restricted or temporary loss of use to the public. To mitigate the impacts of construction on public use of the Bradshaw Trail, North Baja proposes to perform construction activities during off-peak periods and to complete pipeline installation across the trail in just a few days. No adverse impacts on use of the trail are known to have occurred during construction of the A-Line, and minimal impact is expected to occur during construction of the B-Line. Because the period of limited public access would be short term (i.e., considerably less than 1 year), impacts on Bradshaw Trail would be less than significant. No other designated trails would be crossed by the proposed Project.

Metropolitan Water District Property

North Baja's existing A-Line crosses about 3.1 miles of undeveloped desert property owned by the MWD between MPs 19.2 and 22.3. North Baja has stated that it is unaware of any development plans for the property. North Baja's existing right-of-way agreement with the MWD allows placement of a second pipeline within the 50-foot-wide easement. The right-of-way agreement also stipulates certain terms such as restoration of surface contours, payment for actual damages caused by North Baja's construction, reconstruction or ingress/egress, and other standard conditions. North Baja would adhere to the terms of its easement. By adhering to the terms of its right-of-way agreement, impacts on this property would be less than significant.

Parks and Recreation Sites

The Palo Verde County Park and Oxbow Recreation Site are 1.3 miles and 1.1 miles, respectively, from the proposed B-Line. Because these are low-intensity use areas that are over 1 mile from the proposed facilities, no impacts associated with the proposed Project on these areas are anticipated.

Quarries

Between MPs 29.2 and 29.6 the B-Line would pass near a rock quarry operated by the BOR. The quarry is currently inactive. No impacts on the quarry are known to have occurred during or after construction of the A-Line. Similarly, construction of the proposed B-Line is not expected to have an effect on any possible use of or access to the quarry. No other quarries would be affected by the proposed Project.

Wilderness Areas

The Palo Verde Mountains Wilderness Area is about 1.0 mile west and the Indian Pass Wilderness Area is about 1.9 miles east of the B-Line route at MPs 31.0 and 49.0, respectively. The 1964 Wilderness Act defined wilderness as areas in generally natural condition; areas having outstanding opportunities for solitude or a primitive and unconfined type of recreation; areas at least 5,000 acres or large enough to preserve use as wilderness; and areas containing ecological, geological, or other features of scientific, scenic, or historical value. The Palo Verde Mountains Wilderness Area is a 32,310-acre area designated as part of the California Desert Protection Act of 1994. Distinguishing this wilderness area are twin buttes known as the Flat Tops, which stand out as a landmark against a range of jagged peaks. About 32,083 acres are included in the Indian Pass Wilderness Area, which is a distinctive part of the Chocolate Mountains. According to the 1964 Wilderness Act, there shall be no commercial enterprise, no permanent road (except as necessary to meet minimum requirements for the administration of the area),

no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area. The area of the proposed Project does not intersect or overlap with any wilderness areas, and thus no impacts are anticipated.

Wildlife Refuges

The proposed B-Line would cross a total of 1.2 miles of the Cibola NWR at various locations between approximately MPs 29.9 and 32.3. The refuge was established in 1964 to protect the wintering grounds for migratory birds and other wildlife. Access to the refuge and use of the area by humans is strictly controlled to protect wildlife habitat. As discussed in Section 1.5.2, a decision that allows a crossing of the Cibola NWR must be compatible with the FWS Refuge Management Regulations in Part 603 FW 2.10(D). In approving a proposed utility right-of-way across the Cibola NWR, the Refuge Manager must find that none of the conditions listed in Part 603 FW 2.10(D) exist with regards to the proposed Project. The existing A-Line complied with these conditions and a favorable Compatibility Determination was issued for the installation of that pipeline. Therefore, a favorable Compatibility Determination is expected to be issued for the proposed B-Line. As a result, no significant impacts on this area are anticipated. No other State or national wildlife refuges would be crossed by or adjacent to the proposed pipelines.

Wildlife Habitat Management Area

The proposed B-Line would cross a multi-species WHMA between MPs 35.2 and 50.0. This segment of the route also crosses two portions of proposed WHMAs for bighorn sheep (MPs 35.2 to 42.0 and MPs 49.0 to 50.0). North Baja would also expand an existing valve site within this area (valve #6 at MP 41.6). Construction-related activities could impact wildlife in the WHMA. The majority of the pipeline route in this area would be within a designated utility corridor. Management goals for the WHMA include the maintenance of naturally occurring distributions of 28 special status animal species and 30 special status plant species. A second goal is to maintain proper functioning conditions in all natural communities with special emphasis on communities that are present in small quantities, have a high species richness, and support many special status species. The third goal is to maintain ecological processes by maintaining naturally occurring interrelationships among various biotic and abiotic elements of the environment.

According to the BLM, required mitigation measures within the WHMA include limiting construction activities to between July 1 and December 1 if Crissal thrashers are present, implementation of special mitigation measures to avoid disturbance of Couch's spadefoot toad habitat, and compensation for disturbance of desert dry wash woodland and desert chenopod scrub communities. Details on North Baja's proposed mitigation measures for the Crissal thrasher and the Couch's spadefoot toad are presented in Sections 4.7.6.5 and 4.7.6.12, respectively. North Baja's proposed mitigation measures for disturbance of desert wash woodlands and other desert vegetation communities are described in Section 4.5.3.

Registered Natural and Historical Landmarks

One registered natural landmark, the Tumco Mine area, is about 1.2 miles east of the B-Line route at MP 66.5. Historically, the Tumco Mine area was a gold camp that reached its peak development between 1893 and 1899 (Donald Laird Consulting 2000). This site was evaluated before construction of the A-Line and no effects associated with construction of the B-Line construction are anticipated.

The Plank Road, a California State Historical Landmark, lies in the vicinity of the proposed IID Lateral. At its nearest point, the Plank Road interpretive site is about 0.1 mile southeast of MP 6.8 of the IID Lateral. The Plank Road was a wooden, portable driving surface to provide for the passage of automobiles across the Algodones Dunes and was in use from 1916 through 1926 (BLM 1998). Because the locations of segments of the Plank Road are unknown, it could be encountered during construction of the IID Lateral. Additional information on the Plank Road is provided in Section 4.11.

Camping

Informal camping occurs in areas near the proposed Project facilities but is variable in nature with most of the activity occurring in the winter. The area surrounding the Ogilby Meter Station, in particular, is a popular camp site throughout the winter months. Construction-induced effects such as traffic, noise, and dust may affect the quality of some campers' recreational experiences, but any effects would be temporary in nature (i.e., considerably less than 1 year) and would not result in any significant impacts.

Hot Springs Long Term Visitor Area

The Hot Springs Long Term Visitor Area is located about 0.1 mile north of the proposed IID Lateral at MP 27.4. The area includes a historic and still active hot spring that attracts both local and winter visitors. Construction-induced effects such as traffic, noise, and dust may affect the quality of some visitors' recreational experiences, but any effects would be temporary in nature (i.e., considerably less than 1 year) and would not result in any significant impacts.

4.8.6 Hazardous Waste Sites

The CEQA process requires the identification of hazardous material sites pursuant to Government Code section 65962. The Department of Toxic Substances and Control (DTSC), Site Mitigation Group, was contacted regarding the proper approach to identifying hazardous material sites pursuant to the CEQA requirements. In order to fulfill these requirements, the CAL-SITES list and leaking underground storage tank (LUST) list were reviewed. The CAL-SITES is a database maintained by the DTSC that contains potential or confirmed substance release properties and is released quarterly. The LUST list, maintained by the CSWRCB, contains an inventory of reported underground storage tank incidents.

A review of the CAL-SITES database did not identify any sites that are currently on or adjacent to the proposed Project. A review of the LUST list revealed a single incident of a leaking underground fuel tank along the IID Lateral route in El Centro (case #7T2243030). The case was closed by the CRWQCB on August 28, 1992 and is not considered to be an issue for the proposed Project.

If contamination is encountered during construction of the Project, North Baja would notify the appropriate agencies. In addition, North Baja has prepared an SPCC Plan that provides preventive and mitigative measures that would be implemented to avoid or minimize the potential impact of hazardous material spills during construction (see Appendix F).

Although not classified as hazardous waste sites, two solid waste facilities and a former livestock feed yard are adjacent to the proposed facilities. The Palo Verde Solid Waste Site is 0.1 mile west of the proposed B-Line at MP 26.4, and a former solid waste disposal site was adjacent to the proposed 18th Avenue Yard near MP 5.5. No impacts on or from these facilities occurred during construction of the existing A-Line and no impacts associated with the proposed B-Line are anticipated.

A former livestock feed yard was located at the proposed 18th Avenue Yard (MPs 5.5 to 5.7). No impacts on or from this facility occurred during construction of the existing A-Line and no impacts associated with the proposed B-Line are anticipated.

4.8.7 Aesthetic Resources

The BLM uses a VRM system to identify and manage scenic values on public lands. The VRM system includes a visual resource inventory, which classifies resources on BLM land in one of four categories: class I, II, III, or IV, with class I having the highest visual sensitivity and class IV being the least sensitive.⁵ The degree of modification allowed to the basic elements of the landscape in these classes includes:

- class I: modifications should not be evident in the landscape. The level of change to the characteristic landscape should be very low and must not attract attention;
- class II: modifications should not be evident in the landscape. Contrasts are seen, but should not attract the attention of the casual observer;
- class III: modifications are evident, but should remain subordinate to the existing landscape; and
- class IV: modifications may dominate the view and be the focus of viewer attention; however, every effort should be made to minimize the impact of these activities.

Within the Project area, the BLM land in Imperial County under the jurisdiction of the El Centro and Yuma Field Offices has been categorized into VRM classes. BLM land along the proposed B-Line in Riverside County under the jurisdiction of the Palm Springs-South Coast Field Office has not been classified. Accordingly, interim VRM classes have been established for the area crossed by the pipeline route in Riverside County. The interim VRM classes are included in the summary above. The supporting VRM evaluation establishing these interim VRM classes is provided in Appendix Q.

Of the 55.2 miles of BLM-managed lands that would be crossed by the B-Line, 24.9 miles are VRM class II, 23.5 miles are VRM class III, and 6.8 miles are VRM class IV. Of the 25.7 miles of BLM-managed lands that would be crossed by the IID Lateral, 20.8 miles are VRM class II and 4.9 miles are VRM class IV. No VRM class I lands would be affected by the proposed Project.

There are two types of potential impact on visual resources associated with construction and operation of the Project facilities: that resulting from alteration of terrain and vegetation patterns due to facility construction or right-of-way maintenance and that resulting from the presence of new aboveground facilities.

Pipeline Facilities

During construction, the cleared and graded right-of-way, as well as construction equipment operating on the right-of-way, would be visible from any surrounding residences and local roads. Because the terrain over much of the Project area is relatively flat, views of the construction activity may extend for some distance. Following construction, the primary visual impact would be the right-of-way, which due to the arid climate and slow regeneration of native vegetation could be noticeable for many years. The visual impact of the right-of-way following construction depends on the visual contrast in

⁵ A full description of the BLM's VRM system is available at <http://www.blm.gov/nstc/VRM/8410.html>.

form, line, color, and texture created between the proposed facilities and the existing landscape. These factors are discussed by facility and milepost below.

B-Line

The B-Line would be constructed adjacent to North Baja's existing A-Line and would result in similar impacts on visual resources as those experienced during construction and operation of that pipeline. The landscape along the B-Line route is characterized by flat agricultural and rural residential areas, playa/alluvial fan landscapes (i.e., flat terrain, creosote scrub vegetation, desert washes), and mountain foothills. Specific segments of the pipeline route fall into one of these general categories as described below.

MPs 0.0 to 11.7 – This portion of the B-Line route comprises flat terrain with a mix of agricultural and rural residential landscapes on both sides of 18th Avenue. Agricultural operations would resume following construction. Construction activity would create a short-term visual intrusion to residents along 18th Avenue. There would be no long-term impact on visual resources in this area because little or no vegetation clearing would be required where the B-Line would be installed within the right-of-way associated with 18th Avenue. The Colorado River would be crossed using the HDD method, and setbacks from the river would protect existing vegetation. Therefore, views from the river and adjacent areas would not be affected.

Lands within this route segment in the CDCA are not managed by the BLM and do not have a VRM classification. Therefore, construction of this segment of the B-Line would not cause an inconsistency with an adopted VRM Plan. As described above, construction in this area would also not result in a substantial adverse effect on a scenic area or vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of the area or its surroundings. As a result, impacts on visual resources along this segment of the B-Line would be less than significant.

MPs 11.7 to 22.3 – Past 18th Avenue, the B-Line route joins the Western Area Power Administration transmission line corridor and continues south across the Palo Verde Mesa to the Palo Verde Mountains foothills. In this flat desert landscape, a low degree of visual impact would occur initially and would be further reduced over time. Visibility resulting from the very slight contrast in soil color and vegetative pattern between the right-of-way and adjacent areas would be offset by limited viewing opportunities afforded by areas with flat to low topographic relief and views that include existing manmade features of electric transmission lines.

The area that would be crossed has an interim VRM classification of IV. The degree of contrast with the characteristic landscape that would result from the B-Line would be consistent with the visual management objectives of this class. Changes in form, line, color, and texture would be reduced where the route would be adjacent to other linear facilities, including the existing electric transmission lines. Overall, construction in this area would not result in a substantial adverse effect on a scenic area or vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of the area or its surroundings. For these reasons, impacts on visual resources along this segment of the B-Line would be less than significant.

MPs 22.3 to 29.7 and MPs 31.5 to 79.8 – South of the Palo Verde Mountains, the surroundings of the corridor assume characteristics typical of playa/alluvial fan landscapes until the route reaches the intersection of Ogilby Road and Interstate 8. At that point, the route heads southeast through the Pilot Knob Mesa to the U.S.-Mexico border, adjacent to the sand dune system that dominates the surrounding visual setting and contributes to a moderate to high landscape quality.

In the desert landscape environment of these two route segments, a low degree of visual impact would occur initially and would be further reduced over time. Visibility resulting from the contrast in soil color and vegetative pattern between the right-of-way and adjacent areas would be partially offset by limited viewing afforded by areas with flat to low relief and views that include existing manmade features. Adjacent features along most of the length of these segments include paved and desert wash roads, levees, canals, and electric transmission lines. Over time, the contrast would diminish and the visual effect of the installed pipeline would be minimal.

The BLM lands along these two segments of the route include VRM class II and VRM class III. The degree of contrast with the characteristic landscape that would result from the B-Line would be consistent with the visual management objectives of these classes. Changes in form, line, color, and texture would be reduced where the route would be adjacent to other linear facilities. Overall, construction in this area would not result in a substantial adverse effect on a scenic area or vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of the area or its surroundings. For these reasons, impacts on visual resources along these segments of the B-Line would be less than significant.

MPs 29.7 to 31.5 – In this segment of the route, the B-Line would cross hilly to flat terrain with a backdrop created by the steeper slopes of the Palo Verde Mountains to the west. Potential viewing locations include SR 78, which is parallel to a portion of the route in this segment. Few longitudinal views down North Baja's existing right-of-way occur in this area. Glimpses of the existing right-of-way can be seen while traveling on SR 78, but the dominant feature is the mid-distance views of the Colorado River bottom covered by expanses of tamarisk. The highway alignment in this area is curvilinear with vertical changes in grade. A single lane exists in either direction. All of these features compete with the viewer's attention.

Lands in this route segment are VRM class III. The degree of contrast with the characteristic landscape that would result from the B-Line would be consistent with the visual management objectives of this class. Overall, construction in this area would not result in a substantial adverse effect on a scenic area or vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of the area or its surroundings. As a result, impacts on visual resources along this segment of the B-Line would be less than significant.

Arrowhead Extension

The route associated with the Arrowhead Extension would cross flat terrain with a mix of agricultural and rural residential landscapes on both sides of Arrowhead Boulevard. Agricultural operations would resume following construction. Construction activity would create a short-term visual intrusion along Arrowhead Boulevard. There would be no long-term impact on visual resources in this area because little or no vegetation clearing would be required where the pipeline would be installed within the right-of-way associated with Arrowhead Boulevard, and agricultural operations would resume following construction where the pipeline would be outside the road right-of-way. The lands affected by the Arrowhead Alternative are not managed by the BLM and do not have a VRM classification.

IID Lateral

The IID Lateral would be constructed within or adjacent to existing rights-of-way for the majority of the route. The landscape along the IID Lateral route is characterized by sand dunes, playa/alluvial fan landscapes (i.e., flat terrain, creosote scrub vegetation, desert washes), and agricultural areas. Specific segments of the lateral route fall into one of these general categories as described below.

MPs 0.0 to MP 7.9 – This portion of the IID Lateral would cross the ISDRA, which contains the largest mass of sand dunes in California. The ISDRA is recognized for its frequent use as a backdrop for commercials and movies because of its unique beauty and landscape. Very little vegetation is present due to intense OHV use. Manmade modifications in the vicinity of the IID Lateral in this area include Interstate 8, the All-American Canal, the Coachella Canal, and several wood-pole and steel-lattice-tower electric transmission lines that traverse the dunes in an east-west direction.

The BLM lands along this segment of the route include VRM class II and VRM class IV. The degree of contrast with the characteristic landscape that would result from the IID Lateral would be consistent with the visual management objectives of these classes. Changes in form, line, color, and texture would be reduced where the route would be adjacent to other linear facilities. Moreover, wind-deposited sand is expected to mask most remaining visual evidence of the right-of-way within a relatively short period following construction. Overall, construction in this area would not result in a substantial adverse effect on a scenic area or vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of the area or its surroundings. For these reasons, impacts on visual resources along this segment of the IID Lateral would be less than significant.

MPs 7.9 to 27.6 – The landscapes that would be crossed by the IID Lateral through this area include desert environments adjacent to or within manmade features such as Evan Hewes Highway and other Imperial County roadways as well as electric transmission lines. In the desert landscape environment of this route segment, a low degree of visual impact would occur initially and would be further reduced over time. Visibility resulting from the contrast in soil color and vegetative pattern between the right-of-way and adjacent areas would be partially offset by limited viewing afforded by areas with flat to low relief and views that include existing manmade features. Over time, the contrast would diminish and the visual effect of the installed pipeline would be minimal.

The BLM lands along this segment of the route include VRM class II. The degree of contrast with the characteristic landscape that would result from the IID Lateral would be consistent with the visual management objectives of this class. Changes in form, line, color, and texture would be reduced where the route would be adjacent to other linear facilities. Overall, construction in this area would not result in a substantial adverse effect on a scenic area or vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of the area or its surroundings. For these reasons, impacts on visual resources along this segment of the IID Lateral would be less than significant.

MPs 27.6 to 45.7 – This portion of the IID Lateral comprises flat terrain with a mix of agricultural and rural residential landscapes on both sides of several Imperial County roadways. Agricultural operations in these areas would resume following construction. Construction activity would be a short-term visual intrusion to residents along the roadways. There would be no long-term impact on visual resources in this area because little or no vegetation clearing would be required where the lateral would be installed within the road rights-of-way.

Lands within this route segment in the CDCA are not managed by the BLM and do not have a VRM classification. Therefore, construction of this segment of the IID Lateral would not cause an inconsistency with an adopted VRM Plan. Construction in this area would also not result in a substantial adverse effect on a scenic area or vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of the area or its surroundings. As a result, impacts on visual resources along this segment of the IID Lateral would be less than significant.

Aboveground Facilities

The area near the Ehrenberg Compressor Station has a mix of industrial and rural landscape characteristics. During modifications at the station, the presence of construction workers and equipment in the Project area would be a minor detraction. All modifications at the facility would be at or near ground level and would be visually unobtrusive. Because the facility is not on BLM land, it does not have a VRM classification.

Rannells Trap is within an open scrub-shrub desert landscape near the boundary of the agricultural area of the Palo Verde Valley to the east. The facility would be expanded by 0.3 acre to accommodate the new pig launcher and receiver. The land for this facility is not managed by the BLM and does not have a VRM classification.

The existing Ogilby Meter Station is on flat terrain within an open scrub-shrub desert landscape. This site is on land managed by the BLM and has a VRM designation of class II. The modifications and additional pig launcher and receiver at the Ogilby Meter Station would require an expansion of the facility by 0.2 acre for both construction and operation. The modified structure would be visible to travelers on Interstate 8 but it would be seen in the context of the existing facility as well as other manmade structures such as electric transmission lines. The degree of contrast would not attract attention and would be consistent with the visual management objectives for VRM class II areas.

Four new valves associated with the B-Line would be collocated with existing valves along the A-Line. No new permanent right-of-way would be required for these valves, except for valve #2 along 18th Avenue. This valve would require a 12-foot by 24-foot expansion of the existing fenced site. The land for this expanded valve is not managed by the BLM and does not have a VRM classification. The other five valves would be within the sites of the Ehrenberg Compressor Station, Rannells Trap, and Ogilby Meter Station and would not result in any additional impacts on visual resources.

The Blythe-Arrowhead Meter Station and pig receiver would be constructed in the existing utility yard associated with SoCalGas' Blythe Compressor Station. Its appearance would be consistent with the existing character of the area and would result in only a minor change in the visual landscape. The pig launcher and portions of the valves would be the only aboveground structures at the site in the northeast corner of the intersection of 18th Avenue and Arrowhead Boulevard at the beginning of the Arrowhead Extension. The pig launcher would extend approximately 6 to 8 feet above the surface, the valve stem operator would be 5 feet in height, and a blowdown silencer would be about 6 to 8 feet in height. The land for these facilities is not managed by the BLM and does not have a VRM classification.

The tap at the B-Line and pig launcher for the IID Lateral would require an 80-foot by 100-foot site for construction and operation. The land for this facility is managed by the BLM and has a VRM classification of II. The degree of change associated with this facility would be consistent with the visual management objectives of this class.

The proposed El Centro Meter Station and pig receiver would be installed within the existing fenceline of the El Centro Power Generating Station. Its appearance would be consistent with the existing character of the area and would result in only a minor change in the visual landscape. Because the facility is not on BLM land, it does not have a VRM classification.

One of the four new valves associated with the IID Lateral would be collocated with the tap at the B-Line and pig launcher as discussed above. The three remaining valves along the IID Lateral would each require 10-foot by 25-foot fenced sites within North Baja's permanent right-of-way. The valves at MPs 7.6 and 27.2 would be on BLM land with a VRM classification of II. The degree of change

associated with these facilities would be consistent with the visual management objectives of this class. The valve at MP 38.7 would not be on land managed by the BLM and does not have a VRM classification.

Construction of the new aboveground facilities would have a permanent impact on visual resources. Modifications at the existing aboveground facilities would result in an incremental increase in impacts on visual resources but would generally be minor because of the presence of the existing facilities. Overall, for those facilities on BLM land, the degree of contrast with the characteristic landscape resulting from each of the facilities would be consistent with the visual management objectives of the affected classes. In addition, North Baja would paint the new or additional facilities so they would blend with the surrounding landscape. Construction of these facilities would not result in a substantial adverse effect on a scenic area or vista, substantially damage scenic resources, or substantially degrade the existing visual character or quality of the area or its surroundings.

Security lighting at the aboveground facilities would be low sodium vapor light that would be angled toward the interior of the station. Some small floodlights would be used at the sites but they would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

For these reasons, impacts on visual resources associated with the aboveground facilities would be less than significant.

Pipe Storage and Contractor Yards

With the possible exception of minor grading activities and surfacing, soils at the pipe storage and contractor yards would not be disturbed. As a result, there would be no permanent impacts on visual resources associated with the use of these yards.

Access Roads

North Baja proposes to use several existing roads for temporary right-of-way access during construction. These access roads are primarily paved or dirt roads and/or jeep trails that would be graded or otherwise improved as needed to move equipment and materials to the construction right-of-way. Because these are existing roads, these activities would not result in significant impacts on visual resources.

Approximately 485 feet of new temporary access roads would be required for the Project, of which about 60 feet would be retained as permanent access to the proposed Blythe-Arrowhead Meter Station at the end of the Arrowhead Extension and 160 feet would be retained as permanent access to the proposed tap at the B-Line and pig launcher at the beginning of the IID Lateral. A permanent access road would also be required to proposed valve #2 at MP 7.6 of the IID Lateral but North Baja would utilize existing roads with some modification and would not need to construct a new road. The land associated with the new permanent access road to the Blythe-Arrowhead Meter Station is not managed by the BLM and does not have a VRM classification. The land associated with the new permanent access road to the proposed tap at the B-Line and pig launcher at the beginning of the IID Lateral is managed by the BLM and has a VRM classification of II. The degree of change associated with this new road would be consistent with the visual management objectives of this class. Overall, no significant impacts on visual resources associated with these access roads are anticipated.

4.8.8 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on land use identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.9 SOCIOECONOMICS

The socioeconomic study area considered for this analysis includes La Paz County, Arizona, and Riverside and Imperial Counties, California. Socioeconomic information is presented based on county-level census data for La Paz and Imperial Counties. With the exception of tax revenues, information for Riverside County is based on data from Congressional District 45, which encompasses the eastern portion of the county. Because the western portion of the county is more densely populated, data from Congressional District 45 are more reflective of the Project area than data from all of Riverside County.

4.9.1 Significance Criteria

An adverse socioeconomic impact would be considered significant and would require mitigation if Project construction or operation would:

- cause a permanent population increase of 3 percent or more in a county affected by the Project;
- cause the vacancy rate for temporary housing to fall to less than 5 percent; or
- increase the short- or long-term demand for public services in excess of existing and projected capacities.

4.9.2 Population, Economy, and Employment

All three counties are sparsely populated in the vicinity of the proposed Project. Within the study area, Congressional District 45 (within Riverside County) has the highest population and density; however, this is due to the significantly higher population density in the western half of the district. Table 4.9.2-1 provides a summary of selected demographic and socioeconomic statistics for Arizona and California and each of the counties where Project facilities are proposed.

The counties within the study area experienced small to moderate population growth between 2000 and 2004. The population within La Paz County increased by only 0.9 percent, which is significantly lower than the 12.0 percent population increase for the State of Arizona. Within California, Imperial County experienced population growth of 7.1 percent and Riverside County (Congressional District 45) experienced population growth of 14.7 percent. Both of these growth rates are higher than the overall growth rate for the State of California (6.0 percent).

Table 4.9.2-2 identifies the anticipated workforce and construction schedule for the facilities associated with the Project. Due to the specialized nature of pipeline construction, North Baja expects to hire most construction personnel from outside the study area. Based on the brief construction period, and the small number of workers who brought their families during construction of the A-Line, North Baja anticipates that most non-local construction workers would not be accompanied by their families. North Baja estimates that the peak workforce would be between 300 and 400 workers during construction of the B-Line in late 2009. During this phase of construction, 240 to 320 workers are expected to temporarily relocate to the Project area. Based on the current population size within the study area, and the relatively small number of construction workers who would temporarily relocate to the area, impacts on the population numbers in the Project area would be minor and short term.

TABLE 4.9.2-1

Existing Socioeconomic Conditions in the North Baja Pipeline Expansion Project Study Area

State/County	Population		Percent Change	Population Density ^a		Per Capita Income		Civilian Labor Force 2004	Unemployment Rate (percent) 2004	Top Two Employment Industries 2004
	2000	2004		2000	2004	1999	2003			
Arizona	5,130,632	5,743,834	12.0	45.1	50.5	\$20,275	\$27,232	2,762,612	5.0	1. Educational, health and social services 2. Retail Trade
La Paz	19,715	19,898	0.9	4.4	4.4	\$14,916	\$18,653	7,500	6.7	1. Arts, entertainment, recreation, accommodation, and food services 2. Educational, health and social services
California	33,871,648	35,893,799	6.0	217.2	230.1	\$22,711	\$33,415	17,522,300	6.2	1. Educational, health and social services 2. Manufacturing
Riverside ^b	639,088	732,855	14.7	106.9	122.6	\$19,423	\$22,201	323,918	5.8	1. Educational, health and social services 2. Retail trade
Imperial	142,361	152,448	7.1	34.1	36.5	\$13,239	\$20,674	59,900	17.1	1. Educational, health and social services 2. Retail Trade

^a Persons per square mile based on population and land area: Arizona (113,642.2 square miles), La Paz County (4,518 square miles), California (155,973.2 square miles), Riverside County (Congressional District 45 - 5,979.9 square miles), and Imperial County (4,175.1 square miles).

^b Represents Congressional District 45, which encompasses the Project area in the eastern portion of Riverside County.

Sources: U.S. Department of Commerce, Bureau of the Census, State and County Quickfacts, Estimates for 2004.

U.S. Department of Commerce, Bureau of the Census, American Community Survey, Fast Facts for Congress, Estimates for 2004.

U.S. Department of Commerce, Bureau of the Census, California Congressional Districts by Urban and Rural Population and Land Area.

Bureau of Economic Analysis, Regional Economic Accounts for 2003.

Employment Development Department 2005.

TABLE 4.9.2-2						
Anticipated Construction Workforce for the North Baja Pipeline Expansion Project						
Facility	Approximate Mileposts	Time Period	Construction Duration	Anticipated Workforce		County/State
				Local	Non-local	
Arrowhead Extension, Blythe-Arrowhead Meter Station, Aboveground Facility Modifications	Various	2007	2 to 4 months	10	40	La Paz, AZ Riverside, CA Imperial, CA
B-Line	0.5 to 79.8	Late 2009	4 to 6 months	60 to 80	240 to 320	Riverside, CA Imperial, CA
IID Lateral	0.0 to 13.7	Summer/Fall 2008	2 to 3 months	20 to 30	80 to 120	Imperial, CA
	13.7 to 45.7	Late 2008/early 2009	3 to 4 months	20 to 30	80 to 120	Imperial, CA

Because North Baja currently operates an existing pipeline system in the Project area, no additional permanent employees would be required. Personnel from North Baja's existing staff would assume operation and maintenance of the new facilities as part of their existing routine workload. Therefore, the Project would not cause a permanent population increase in any of the affected counties.

Annual per capita income in 2003 (estimated) was lower in all three counties that would be affected by the proposed Project than the respective State averages (\$27,232 in Arizona and \$33,415 in California), ranging from \$18,653 in La Paz County to \$22,201 in Riverside County (Congressional District 45). Educational, health, and social services rank as the largest employment industries in both Arizona and California and in two of the three affected counties (see Table 4.9.2-1). In La Paz County, accommodations and food services are the top industries by employment, reflecting the importance and impact of tourism relative to other economic sectors in that county.

Unemployment rates in the three counties affected by the Project ranged from 5.8 percent in Riverside County to 17.1 percent in Imperial County. North Baja anticipates that up to 80 local workers would be employed during the peak construction period of the Project (construction of the B-Line). Given the relatively high unemployment rates in the study area, sufficient numbers of local workers are expected to be available for construction of the Project.

During the three phases of construction (see Table 4.9.2-2), North Baja estimates that the total Project payroll would be about \$50,000,000, a portion of which would be spent locally for the purchase of housing, food, gasoline, and entertainment. These direct payroll expenditures would have a beneficial impact on local economies.

4.9.3 Housing

Housing characteristics within the study area are presented in Tables 4.9.3-1 and 4.9.3-2. Table 4.9.3-1 presents an overview of the total housing units, including owner- and renter-occupied units, median value and monthly rental rates, and vacancy rates in the study area. Table 4.9.3-2 lists the number of units available for temporary use. All three counties have lower median rents and higher rental vacancy rates than their respective State averages.

TABLE 4.9.3-1							
2000 Housing Characteristics in the North Baja Pipeline Expansion Project Study Area							
State/County	Total Housing Units	Owner Occupied (percent)	Renter Occupied (percent)	Median Value, Owner Occupied Units	Median Gross Monthly Rent	Owner Vacancy Rate (percent)	Rental Vacancy Rate (percent)
Arizona	2,189,189	68	32	\$121,3000	\$619	2.1	9.2
La Paz	15,133	78	22	\$86,500	\$442	3.7	14.8
California	12,214,549	56.9	43.1	\$211,500	\$747	1.4	3.7
Riverside ^a	278,037	69.2	30.8	\$138,400	\$644	3.0	9.0
Imperial	43,891	58.3	41.7	\$100,000	\$504	1.4	4.9
^a Represents Congressional District 45, which encompasses the Project area in the eastern portion of Riverside County.							
Source: U.S. Department of Congress, Bureau of the Census 2000 State and County Quickfacts.							

TABLE 4.9.3-2				
2000 Temporary Housing Characteristics in the North Baja Pipeline Expansion Project Study Area				
State/County	Units for Rent	Vacant for Seasonal, Recreational, or Occasional Use	Vacant for Migrant Workers	Other Vacant
Arizona	61,781	141,965	636	43,026
La Paz	320	5,237	31	856
California	190,321	236,857	2,205	139,253
Riverside ^a	3,054	2,865	2	1,019
Imperial	842	2,081	38	997
^a Represents Congressional District 45, which encompasses the Project area in the eastern portion of Riverside County.				
Source: U.S. Department of Congress, Bureau of the Census 2000, Vacant Housing Units.				

Temporary housing availability varies seasonally and geographically within the counties and the few communities crossed by the proposed pipeline facilities. Temporary housing is least available during the winter, when residents of northern states come to take advantage of the warmer weather. There is less demand for temporary housing during the hot summer months. Reflecting the importance of tourism in La Paz County, there are nearly twice as many units available for seasonal, recreational, or occasional use than in either Riverside or Imperial Counties.

In the study area, temporary housing is available in the form of apartments as well as daily, weekly, and monthly rentals in motels, hotels, campgrounds, and rooming houses. The Quartzsite area east of Ehrenberg, Arizona, for example, has more than 50 recreational vehicle (RV) and mobile home parks that help accommodate more than 1 million visitors each year (Quartzsite Chamber of Commerce 2004). Additionally, temporary housing is available in Yuma, Arizona, which lies about 10 miles southeast of the terminus of the B-Line in Yuma County, Arizona.

Construction of the Project could affect the availability of temporary housing in the Project area. However, because the construction periods for the proposed phases of the Project are relatively short, and because most non-local workers are expected to come alone without their families due to the temporary nature of the relocations, most workers are likely to use hotels, motels, apartments, and campgrounds within commuting distance of the Project area. Non-local workers should be able to locate temporary housing in the Blythe area; in the campgrounds and RV parks east of Ehrenberg; or near Yuma.

Assuming that local construction workers do not require housing, up to 320 housing units may be required for the non-local workers. Previous pipeline experience, including construction of the A-Line in 2002, suggests that non-local workers typically select a variety of temporary housing accommodations, with approximately 30 percent providing their own housing units (i.e., travel trailers or RV campers). Given the vacancy rates in the area and the number of seasonal, recreational, or occasional use units available, construction crews should not encounter difficulty in finding temporary housing and would not cause the vacancy rate for temporary housing to fall to less than 5 percent in La Paz or Riverside Counties. Although the vacancy rate for temporary housing in Imperial County is currently about 5 percent, this rate is unlikely to change due to construction. Based on previous experience during construction of the A-Line, most non-local workers temporarily relocating to the southern portion of the Project area would likely find housing near Yuma. In addition, construction of the portion of the IID Lateral that would cross the ISDRA would occur during the summer, when the availability of temporary housing is at its highest. Therefore, construction of the Project would not significantly affect the Imperial County vacancy rate. As a result, impacts on housing associated with the proposed Project would be less than significant.

4.9.4 Public Services

A wide range of public services and facilities are offered in Ehrenberg and Yuma, Arizona (at the origin of the proposed B-Line and about 10 miles southeast of the terminus of the B-Line, respectively) and in Blythe and El Centro, California (near MP 5.0 of the proposed B-Line and at the western terminus of the proposed IID Lateral, respectively). Available services and facilities include emergency services (e.g., full-service law enforcement, fire departments, emergency response services, and hospitals), utilities and public service systems (e.g., water and sewer services), solid waste disposal, and schools. Public services potentially affected by the Project are discussed below.

Emergency Services

Emergency services for the Project would be provided by a combination of State, county, and local departments. In the area near the Ehrenberg Compressor Station, emergency fire and medical services are provided by the Ehrenberg Fire Department, which is currently finishing an expansion to include a new 12,000 square foot facility. Ambulance service is dispatched from Quartzsite, Arizona with dispatch services provided by the La Paz County Sheriff's Department (La Paz County Sheriff's Department 2004). In portions of Riverside County and northern Imperial County, emergency services are provided by the Blythe Police and Fire Departments. In areas of Riverside County that do not have a city fire department, fire and medical emergency services are provided primarily by the California Department of Forestry. In Imperial County, the Imperial County Fire Department provides fire and medical emergency services. The Winterhaven Fire Protection District is the closest emergency response agency to North Baja's existing A-Line; however, emergency personnel and vehicles can be dispatched from El Centro, Palo Verde, Brawley, Holtville, or a number of other locations within Imperial County depending on the nature and exact location of the emergency. Services can be dispatched through the sheriff's office, California Highway Patrol, El Centro Police Department, or other entities depending upon where the emergency call originates (Capitol Impact 2005). In comments on the draft EIS/EIR, both the Ehrenberg Fire Department and Winterhaven Fire Protection District expressed support for the proposed Project.

Because the non-local workforce would be small relative to the current population, construction of the pipeline facilities would result in minor, temporary, or no impact on local community facilities and services such as police, fire, and medical services. Local communities have adequate infrastructure and community services to meet the needs of the non-local workers that would be required for the Project. Other construction-related demands on local agencies could include increased enforcement activities

associated with issuing permits for vehicle load and width limits, local police assistance during construction at road crossings to facilitate traffic flow, and emergency medical services to treat injuries resulting from construction accidents. North Baja would work with local firefighters and other emergency responders to coordinate activities for effective emergency response and would develop an Emergency Response Plan (see Section 4.14.2). As part of the Emergency Response Plan, North Baja would establish and maintain communications with local fire, police, and public officials and would make personnel, equipment, tools, and materials available at the scene of an emergency. The degree of impact on public services would vary from community to community depending on the number of non-local workers (and accompanying family members, if any, as previously indicated) that temporarily reside in each community, how long they stay, and the size of the community. Although these factors are too variable to accurately predict the severity of the impact, the effects would be short term and would not be in excess of existing and projected capabilities and are therefore not significant.

Utilities and Public Service Systems

During construction, the Project would require the temporary use of water for hydrostatic testing of the pipelines, but the water would not be permanently removed from the supply system. North Baja would also withdraw water for dust control during construction. This water would be procured from irrigation districts, North Baja's own water sources, or other local water purveyors (see Section 4.3.4). The Project has no wastewater treatment requirements and would not require construction of new or expanded wastewater facilities, or stormwater drainage facilities that could cause significant environmental effects.

North Baja would consult with the local governments as well as the Underground Service Alert of Southern California before construction to establish the precise locations of underground utilities along the proposed pipeline and lateral routes. All water delivery systems, water wells, water lines, and underground utilities would be clearly marked and would be avoided during construction; however, if these facilities are encountered, the required separations would be maintained by North Baja. In the event that any of these facilities are inadvertently affected during construction, North Baja would immediately notify the utility operator so that repairs could be made promptly.

Operation of the Project would have no additional permanent water supply needs and would not require the construction or expansion of wastewater or stormwater facilities. North Baja would comply with all Federal, State, and local statutes and regulations related to wastewater and stormwater.

Because the Project would not increase the short- or long-term demand for these services in excess of existing and projected capabilities, any impacts associated with these facilities would be less than significant.

Solid Waste

Construction of the Project would generate modest amounts of solid waste (e.g., food containers, packaging, and construction scraps) over a relatively short period of time. Existing disposal services and landfills in the Project area include Imperial County Sanitation in Imperial; Palo Verde Valley Disposal Service in Blythe; and Suburban Sanitation Services and the South Yuma County Landfill in Yuma. These facilities would be able to accommodate the solid waste generated by the Project. Operation of the Project would not require any additional employees and would not result in the construction or expansion of any landfills. North Baja would comply with all Federal, State, and local statutes and regulations related to solid waste disposal. As a result, no significant impacts are anticipated.

Schools

Comments were received during the scoping process regarding the proximity of the proposed facilities to school property and potential impacts on school bus routes. The Palo Verde Unified School District, El Centro Elementary School District, and Holtville Unified School District serve students in the Project area. The closest school to the proposed Project is Meadows Elementary School, which is more than 0.75 mile west of the terminus of the IID Lateral in El Centro. No potentially significant impacts on this school are anticipated from either construction or operation of the proposed Project.

Potential impacts on school bus routes could occur during construction of the proposed Project. The Palo Verde Unified School District manages school bus routes in Blythe that travel along 18th Avenue. In addition, bus routes cross 18th Avenue at the intersections of Intake Boulevard, South C & D Canal Boulevard, South Broadway, DeFrain Boulevard, Arrowhead Boulevard, Neighbors Boulevard, and Keim Boulevard. During construction, bus traffic may be slightly disrupted in the same manner as other traffic; however, access by school buses would not be precluded. Potential impacts on traffic as a result of the proposed Project are discussed in detail in Section 4.10.

Because most of the non-local workers are expected to come alone without their families during the construction period and because no additional permanent employees would be required during operation of the proposed facilities, the Project would not result in any increases in demand for school-related services.

4.9.5 Property Values

Comments were received during the scoping process regarding the impacts of the proposed Project on property values. North Baja currently maintains easements to operate its A-Line. Placement of the B-Line adjacent to the existing A-Line should not change or affect the value of a property. Because the B-Line would be entirely within North Baja's existing easement, North Baja would not need to acquire new permanent easements or property to operate this facility. North Baja would, however, need to acquire temporary easements or property to construct the proposed facilities. North Baja would also need to acquire the applicable easements for the Arrowhead Extension and the IID Lateral. The easement acquisition process is described in Section 4.8.2.

The effect that a pipeline easement may have on property value is a damage-related issue that would be negotiated between the landowner and North Baja during the easement acquisition process. The easement acquisition process is designed to provide fair compensation to the landowner for the right to use the property for pipeline construction and operation. Appraisal methods used to value land are based on objective characteristics of the property and any improvements. The impact a pipeline may have on the value of a tract of land depends on many factors, including the size of the tract, the values of adjacent properties, the presence of other utilities, the current value of the land, and the current land use. Subjective valuation is generally not considered in appraisals. This is not to say that the pipeline would not affect resale values. A potential purchaser of property may make a decision to purchase land based on his or her planned use, such as agricultural, future subdivision, or second home on the property in question. If the presence of a pipeline renders the planned use unfeasible, it is possible that a potential purchaser would decide not to purchase the property. However, each potential purchaser has different criteria and differing capabilities to purchase land.

The Interstate Natural Gas Association of America (INGAA) conducted a national case study to determine if the presence of a pipeline on a piece of property affected the property value or sale price of the property. The *INGAA Foundation Natural Gas Pipeline Impact Study* (2001) found that there was not a significant impact on the sale price of properties along natural gas pipelines. The study further

concluded that neither the size of the pipeline (diameter) nor the product carried by a pipeline has any significant impact on sale price.

Property taxes for a piece of property are generally based on the actual use of the land. Construction of the pipeline would not change the general use of the land, but would preclude construction of aboveground structures on the permanent right-of-way. If a landowner believes that the presence of a pipeline easement reduces the value of his or her land, resulting in an overpayment of property taxes, he or she may appeal the issue of the assessment and subsequent property taxation to the local property tax agency. This is the proper forum for this issue to be addressed.

Comments were received during the scoping process that installation of the pipeline adjacent to Parker Road in El Centro would have a negative impact on income from rental property. The effect that construction may have on income derived from rental property is a damage-related issue and should be negotiated between the parties during the easement acquisition process. This negotiation is outside of the scope of this EIS/EIR.

4.9.6 Tax Revenues

Construction and operation of the Project would have a beneficial impact on local tax revenue, based on the tax revenue projections contained in Tables 4.9.6-1 and 4.9.6-2. Revenue from sales tax would be greater during construction due to the temporary influx of workers to the area. The increase in property tax revenue, about \$3.4 million annually, would be generated throughout the life of the Project.

TABLE 4.9.6-1		
Estimated Property Tax Payments for Facilities Associated with the North Baja Pipeline Expansion Project		
Facility	Location	Estimated Annual Tax Payment
Ehrenberg Compressor Station Modifications, El Paso Meter Station Modifications, and B-Line	La Paz County, Arizona	\$145,000
B-Line, Arrowhead Extension, and Blythe-Arrowhead Meter Station	Riverside County, California	\$786,000
B-Line, Ogilby Meter Station Modifications, IID Lateral, and El Centro Meter Station	Imperial County, California	\$2,512,000
Project Total		\$3,443,000

TABLE 4.9.6-2				
Estimated Sales Tax Revenue Generated by the North Baja Pipeline Expansion Project				
	Project Total	La Paz County, Arizona	Riverside County, California	Imperial County, California
Payroll	\$50,000,000	NA	NA	NA
Percent of total income spent for taxable sales	38.8	NA	NA	NA
Income spent for taxable sales	\$19,400,000	NA	NA	NA
Percent spent in each county	--	5%	55%	40%
Income spent for taxable sales by county	--	\$970,000	\$10,670,000	\$7,760,000
Tax rate - State jurisdiction	--	5.6%	6.25%	6.25%
Tax rate - county/city jurisdiction	--	1.0%	1.5%	1.5%
Sales tax to State	--	\$54,320	\$666,875	\$485,000
Sales tax to county/city	--	\$9,700	\$160,050	\$116,400
Source: California State Board of Equalization 2005. Arizona Department of Revenue 2006.				
NA = Not Available.				

As discussed in Section 4.9.2, North Baja estimates that the total Project payroll would amount to about \$50,000,000. Of this total, North Baja anticipates that about 40 percent would be spent for taxable sales (see Table 4.9.6-2). Sales taxes in the counties affected by the Project in Arizona and California are 6.6 percent and 7.75 percent, respectively. The majority of this amount (5.6 percent in Arizona and 6.25 percent in California) would go to the State. The remainder (1.0 percent in Arizona and 1.5 percent in California) would go to the county and local governments, resulting in annual sales tax revenues of \$9,700 to La Paz County, \$160,050 to Riverside County, and \$116,400 to Imperial County.

4.9.7 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential socioeconomic impacts identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.10 TRANSPORTATION AND TRAFFIC

The local road and highway system in the vicinity of the Project facilities is well developed. The principal north/south roadways are SRs 78 and 111, and the principal west/east roadways are Interstates 8 and 10. Most local public roads in the vicinity of the proposed Project are paved. There is also rail service in the Project area. Construction of the North Baja Pipeline Expansion Project could affect transportation and traffic during construction across and within roadways and railroads and due to increased vehicle traffic associated with the commuting of the construction workforce to the Project area as well as the movement of construction vehicles and delivery of equipment and materials to the construction work area.

4.10.1 Significance Criteria

An adverse impact on transportation and traffic would be considered significant and would require mitigation if Project construction or operation would:

- result in a short- or long-term decrease in the level of service of a roadway;
- cause the closure of an arterial or collector roadway for more than 48 hours consecutively;
- prevent movement of emergency vehicles;
- conflict with planned transportation projects or adopted public transportation policies;
- create noticeable deterioration of local roadway surfaces; or
- create a safety hazard for vehicles, pedestrians, or rail operations.

4.10.2 Construction Across and Within Roadways and Railroads

Construction across roads and highways would result in short-term impacts on public transportation while construction activities pass through the Project area. Table 4.10.2-1 lists the named roads and highways that would be crossed by the proposed Project, as well as North Baja's proposed construction method.

North Baja would apply for the permits necessary for road crossings and would comply with all permit stipulations. The railroad crossings would be bored. Boring typically requires temporary extra workspace on both sides of the crossing for excavating bore pits to the depth of the pipeline. The bore pits are typically just outside of the road or railroad right-of-way limits; however, site-specific conditions, such as the presence of structures or waterbodies, may require the bore pits and temporary extra workspace to be moved within the road right-of-way. In some cases, 24-hour operations are required during difficult boring operations where ground conditions and ambient daytime temperatures contribute to overheating of the equipment and operators. Roadways and railroads crossed using the bore construction method typically remain open so that construction would not prevent the movement of emergency vehicles. Overall, there would be little or no disruption to traffic at road or railroad crossings that are bored. Bored crossings would also minimize the potential for safety hazards for vehicles and rail operations. No work would occur within the road or railroad rights-of-way unless expressly permitted by the applicable agency. As a result, impacts on roads and railroads that would be crossed using the bore construction method would be less than significant.

TABLE 4.10.2-1

Named Roads Crossed by the North Baja Pipeline Expansion Project			
Facility/Location	Milepost	Road Name	Proposed Crossing Method
B-Line			
La Paz County, Arizona		- None Crossed -	
Riverside County, California	0.4	Riviera Drive	HDD
	3.4	Intake Boulevard	Open cut
	4.0	Jones Road	Open cut
	4.4	C & D Boulevard	Bore
	4.9	South Broadway Road	Open cut
	5.4	Lovekin Boulevard	Bore
	5.4	Arizona – California Railroad	Bore
	6.5	DeFrain Boulevard	Open cut
	7.4	Arrowhead Boulevard	Open cut
	8.5	State Route 78	Bore
	9.5	Stephenson Boulevard	Open cut
	10.5	Keim Road	Bore
	11.5	Rannells Road	Open cut
Imperial County, California	25.6	Old Palo Verde Road	Open cut
	28.2	State Route 78	Bore
	31.4	Old Mitchell's Camp Road	Open cut
	33.1	Three Slashes Road	Open cut
	35.0	Walters Camp Road	Open cut
	49.0	Black Mountain Road	Open cut
	55.0	Ogilby Road (County Highway S34)	Bore
	66.4	Gold Rock Ranch Road	Open cut
	70.9	Ted Kipf Road	Open cut
	71.0	American Girl Mine Road	Open cut
	71.4	Union Pacific Railroad	Bore
	74.5	Ogilby Road (County Highway S34)	Bore
	75.0	Center of the World Drive	Bore
	75.1	Interstate 8	Bore
Arrowhead Extension			
Riverside County, California			
	1.0	Seeley (16 th) Avenue	Bore
	1.5	Arrowhead Boulevard	Bore
	2.0	14 th Avenue	Bore
IID Lateral			
Imperial County, California			
	2.4	Interstate 8	HDD
	3.5	Grays Well Road	Open cut
	4.4	Grays Well Road	Open cut
	5.6	Grays Well Road	Open cut
	5.7	Interstate 8	Bore
	8.5	Gordons Well Road	Open cut
	13.1	Brock Research Road	Bore
	13.6	Evan Hewes Highway	Open cut
	26.0	Evan Hewes Highway	Open cut
	27.3	Interstate 8	Bore
	28.5	Vanderlinden Road	Open cut
	29.5	Miller Road (County Highway S33)	Bore

TABLE 4.10.2-1 (cont'd)

Named Roads Crossed by the North Baja Pipeline Expansion Project

Facility/Location	Milepost	Road Name	Proposed Crossing Method
	30.5	Enz Road	Open cut
	31.5	Bonds Corner Road	Bore
	32.0	Schali Road	Open cut
	33.2	Towland Road	Open cut
	34.2	State Route 7 (Holtville Orchard Road)	Bore
	34.9	Mets Road	Open cut
	35.9	Anderholt Road	Open cut
	36.9	Barbara Worth Road	Open cut
	37.9	Meloland Road	Open cut
	27.4	Holdridge Road	Open cut
	39.1	Interstate 8	Bore
	40.4	Bowker Road/East Ross Road	Bore
	41.7	East Hamilton Road	Open cut
	42.2	East Gillette Road	Open cut
	42.9	East Evan Hughes Road	Bore
	43.4	State Route 111	Bore
	44.7	Cooley Road	Open cut
	45.6	North Dogwood Road (County Highway S31)	Bore

Most smaller, unpaved roads and driveways would be open cut where permitted by local authorities or landowners. North Baja would implement several mitigation measures at open-cut crossings to ensure safety and to minimize traffic disruptions. For example, no roads would be closed unless adequate detours are provided. If a detour is required, traffic would be rerouted to another nearby road. This would not result in a significant change in the level of service of Project-area roadways (see Section 4.10.3). If no reasonable detour is feasible, North Baja would leave at least one lane of traffic open. Where Project construction crosses roads necessary for access to private residences and no alternative entrance exists, North Baja would implement measures (e.g., plating over the open portion of the trench) to maintain passage for landowners and emergency vehicles. Most open-cut crossings would be completed and the road resurfaced in 1 or 2 days; therefore, construction would not cause the closure of a roadway for more than 48 hours consecutively.

During the scoping process, comments were received regarding the potential for future settling of roads that would be crossed using the open-cut method. To address these concerns and to further minimize the potential for noticeable deterioration of local roadway surfaces, North Baja would prepare construction specifications that are designed to avoid settling of the finished grade and would also require the contractor to repair any settling, should it occur. If road settlement attributed to pipeline construction occurs after the pipeline is in operation, North Baja would make the necessary repairs as required by the jurisdictional agency. Implementation of North Baja's proposed mitigation measures for open-cut road crossings would reduce impacts associated with the Project to less than significant levels.

During the scoping process, the USCIS expressed concern about the ability to maintain access across roads used by the Border Patrol. North Baja consulted with the Border Patrol about any concerns it may have and the Border Patrol stated that it has not identified any concerns about the Project (Whipple 2006).

In addition to the roads crossed, several miles of both the B-Line and IID Lateral as well as the Arrowhead Extension would be within or adjacent to roadways (see Table 2.2.1-1). Major roadways potentially affected by construction and operation of these facilities include 18th Avenue, Arrowhead Boulevard, SR 78, Ogilby Road, Interstate 8, and several Imperial County roadways (e.g., Evan Hewes Highway, Hunt Road, and East Ross Road). A discussion of each of these roadways is provided below.

18th Avenue

Construction of the B-Line would take place within the road or road shoulder of 18th Avenue for about 7.6 miles between MPs 2.9 and 10.5. The B-Line would also be adjacent to the roadway for another 0.6 mile between MPs 2.3 and 2.9. Although 18th Avenue is not a heavily traveled roadway, 24 residences and 2 businesses are along the proposed route. To minimize road closures or periods of restricted access, North Baja plans to designate a specialized crew for construction within 18th Avenue. This crew would have experience with working in congested areas and would have two major components. The first crew would install the pipeline through the major crossings, and the second crew would be responsible for the installation of pipeline sections between crossings. Construction would advance at an estimated 500 feet per day; however, to expedite completion and thereby minimize the duration of inconvenience to residents, construction may occur at numerous locations along 18th Avenue simultaneously. Direct construction impacts at any given location are expected to last about 2 to 3 weeks (excluding repaving).

North Baja has developed a Traffic Management Plan for 18th Avenue in consultation with the County of Riverside Transportation Department (see Appendix H). The plan identifies traffic control measures; traffic signage requirements; construction measures to comply with the CalTrans Traffic Manual; construction hours; vehicular, pedestrian, and emergency vehicle access provisions; nightly shut-

down procedures; clearance distance between excavations and vehicular traffic; placement of safety fencing; and construction equipment storage. The plan identifies the following mitigation measures to minimize traffic-related impacts associated with construction within 18th Avenue:

- the pipeline would be installed with a minimum of 36 inches of cover and 12 inches of separation from other utilities or obstructions. A minimum of 2 feet would be maintained under canals and 5 feet over drains;
- intersections would be bored or trenched (trenched intersections would be steel plated if construction does not occur on consecutive days);
- North Baja would contact each owner and/or tenant of the properties abutting the road to explain the construction process and identify any special conditions or concerns that need to be incorporated into the construction plans. In addition, these adjacent residents and businesses would be notified by hand-delivered flyers 2 weeks before construction. The flyers would include the dates of construction, work hours, traffic detours, and contact numbers for North Baja and the contractor. Emergency response agencies would also be notified of the work schedule;
- the Underground Service Alert would be notified at least 48 hours before beginning work;
- flag persons would be provided to route traffic around construction equipment and obstructions;
- work would be scheduled during daylight hours unless alternative schedules are authorized;
- access would be maintained to all residences or businesses except during actual trenching operations. Steel plates would be available to maintain access to driveways during periods when the trench is open;
- non-local traffic would be detoured around construction activities;
- one lane of restricted traffic movement would be maintained through the construction area. This would allow residences, businesses, and emergency vehicles reasonable access during the construction activities;
- during non-work times, the work area would be secured and patrolled to minimize safety hazards associated with open trenches, heavy equipment, and other construction operations; and
- open trenches would be covered or cordoned off during non-working hours.

The non-local traffic that would be detoured around construction activities would be directed to a road parallel and typically only 1 block north or south of 18th Avenue. This would not result in a significant change in the level of service of Project-area roadways (see Section 4.10.3). Implementation of North Baja's Traffic Management Plan for 18th Avenue would reduce impacts associated with construction of the B-Line to less than significant levels.

Arrowhead Boulevard

Between 18th and Seeley Avenues (MPs 0.0 and 1.0), the Arrowhead Extension would be within the right-of-way of Arrowhead Boulevard. North Baja would use the same construction methods between MPs 0.0 and 1.0 of the Arrowhead Extension as those described above for portions of the proposed B-Line within 18th Avenue. North Baja has indicated that it would implement the measures identified in its Traffic Management Plan for 18th Avenue (see Appendix H) to also minimize traffic-related impacts along Arrowhead Boulevard; however, the Traffic Management Plan for 18th Avenue is not specific to Arrowhead Boulevard. Therefore, to ensure that site-specific conditions along Arrowhead Boulevard are addressed, **the Agency Staffs recommend that:**

- **North Baja shall prepare a Traffic Management Plan for Arrowhead Boulevard in consultation with the County of Riverside Transportation Department to detail the specific measures that would be used to control traffic during construction of the Arrowhead Extension. North Baja shall file the plan with the FERC and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC before construction.**

Implementation of North Baja's proposed measures and the Agency Staffs' recommended Traffic Management Plan for Arrowhead Boulevard would reduce impacts associated with construction of the Arrowhead Extension to less than significant levels.

State Route 78

SR 78 is a two-lane State-maintained facility with wide shoulders. The B-Line would cross SR 78 in two locations (MPs 8.5 and 28.2). North Baja would bore these two crossings. The B-Line would also be adjacent to SR 78 between MPs 30.9 and 31.3 and MPs 37.0 and 47.4 but it would not be within the road right-of-way except at the two road crossings. Because these two crossings would be bored, no significant impacts on this roadway have been identified.

Ogilby Road

Ogilby Road is a two-lane county roadway that connects SR 78 with Interstate 8. Ogilby Road would be crossed twice during construction of the B-Line (MPs 55.0 and 74.5). North Baja would bore these two crossings. In addition, the B-Line would be adjacent to Ogilby Road between MPs 55.0 and 61.0 and between MPs 66.8 and 74.5 but it would not be within the road right-of-way except at the two road crossings. Because these two crossings would be bored, no significant impacts on this roadway have been identified.

Interstate 8

Interstate 8 is a major east-west freeway crossing southern Arizona and California. Interstate 8 would be crossed by the B-Line at MP 75.1 and by the IID Lateral in four locations (MPs 2.4, 5.7, 27.3, and 39.1). North Baja would either HDD or bore each of these crossings. The HDD method is described in Section 2.3.2. Similar to the bore construction method, the HDD method would result in little or no disruption to traffic. As a result, no significant impacts on this roadway have been identified.

Imperial County Roadways

Construction of the IID Lateral would occur within several Imperial County roadways (e.g., Evan Hewes Highway, Hunt Road, and East Ross Road). To avoid or minimize impacts along these roadways, North Baja developed a Traffic Management Plan for Imperial County Roads (see Appendix H). The plan identifies the same mitigation measures as discussed above for 18th Avenue. In addition, North Baja would install the pipeline in sections and would have a specialized crew designated for construction to minimize road closures or periods of restricted access along Imperial County roadways. In contrast to construction procedures for 18th Avenue, North Baja would close off 0.5- to 1.0-mile-long sections of road and reroute traffic around the area through the use of signs and detours (while maintaining access for residents and emergency vehicles). The detours would direct traffic to another nearby roadway and would not result in a significant change in the level of service of the roadway. No more than 2 miles of work area would be active at any one time, and construction would advance along the roadway at an estimated 0.5 mile per day. Excluding any repaving that may be required, direct construction impacts at any given location would last no more than 2 to 3 weeks. Implementation of these measures and North Baja's Traffic Management Plan for Imperial County Roads would reduce impacts associated with construction of the Project to less than significant levels.

4.10.3 Increased Vehicle Traffic

Construction of the North Baja Pipeline Expansion Project would result in temporary increases to traffic levels due to the commuting of the construction workforce to the Project area as well as the movement of construction vehicles and delivery of equipment and materials to the construction work area. Table 4.10.3-1 identifies the average daily traffic counts and the existing level of service of the major roadways potentially affected by the Project. As indicated in Table 4.10.3-1, the roadways in the Project area have a level of service of A or B.

Table 4.10.3-2 lists the types of construction vehicles and estimated number of trips associated with the Project. North Baja estimates that during peak construction up to 400 people would be working along the B-Line. Based on an industry standard of 1.3 people per car, the resulting number of roundtrips per day is expected to be about 308. Because pipeline construction work is generally scheduled to take advantage of all daylight hours, workers would commute to and from the contractor yards and construction right-of-way during off-peak traffic hours (e.g., before 7:00 AM and after 6:00 PM). Construction workers would typically meet at the contractor yards and share rides to the construction right-of-way, thereby reducing overall traffic. In addition, work would be spread along the length of the construction spread, which would reduce the impact on traffic at any one location.

TABLE 4.10.3-1			
Major Roadways Potentially Affected by the North Baja Pipeline Expansion Project			
Facility/County/Road	Mileposts	Average Daily Traffic Count	Existing Level of Service ^a
B-Line			
Riverside			
18 th Avenue	2.3 - 10.5	636	A
State Route 78	8.5	1,700	B
Imperial			
State Route 78	28.2	1,700	B
	30.9 - 31.3	2,700	
	37.0 - 47.4		
Ogilby Road	55.0 - 61.0	540	--
	66.8 - 74.5	700	A
Interstate 8	75.1	12,000	A
Arrowhead Extension			
Riverside			
Arrowhead Boulevard	0.0 - 2.1	--	--
IID Lateral			
Imperial			
Interstate 8	2.4, 5.7, 27.3, 39.1	12,000	A
Evan Hewes Highway	8.0 - 27.1	1,000 ^b	--
Hunt Road	27.6 - 38.7	--	--
East Ross Road	39.6 - 41.3	5,630	--
^a Level of service is defined as a qualitative measure describing operational conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort, convenience, and safety. A level of service of A indicates that a roadway has little or no delay or congestion. A level of service of B indicates that a roadway has slight congestion or delay.			
^b Through the City of El Centro, Evan Hewes Highway serves as Adams Avenue (a four-lane facility) and is estimated to carry approximately 9,000 vehicles per day; however, most other segments of the highway, including those affected by the proposed Project, provide only one travel lane per direction and are estimated to carry approximately 1,000 vehicles per day.			
-- Average daily traffic counts and/or level of service have not been established for these roadways.			
Source: California Department of Transportation 2002.			

TABLE 4.10.3-2						
Anticipated Construction Traffic Associated with the North Baja Pipeline Expansion Project						
Facility	Duration (months)	Daily Workforce Vehicle Roundtrips	Truck Roundtrips		Contractor Yard	
			Pipe Stringing	Daily Other Trucks	Pipe	Materials
Arrowhead Extension, Blythe-Arrowhead Meter Station, Aboveground Facility Modifications	2 to 4	38	3 trips daily, over 3 weeks	30	Ripley Yard	18 th Avenue Yard
B-Line	4 to 6	308	40 trips daily, over 12 to 16 weeks	100	Ripley Yard	18 th Avenue Yard
IID Lateral	2 to 4	115	5 trips daily, over 10 to 20 weeks	70	Ripley Yard	IID Lateral Yard

In addition to the construction workforce, the delivery of construction equipment and materials to the construction work area could temporarily congest existing transportation networks at specific locations. The construction equipment would be initially staged at a pipe storage and contractor yard and then transported to the construction right-of-way using surfaced streets and approved access roads (see Table 4.10.3-2). Once a vehicle leaves the pipe storage or contractor yard, its exact route would vary depending on the current location of construction activity. Equipment would be dropped off in one location and would then move in a linear direction along the right-of-way. As a result, most equipment would be on the pipeline right-of-way and would not affect traffic on local roads after its initial delivery to the construction site. Truck traffic associated with pipe hauling during construction of the B-Line would have the greatest potential to impact traffic levels. During B-Line construction, pipe in lengths of 60 to 80 feet would be hauled from the yards by trailer trucks during the daylight hours for an approximately 12- to 16-week period. It is estimated that during this period 40 truck loads of pipe would travel between the Ripley Contractor Yard and the pipeline route each day. North Baja states that the movement of materials and equipment to the construction work area would add as many as 100 truck trips per day and that most of these deliveries would occur during early morning and evening hours.

Overall, the number and frequency of construction vehicle trips would be low on any particular roadway at any one time because construction would move sequentially along the Project right-of-way. A discussion of impacts on transportation during construction across and within roadways is presented in Section 4.10.2. Trips by vehicles that would visit the right-of-way on a regular basis (e.g., pickup trucks, crew vehicles) would be distributed along the length of the route as the pipe is installed and construction activity progresses to a different part of the right-of-way. Truck traffic associated with transporting pipe and other materials to the construction work area could result in temporary detours or obstructions in traffic flow due to vehicle size or may require short-term assistance from local police in limited instances. However, the Project would not cause an increase in traffic that would be substantial in relation to the existing traffic load and capacity. As a result, because most roadways in the Project area currently operate at a level of service of A or B, the relatively minor increase in traffic associated with the Project would not result in a significant change in the level of service on any roadway. Therefore, impacts associated with increased traffic levels during construction of the Project would be less than significant.

North Baja and its contractors would comply with local road weight limits and restrictions and would keep roads free of mud and other debris that may be deposited by construction equipment; therefore, the Project would not create a safety hazard for vehicles or pedestrians. Track-driven equipment would cross roads on tires or equipment pads to minimize road damage. Because North Baja would repair any roadways damaged by construction activities, the Project would not result in noticeable deterioration of local roadway surfaces.

No significant impacts would be expected during operation of the Project because there would be only minimal traffic associated with operation and maintenance of the pipelines. Because no new permanent employees would be required to operate the facilities, traffic levels during operation would be the same as currently experienced for operation of North Baja's A-Line.

4.10.4 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the

potential impacts on transportation and traffic identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.11 CULTURAL RESOURCES

4.11.1 Significance Criteria

An adverse impact on cultural resources would be considered significant and would require mitigation if Project construction or operation would result in an unresolvable adverse effect on the characteristics that contribute to the eligibility of a historic or prehistoric property for listing on the NRHP or the CRHR. Adverse effects may include, but are not limited to, the following:

- physical destruction of or damage to all or part of the property;
- change in the character of the property's use or of physical features within a property's setting that contribute to its historic significance (e.g., by isolating the property from its setting); and
- introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features.

4.11.2 Regulatory Requirements

Federal

The FERC is responsible for complying with section 106 of the NHPA, which requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment. The procedures for complying with section 106 are outlined in the ACHP's regulations (Title 36 CFR Part 800). The effects of the Project on properties of traditional religious and cultural importance to Native Americans must also be considered in accordance with section 101 (d)(6) of the NHPA and the American Indian Religious Freedom Act. North Baja, as a non-Federal party, is assisting the FERC in meeting its obligations under section 106 and the implementing regulations in Title 36 CFR Part 800. In addition, the BLM must consider Native American religious and cultural concerns for the portion of the Project crossing Federal lands in accordance with the Archaeological Resource Protection Act, the Native American Graves Protection and Repatriation Act, and Sacred Sites Executive Order 13007.

As the lead Federal agency, the FERC is responsible for determining NRHP eligibility and Project effects in consultation with the Arizona and California State Historic Preservation Offices (SHPOs); the BLM; the BOR; the FWS, Cibola NWR; and Native American tribes, as applicable. If, after completing review, the consulting parties agree that cultural resources found during surveys are ineligible for the NRHP, no further consideration of these resources would be required.

In evaluating cultural resources, several criteria are considered. First, significant cultural resources (as defined for Federal undertakings) include those prehistoric and historic sites, districts, buildings, structures, and objects, as well as properties with traditional religious or cultural importance to Native Americans or other groups, that are listed, or are eligible for listing, on the NRHP (historic properties) according to the criteria outlined in Title 36 CFR Part 60.4. Second, cultural resources that do not meet the NRHP criteria but may qualify as a unique characteristic of an area are considered under NEPA.

CEQA

The CSLC is responsible for complying with all provisions of the CEQA covering cultural resources, including the CEQA sections 21083.2 and 21084.1, and section 15064.5 of the Guidelines for Implementing the CEQA. Cultural resources include prehistoric and historic-period archaeological sites,

districts, and objects; standing historic structures, buildings, districts, and objects; and locations of important historic events or sites of traditional/cultural importance. The State CEQA Guidelines section 15064.5 indicates a project may have a significant environmental effect if it causes “substantial adverse change” in the significance of an historic resource as defined in section 15064.5(a)(1) through (a)(4). Under the CEQA, the CSLC is also required to take into account the effect on properties eligible for listing on the CRHR or that meet the definition of a unique archaeological resource in the CEQA section 21083.2.

Under the CEQA, archaeological resources are sometimes treated differently than “historical resources.” Thus, it is important to first determine whether certain archaeological sites are “historical resources” for purposes of the CEQA. An archaeological resource is considered an historic resource if it is listed, or determined eligible for listing, on the CRHR, included in a local register of historical resources, or identified as significant in an historical resource survey. For archaeological resources that are not “historical resources,” it must then be determined if they are “unique” archaeological resources according to Public Resources Code 21083.2 (g). The distinction may be important because mitigation measures sometimes differ for archaeological and historical resources.

4.11.3 Cultural Resources Assessment

North Baja contacted the Arizona and California SHPOs regarding the proposed Project and the applicability of previous surveys conducted for the A-Line. On March 20, 2006, the Arizona SHPO concurred that the current area of potential effect and previous survey efforts conducted for the A-Line are adequate for the proposed Project. The California SHPO indicated that the guidelines regarding methods for identifying potential subsurface sites have changed since the A-Line was constructed. The SHPO suggested North Baja use the data from the A-Line data recovery and construction monitoring to address the potential for buried sites, or alternatively to develop new field methods regarding such sites. North Baja addressed these comments in its Evaluation Plan.

As part of its application, North Baja provided the FERC with its Overview and Survey Report, and its Unanticipated Discovery Plan (see Section 4.11.4). The report provided the results of the previous A-Line survey and the results of the current surveys of the IID Lateral and the remaining ancillary areas associated with the proposed Project. The report was also provided to the CSLC; the BLM; the BOR; the FWS, Cibola NWR; and the California SHPO. To date, comments have been received from the BLM, the BOR, and the California SHPO.

North Baja subsequently provided the FERC and the CSLC with Addendum Reports 2 and 3. Addendum Report 2 documents the results of surveys of the Arrowhead Alternative (see Section 3.2.5). Addendum Report 3 documents the results of a records search for the Corridor L Alternative (see Section 3.2.3.2). North Baja provided Addendum Report 2 to the California SHPO but did not provide the report to the BLM or the BOR because the report is not applicable to Federal lands. Addendum Report 3 has been provided to the California SHPO and the BLM and the BLM has provided comments. It is not applicable to the BOR.

North Baja provided its Evaluation Plan to the FERC; the CSLC; the BLM; the BOR; the FWS, Cibola NWR; and the California SHPO. The BLM has provided comments on the Evaluation Plan. The California SHPO and the FWS have indicated that they will not be commenting. Following completion of its evaluations, North Baja provided its draft Evaluation Report to the FERC; the CSLC; the BLM; the BOR; the FWS, Cibola NWR; and certain Native American tribes (see Section 4.11.5). The BLM provided comments and the FWS has indicated that it will not be commenting. North Baja subsequently provided its revised Evaluation Report to the California SHPO.

North Baja provided its draft Historic Properties Treatment Plan to the FERC; the CSLC; the BLM; the BOR; the FWS, Cibola NWR; certain Native American tribes (see Section 4.11.5); and the Arizona SHPO. North Baja received comments on the draft Historic Properties Treatment Plan from the BLM; the BOR; the FWS, Cibola NWR; and the Quechan Indian Tribe and provided its revised Historic Properties Treatment Plan to the FERC and the California SHPO. To date, no comments have been received on the revised Historic Properties Treatment Plan from the California SHPO.

B-Line

North Baja surveyed a 220-foot-wide corridor in 2000 and 2001 for the construction of the A-Line, which also covers the construction work area for the proposed B-Line. No cultural resources were identified in Arizona. Ninety cultural resources were identified along the B-Line route in California. Of these, 25 are historic-period sites (including 1 railroad, 3 transmission lines, 15 canals and other irrigation features [including the All-American Canal], debris scatters, and the townsite of Ogilby), 53 are prehistoric sites (including lithic and ceramic scatters, trails, rock features, milling, rock art, geoglyphs, and cleared circles), and 12 sites include both prehistoric and historic-period components. Subsequent to its initial surveys, North Baja completed evaluations at 12 sites to determine their eligibility for listing on the NRHP and the CRHR. Based on the initial surveys and evaluations, six cultural resources are recommended as not eligible for listing on the NRHP and the CRHR and no further work is recommended. Thirty-four cultural resources have not been evaluated to determine eligibility and 50 sites are recommended as eligible for listing on the NRHP and the CRHR. Of these, two NRHP-eligible cultural resources (Site CA-IMP-7911/H and the All-American Canal) were specifically identified by the BOR as important cultural resources. North Baja currently plans to mitigate impacts on Site CA-IMP-7911/H by completing data recovery and monitoring the site during construction. North Baja would avoid impacts on the All-American Canal by use of the HDD crossing method. In addition, the BOR identified several cultural resources that individually may not be eligible for the NRHP, but collectively contribute to an archaeological district being proposed by the BOR as part of a separate project that partially overlaps the proposed Project. Impacts on the other canals and irrigation features would be mitigated by North Baja's proposal to monitor construction activities. North Baja would mitigate impacts on the remaining unevaluated and eligible sites by the use of avoidance measures (including installation of exclusion fencing), construction monitors, data recovery, and/or narrowing of the construction right-of-way. These methods are discussed in North Baja's Historic Properties Treatment Plan.

Arrowhead Extension

North Baja surveyed a 92- to 100-foot-wide corridor along the Arrowhead Extension route on Arrowhead Boulevard. Between MPs 0.0 and 1.0, the survey corridor was 92 feet centered over the paved road, which included the 60-foot-wide construction right-of-way and 16 feet on each side. A 100-foot-wide corridor adjacent to and east of the road pavement was surveyed for the portion of the pipeline route between MPs 1.0 and 1.5. A 100-foot-wide corridor adjacent to and west of the road pavement was surveyed for the portion of the pipeline route between MPs 1.5 and 2.0. The aboveground facility sites and temporary extra workspaces associated with the Arrowhead Extension were also surveyed.

North Baja's surveys identified six historic cultural resources, one of which (the C-05 Canal) was previously recorded. The remaining five cultural resources consist of two wood pole utility lines and three unnamed canals. All six cultural resources identified are unevaluated for eligibility for listing on the NRHP and the CRHR. The wood pole utility lines would not be affected by construction. The Arrowhead Extension would cross the C-05 Canal and two of the unnamed canals. The unnamed canals are private ditches that are not part of the PVID irrigation system. North Baja would cross the two unnamed canals using the open-cut method and would restore the canals to their previous condition after construction. North Baja would avoid impacts on the C-05 Canal by use of the bore crossing method.

IID Lateral

North Baja surveyed a 100- to 200-foot-wide corridor along about 43.0 miles of the proposed IID Lateral route. The remainder of the proposed route was not surveyed due to denied access. Between MPs 0.0 and 8.4, North Baja surveyed a 200-foot-wide corridor centered on the proposed centerline. From MP 8.4 to the end of the route, North Baja surveyed a 100-foot-wide corridor adjacent to the pavement of Evan Hewes Highway. North Baja has indicated it would complete surveys along the remaining portion of the IID Lateral route when landowner permission is obtained.

North Baja's surveys identified 98 cultural resources, 8 of which were previously recorded. These included 73 canals/drains (including the All-American Canal), 14 transmission/telephone lines or poles, 2 historic-period sites, 4 prehistoric sites (including ceramic and lithic scatters), 2 roads, 1 railroad, and 2 isolated finds. Subsequent to its initial surveys, North Baja completed evaluations at five sites to determine their eligibility for listing on the NRHP and the CRHR. Based on the initial surveys and evaluations, six cultural resources are recommended as not eligible for listing on the NRHP and the CRHR and no further work is recommended. Four cultural resources (the All-American Canal and Sites CA-IMP-8314, CA-IMP-8327, and CA-IMP-8389) are recommended as eligible for listing on the NRHP and the CRHR. North Baja would avoid impacts on the All-American Canal by use of the HDD crossing method. North Baja would mitigate impacts on Site CA-IMP-8327 by avoiding and monitoring it during construction and on Site CA-IMP-8389 by implementing data recovery and monitoring it during construction. Site CA-IMP-8314 is one of several cultural resources that collectively contribute to an archaeological district being proposed by the BOR. The BOR, the Quechan Indian Tribe, and the Kwaaymii Laguna Band of Indians requested that Site CA-IMP-8314 be avoided. The Agency Staffs' recommendation in Section 3.2.3.2 that North Baja adopt the Modified ISDRA Transmission Line Alternative would avoid impacts on this site. In response to other Native American requests, North Baja would have a monitor present during ground-disturbing activities along the alternative route south of Site CA-IMP-8314. The remaining 88 cultural resources have not been evaluated to determine eligibility for listing on the NRHP and the CRHR. Two of these sites would not be within the construction work area. Seventy-two of the unevaluated cultural resources are canals or other irrigation features, 13 are transmission/telephone lines or poles, and 1 is a railroad. North Baja would mitigate impacts on these features by monitoring them during construction to ensure avoidance. These methods are discussed in North Baja's Historic Properties Treatment Plan.

During the scoping process, the BOR identified the Coachella Canal as an important cultural resource. The IID Lateral route does not cross the Coachella Canal. In addition, a comment was received regarding the Plank Road. As discussed in Section 4.8.5, the Plank Road was a wooden, portable driving surface to provide for the passage of automobiles across the Algodones Dunes and was in use from 1916 through 1926 (BLM 1998). The Plank Road is a California State Historic Landmark. A portion of this cultural resource, consisting of remnants of metal strapping, was identified during surveys along the Modified ISDRA Transmission Line Alternative. As discussed above, the Agency Staffs have recommended in Section 3.2.3.2 that North Baja adopt the Modified ISDRA Transmission Line Alternative to avoid impacts on Site CA-IMP-8314. North Baja would avoid impacts on the portion of the Plank Road along the alternative alignment by installing exclusion fencing and monitoring the site during construction.

Ancillary Facilities

North Baja completed surveys of the 18th Avenue, Ripley, Ogilby, and IID Lateral (El Centro) Contractor Yards. No eligible cultural resources were identified at these yards.

North Baja has indicated it would complete surveys along any access roads that require improvements or modifications.

4.11.4 Unanticipated Discovery Plan

North Baja provided its Unanticipated Discovery Plan to be used in the event that cultural resources or human remains are discovered during construction. The plan includes contact procedures for the FERC; the SHPOs; the BLM; the BOR; the FWS, Cibola NWR; and Native American tribes, as appropriate. The plan provides for the protection in place of any unanticipated discoveries until appropriate evaluation and consultation have occurred. In the event that the discovery is determined to be of NRHP significance, a treatment plan (such as avoidance, monitoring, and/or scientific data recovery) would be developed and implemented in consultation with the appropriate parties. A member of one Native American tribe, the Kwaaymii Laguna Band of Indians, commented that the Unanticipated Discovery Plan should be updated to reflect recent burial legislation passed in California. North Baja has stated that it would update its plan to reflect this information.

4.11.5 Native American Consultation

North Baja originally contacted 18 Native American tribes whose traditional territories are crossed by the Project or who had been identified by the SHPOs or another knowledgeable party as having a potential cultural resources concern (see Table 4.11.5-1). North Baja sent initial consultation letters to the tribes on November 16, 2005. These letters described the Project and provided the tribes with the opportunity to comment on the Project and identify sites or places that might be of religious or cultural significance to the tribe. In early December 2005, North Baja conducted follow-up contacts with the Native American tribes by telephone. In addition, the tribes were contacted regarding participation in the cultural resources survey of the proposed pipeline route. Members of the Quechan Indian Tribe and the Campo Band of Mission Indians participated in the cultural resources surveys as Native American monitors.

At the time of North Baja's follow-up consultations, the majority of the tribes indicated they had no concerns about the proposed Project or had not yet reviewed the Project materials. Some of these tribes also requested to receive future Project updates. North Baja was not able to complete follow-up contacts with the Fort McDowell Yavapai Nation. The Gila River Indian Community and the Hualapai Tribe indicated they would defer comments to the Colorado River Indian Tribe. The Hualapai Tribe and the Torres-Martinez Desert Cahuilla Indians identified concerns about existing trails in the Project area. As discussed in Section 4.11.3, North Baja would monitor construction activities to avoid impacts on trails. The Salt River Pima-Maricopa Indian Community indicated it would defer comments to the Tohono O'odham Nation, which indicated it would defer comments to the Colorado River and Quechan Indian Tribes and the Mojave and Cocopah Tribes. The Hopi Tribe stated it would defer comments to the SHPO and other interested parties, that it had an interest in the White Tanks area, and that no known traditional cultural properties were in the Project area. The proposed Project would not affect the White Tanks area, which is near Phoenix. No Native American religious concerns were identified.

On September 27, 2006, North Baja met with members of the Quechan Indian Tribe, the Soboba Band of Luiseno Indians, the Cocopah Tribe, the BLM, and the BOR to discuss the Project status and provide a summary of the survey results and recommendations. North Baja provided its Evaluation Report and Historic Properties Treatment Plan to these tribes. In addition, members of the Quechan Cultural Committee met with representatives from North Baja and its cultural resources consultant on December 13, 2006, to discuss the Project status and the Quechan Indian Tribe's November 20, 2006 letter to the FERC providing comments on the draft EIS/EIR (see Section 6.0).

TABLE 4.11.5-1

North Baja's Native American Consultations Conducted for the North Baja Pipeline Expansion Project		
Tribe/Contact Name	Date	Description of Consultation
AhaMaKav Cultural Society		
Elda Butler, Director ^a	12/8/05	Identified additional contact (Linda Otero).
Linda Otero	Multiple	Had not yet reviewed the initial consultation letter; would like to have a planning meeting with several invited tribes to discuss overall Project activities.
Ak-Chin Indian Community		
Terry O. Enos, Chairman ^a	12/7/05	The proposed Project is outside the tribe's area; requested to receive future Project updates.
Cabazon Band of Mission Indians		
John James, Chairperson ^a	12/7/05	No comments; requested to receive future Project updates.
Steve Thomas ^a	12/7/05	No comments; requested to receive future Project updates.
Cocopah Tribe		
Sherry Cordova, Chairwoman ^a	Multiple	Provided additional contact information (Paul Soto).
Paul Soto, Planning Department	12/13/05	Provided additional contact information (Cathi Alonzo, who identified Lisa Wanstall).
Lisa Wanstall, Museum Director	1/19/06	Provided another copy of the November 16, 2005 letter and copies of previous reports and maps.
	9/21/06	Provided copy of the Evaluation Report.
	11/30/06	Provided copy of the Historic Properties Treatment Plan.
Jill McCormick	9/27/06	Meeting with Project representatives to discuss the Project status and North Baja's survey results and recommendations.
Colorado River Indian Tribes		
Betty Cornelius ^a	12/7/05	Identified additional contact (Eric Shepard).
Daniel Eddy, Jr., Chairman ^a	Multiple	Requested a copy of the letter be sent to Eric Shepard.
Eric Shepard	12/8/05	Provided copy of November 16, 2005 letter.
	Multiple	Identified additional contact (Michael Tsosie).
	12/13/05	Has not yet reviewed the initial consultation letter.
Michael Tsosie	Multiple	Requested a copy of the initial consultation letter; requested copies of the background reports, data, and maps for review by the Cultural Committee.
	3/2/06	Provided Project information and survey reports.
	9/21/06	Provided copy of the Evaluation Report.
	11/30/06	Provided copy of the Historic Properties Treatment Plan.
Fort McDowell Yavapai Nation		
Raphael Bear, President, ^a Vince Lujan, and Debbie, Planning Department	Multiple	Multiple contacts and voicemails.
Fort Mojave Indian Tribe		
Nora McDowell, Chairwoman ^a	12/7/05	Identified additional contact (Dorothy Hallock).
Dorothy Hallock, Planning Department	Multiple	Indicated she would bring the consultation letter to a December 20, 2005 meeting and expected the tribe to provide a "no interest-no comment" decision.
	9/21/06	Provided copy of the Evaluation Report.
	11/30/06	Provided copy of the Historic Properties Treatment Plan.
Gila River Indian Community		
Richard Narcia, Governor ^a	Multiple	The tribe will defer comments to the Colorado River Indian Tribe.
Barnaby Lewis	11/30/06	Provided copy of the Historic Properties Treatment Plan.

TABLE 4.11.5-1 (cont'd)

North Baja's Native American Consultations Conducted for the North Baja Pipeline Expansion Project

Tribe/Contact Name	Date	Description of Consultation
Havasupai Tribe		
Linda Mahone, Chairwoman ^a	Multiple	Identified additional contact (Rex Toilusie).
Rex Toilusie, Environmental	Multiple	The tribe has no concerns about the proposed Project.
Hopi Tribe		
Wayne Taylor, Jr., Chairman ^a	12/2/05	Identified additional contact (Terry Morgart).
Terry Morgart	12/2/05	The tribe will defer comments to the State Historic Preservation Office and other interested parties; has an interest in the White Tanks area; no known traditional cultural properties are in the Project area of potential effect.
Hualapai Tribe		
Louise Benson, Chairwoman ^a	Multiple	Identified new tribal chairman (Charles Vaughn).
Charles Vaughn, Chairman	Multiple	Identified concerns about existing trails from Baja across the tribe's territory to a place called Wyckham, a prehistoric gathering spot; requested to receive future Project updates; identified additional contact (Loretta Jackson).
Loretta Jackson	12/9/05	The tribe will defer comments to the Colorado River Indian Tribe; requested to receive future Project updates.
	9/21/06	Provided copy of the Evaluation Report.
	11/30/06	Provided copy of the Historic Properties Treatment Plan.
Kwaaymii Laguna Band of Indians		
Carmen Lucas	2/9/07	Provided comments on the Project.
	3/13/07	Meeting with representatives of North Baja to discuss the Project, consultations with Native American tribes, Site CA-IMP-8314, the Unanticipated Discovery Plan, cumulative impacts on cultural resources, and site visits.
Los Coyotes Band of Mission Indians		
Katherine Saubel, Spokesperson ^a	12/8/05	No comments on the Project, which is outside the tribe's area; the tribe does not wish to receive further paperwork about this Project.
Quechan Indian Tribe-Ft. Yuma Indian Reservation		
Mike Jackson, Sr., President ^a	Multiple	Identified additional contact (Pauline Jose).
Pauline Jose	12/13/05	Provided copy of November 16, 2005 letter.
	Multiple	Requested another copy of the initial consultation letter.
	1/19/06	Meeting with Project representatives. The tribe requested to have a monitor accompany the cultural resources survey of the IID Lateral, asked about future plans for the Project, and requested another meeting to clarify additional planning and engineering questions.
	3/2/06	Provided Project information and survey reports.
	9/21/06	Provided copy of the Evaluation Report.
	2/2/07	Meeting with representatives of the BLM and North Baja to discuss Site CA-IMP-8314.
Earl Hawes ^a	12/8/05	No longer with the tribal government.
Bridget R. Nash-Chrabasz, Historic Preservation Officer	9/27/06	Meeting with Project representatives to discuss the Project status and North Baja's survey results and recommendations.
	11/20/06	Letter providing comments on the draft EIS/EIR.
	11/30/06	Provided copy of the Historic Properties Treatment Plan.
	2/2/07	Meeting with representatives of the BLM and North Baja to discuss Site CA-IMP-8314.
Quechan Cultural Committee	12/13/06	Meeting with Project representatives to discuss the Project status and the tribe's comments on the draft EIS/EIR.
Manfred Scott, Quechan Tribal Council	2/2/07	Meeting with representatives of the BLM and North Baja to discuss Site CA-IMP-8314.
Emilio Escalante, Quechan Tribal Council	2/2/07	Meeting with representatives of the BLM and North Baja to discuss Site CA-IMP-8314.

TABLE 4.11.5-1 (cont'd)

North Baja's Native American Consultations Conducted for the North Baja Pipeline Expansion Project		
Tribe/Contact Name	Date	Description of Consultation
Salt River Pima-Maricopa Indian Community		
Joni Ramos, President ^a	Multiple	The tribe will defer comments to the Tohono O'odham Nation; requested to receive future Project updates.
Evelyn Andrews	Multiple	Requested copy of the initial consultation letter.
	12/20/05	Provided copy of November 16, 2005 letter.
	9/21/06	Provided copy of the Evaluation Report.
	11/30/06	Provided copy of the Historic Properties Treatment Plan.
Soboba Band of Mission Indians		
Robert J. Salgado, Sr., Chairman ^a	12/8/05	Identified new tribal chairman (Charlene Ryan).
Charlene Ryan, Cultural	Multiple	Requested copy of the initial consultation letter; believes the tribe will not have any comments on the proposed Project.
Benee Calac	9/21/06	Provided copy of the Evaluation Report.
	9/27/06	Meeting with Project representatives to discuss the Project status and North Baja's survey results and recommendations.
	11/30/06	Provided copy of the Historic Properties Treatment Plan.
Steven Estrada	9/27/06	Meeting with Project representatives to discuss the Project status and North Baja's survey results and recommendations.
Tohono O'odham Nation		
Vivian Juan-Saunders, Chairwoman ^a	Multiple	Multiple contacts and voicemails.
Peter Steer, Manager of Cultural Affairs	1/6/06	The tribe will defer comments to the Colorado River and Quechan Indian Tribes and the Mojave and Cocopah Tribes; requested a copy of the original survey report.
	9/21/06	Provided copy of the Evaluation Report.
	11/30/06	Provided copy of the Historic Properties Treatment Plan.
Torres-Martinez Desert Cahuilla Indians		
Ray Torres, Sr., Chairperson ^a	12/8/05	Identified new tribal chairman (Joe Loya).
Joe Loya	Multiple	Identified some concerns about the local trail systems near the proposed Project; requested to receive future Project updates.
Twenty-Nine Palms Band of Mission Indians		
Dean Mike, Chairperson ^a	12/8/05	Requested another copy of the initial consultation letter.
	12/22/05	The tribe has no concerns about the proposed Project.

^a Recipients were sent North Baja's November 16, 2005 initial consultation letter.

On February 2, 2007, North Baja met with members of the Quechan Indian Tribe to discuss measures to reduce or avoid impacts on Site CA-IMP-8314. As discussed in Sections 3.2.3.2 and 4.11.3, Site CA-IMP-8314 would be avoided by the adoption of the Modified ISDRA Transmission Line Alternative.

A member of the Kwaaymii Laguna Band of Indians provided comments on the Project to North Baja in a letter dated February 9, 2007. North Baja subsequently met with the tribal member on March 13, 2007. Specifically, the tribal member provided comments on the consultations with Native American tribes, site visits, potential impacts on Site CA-IMP-8314, the Unanticipated Discovery Plan, and cumulative impacts on cultural resources. North Baja arranged site visits for the tribal member in mid-April 2007. As stated in Section 4.11.3, Site CA-IMP-8314 would be avoided by the adoption of the Modified ISDRA Transmission Line Alternative. In addition, North Baja would have a monitor present during ground-disturbing activities along the alternative route south of Site CA-IMP-8314. As discussed in Section 4.11.4, North Baja has stated that it would update its Unanticipated Discovery Plan to reflect recent burial legislation passed in California. Section 4.15.7 has been revised to include additional discussion of potential cumulative impacts on cultural resources.

No traditional cultural properties have been identified in the proposed Project's area of potential effect to date. North Baja has indicated it would continue consultations with Native American tribes throughout the Project.

In addition to North Baja's contacts, the NOI/NOP dated August 30, 2005 was sent to 64 individuals from 33 Native American tribes that were identified by the California Native American Heritage Commission. One tribe, the Ramona Band of Cahuilla, provided comments in response to the NOI/NOP. The tribe expressed concern regarding Native American sites and Native American artifacts that may be discovered during excavation. The tribe also commented that a Native American monitor should be present during field studies and construction and requested copies of the report. Native American monitors were present during the survey, and North Baja has indicated that it would invite Native American representatives on field visits to cultural resources sites that would be affected by the proposed Project. In addition, North Baja would include Native American tribes in consultations regarding the recommended mitigation measures at potentially significant cultural resources that may be of concern to the tribes. No other responses have been received to date.

4.11.6 General Impact and Mitigation

Project impacts or effects include not only the physical disturbance of a historic property, but may also include the introduction, removal, or alteration of various visual or auditory elements, which could alter the traditional setting or ambience of the property. Once cultural resources surveys and evaluations are complete, the FERC, in consultation with the SHPOs; the BLM; the BOR; the FWS, Cibola NWR; and Native American tribes, as applicable, would make determinations of eligibility and Project effects. Impacts on sites determined non-significant per NRHP eligibility criteria are not considered effects, and no further treatment or consideration is accorded these sites before construction and related Project activities. If a property listed on or eligible for listing on the NRHP would be affected, mitigation would be necessary. Mitigation may include, but not be limited to, one or more of the following measures: (1) avoidance through the use of realignment of the pipeline route, relocation of temporary extra workspaces, or changes in the construction and/or operational design; (2) data recovery, which may include the systematic professional excavation of an archaeological site or the preparation of photographs and/or measured drawings documenting standing structures; and (3) the use of landscaping or other techniques that would minimize or eliminate effects on the historic setting or ambience of standing structures.

The Arizona SHPO indicated that the previous surveys were adequate for the currently proposed Project areas in Arizona. Any newly proposed areas not previously surveyed would be surveyed and reported in an addendum. Inventory in California is not complete. Once cultural resources surveys and evaluations are complete, the FERC and the consulting parties discussed above would make determinations of eligibility and Project effects. If historic properties would be adversely affected, the FERC, as the lead Federal agency, would notify the ACHP to afford it an opportunity to participate in consultation. The CSLC would make the determination of eligibility for the CRHR for CEQA purposes. North Baja has prepared a treatment plan that specifies measures to reduce or mitigate impacts. Once the treatment plan is approved, a Memorandum of Agreement would be executed by the appropriate parties. North Baja would implement the specific treatment measures before Project construction is authorized by the FERC and the CSLC in any given area. Implementation of treatment would occur only after certification of the proposed Project. Implementation of treatment would ensure that Project-related adverse effects would be resolved for purposes of section 106 compliance, and reduced to less than significant levels for the purposes of NEPA compliance.

Generally under the CEQA, a project that follows the Secretary of Interior's Standards shall be considered as mitigated to a level of less than a significant impact on the historical resources. However, in some cases, documentation as mitigation is not sufficient to reduce the impact to a level that is less than significant (State CEQA Guidelines section 15126.4[b][2]). Thus, documentation of an "historical resource" may not necessarily mitigate the effects "to a point where clearly no significant effect on the environment would occur" as it does under section 106. Archaeological sites that are important for their data alone can usually be mitigated through data recovery (excavation).

To ensure that the FERC's responsibilities under the NHPA and its implementing regulations and the CSLC's responsibilities under the CEQA are met, **the Agency Staffs recommend that:**

- **North Baja shall defer implementation of any treatment plans/mitigation measures (including archaeological data recovery), construction of facilities, and use of all staging, storage, or temporary work areas and new or to-be-improved access roads on each respective Project phase until North Baja files with the FERC and the CSLC, as applicable, the materials listed in items a. through g., and the steps listed in items h. through j. below have been completed:**
 - a. any FWS, Cibola NWR comments on the Overview and Survey Report;
 - b. any BOR comments on the Evaluation Plan;
 - c. any comments from the BOR and Native American tribes on the draft Evaluation Report;
 - d. the revised Evaluation Report;
 - e. the California SHPO's comments on Addendum Reports 2 and 3, the revised Evaluation Report, and the revised Historic Properties Treatment Plan;
 - f. all additional cultural resources survey reports for denied access areas and any additional areas requiring survey, evaluation reports, and any necessary treatment plans as well documentation that these reports and plans were submitted to the SHPO(s); the BLM; the BOR; the FWS, Cibola NWR; and Native American tribes, as applicable;

- g. any comments of the SHPO(s); the BLM; the BOR; the FWS, Cibola NWR; and Native American tribes, as applicable, on all additional cultural resources reports and plans;
- h. the CSLC reviews and approves all cultural resources reports and plans prepared for the California portion of the Project and notifies North Baja in writing that construction may proceed;
- i. the ACHP is afforded an opportunity to comment, if historic properties would be adversely affected; and
- j. the Director of OEP reviews and approves all applicable cultural resources reports and plans and notifies North Baja in writing that treatment plans/mitigation measures may be implemented or construction may proceed.

All material filed with the FERC containing location, character, and ownership information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: "CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE."

4.11.7 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on cultural resources identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.12 AIR QUALITY

4.12.1 Significance Criteria

An adverse impact on air quality would be considered significant and would require mitigation if Project construction or operation would:

- conflict with or obstruct implementation of an applicable air quality or attainment plan;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- expose the public (especially schools, day care centers, hospitals, retirement homes, convalescence facilities, and residences) to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to one in a million and/or a hazard index (non-cancerous risk) greater than or equal to 0.1;
- impair air quality in a mandatory Class I Federal area; or
- create objectionable odors affecting a substantial number of people or affecting a lesser number of people for a substantial duration.

4.12.2 Existing Air Quality

Climatic conditions in the Palo Verde Valley and the Imperial Valley, which include the entire Project area, are governed by the large-scale sinking and warming of air in the semi-permanent subtropical high-pressure center of the Pacific Ocean. The coastal mountains prevent the intrusion of cool, damp marine air, which results in the Palo Verde and Imperial Valleys experiencing clear skies, low humidity, extremely hot summers, and mild winters. Moderate winds and deep thermal convection are produced by the flat terrain of the valleys and the strong temperature differentials created by intense solar heating. The combination of subsiding air, protective mountains, and distance from the ocean all combine to severely limit precipitation. Rainfall is highly variable and usually amounts to less than 2 inches annually. Occasionally, heavy storms can produce rainfall that exceeds the annual average.

National Ambient Air Quality Standards and Background Air Quality

Ambient air quality is protected by Federal, State, and local regulations. The EPA has established National Ambient Air Quality Standards (NAAQS) for criteria pollutants for the purpose of protecting human health (primary standards) and public welfare (secondary standards). These criteria pollutants are: nitrogen dioxide (NO₂), carbon monoxide (CO), ozone, SO₂, lead (Pb), PM₁₀, and PM_{2.5}.

The EPA established designations for a new 8-hour ozone standard, which are now in effect while the 1-hour ozone standard was revoked on June 15, 2005 in most areas, including the Project area. In addition to the Federal NAAQS, State ambient air quality standards have been established for Arizona and California. The Arizona ambient air quality standards are the same as the Federal standards.

California has adopted ambient air quality standards that are stricter than the Federal standards with the exception of the 8-hour CO standard.

The existing ambient air concentrations in the Project area were evaluated by reviewing representative air monitoring data from Imperial County and Riverside County monitoring locations in the Salton Sea and Mojave Desert Air Basins for the years 2003 through 2005. Table 4.12.2-1 lists the Federal and State ambient air quality standards and the background values estimated for each of the pollutants and averaging periods. These monitoring data show that the existing ambient air concentrations for ozone, PM₁₀, and PM_{2.5} are above the Federal and State ambient air quality standards while the concentrations for Pb, NO₂, and SO₂ are below the Federal and State ambient air quality standards. CO ambient concentrations are below the Federal standards for both the 1-hour and 8-hour averaging periods. However, the 1-hour CO concentration exceeds the State ambient air quality standard.

TABLE 4.12.2-1					
Federal and State Air Quality Standards and Existing Air Quality in the Project Area					
Pollutant	Averaging Period	Federal/Arizona Primary Standards	Federal/Arizona Secondary Standard	California Standards	Highest Background Values ^a
O ₃	1 Hour	-	Same as Primary	0.09 ppm	0.159 ppm ^b
	8 Hour	0.08 ppm		0.070 ppm	0.127 ppm ^c
PM ₁₀	24 Hour	150 µg/m ³	Same as Primary	50 µg/m ³	227 µg/m ^{3b}
	Annual AM ^d	50 µg/m ³		20 µg/m ³	75 µg/m ^{3d}
PM _{2.5}	24 Hour	65 µg/m ³	Same as Primary	-	77 µg/m ^{3e}
	Annual AM	15 µg/m ³		12 µg/m ³	24.8 µg/m ^{3d}
Pb	Quarter	1.5µg/m ³	Same as Primary	1.5 µg/m ³	0.02 µg/m ^{3d}
CO	1 Hour	35 ppm	None	10 ppm	12.4 ppm ^b
	8 Hour	9 ppm		9.0 ppm	8.6 ppm ^b
NO ₂	1 Hour	-	Same as Primary	0.25 ppm	
	Annual AM	0.053 ppm		-	0.022 ppm ^d
SO ₂	1 Hour	-	-	0.25 ppm	
	3 Hour	-	0.5 ppm	-	
	24 Hour	0.14 ppm	-	0.04 ppm	0.015 ppm ^b
	Annual AM	0.030 ppm	-	-	
^a Background value is the highest value reported by the EPA for the years 2003 through 2005 for monitors located in Imperial County and Riverside County. ^b Second highest value. ^c Fourth highest value. ^d Arithmetic mean. ^e 98th percentile value. O ₃ = ozone PM ₁₀ = particulate matter having an aerodynamic diameter less than or equal to 10 microns PM _{2.5} = particulate matter having an aerodynamic diameter less than or equal to 2.5 microns Pb = lead CO = carbon monoxide NO ₂ = nitrogen dioxide SO ₂ = sulfur dioxide NA = No data available ppm = parts per million Note: The lead standard for California is a 30-day averaging period.					

Air Quality Control Regions (AQCRs) and Attainment Status

The AQCRs were established by the EPA and local agencies, in accordance with section 107 of the Clean Air Act (CAA), as a means to implement the CAA and comply with the NAAQS through State Implementation Plans (SIPs). The AQCRs are intra- and interstate regions such as large metropolitan areas where the improvement of the air quality in one portion of the AQCR requires emission reductions throughout the AQCR. Each AQCR, or portion thereof, is designated as attainment, unclassifiable, maintenance, or nonattainment for the NAAQS. The designations are based on compliance with the NAAQS. Areas where the ambient air pollutant concentration is determined to be below the applicable ambient air quality standard are designated attainment. Areas where no data are available are designated unclassifiable. Areas where the ambient air concentration is greater than the applicable ambient air quality standard are designated nonattainment. Areas that have been designated nonattainment but have since demonstrated compliance with the ambient air quality standard(s) are designated maintenance for that pollutant. Maintenance areas are treated similarly to attainment areas for the permitting of stationary sources; however, specific provisions may be incorporated through the State's approved maintenance plan to ensure that the air quality would remain in compliance with the ambient air quality standard(s) for that pollutant.

La Paz County, Arizona is designated as attainment or unclassifiable for all criteria pollutants. Portions of Riverside and Imperial Counties that are within the Project area are designated as nonattainment for ozone and PM₁₀ and attainment for all other criteria pollutants including PM_{2.5}.

4.12.3 Regulatory Requirements

The proposed Project is potentially subject to a variety of Federal, State, and local regulations pertaining to the construction or operation of air emission sources. The CAA, 42 USC 7401 et seq., as amended in 1977 and 1990, and Title 40 CFR Parts 50 through 99 are the basic Federal statutes and regulations governing air pollution in the United States. The ADEQ is the governing agency for the portion of the Project that passes through La Paz County, Arizona. The Mojave Desert Air Quality Management District (AQMD) and the ICAPCD are the governing agencies for the portions of the Project within California.

The North Baja Pipeline Expansion Project would involve modifications at the existing Ehrenberg Compressor Station, El Paso Meter Station, and Ogilby Meter Station to allow northbound flow of natural gas. The Project would also involve the construction of 127.6 miles of natural gas pipeline, 2 meter stations, 13 valves, 4 pig launchers, 5 pig receivers, and 3 taps and crossover piping. Except for the construction equipment and activities associated with building these facilities, there would be no air emissions generated by these aboveground or pipeline facilities (i.e., no emissions would occur during operation).

Federal Air Quality Requirements

Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR) – Ambient air quality is protected by the EPA's PSD and Nonattainment NSR programs. The PSD regulations apply to new major stationary sources or major modifications to stationary sources located in attainment areas. The Nonattainment NSR regulations apply to new or modified stationary sources located in nonattainment areas. The PSD regulations, as codified in Title 40 CFR Part 52.21, define a major source or major modification as:

- a source with a potential-to-emit (PTE) of more than 100 tons per year (tpy) of any criteria pollutant for a facility that is one of the 28 industrial source categories listed in Title 40 CFR Part 52.21(b)(1)(i)(a);
- a source with a PTE of more than 250 tpy of any criteria pollutant for a facility that is not one of the 28 industrial source categories listed in Title 40 CFR Part 52.21(b)(1)(i)(a);
- a modification to an existing major source that results in a net emissions increase greater than the PSD significant emission rate specified in Title 40 CFR Part 52.21 (b)(23)(i); or
- an existing minor source proposing a modification that is major by itself.

One of the factors considered in the PSD permit review processes is potential impacts on protected Class 1 Federal areas. If a project is located within 100 kilometers of a Federal Class I area, additional modeling analysis may be required to determine the potential impact on the area. The Nonattainment NSR/PSD requirements apply to stationary sources. The proposed Project would not have any stationary source emissions associated with the operation of the Project; therefore, the Project is not subject to the Nonattainment NSR/PSD requirements. Because the modifications at the existing Ehrenberg Compressor Station would not trigger PSD review, an air quality impact determination would not be required. Additionally, the Project would not be located within 100 kilometers of a Federal Class I area; therefore, additional modeling analysis would not be necessary and it can be concluded that the potential for the Project to impact air quality in any Federal Class 1 areas would be less than significant.

Other Federal regulations (e.g., the New Source Performance Standards, the National Emission Standards for Hazardous Air Pollutants, and Title V of the CAA) that only apply to stationary sources are not applicable as well.

Mobile Source Regulations – Title II of the CAA Amendments of 1990 contains provisions relating to highway and off-road mobile sources. Regulations aimed at reducing pollution from heavy-duty diesel engines, including marine and locomotive engines, that have been promulgated or proposed include:

- Title 40 CFR Parts 69, 80, and 86, Final Rule, Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements – This rule requires a reduction in emissions from on-road diesel engines and establishes sulfur limits for diesel fuel. Currently, the requirements are for new engines only and the standards will begin to take effect in model year 2007. Although the emissions standards are for new engines only, the reduced sulfur diesel fuel, which is required to have a sulfur content less than 0.05 percent (500 parts per million by weight [ppmw]), a limit that was lowered to 15 ppmw starting in June 2006, would also reduce particulate and sulfur oxides (SO_x) emissions from existing diesel engines.
- Title 40 CFR Parts 9 and 69 et al., Final Rule, Control of Emissions of Air Pollution from Non-road Diesel Engines and Fuel – This rule requires emissions reductions from non-road diesel engines by establishing emissions limits and sulfur content limits. This rule targets agricultural equipment, construction equipment, and other non-road diesel engines. As with the previous rule, the reduced sulfur fuel would lower emissions from existing diesel engines even though the emissions limits would only apply to new engines.

Both non-road and highway use vehicles and construction equipment used for the Project would be required to use the new low sulfur diesel fuel as soon as it is commercially available.

General Conformity Determination – The EPA promulgated the General Conformity Rule on November 30, 1993 in Volume 58 of the Federal Register Page 63214 (58 Federal Register 63214) to implement the conformity provision of Title I, section 176(c)(1) of the CAA. Section 176(c)(1) requires that the Federal government not engage, support, or provide financial assistance for licensing or permitting, or approving any activity not conforming to an approved CAA implementation plan.

The General Conformity Rule is codified in Title 40 CFR Part 51, Subpart W and Part 93, Subpart B, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*. The General Conformity Rule applies to all Federal actions except programs and projects requiring funding or approval from the DOT, the Federal Highway Administration, the Federal Transit Administration, or the Metropolitan Planning Organization. In lieu of a conformity analysis, these latter types of programs and projects must comply with the Transportation Conformity Rule promulgated by the DOT on November 24, 1993 (58 Federal Register 62197).

The General Conformity Rule applies to projects that are located in nonattainment or maintenance areas and evaluates the impacts of both direct and indirect emissions from a proposed project. Accordingly, in the draft EIS/EIR, the Project emissions evaluated in the conformity applicability analysis included those associated with the construction and operation of the pipeline, specifically those direct and indirect emissions occurring in designated nonattainment areas. No new direct operating emission sources are proposed as part of the project and therefore are not included in the general conformity review. Various commentors on the draft EIS/EIR, including the EPA, the SCAQMD, the ICAPCD, and the Border Power Plant Working Group, indicated that the Agency Staffs' definition of the proposed Project and its emissions is too limited in focus. As discussed in Section 1.1, these commentors assert that the supplies of LNG-source gas that would be transported on the North Baja system would have a higher WI compared to existing supplies and, therefore, the introduction of the LNG-source gas would increase emissions of NO_x in the SCAB. These commentors state that a full General Conformity analysis should be conducted that considers the indirect air quality impacts of the end use of the gas.

As the lead Federal agency responsible for authorizing the proposed Project, the FERC has identified the emissions that would result from the Project in accordance with the published definitions of "direct" and "indirect" emissions in Title 40 CFR Part 51.852/93.152 and the supplementary information provided in the EPA's final rule for *Determining Conformity of General Federal Actions to State or Federal Implementation Plans* contained in 58 Federal Register 63214. This Project definition is supported by the EPA's response to comments included in 58 Federal Register 63214 on the proposed rule.

The General Conformity Rule was proposed on March 15, 1993 (58 Federal Register 13836). The preamble to the proposed rule invited comments on two proposed definitions of indirect emissions – "inclusive" and "exclusive." As defined in the final General Conformity Rule (58 Federal Register 63214), "exclusive" indirect emissions are "emissions of a criteria pollutant or its precursors that: (1) are caused by the Federal action, but may occur later in time and/or may be further removed in distance from the action itself but are still reasonably foreseeable; and (2) the Federal agency can practicably control and will maintain control over due to a continuing program responsibility of the Federal agency." The EPA states that this definition was selected because it met the requirements of section 176(c) of the CAA and because it was consistent with the Transportation Conformity Rule, can be reasonably implemented, and best fits within the overall framework of the CAA. The inclusive definition (which was broader and did not include the second part of the exclusive definition) was not selected because: (1) the mitigation

measures required may not be enforceable; (2) it is not consistent with the Transportation Conformity Rule; (3) it would impose an unreasonable burden due to the large number of affected Federal actions; and (4) it establishes an overly broad role for the Federal government in attaining the NAAQS. Further, the exclusive definition requires Federal agencies to consider only those emissions over which, under their legal authorities, they can exercise and maintain practicable control and over which they have continuing program responsibilities.

The final General Conformity Rule further states that “the exclusive definition assures that Federal actions will meet the intent of section 176(c) and the States will retain the primary responsibility to attain and maintain the air quality standards.” Also, “a Federal agency has no responsibility to attempt to limit emissions that do not meet those tests, or that are outside the Federal agency’s legal control. Moreover, neither section 176(c) of the CAA nor this regulation requires that a Federal agency attempt to ‘leverage’ its legal authority to influence or control non-Federal activities that it cannot practicably control, or that are not subject to a continuing program responsibility, or that lie outside the agency’s legal authority.”

“Reasonably foreseeable” emissions are defined in the final General Conformity Rule as “projected future indirect emissions that are identified at the time the conformity determination is made; the location of such emissions is known and the emissions are quantifiable, as described and documented by the Federal agency based on its own information and after reviewing any information presented to the Federal agency.” An attempt to determine whether emissions from the end use of the natural gas delivered by the North Baja system are reasonably foreseeable for general conformity applicability identified several factors about the natural gas to be delivered by North Baja and the end use that are not known at this time. These factors include: (1) the precise WI of the natural gas to be delivered, other than it would meet the existing standards set by the CPUC for SoCalGas and SDG&E; (2) the sector of the SoCalGas market to which the gas would be delivered (no specific end users have been identified with the exception of the El Centro Generating Station in El Centro, California, which North Baja proposes to serve through a new lateral pipeline); (3) the ultimate character of the natural gas at the end user (the gas received by North Baja may be blended within the SoCalGas distribution system and the resultant WI of such blend is unknown); and (4) whether or not the gas would be consumed within the SCAB. The markets of North Baja’s shippers are not limited to the SCAB, and capacity constraints on the SoCalGas system would prevent all of the gas volumes proposed in Phase II from moving into SoCalGas’ system. Because the new supplies of North Baja’s shippers would compete with existing gas supplies, it is impossible to determine at this time where LNG-source gas would be burned, how much LNG gas would be burned, and (due to limited data) the extent of changes in NO_x emissions associated with the burning of LNG gas. Also, the final General Conformity Rule provides examples of actions not reasonably foreseeable. One of these examples includes the resulting emissions from the use of electric power. This example was considered not reasonably foreseeable because the emissions cannot be precisely located or quantified. Similarly, the emissions from the end use of natural gas are not reasonably foreseeable.

The EPA has noted that “the requirements of this final rule will apply only in nonattainment and maintenance areas, as proposed,” which is further supported in the June 5, 2006 EPA memorandum *Revision to General Conformity Applicability Questions and Answers*. This memorandum states “The purpose of this memorandum is to make you aware of a recent revision to our questions and answers (Q&A) document for the EPA's General Conformity regulations. Some questions have arisen concerning whether emissions generated outside a nonattainment area should be accounted when making a General Conformity determination for a Federal action. We are revising our Q&A document issued July 13, 1994, to clarify that only direct or indirect emissions originating in a nonattainment or maintenance area need to be analyzed for conformity with the applicable SIP.” The new guidance states that the EPA interprets this statutory amendment to mean that any direct and indirect emissions originating in an attainment or

unclassifiable area do not need to be analyzed for General Conformity purposes, even if such emissions may transport into a nonattainment or maintenance area.”

As supported by the General Conformity definitions, supplemental information, and subsequent guidance memos, the FERC has appropriately defined the Project’s direct and indirect emissions to be those associated with the construction and operation of the pipeline facilities in the nonattainment counties where the Project would be located. With respect to General Conformity, the Project does not include emissions associated with construction and operation of any portion of the Project in areas designated as attainment or unclassifiable, areas outside the United States, or areas where future end users of the gas are or would be located.

One segment of the Project is located in a serious PM₁₀ nonattainment area within Imperial County as well as a Subpart 2 marginal ozone nonattainment area in Imperial County. The Project does not include any nonattainment areas within Arizona and is not located within any maintenance areas. Relevant General Conformity regulations for the two jurisdictions with nonattainment areas include the ICAPCD Regulation IX, Rule 925, adopted on November 29, 1994; and the Mojave Desert AQMD Rule 2002, adopted on October 26, 1994. Rules 925 and 2002 were approved in revisions to both the California and Arizona SIPs in the Federal Register on April 23, 1999 (64 Federal Register 19916).

General Conformity assessments must be completed when the total direct and indirect emissions of a planned project would equal or exceed specified pollutant thresholds per year in each nonattainment area. With regard to the proposed Project, the relevant General Conformity pollutant thresholds are:

- PM₁₀: 70 tpy for projects located in serious nonattainment areas; or
- ozone precursors: 100 tpy of VOC or NO_x for projects located in ozone nonattainment areas that are not within an ozone transport region and are not classified as serious, severe, or extreme.

As discussed in Section 4.12.4, Project emissions would be below General Conformity thresholds; therefore, a general conformity determination is not required.

State Air Quality Requirements

Because there would be no stationary sources or operational emissions associated with the proposed Project, the stationary source permitting requirements of the California Air Resources Board (CARB), ADEQ, the Mojave Desert AQMD, and the ICAPCD do not apply.

Mobile source and fugitive dust regulations adopted by the CARB, the ADEQ, the Mojave Desert AQMD, and the ICAPCD do apply to the construction activities associated with the proposed Project. Table 4.12.3-1 lists the mobile source and fugitive dust/opacity regulations that apply to the Project. These requirements include EPA Reasonably Available Control Measures such as using wetting agents, dust suppressants, and other means to prevent particulates from becoming airborne. Permits are not required for pipeline construction emissions from any of the above-noted agencies.

TABLE 4.12.3-1

Mobile Source and Fugitive Emissions (Dust) Rules

Agency	Rule Number	Rule Description
California Air Resources Board	CCR Title 13 Division 3	Mobile Source Operational and Pollution Control Requirements
Arizona Department of Environmental Quality	R18-2-604	Construction fugitive dust limitations
	R18-2-605	Road construction fugitive dust limitations
	R18-2-606	Material handling fugitive dust limitations
	R18-02-607	Storage pile fugitive dust limitations
	R18-2-702	Visible emission limitations
	R18-2-802	Off-road machinery opacity limitations
	R18-2-804	Roadway and site clearing opacity limitations
Mojave Desert Air Quality Management District	401	Visible emission limitations
	402	Nuisance
	403	Fugitive dust control
Imperial County Air Pollution Control District	401	Visible emission limitations
	407	Nuisance
	800-805 (Regulation VIII)	Fugitive dust control rules

Although CO₂ is not a regulated pollutant, it is associated with greenhouse gas (GHG) emissions, along with other gases such as methane and chlorofluorocarbons. GHG emissions are vital to life on earth because they help to maintain ambient temperatures. However, excess GHG emissions augment this effect and are considered by many experts to contribute to overall global climatic changes, typically referred to as global warming. CO₂ emissions are a product of fossil fuel combustion and tropical forest destruction, which are human activities that contribute to global climatic changes. Large quantities of GHG emissions would decrease the amount of infrared or heat energy radiated by the earth back to space and upset the heat balance. Global warming may ultimately contribute to a rise in sea level, destruction of estuaries and coastal wetlands, and changes in regional temperature and rainfall pattern, with significant agricultural and coastal community implications.

4.12.4 Air Emission Impacts and Mitigation

Construction activities for the proposed facilities (including the pipeline) would take place in the following four sequences: site preparation/trenching; foundation work; installation of equipment, structures, and pipeline; and right-of-way/site restoration. The anticipated construction periods for the various components of the proposed Project are described in Section 2.4. As discussed in Section 2.4, construction of Phase I would occur over a 2- to 4-month period in 2007, construction of Phase I-A would occur over a 2- to 4-month period in 2008 and 2009, and construction of Phase II would occur over a 4- to 6-month period in 2009. The construction activities that would generate emissions include land clearing, ground excavation, and cut and fill operations. These construction activities would occur 6 days per week for up to 12 hours per day during the construction periods. The intermittent and short-term emissions generated by these activities would include dust from soil disruption and combustion emissions from the construction equipment. Emissions associated with construction equipment include PM₁₀, PM_{2.5}, NO₂, CO, volatile organic compounds (VOC), SO₂, and small amounts of air toxics. These emissions could result in minor, temporary impacts on air quality in the vicinity of pipeline installation. Table 4.12.4-1 lists the estimated emissions of these criteria pollutants that would be generated by construction of the proposed Project facilities by year of construction in attainment and nonattainment areas.

TABLE 4.12.4-1						
Estimated Emissions of Criteria Pollutants from Project Construction by Year						
Source Category	PM ₁₀ (tons)	PM _{2.5} (tons)	NO _x (tons)	CO (tons)	SO _x (tons)	VOC (tons)
2007/Arrowhead Extension/Riverside County/Attainment Area						
Construction Equipment ^a	0.43	0.39	8.19	3.27	1.52	0.76
Fugitive Dust	4.82	0.60	0.00	0.00	0.00	0.00
Commuter Traffic	0.00	0.00	0.01	0.05	0.00	0.01
Delivery Vehicles	0.01	0.01	0.66	0.25	0.00	0.04
<i>2007 Attainment Area Total</i>	<i>5.26</i>	<i>1.00</i>	<i>8.86</i>	<i>3.57</i>	<i>1.52</i>	<i>0.81</i>
2008/IID Lateral/Imperial County/Nonattainment Area						
Construction Equipment ^a	0.44	0.40	8.41	3.36	1.57	0.77
Fugitive Dust	31.76	4.77	0.00	0.00	0.00	0.00
Commuter Traffic	0.01	0.01	0.17	1.61	0.00	0.17
Delivery Vehicles	0.17	0.16	9.21	2.57	0.13	0.45
<i>2008 Nonattainment Area Total</i>	<i>32.38</i>	<i>5.34</i>	<i>17.79</i>	<i>7.54</i>	<i>1.70</i>	<i>1.39</i>
2009/IID Lateral/Imperial County/Nonattainment Area						
Construction Equipment ^a	0.05	0.05	1.04	0.41	0.19	0.10
Fugitive Dust	3.93	0.59	0.00	0.00	0.00	0.00
Commuter Traffic	0.00	0.00	0.02	0.20	0.00	0.02
Delivery Vehicles	0.02	0.02	1.14	0.32	0.02	0.06
2009/ B-Line/Imperial County/Nonattainment Area						
Construction Equipment ^a	1.21	1.11	22.37	9.22	4.13	2.13
Fugitive Dust	47.87	9.22	0.00	0.00	0.00	0.00
Commuter Traffic	0.01	0.01	0.10	0.93	0.00	0.10
Delivery Vehicles	0.18	0.17	9.40	6.19	0.01	0.88
<i>2009 Nonattainment Area Total</i>	<i>53.27</i>	<i>11.17</i>	<i>34.07</i>	<i>17.27</i>	<i>4.35</i>	<i>3.29</i>
2009/B-Line/Riverside County/Attainment Area						
Construction Equipment ^a	0.91	0.84	16.92	6.97	3.12	1.61
Fugitive Dust	36.21	6.98	0.00	0.00	0.00	0.00
Commuter Traffic	0.00	0.00	0.08	0.70	0.00	0.08
Delivery Vehicles	0.13	0.13	7.11	4.69	0.01	0.67
2009/B-Line/Imperial County/Attainment Area						
Construction Equipment ^a	1.01	0.93	18.67	7.69	3.44	1.78
Fugitive Dust	39.94	7.69	0.00	0.00	0.00	0.00
Commuter Traffic	0.01	0.00	0.08	0.77	0.00	0.08
Delivery Vehicles	0.15	0.14	7.84	5.17	0.01	0.74
<i>2009 Attainment Area Total</i>	<i>78.36</i>	<i>16.71</i>	<i>50.70</i>	<i>25.99</i>	<i>6.58</i>	<i>4.96</i>
^a Construction equipment emissions include both on- and non-road construction equipment.						

Emissions from construction of the pipeline and aboveground facilities are not expected to cause or significantly contribute to a violation of an applicable ambient air quality standard or contribute substantially to an existing or projected air quality violation because the construction equipment would be operated on an as-needed basis during daylight hours only and the emissions from gasoline and diesel engines would be minimized because the engines must be built to meet the standards for mobile sources established by the EPA. Most of the construction equipment would be powered by diesel engines and would be equipped with typical control equipment (e.g., catalytic converters), and Project-related vehicles and construction equipment would be required to use the new low sulfur diesel fuel as soon as it is

commercially available. In addition, North Baja would implement the following measures to minimize impacts on air resources.

- minimize idling time for diesel equipment whenever possible;
- ensure that diesel-powered construction equipment is properly tuned and maintained, and shut off when not in direct use;
- prohibit engine tampering to increase horsepower;
- use California Air Resources Board-certified low sulfur diesel fuel (less than 15 parts per million); and
- reduce construction-related trips as feasible for workers and equipment, including trucks.

Fugitive dust emissions (e.g., PM₁₀) would depend on the moisture content and texture of the soils that would be disturbed. The construction emissions would vary from day to day depending on the level of activity, the specific operations, and prevailing weather. The fugitive dust emissions due to construction activities on the pipeline segments as listed in Table 4.12.4-1 were estimated using an uncontrolled emission factor of 0.11 tons/acre-month based on a study conducted for the SCAQMD by the Midwest Research Institute (1996). Typically, the emission factor in the EPA's AP-42 *Compilation of Air Pollutant Emission Factors* is used; however, the Agency Staffs used the more relevant SCAQMD factor.⁶ The emission factor for estimating fugitive dust from unpaved roads is based on empirical equations that include several factors, including silt content of the soil, average vehicle weight, and surface moisture content under natural conditions. The equation for estimating the emission factor for unpaved roads is found in AP-42, Section 13.2.2. The calculated emission factor for unpaved roads includes an assumed average silt content of 25 percent (average value derived from the Eastern Imperial County and Eastern Riverside County soil survey data), an average vehicle weight of 4.3 tons, and a surface soil moisture content of 1 percent. The number of days with measurable rain (greater than 0.01 inch) is also taken into account. The emissions estimate for worker travel (commuter traffic) includes the use of multi-passenger vehicles to transport construction workers from central staging areas.

Fugitive dust generated by construction activities would be minimized by the implementation of North Baja's Dust Control Plan (see Appendix L). The Dust Control Plan includes control measures identified as best management practices by some of the regulating agencies. The measures that would be implemented include:

- take every reasonable precaution to minimize fugitive dust emissions from construction activities;
- take every reasonable measure to limit visible density (opacity) of emissions to less than or equal to 20 percent;
- apply water one or more times per day to all affected unpaved roads, and unpaved haul and access roads;
- reduce vehicle speeds on all unpaved roads, and unpaved haul and access roads;

⁶ The Mojave Desert AQMD has not developed its own emission factor.

- clean up track-out and/or carry-out areas at paved road access points at a minimum of once every 48 hours;
- if bulk transfer operations are required, spray handling and transfer points with water at least 15 minutes before use;
- cover all haul truck loads, or maintain at least 6 inches of freeboard space in each cargo compartment. Ensure that all haul truck cargo compartments are constructed and maintained to minimize spillage and loss of materials, and clean or wash each cargo compartment at the delivery site after removal of the bulk materials;
- apply water to active construction areas to limit visible density (opacity) of emissions to less than or equal to 20 percent;
- apply water to open and/or unvegetated areas to limit visible density (opacity) of emissions to less than or equal to 20 percent; and
- for temporary surfaces during periods of inactivity, restrict vehicular access by means of either fencing or signage, and apply water to comply with the stabilized surface requirements.

Although many of these measures clearly specify the performance requirement, some of the measures are vague and open to interpretation and, consequently, would be difficult to enforce during construction. Therefore, **the Agency Staffs recommend that:**

- **North Baja shall prepare a revised Project-wide Dust Control Plan that specifies the following:**
 - a. **the precautions that would be taken to minimize fugitive dust emissions from construction activities;**
 - b. **the measures that would be taken to limit visible density (opacity) of emissions to less than or equal to 20 percent;**
 - c. **how visual density would be measured to determine that it is less than or equal to 20 percent;**
 - d. **how compliance with the 20 percent visual density requirement would be documented;**
 - e. **the individuals with authority to determine if/when water needs to be reapplied for dust control;**
 - f. **the speed limit that would be required on unpaved roads and unpaved haul and access roads; and**
 - g. **the individuals with authority to stop work if the contractor does not comply with dust control measures.**

The revised Project-wide Dust Control Plan shall be filed with the FERC and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC before construction.

In its comments on the draft EIS/EIR, the ICAPCD noted that North Baja's Dust Control Plan does not meet the Best Available Control Measures of the ICAPCD's Regulation VIII with regard to clean up of track-out areas. The ICAPCD also noted that additional track-out control devices and further dust control measures must be utilized if construction vehicle trips per day exceed the thresholds established in Regulation VIII. The ICAPCD asked that traffic at unpaved to paved intersections be quantified in the Dust Control Plan and the Dust Control Plan modified accordingly. To address the ICAPCD's comments on the draft EIS/EIR, **the Agency Staffs recommend that:**

- **North Baja shall prepare an Imperial County-specific Dust Control Plan that includes the measures of the revised Project-wide Dust Control Plan and meets the requirements of the ICAPCD's Regulation VIII. The Imperial County-specific Dust Control Plan shall be filed with the CSLC for the review and written approval of the Executive Officer of the CSLC before construction of the Imperial County portions of Phase I-A and Phase II.**

As discussed in Section 4.8.5, in their comments on the draft EIS/EIR, the EPA and the ICAPCD expressed concern about the generation of fugitive dust emissions associated with OHV use of the right-of-way and commented that North Baja's OHV Plan did not address enforcement and future monitoring of the proposed OHV blocking measures. In Section 4.8.5, the Agency Staffs have recommended that North Baja file a revised OHV Plan that addresses enforcement and future monitoring with the FERC and the CSLC before construction.

With the implementation of the Agency Staffs' recommendations, fugitive dust from Project construction activities and OHV use of the right-of-way is not expected to result in a violation of Federal or State ambient air quality standards or contribute substantially to an existing or projected air quality violation due to the transient and temporary nature of the construction activities. Further, all activities would be done in compliance with each agency's rules and regulations.

Construction of the Project would generate emissions of non-regulated GHG. CO₂ would be formed as a primary product of combustion of the diesel and gas engines used to power construction equipment and vehicles.

None of the proposed facilities would result in increased air emissions of criteria pollutants during operation; however, emissions of GHG could occur. Direct releases of methane could occur as a result of pipeline repair or maintenance operations. These releases would be infrequent over the lifetime of the Project and would likely involve only an isolated section of pipeline resulting in a negligible increase in GHG emissions.

The gas transported on the North Baja system to SoCalGas would be odorized by SoCalGas using its existing odorant facilities. Therefore, the Project would not create objectionable odors that would affect a substantial number of people or affect a lesser number of people for a substantial duration.

During the scoping process, the ICAPCD commented that the Mexican standards for gas quality and the WI are inadequate to protect air quality in the United States and requested that a comparison of the U.S. and Mexican standards be provided. In comments on the draft EIS/EIR, the EPA, the SCAQMD, the ICAPCD, and the Border Power Plant Working Group expressed concern that the supplies of LNG-source gas that would be transported on the North Baja system would have a higher WI compared to

existing supplies. These commentors assert that the introduction of the LNG-source gas would potentially increase emissions of NO_x in the SCAB, directly affecting air quality and making attainment of the Federal air quality standards more difficult. Some of the commentors requested that the FERC and the CSLC impose an upper limit on the WI for the gas received into North Baja's system and urged the Project approval to be conditioned upon the treatment of the gas prior to its delivery into the SCAB. Section 1.1 presents a detailed discussion of the current gas quality standards applicable to the SoCalGas and SDG&E systems.

The Agency Staffs have also concluded that they do not have legal authority to control nor do they have continuing program responsibility over the construction and operation of facilities located in Mexico (see Section 1.4). These upstream facilities are subject to the Mexican environmental regulatory review process and standards. However, in response to scoping comments, the air quality impacts on the United States from the associated upstream facilities are addressed in the cumulative impact analysis in Section 4.15.

4.12.5 Health Risk Assessment

A Health Risk Assessment was not conducted for the proposed Project because it would not result in increased operational emissions. Therefore, the potential for the Project to expose the public to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to one in a million and/or a hazard index (non-cancerous risk) greater than or equal to 0.1, would be less than significant.

A Health Risk Assessment was conducted to address the cumulative impacts associated with nonjurisdictional upstream facilities (see Section 4.15).

4.12.6 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on air quality identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.13 NOISE

4.13.1 Significance Criteria

An adverse impact on environmental noise levels would be considered significant and would require mitigation if Project construction or operation would cause:

- exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;
- substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project; or
- substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.

4.13.2 Existing Noise Levels

At any location, both the magnitude and frequency of environmental noise may vary considerably over the course of the day and throughout the week. This variation is caused in part by changing weather conditions and the effects of seasonal vegetative cover and human activity. Federal agencies use two measures to relate the time-varying quality of environmental noise to its known effect on people. The $L_{eq(24)}$ is the level of steady sound with the same total (equivalent) energy as the time-varying sound of interest, averaged over a 24-hour period. A second measure, the day-night equivalent sound level (L_{dn}) is calculated by adding 10 decibels on the A-weighted scale (dBA) to the nighttime sound levels between the hours of 10 PM and 7 AM to account for the greater sensitivity of people to sound during the nighttime hours. The A-weighted scale is used because human hearing is less sensitive to low and high frequencies than mid-range frequencies. The human ear's threshold of perception for noise change is 3 dBA.

The Project would occur primarily in rural range, desert, and agricultural areas. Noise sources in rural areas are predominantly natural, including insects, birds, wind, and weather. Accordingly, existing ambient noise levels near most of the pipeline routes are low. Background noise levels in wilderness and rural areas typically range between 35 dBA and 45 dBA (L_{dn}). The primary sources of noise in the rural residential and agricultural areas are roadway traffic and farm machinery on a seasonal basis. Background noise levels are approximately 40 dBA in rural residential areas and 45 dBA in agricultural cropland with equipment operating (FERC 2002, EPA 1978).

Noise-sensitive areas (NSAs) include residences, schools and day care facilities, hospitals, long-term care facilities, places of worship, libraries, and parks and recreational areas specifically known for their solitude and tranquility such as wilderness areas. The majority of the pipeline and aboveground facilities would be located in areas with little to no human population and few NSAs.

The existing Ehrenberg Compressor Station is considered a noise-generating facility. Principal noise sources at the compressor station include the air inlet, exhaust, and casing of the engines. Secondary noise sources include cooling fans, yard piping, and valves. Post-construction noise compliance testing after the Ehrenberg Compressor Station was constructed and placed into service confirmed that noise levels at nearby NSAs were below the FERC's limitation of 55 dBA L_{dn} with the

power turbines for all three compressors operating simultaneously at maximum horsepower. The proposed modifications at the existing Ehrenberg Compressor Station would not increase operational noise levels at the station.

4.13.3 Regulatory Requirements

The FERC guidelines do not specifically cover operational noise for the North Baja Pipeline Expansion Project aboveground facilities such as the meter stations, pig launchers, or pig receivers. Neither the States of Arizona nor California have Statewide noise regulations that would limit noise from these facilities; noise is regulated at the local level in both States.

In 1974, the EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA 1974). This publication evaluates the effects of environmental noise with respect to health and safety, and provides information for State and local governments to use in developing their own ambient noise standards. The EPA has determined that in order to protect the public from activity interference and annoyance outdoors in residential areas, noise levels should not exceed an L_{dn} of 55 dBA. An L_{dn} of 55 dBA is equivalent to a continuous noise level of 48.6 dBA for facilities that operate at a constant level of noise. The FERC has adopted the EPA guidelines.

The State of California does not promulgate Statewide standards for environmental noise but requires each county to include a noise element in its general plan (California Government Code section 65302[f]). In addition, Title 4 of the California Code of Regulations has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure.

The La Paz County, Arizona Department of Community Development has approved a nuisance ordinance that prohibits any actions that are “offensive to the senses.” No numerical standards for noise exist in the county. Imperial and Riverside Counties have community-based noise standards, which are implemented in the specific general plans for each region.

Chapter 7 of the Riverside County General Plan contains a noise element that sets the basic community standards for noise levels and allowable impacts from a wide range of commercial and industrial activities, including construction noise. The Riverside County noise element identifies construction noise as a temporary impact and establishes a set of policies to deal with noise mitigation during construction activities. These policies are identified as N12.1, N12.2, and N12.4. These policies are in large part related to land use because of the effects of noise on sensitive land uses. Stationary source land use noise standards for Riverside County are presented in Table 4.13.3-1 (Riverside County 2003).

TABLE 4.13.3-1		
Stationary Source Land Use Noise Standards for Riverside County		
Land Use	Interior Standards ^a	Exterior Standards ^a
Residential		
10:00 PM to 7:00 AM	40 L_{eq} (10 minute)	45 L_{eq} (10 minute)
7:00 AM to 10:00 PM	55 L_{eq} (10 minute)	65 L_{eq} (10 minute)
^a L_{eq} (10 minute) = average noise level over a 10-minute period expressed in dBA.		

The Imperial County General Plan also contains a community noise element that specifies the basic standards for acceptable noise levels from operational- (stationary) or construction-related sources as shown in Table 4.13.3-2.

TABLE 4.13.3-2				
Noise Standards for Imperial County				
Operation Noise Standards				
Land Use Zone	Time	Applicable Limit Average Sound Level (dB)		
Residential Zones	7 AM to 10 PM	50		
	10 PM to 7 AM	45		
Multi-residential Zones	7 AM to 10 PM	55		
	10 PM to 7 AM	50		
Commercial Zone	7 AM to 10 PM	60		
	10 PM to 7 AM	55		
Light Industrial/Industrial Park Zones	Anytime	70		
General Industrial Zones	Anytime	75		
Construction Noise Standards				
Duration of Construction	Noise Source	Sound Level (dB Leq) ^a	Period of Averaging (hours)	Restricted Hours of Operation
Short-term (days or weeks)	Single piece of construction equipment	75	8	7 AM to 7 PM Monday-Friday
				9 AM to 5 PM Saturday
				No commercial construction operation is permitted on Sundays and holidays.
Short-term (days or weeks)	Combination of pieces of construction equipment	75	8	7 AM to 7 PM Monday-Friday
				9 AM to 5 PM Saturday
				No commercial construction is permitted on Sundays and Holidays
Extended-term ^b	Single piece of construction equipment	75	1	7 AM to 7 PM Monday-Friday
				9 AM to 5 PM Saturday
				No commercial construction is permitted on Sundays and Holidays
Extended-term ^b	Combination of pieces of construction equipment	75	1	7 AM to 7 PM Monday-Friday
				9 AM to 5 PM Saturday
				No commercial construction is permitted on Sundays and Holidays
^a As measured at the nearest sensitive receptor.				
^b The standards assume a construction period, relative to an individual sensitive receptor, of days or weeks. The standard can be made more restrictive in cases of extended-length construction times.				
dB = decibel				
Source: County of Imperial General Plan Noise Element 1997c.				

4.13.4 Noise Level Impacts and Mitigation

Construction Noise

Noise would be generated during construction of the pipeline and aboveground facilities. Noise associated with construction activities would be both temporary and intermittent because equipment would be operated on an as-needed basis during daylight hours. Therefore, the potential for construction

activities to result in the generation of or exposure of persons to excessive ground-borne vibration or ground-borne noise levels would be less than significant.

The most prevalent sound source during construction is anticipated to be the internal combustion engines used to provide mobility and operating power to construction equipment. The sound level impacts at NSAs from construction operations would depend on the type of equipment used, the mode of operation of the equipment, the length of time the equipment is in use, the amount of equipment used simultaneously, and the distance between the sound source and sensitive site. All of these factors would constantly change throughout the construction period, making the calculation of an L_{dn} or L_{eq} and, hence, the quantification of impacts difficult. Table 4.13.4-1 presents generalized data on construction noise at typical construction sites and its potential impacts on receptors at specified distances from the construction corridor. In general, receptors at distances greater than 1,650 feet should not experience noise levels above the community standards, and receptors closer than 1,650 feet should only experience noise levels above the community standards on an intermittent basis during daylight hours.

TABLE 4.13.4-1					
Typical Noise Levels from Construction Equipment and Operations					
Equipment Type	Measured Noise Level at 50 feet (dBA)	Predicted Noise Level at 500 feet (dBA)	Predicted Noise Level at 1,000 feet (dBA)	Predicted Noise Level at 2,000 feet (dBA)	Predicted Noise Level at 3,000 feet (dBA)
Crane	88	68	62	56	52
Backhoe	85	65	59	53	49
Pan Loader	87	67	61	55	51
Bulldozer	89	69	63	57	53
Fuel Truck	88	68	62	56	52
Water Truck	88	68	62	56	49
Grader	85	65	59	53	44
Roller	80	60	54	48	52
Mechanic Truck	88	68	62	56	52
Flat Bed Truck	88	68	62	56	52
Dump Truck	88	68	62	56	52
Tractor	80	60	62	56	44
Concrete Truck	86	66	60	54	50
Concrete Pump	82	62	56	50	46
Front End Loader	83	63	57	51	47
Scraper	87	67	61	55	51
Air Compressor	82	62	56	50	46
Average Construction Site	85	66	59	53	49

dBA = decibels of the A-weighted scale.

Pipeline construction would proceed at rates averaging about 1 mile per day. However, construction activities in any one area could last from several weeks to several months on an intermittent basis. Construction equipment would be operated on an as-needed basis during this period. Nighttime construction noise would be limited to HDDs at the Colorado River, All-American Canal, and the East Highline Canal crossings; hydrostatic testing activities; and bores under major highways or railroads. In some cases, these operations could require 24-hour work days; however, the duration of activities would be generally less than several days at road or railroad crossings although they could extend for up to 2 weeks at the HDD crossings. Hydrostatic testing would be limited to one 24-hour interval at four to five scattered locations.

Although certain noise-generating activities associated with pipeline construction (e.g., HDDs and bore operations) would occur at a single location for extended time periods and include nighttime activities, most activities would occur for limited lengths of time at a specific location and would occur during daytime hours. Additionally, a majority of the activities would occur away from population centers; therefore, the potential for the Project to result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project would be less than significant.

North Baja would comply with the noise elements included in the Riverside County and Imperial County General Plans; therefore, the potential for the Project to result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies would be less than significant.

Operational Noise

During operation, there may be short-term noise impacts from aboveground facilities due to vehicles and equipment performing routine maintenance. A more intense noise impact would result from the infrequent blowdowns at the valves that would be located at Blythe and Ogilby, the El Centro Meter Station, and the Ehrenberg Compressor Station. Blowdowns involve the evacuation of gas, which enables piping to be taken out of service, typically for major repairs or maintenance. Blowdowns occur only on rare occasions; therefore, the noise impacts would be infrequent and temporary. As an example, no blowdowns have occurred on North Baja's existing system since it was placed in service 4 years ago. Despite the infrequency of blowdowns, in residential areas, North Baja would install silencers to reduce noise levels. In the event of a blowdown, nearby residences would be notified in advance if possible and North Baja would provide traffic control along public roadways near the blowdown location as needed. The proposed modifications at the Ehrenberg Compressor Station would not increase noise at the station during operation. Because the Project would not result in significant operational noise levels, the potential for the Project to result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project would be less than significant.

4.13.5 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on noise levels identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.14 RELIABILITY AND SAFETY

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas. The greatest hazard is a fire or explosion following a major pipeline rupture.

Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death.

Methane has an ignition temperature of 1,000 °F and is flammable at concentrations between 5 percent and 15 percent in air. Unconfined mixtures of methane in air are not explosive. However, a flammable concentration within an enclosed space in the presence of an ignition source can explode. It is buoyant at atmospheric temperatures and disperses rapidly in air.

4.14.1 Significance Criteria

An adverse impact on public safety would be considered significant and would require mitigation if Project construction or operation would:

- result in a substantial potential for incidents that would cause serious injury or death to members of the public;
- substantially diminish the level of fire and police services (reduction of acceptable response times);
- impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- significantly increase fire hazard in areas with flammable materials.

4.14.2 Safety Standards

The DOT is mandated to provide pipeline safety under Title 49, USC Chapter 601. The Pipeline and Hazardous Materials Safety Administration's (PHMSA), Office of Pipeline Safety (OPS) administers the national regulatory program to ensure the safe transportation of natural gas and other hazardous materials by pipeline. It develops safety regulations and other approaches to risk management that ensure safety in the design, construction, testing, operation, maintenance, and emergency response of pipeline facilities. Many of the regulations are written as performance standards that set the level of safety to be attained and allow the pipeline operator to use various technologies to achieve safety. The PHMSA ensures that people and the environment are protected from the risk of pipeline incidents. This work is shared with State agency partners and others at the Federal, State, and local level. Section 5(a) of the Natural Gas Pipeline Safety Act provides for a State agency to assume all aspects of the safety program for intrastate facilities by adopting and enforcing the Federal standards, while section 5(b) permits a State agency that does not qualify under section 5(a) to perform certain inspection and monitoring functions. A State may also act as the DOT's agent to inspect interstate facilities within its boundaries; however, the DOT is responsible for enforcement action. The majority of the States have either section 5(a) certifications or section 5(b) agreements, while nine States act as interstate agents. Both Arizona and California have section 5(a) certifications.

The DOT pipeline standards are published in Parts 190-199 of Title 49 of the CFR. Part 192 of Title 49 CFR specifically addresses natural gas pipeline safety issues.

Under a Memorandum of Understanding on Natural Gas Transportation Facilities (Memorandum) dated January 15, 1993 between the DOT and the FERC, the DOT has the exclusive authority to promulgate Federal safety standards used in the transportation of natural gas. Section 157.14(a)(9)(vi) of the FERC's regulations require that an Applicant certify that it will design, install, inspect, test, construct, operate, replace, and maintain the facility for which a Certificate is requested in accordance with Federal safety standards and plans for maintenance and inspection, or shall certify that it has been granted a waiver of the requirements of the safety standards by the DOT in accordance with section 3(e) of the Natural Gas Pipeline Safety Act. The FERC accepts this certification and does not impose additional safety standards other than the DOT standards. If the FERC becomes aware of an existing or potential safety problem, there is a provision in the Memorandum to promptly alert the DOT. The Memorandum also provides for referring complaints and inquiries made by State and local governments and the general public involving safety matters related to pipelines under the FERC's jurisdiction.

The FERC also participates as a member of the DOT's Technical Pipeline Safety Standards Committee, which determines if proposed safety regulations are reasonable, feasible, and practicable.

As part of the leasing process in California, the CSLC reviews pipeline projects to ensure that they are designed in compliance with applicable Federal and California standards, and that they reflect current geologic and seismic information. The CSLC's engineering and environmental review assesses both siting and safety issues, such as the location of the Project relative to seismic and populated areas, and the adequacy of the information contained in the Applicant's construction, operations, maintenance, and emergency response plans (e.g., proposed internal and external maintenance inspection processes, integrity testing methods to be applied, corrosion monitoring and testing and calibration of the cathodic protection system, leak monitoring, and emergency response plans and procedures). In determining whether or not to approve or amend a lease and/or certify the CEQA documentation for a project, the CSLC may consider if standards above the DOT minimum standards provided for in Title 49 CFR Part 192 are warranted in fault zone and populated areas, and may require additional safety measures, such as the installation of automatic shutoffs in these areas. For approved projects, the CSLC staff also reviews (for consistency with the CSLC's action on the lease) post-construction documentation, including "as-built" construction plans showing any design changes or other amendments to the project as approved, pipeline test results (e.g., smart pig and hydrostatic testing), and details of any extraordinary occurrences such as spill incidents and accidents.

The pipeline and aboveground facilities associated with the North Baja Pipeline Expansion Project would be designed, constructed, operated, and maintained in accordance with or to exceed the DOT Minimum Federal Safety Standards in Title 49 CFR Part 192 and the CPUC, General Order 112-E. These regulations, which are intended to protect the public and to prevent natural gas facility accidents and failures, include specifications for material selection and qualification; odorization of gas; minimum design requirements; and protection of the pipeline from internal, external, and atmospheric corrosion. To address seismic hazards, the facilities would be designed to meet or exceed the latest edition of the Uniform Building Code or International Building Code and to incorporate current seismological engineering standards, including the *Guidelines for the Design of Buried Steel Pipe* (American Lifelines Alliance 2001) and *Guidelines for the Seismic Design and Assessment of Natural Gas and Liquid Hydrocarbon Pipelines* (Pipeline Research Council International, Inc. 2004). In addition, North Baja's construction contractors would be required to comply with the OSHA Safety and Health Regulations for Construction in Title 29 CFR Part 1926.

The standards in the Federal regulations become more stringent as the human population density in the vicinity of the pipeline increases. Part 192 also defines area classifications, based on population density in the vicinity of the pipeline, and specifies more rigorous safety requirements for populated areas. The class location unit is an area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipeline. The four area classifications are as follows:

- Class 1 – Location with 10 or fewer buildings intended for human occupancy;
- Class 2 – Location with more than 10 but less than 46 buildings intended for human occupancy;
- Class 3 – Location with 46 or more buildings intended for human occupancy or where the pipeline lies within 100 yards of any building, or small well-defined outside area occupied by 20 or more people on at least 5 days a week for 10 weeks in any 12-month period; and
- Class 4 – Location where buildings with four or more stories aboveground are prevalent.

Class locations representing more populated areas require higher safety factors in pipeline design, testing, and operation. Pipelines constructed on land in Class 1 locations must be installed with a minimum depth of cover of 30 inches in normal soil and 18 inches in consolidated rock. Class 2, 3, and 4 locations, as well as drainage ditches of public roads and railroad crossings, require a minimum cover of 36 inches in normal soil and 24 inches in consolidated rock. All pipelines installed in navigable rivers, streams, and harbors must have a minimum cover of 48 inches in soil or 24 inches in consolidated rock. North Baja would design all railroad crossings in accordance with the AREMA *Manual for Railway Engineering, Part 5 Pipeline* and Title 49 CFR Part 192 *Transportation of Natural Gas by Pipeline: Minimum Federal Safety Standards*. The AREMA specifications require a minimum distance of 10 feet from the bottom of the rail to the top of the pipe. All road crossings would be designed to comply with Title 49 CFR Part 192 *Transportation of Natural Gas by Pipeline: Minimum Federal Safety Standards*, which specifies a minimum depth of cover of 3 feet in road ditches. In addition, all roadway and highway crossings would be designed to meet the applicable State and local agency permit requirements and the latest edition of American Petroleum Institute 1102 requirements.

Pipe wall thickness and pipeline design pressures, MAOP, hydrostatic test pressures, inspection and testing of welds, and frequency of pipeline patrols and leak surveys must also conform to higher standards in more populated areas. For the B-Line, North Baja proposes to use Class 1 pipe in comparable areas of the A-Line: between MPs 11.7 and 79.8. Class 2 pipe would be used between MPs 0.0 and 11.7 and at all road and railroad crossings within Class 1 locations. For the Arrowhead Extension, Class 2 pipe would be used. For the IID Lateral, Class 2 pipe would be used between MPs 45.0 and 45.7. Class 3 pipe would be used between MPs 0.0 and 0.25, 3.1 and 3.7, and 8.5 and 9.1. Class 1 pipe would be used in all other locations. The design pressure and MAOP of the pipeline facilities would be 1,150 psig. The normal operating pressure would be 1,050 psig. Hydrostatic test pressures would be 90 to 100 percent of the specified minimum yield strength of the pipe being tested.

If a subsequent increase in population density adjacent to the right-of-way indicates a change in class location for the pipeline, North Baja would be required to reduce the MAOP or replace the segment with pipe of sufficient grade and wall thickness to comply with the DOT code of regulations for the new class location.

Class locations also specify the maximum distance to sectionalizing remote manual block valves (referred to as valves in other sections of this document). Part 192 regulations require at least one valve

every 20 miles in Class 1 locations, every 15 miles in Class 2 locations, every 8 miles in Class 3 locations, and every 5 miles in Class 4 locations. The spacing between the valves for the North Baja Pipeline Expansion Project would meet or exceed the DOT requirements for the appropriate class location. The valves proposed for the B-Line would be adjacent to the existing valves on the A-Line.

External corrosion control measures include the protective coating on the exterior of the pipe and use of cathodic protection systems. These systems are designed to meet requirements established by the DOT for protection of metallic facilities from external, internal, and atmospheric corrosion. North Baja plans to use an impressed current system using deep well anodes placed in areas where their effect would provide the required negative-induced potential to resist external corrosion. The deep well anodes would be within the pipeline right-of-way. Aboveground facilities would be painted with a suitable anti-corrosion coating. Internal corrosion is not expected to be a factor because North Baja would monitor the pipeline interior through the use of internal corrosion probes, on-line pigging tools, or a combination of the two.

The aboveground cathodic protection facilities proposed for the Project include electrical rectifiers to provide the necessary electrical current and test leads for conducting system voltage tests. Rectifiers are generally mounted on power poles inside locked metal electrical boxes, where test leads are generally protected from weather in capped plastic risers designed for that purpose. During the scoping process, a question was raised whether North Baja plans any specific vandalism protection measures in high-use recreational areas. North Baja reports that no acts of vandalism along the existing A-Line have occurred to rectifiers and, therefore, it does not plan to implement any extraordinary vandalism protection measures on the cathodic protection devices. North Baja states that its biggest concern for possible vandalism would be rectifier installations in the ISDRA portion of the IID Lateral route; however, North Baja believes that the cathodic protection system can be designed for the pipeline facilities without utilizing this area for rectifier installations.

North Baja would x-ray all girth welds over 6 inches in diameter where possible to ensure pipeline structural integrity and compliance with the applicable DOT regulations. Where x-ray inspection is impossible or impractical, other means of non-destructive inspection would be conducted. Those welds that do not meet established specifications would be repaired or replaced. Once the welds are approved, the welded joints would be coated with a protective coating and the entire pipeline would be visually inspected for any faults, scratches, or other coating defects. Any damage would be repaired before the pipeline is installed.

After construction, North Baja would clearly mark the pipeline at line-of-sight intervals, roads, railroads, and other key points to alert the public to the presence of the pipeline. The markers would provide contact information for North Baja in the event of an emergency. In accordance with the DOT regulations in effect since 1982, North Baja would participate in all communication and notification "One-Call" services to prevent outside damage to the pipeline. These services provide preconstruction information to contractors or other maintenance workers on the underground location of pipes, cables, and culverts.

In 2002, Congress passed an act to strengthen the nation's pipeline safety laws. The Pipeline Safety Improvement Act of 2002 (HR 3609) was passed by Congress on November 15, 2002, and signed into law by the President in December 2002. By December 17, 2004, gas transmission operators were required to develop and follow a written integrity management program that contains all the elements described in Part 192.911 and addresses the risks on each covered transmission pipeline segment. Specifically, the law establishes an integrity management program that applies to all high consequence areas (HCAs). The DOT (68 Federal Register 69778, 69 Federal Register 18228, and 69 Federal Register

29903) defines HCAs as they relate to the different class zones, potential impact circles, or areas containing an identified site as defined in Part 192.903 of the DOT regulations.

The OPS published a series of rules from August 6, 2002 to May 26, 2004 (69 Federal Register 29903), that defines HCAs where a gas pipeline accident could do considerable harm to people and their property and requires an integrity management program to minimize the potential for an accident. This definition satisfies, in part, the Congressional mandate in Title 49, USC 60109 for the OPS to prescribe standards that establish criteria for identifying each gas pipeline facility in a high-density population area.

The HCAs may be defined in one of two ways. In the first method (Method 1), an HCA includes:

- current Class 3 and 4 locations;
- any area in Class 1 or 2 locations where the PIR⁷ is greater than 660 feet and there are 20 or more buildings intended for human occupancy within the potential impact circle;⁸ or
- any area in Class 1 or 2 locations where the potential impact circle includes an identified site.⁹

In the second method (Method 2), an HCA includes any area within a potential impact circle that contains:

- 20 or more buildings intended for human occupancy; or
- an identified site.

Once a pipeline operator has determined the HCAs on its pipeline, it must apply the elements of its integrity management program to those segments of the pipeline within HCAs. The DOT regulations specify the requirements for the integrity management plan at Part 192.911. The pipeline integrity management rule for HCAs requires inspection of the entire pipeline in HCAs every 7 years.

Before placing a natural gas pipeline into service, the DOT requires the facility operator to prepare an Operation and Maintenance Plan in accordance with the requirements in Title 49 CFR Part 192. North Baja would prepare and implement a plan that includes the following activities:

- employee qualification to operate and maintain the pipeline system in accordance with the Title 49 CFR Part 192 Operator Qualification Rule;
- air patrols of the pipeline right-of-way to monitor its condition, including any indications of third-party encroachment;
- on-the-ground leak surveys with leak detector equipment;
- annual contact of property owners, utilities, local government agencies, contractors, and other interested parties to inform them of the pipeline location and procedures to be followed in reporting and responding to a pipeline emergency;

⁷ The potential impact radius is calculated as the product of 0.69 and the square root of the maximum allowable operating pressure of the pipeline in pounds per square inch multiplied by the pipeline diameter in inches.

⁸ The potential impact circle is a circle of radius equal to the potential impact radius.

⁹ An identified site is an outside area or open structure that is occupied by 20 or more persons on at least 50 days in any 12-month period; a building that is occupied by 20 or more persons on at least 5 days a week for any 10 weeks in any 12-month period; or a facility that is occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate.

- participation in a "One Call" system in each State where the pipeline is located, including staking and marking service for third-party construction and landowner requests;
- internal audits of field locations to ensure compliance with existing operating and maintenance standards and safe-work procedures;
- periodic pipe-to-soil potential surveys and rectifier inspections to maintain the line's cathodic protection;
- annual in-house training for operation and maintenance personnel to maintain skill levels and review safety procedures in case of a pipeline emergency; and
- annual testing and inspection of pressure-limiting devices and emergency shutdown systems at the compressor stations.

Section 14.14.4 includes an assessment of potential HCAs associated with the North Baja Pipeline Expansion Project.

The existing pipeline system is monitored and controlled 24 hours a day for pressure drops in the pipeline that could indicate a leak or other operating problem through a SCADA system. A detailed description of the SCADA system is included in Section 2.6. In addition, a crew that conducts on-site operations and maintenance is at the Ehrenberg Compressor Station, and is on-call 24 hours a day. When completed, the B-Line, Arrowhead Extension, and IID Lateral would be operated in conjunction with the existing system and subject to the same operation and maintenance procedures.

The pipeline would be designed to be piggable, allowing for the future use of smart pigs for internal integrity inspection. In addition, North Baja would run a gauging plate and, if warranted, a caliper tool to determine if there are any dents in the pipeline as a result of construction. Dents that exceed those allowable by code would be removed before placing the pipeline into service.

Within the first 6 months of placing the pipeline into operation, North Baja would conduct an internal inspection of the pipeline. This inspection would use an in-line magnetic flux leakage inspection tool (i.e., smart pig). The record of this inspection would serve as an initial set of data that would be compared to future internal inspections so that changes in pipe condition, primarily pipe wall thickness loss, can be readily determined and corrected. The initial test would likely not indicate any anomalies that would require correction because the pipeline would be new and would have completed a successful hydrostatic test. Following the initial test, internal inspections with a high resolution instrument would be conducted on a periodic basis, at a minimum of one inspection every 10 years, or sooner if the evidence suggests that significant corrosion or defects exist or if any new Federal or State regulations require more frequent or comparable inspections.

The pipeline system would be inspected by air and on the ground to observe right-of-way conditions and identify indications of leaks, evidence of pipeline damage, evidence of encroachment (i.e., landowners building permanent structures on the permanent right-of-way), or damage to erosion controls resulting from erosion or washouts. North Baja would comply with other DOT surveillance, leak detection requirements such as leakage surveys, aerial surveys, and pedestrian surveys of its facilities.

To ensure that North Baja's operation and maintenance commitments are documented in a comprehensive plan and to assist the CSLC in reviewing the Project for consistency with the CSLC's action on the amended lease across California's Sovereign and School Lands, **the Agency Staffs recommend that:**

- **Before placing the pipeline system into service in California, North Baja shall submit to the CSLC for approval an Operation and Maintenance Plan. This plan shall address internal and external maintenance inspections of the completed facility, including but not limited to details of integrity testing methods to be applied, corrosion monitoring and testing of the cathodic protection system, and leak monitoring. The Operation and Maintenance Plan shall also specify that North Baja would, unless expressly prohibited by DOT regulations, conduct an internal inspection with a high-resolution instrument on a periodic basis, at a minimum of one inspection every 10 years, or sooner if the evidence suggests that significant corrosion or defects exist or if any new Federal or State regulations require more frequent or comparable inspections. Within 3 months following any new Federal or State regulations, North Baja shall update the Operation and Maintenance Plan and submit a revised copy to the CSLC. In addition, the Operation and Maintenance Plan shall include procedures for implementing operational mitigation measures recommended (if any) by the site-specific seismic hazard evaluation reports for the Project.**

In accordance with Part 192.615, North Baja would develop an Emergency Response Plan comparable to that developed for the A-Line that includes procedures to respond to and minimize the hazards from a natural gas pipeline emergency along its system. The Emergency Response Plan would include the following:

- local field headquarters to contact;
- listing of company personnel, local police, and fire authorities to contact;
- listing of equipment available at field locations;
- description of the roles of field supervisors, gas control operators, field crews, and support personnel during an emergency;
- description of procedures for maintaining communication between gas control operators and local fire, police, and government authorities;
- description of procedures for securing additional help from non-company resources; and
- requirements for logging emergency events and reporting the emergency to company and regulatory authorities.

Key elements of the plan also include procedures for:

- receiving, identifying, and classifying emergency events, gas leakage, fires, explosions, and natural disasters;
- establishing and maintaining communications with local fire, police, and public officials, and coordinating emergency response;
- making personnel, equipment, tools, and materials available at the scene of an emergency;
- protecting people first and then property, and making them safe from actual or potential hazards; and

- emergency shutdown of the system and safe restoration of service.

In the unlikely event of a pipeline rupture caused by a seismic event (or any other cause), North Baja would implement its emergency response procedures. All North Baja facilities would be designed with remote manual pipeline block valves with automatic shutdown capability that are programmed to sense pipeline ruptures and to isolate a specific pipeline valve section in the case of a catastrophic rupture in that valve section. Like the existing North Baja system, a precipitous pressure drop would trigger an alarm at North Baja's Gas Control Center, which is staffed 24 hours a day. The operator would have 10 minutes in which to determine whether the pressure drop is caused by something other than a rupture and either override the alarm or initiate a shutdown. If neither of these actions is taken by the operator within 10 minutes, or if line pressure decreases to a pre-determined threshold before 10 minutes, the valve would close automatically.

North Baja currently has procedures in place in the event of an emergency to utilize the Spokane, Washington operations center as an emergency call center. This call center is in the process of being changed to Redmond, Oregon. By the time the proposed Project would be in operation, the Redmond center would likely be operational. There would also be a corporate call center in Calgary, Alberta, Canada. The purpose of the call centers in the first few minutes following a rupture is to mobilize company resources to secure the incident site and notify local first responders of the incident. The incident site is surrendered to local first responders upon their arrival. Procedures are also in place to notify Sempra of any incident occurring on the North Baja facilities so that it can respond appropriately with regard to its facilities and jurisdictions in Mexico. North Baja's valves and emergency response procedures would reduce the potential for significant fire hazard in areas with flammable materials.

4.14.3 Pipeline Accident Data

If a pipeline rupture were to occur after pipeline operation has begun, natural gas would percolate through the soil and rapidly dissipate into the atmosphere. The potential outcome would depend on the volume of natural gas released and whether an ignition source is available. A pipeline break could result in soil and debris being thrown from the area of the break, destruction of nearby vegetation, and, in the case of ignition, explosion or fire causing injury or property damage.

Since February 9, 1970, Title 49 CFR Part 191 has required all operators of transmission and gathering systems to notify the DOT of any reportable incident and to submit a report on form F7100.2 within 20 days. Reportable incidents are defined as any leaks that:

- caused a death or personal injury requiring hospitalization;
- required taking any segment of transmission line out of service;
- resulted in gas ignition;
- caused estimated damage to the property of the operator, or others, or both, of a total of \$5,000 or more;
- required immediate repair on a transmission line;
- occurred while testing with gas or another medium; or
- in the judgment of the operator was significant, even though it did not meet the above criteria.

The DOT changed reporting requirements after June 1984 to reduce the amount of data collected. Since that date, operators must only report incidents that involve property damage of more than \$50,000, injury, death, release of gas, or that are otherwise considered significant by the operator. Table 4.14.3-1 presents a summary of incident data for the 1970 to 1984 period, as well as more recent incident data for 1986 through 2005, recognizing the difference in reporting requirements. The 14.5-year period from 1970 through June 1984, which provides a larger universe of data and more basic report information than subsequent years, has been subject to detailed analysis, as discussed in the following sections.¹⁰

TABLE 4.14.3-1		
Natural Gas Service Incidents by Cause		
Cause	Incidents per 1,000 miles of pipeline (percentage)	
	1970-1984	1986-2005
Outside force	0.70 (53.8)	0.10 (38.5)
Corrosion	0.22 (16.9)	0.06 (23.1)
Construction or material defect	0.27 (20.8)	0.04 (15.4)
Other	0.11 (8.5)	0.06 (23.1)
Total	1.30	0.26

During the 14.5-year period, 5,862 service incidents were reported over the more than 300,000 total miles of natural gas transmission and gathering systems nationwide. Service incidents, defined as failures that occur during pipeline operation, have remained fairly constant over this period with no clear upward or downward trend in annual totals. In addition, 2,013 test failures were reported. Correction of test failures removed defects from the pipeline before operation.

Additional insight into the nature of service incidents may be found by examining the primary factors that caused the failures. Table 4.14.3-1 provides a percentage distribution of the causal factors as well as the annual frequency of each factor per 1,000 miles of pipeline in service.

The dominant incident cause is outside forces, constituting 53.8 percent of all service incidents between 1970 and 1984 and 38.5 percent between 1986 and 2005. Outside forces incidents result from the encroachment of mechanical equipment such as bulldozers and backhoes; earth movements due to soil settlement, washouts, or geologic hazards; weather effects such as winds, storms, and thermal strains; and willful damage. Table 4.14.3-2 shows that, of the service incidents caused by outside forces, human error in equipment usage was responsible for approximately 75 percent of the incidents. Since April 1982, operators have been required to participate in "One-Call" public utility programs in populated areas to minimize unauthorized excavation activities in the vicinity of pipelines. The 1986 through 2005 data show that the portion of incidents caused by outside forces has decreased to 38.5 percent (see Table 4.14.3-1).

TABLE 4.14.3-2	
Outside Forces Incidents by Cause (1970-1984)	
Cause	Percent
Equipment operated by outside party	67.1
Equipment operated by or for operator	7.3
Earth movement	13.3
Weather	10.8
Other	1.5

¹⁰ American Gas Association 1986. "An Analysis of Reportable Incidents for Natural Gas Transportation and Gathering Lines 1970 Through June 1984." NG-18 Report No. 158, Pipeline Research Committee of the American Gas Association. D.J. Jones, G.S. Kramer, D.N. Gideon, and R.J. Eiber.

As noted above, outside forces can include geologic hazards. The primary geologic hazard that could affect the North Baja Pipeline Expansion Project would be seismicity. The potential seismic impacts associated with the Project and North Baja's proposed mitigation measures are discussed in Section 4.1.4.

The pipelines included in the data set in Table 4.14.3-1 vary widely in terms of age, pipe diameter, and level of corrosion control. Each variable influences the incident frequency that may be expected for a specific segment of pipeline.

The frequency of service incidents is strongly dependent on pipeline age. While pipelines installed since 1950 exhibit a fairly constant level of service incident frequency, pipelines installed before that time have a significantly higher rate, partially due to corrosion. Older pipelines have a higher frequency of corrosion incidents, because corrosion is a time-dependent process. Further, new pipe generally uses more advanced coatings and cathodic protection to reduce corrosion potential.

Older pipelines have a higher frequency of outside forces incidents partly because their location may be less well known and less well marked than newer lines. In addition, smaller diameter pipelines constitute a disproportionate number of the older pipelines, which have a greater rate of outside forces incidents. Small diameter pipelines are more easily crushed or broken by mechanical equipment or earth movements.

Table 4.14.3-3 clearly demonstrates the effectiveness of corrosion control in reducing the incidence of failures caused by external corrosion. The use of both an external protective coating and a cathodic protection system, required on all pipelines installed after July 1971, significantly reduces the rate of failure compared to unprotected or partially protected pipe. The data show that bare, cathodically protected pipe actually has a higher corrosion rate than unprotected pipe. This anomaly reflects the retrofitting of cathodic protection to actively corroding spots on pipes.

TABLE 4.14.3-3	
External Corrosion by Level of Control (1970-1984)	
Corrosion Control	Incidents per 1,000 miles per year
None-bare pipe	0.42
Cathodic protection only	0.97
Coated only	0.40
Coated and cathodic protection	0.11

4.14.4 Impact on Public Safety

The service incident data summarized in Table 4.14.3-1 include pipeline failures of all magnitudes with widely varying consequences. Approximately two-thirds of the incidents were classified as leaks, and the remaining third classified as ruptures, implying a more serious failure.

Table 4.14.4-1 presents the average annual fatalities that occurred on natural gas transmission and gathering lines from 1970 to 2005. Fatalities between 1970 and June 1984 have been separated into employees and nonemployees, to better identify a fatality rate experienced by the general public. Of the total 5.0 nationwide average, fatalities among the public averaged 2.6 per year over this period. The simplified reporting requirements in effect after June 1984 do not differentiate between employees and nonemployees. However, the data show that the total annual average for the period 1984 through 2005 decreased to 3.6 fatalities per year. Subtracting two major offshore incidents in 1989, which do not reflect the risk to the onshore public, yields a total annual rate of 2.8 fatalities per year for this period.

TABLE 4.14.4-1			
Annual Average Fatalities - Natural Gas Transmission and Gathering Systems ^{a, b}			
Year	Employees	Nonemployees	Total
1970-June 1984	2.4	2.6	5.0
1984-2005 ^c	-	-	3.6
1984-2005 ^c	-	-	2.8 ^d
^a 1970 through June 1984 - American Gas Association 1986. ^b DOT Hazardous Materials Information System. ^c Employee/nonemployee breakdown not available after June 1984. ^d Without 18 offshore fatalities that occurred in 1989 (11 fatalities resulted from a fishing vessel striking an offshore pipeline and 7 fatalities resulted from an explosion on an offshore production platform).			

The nationwide totals of accidental fatalities from various manmade and natural hazards are listed in Table 4.14.4-2 in order to provide a relative measure of the industry-wide safety of natural gas pipelines. Direct comparisons between accident categories should be made cautiously, however, because individual exposures to hazards are not uniform among all categories. Nevertheless, the average 2.6 public fatalities per year is relatively small considering the more than 300,000 miles of transmission and gathering lines in service nationwide. Furthermore, the fatality rate is approximately two orders of magnitude (100 times) lower than the fatalities from natural hazards such as lightning, tornados, floods, earthquakes, etc.

TABLE 4.14.4-2	
Nationwide Accidental Deaths ^a	
Type of Accident	Fatalities
All accidents	90,523
Motor vehicles	43,649
Falls	14,985
Drowning	3,488
Poisoning	9,510
Fires and burns	3,791
Suffocation by ingested object	3,206
Tornado, flood, earthquake, etc. (1984 to 1993 average)	181
All liquid and gas pipelines (1978 to 1987 average) ^b	27
Gas transmission and gathering lines	2.6
Nonemployees only (1970 to 1984 average) ^c	
^a All data, unless otherwise noted, reflect 1996 statistics from the U.S. Department of Commerce, Bureau of the Census, "Statistical Abstract of the United States 118th Edition." ^b U.S. Department of Transportation "Annual Report on Pipeline Safety - Calendar Year 1987." ^c American Gas Association 1986.	

The available data show that natural gas pipelines continue to be a safe, reliable means of energy transportation. Based on approximately 301,000 miles in service, the rate of public fatalities for the nationwide mix of transmission and gathering lines in service is 0.01 per year per 1,000 miles of pipeline. Using this rate, the pipeline facilities associated with the North Baja Pipeline Expansion Project might result in a public fatality about every 793 years. This would represent a slight increase in risk to the nearby public and would not result in a substantial potential for incidents that would cause serious injury or death to members of the public.

As discussed in Section 4.14.2, North Baja would be required to develop an integrity management program that applies to all HCAs. There are no indicated HCAs for North Baja's existing

A-Line, but preliminary data indicate that it is likely that two locations along the proposed B-Line might qualify as HCAs. These locations are near MPs 27.0 and 75.0. There are no locations along the Arrowhead Extension that would classify as an HCA. Along the IID Lateral, the ISDRA portion of the route (MPs 0.0 to 7.0) would classify as an HCA and the newly constructed RV park near MP 9.0 might classify as an HCA using Method 1 of the HCA determination protocols. No HCAs were identified along the Project using Method 2. The HCAs potentially crossed by the proposed Project are listed by milepost and pipeline class in Table 4.14.4-3. As required by the DOT, North Baja would conduct a comprehensive HCA assessment of the new pipeline segments following construction. The existing North Baja pipeline facilities are presently managed under an Integrity Management Program plan that ensures compliance with Title 49 CFR Part 192, Subpart O. The newly constructed facilities would be incorporated into the existing plan. Pipeline inspection within identified HCAs would be conducted every 7 years in accordance with the pipeline integrity management rule for HCAs. Additional discussion of potential impact radii as they relate to minority and low-income populations is provided in Section 4.17.4.

TABLE 4.14.4-3		
Preliminary Identification of High Consequence Areas (HCAs) Crossed by the North Baja Pipeline Expansion Project ^a		
Facility/Milepost Range per Pipeline Class	Pipeline Class	HCA Milepost
B-Line		
0.0 - 11.7	Class 2	None
11.7 - 79.8	Class 1	27.0, 75.0
Arrowhead Extension		
0.0-2.1	Class 2	None
IID Lateral		
0.0-0.25	Class 3	0.0-0.25
0.25-3.1	Class 1	0.25-3.1
3.1-3.7	Class 3	3.1-3.7
3.7-8.5	Class 1	3.7-7.0
8.5-9.1	Class 3	9.0
9.1-45.0	Class 1	None
45.0-45.7	Class 2	None
^a All HCAs were determined by Method 1. HCA Determination Method 1 = current Class 3 and 4 locations or any area in Class 1 or 2 locations where the potential impact radius is greater than 660 feet and there are 20 or more buildings intended for human occupancy within the potential impact circle; or any area in Class 1 or 2 locations where the potential impact circle includes an identified site.		

Part 192 requires that each operator must establish and maintain liaison with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization that may respond to a natural gas pipeline emergency, and to coordinate mutual assistance. The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials. Local police and fire departments would be informed of North Baja's Operation and Maintenance and Emergency and Response Plans. Annual meetings would be held with local police and fire authorities to review the plans and discuss procedures to follow in case of an emergency. Police and fire departments would also receive emergency telephone numbers where they can contact North Baja 24 hours a day. North Baja would provide the appropriate training to local emergency service personnel before the pipeline is placed in service. No additional specialized local fire protection equipment would be required to handle pipeline emergencies. As a result of North Baja's coordination with local

emergency providers, the level of fire and police services would not be substantially diminished. North Baja has continued to coordinate with local police and fire departments during operation of the A-Line. The Winterhaven Fire Projection District and the Ehrenberg Fire Department submitted comments on the draft EIS/EIR in support of the Project and citing North Baja's commitment to safety. North Baja's continued coordination with local emergency providers would reduce the potential to impair implementation of or interference with any local adopted emergency response or evacuation plans.

4.14.5 Terrorism

In the aftermath of the terrorist attacks that occurred on September 11, 2001, terrorism has become a very real issue for the facilities under the FERC's jurisdiction. The FERC, like other Federal agencies, is faced with a dilemma in how much information can be offered to the public while still providing a significant level of protection to energy facilities. Consequently, the FERC has removed energy facility design plans and location information from its Internet website to ensure that sensitive information is not readily available (RM02-4-000 and PL02-1-000 issued February 20, 2003).

Since September 11, 2001, the FERC has been involved with other Federal agencies in developing a coordinated approach to protecting the energy facilities of the United States, and continues to coordinate with these agencies to address this issue. In addition, interstate natural gas companies are actively involved with several industry groups to chart how best to address security measures in the current environment. A Security Task Force has been created and is addressing ways to improve pipeline security practices, strengthen communication within the industry and the interface with government, and extend public outreach efforts.

Increased security awareness has occurred throughout the industry and the nation. The Office of Homeland Security was established with the mission of coordinating the efforts of all executive departments and agencies to detect, prepare for, prevent, protect against, respond to, and recover from terrorist attacks within the United States. The FERC, in cooperation with other Federal agencies and industry trade groups, has joined in the efforts to protect the energy infrastructure, including the approximately 300,000 miles of interstate natural gas transmission pipelines. The pipeline system would be inspected by air and on the ground in accordance with DOT surveillance requirements as discussed in Section 14.4.2. Security measures at the aboveground facilities would include secure fencing, locked buildings, security lighting, and automated alarm systems. Employees would be required to wear identification cards, and approved visitors would need to sign in and wear identification badges.

Safety and security are important considerations in any action undertaken by the FERC and the CSLC. The attacks of September 11, 2001 have changed the way pipeline operators as well as regulators must consider terrorism, both in approving new projects and in operating existing facilities. However, the likelihood of future attacks of terrorism or sabotage occurring along the proposed Project, or at any of the myriad of natural gas pipeline or energy facilities throughout the United States is unpredictable given the disparate motives and abilities of terrorist groups. The continuing need to construct facilities to support the future natural gas pipeline infrastructure is not diminished from the threat of any such future acts. Moreover, the unpredictable possibility of such acts does not support a finding that this particular Project should not be constructed.

4.14.6 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use

Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the potential impacts on public safety identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

4.15 CUMULATIVE IMPACTS

Cumulative impacts may result when the environmental effects associated with a proposed project are superimposed on, or added to, either temporary (construction related) or permanent (operation related) impacts associated with past, present, or reasonably foreseeable future projects. Although the individual impact of each separate project may be minor, the additive or synergistic effects of multiple projects could be significant.

Existing environmental conditions in the Project area reflect changes based on past projects and activities. Much of the Project area is rural and relatively undeveloped. However, significant changes to portions of the Project area have resulted from activities related to agriculture, mining, water diversion, transportation projects, recreation, exotic species introductions, and residential/commercial development.

Table 4.15-1 lists present or reasonably foreseeable future projects or activities that may cumulatively or additively impact resources that would be affected by construction and operation of the North Baja Pipeline Expansion Project. Construction schedules of the future projects depend on factors such as economics, funding, and regulatory considerations. Projects and activities included in this analysis are generally those of comparable magnitude and nature of impact, and are located within the same counties that would be affected by the North Baja Pipeline Expansion Project. With some exceptions, more geographically distant projects are not assessed because their impact would generally be localized and, therefore, would not contribute significantly to cumulative impacts in the proposed Project area.

4.15.1 Geology and Soils

The facilities associated with the North Baja Pipeline Expansion Project are expected to have a temporary but direct impact on near-surface geology and soils. Impacts on geology and soils could lead to poor revegetation potential and indirectly affect wildlife and aquatic resources as a result of poor vegetative cover and increased erosion and sedimentation. The soil stabilization and revegetation requirements included in North Baja's CM&R Plan would prevent or minimize any indirect impacts. Because the direct effects would be highly localized and limited primarily to the period of construction, cumulative impacts on geology and soils would only occur if other projects are constructed at the same time and place as the proposed facilities. The construction of several of the projects listed in Table 4.15-1 would coincide with the schedule proposed for the North Baja Pipeline Expansion Project. Projects that require significant excavation or grading such as the Drop 2 Storage Reservoir Project, the landfill and mine expansions, and residential developments would also have temporary direct impacts on near-surface geology and soils. The additive impact of the North Baja Pipeline Expansion Project on most of these projects would be minimal because they would not occur within the same local vicinity. The Drop 2 Storage Reservoir Project, however, would be relatively close to the IID Lateral. While there would be the potential for cumulative impacts on geological resources and soils if the project was constructed concurrently with the IID Lateral, any cumulative impact on geology and soils would be minimized by the implementation of erosion control and restoration measures during the construction and restoration of the projects. Consequently, any potential cumulative impacts on geological resources and soils would be temporary and minor.

TABLE 4.15-1

**Existing or Proposed Activities Cumulatively Affecting Resources of Concern
for the North Baja Pipeline Expansion Project**

Activity/Project	County	Description	Approximate Acres of Land Affected	Anticipated Construction Dates
Blythe Energy Project Phase II	Riverside	Expansion of electrical generation facilities	66.0	Unknown
Blythe Energy Project Transmission Line Modification	Riverside	Installation of 74.1 miles of 230-kilovolt transmission lines	174.0	2007
Palo Verde-Devers Transmission Line	Riverside	Installation of 230 miles of 500-kilovolt transmission lines	4,015.0	2009
Edgewater Lane Planned Residential Community	Riverside	Residential development including 46 single-family homes	Unknown	2007
All-American Canal Lining Project	Imperial	Install concrete canal lining	2,161.0	2007
Unit 3 Repower	Imperial	Expansion of electrical generation facilities	4.0	2009
Department of Homeland Security, INS Border Fence	Imperial	Construction of a fence along the Mexican border	Unknown	Unknown
Drop 2 Storage Reservoir Project	Imperial	Construction of a reservoir and canal	916.0	2007-2008
BLM ISDRA - expansion Buttercup Valley Recreation Area	Imperial	Establish a ranger station and improvements to campground	Unknown	2007
BLM ISDRA Area Closure maintenance	Imperial	Closures of recreational areas	Unknown	Annual
Mesquite Regional Landfill	Imperial	Construction of regional landfill	4,000.0	2007-2008
Imperial Project	Imperial	Open pit gold mine development	1,302.0	Unknown
Mesquite Mine Expansion	Imperial	Expansion of gold mining operations	142.0	Unknown
Felicity Development	Imperial	Residential development	2,345.0	Unknown
Las Ventanas	Imperial	Residential/commercial development including 1,040 single-family homes	304.0	Unknown
Esmeralda Estates	Imperial	Residential development including 293 single-family homes	80.0	2008
Rancho Diamante	Imperial	Residential/commercial development including 2,257 single-family homes and 1,944 multi-family units	1,350.0	2008
Los Lagos	Imperial	Residential/commercial development including 1,132 single-family homes	500.0	2008
Estrella Subdivision	Imperial	Residential development including 371 single-family homes and 400 multi-family units	150.0	2008
Gasoducto Bajanorte Expansion Project (Phase I) ^a	Mexico	Installation of compression, reconfiguration of an existing pipeline, and construction of a 45-mile-long pipeline lateral	Unknown	2007
Gasoducto Bajanorte Expansion Project (Phase II) ^a	Mexico	Installation of compression and construction of a 140-mile-long pipeline loop	Unknown	2009

^a The Gasoducto Bajanorte Expansion Project would not be located within the same counties as the North Baja Pipeline Expansion Project; however, cumulative impacts could result if this project were to be constructed at the same time as North Baja's proposed Project, specifically cumulative impacts on air quality. However, based on the analysis in Section 4.15.8, no significant cumulative impacts on air quality would occur.

4.15.2 Waterbodies and Wetlands

The North Baja Pipeline Expansion Project would require the crossing of 2 perennial waterbodies, 73 irrigation canals and drains, and 265 dry washes. The proposed Project would not involve in-stream activities or the construction of permanent diversions or dams and, therefore, is expected to have only temporary impacts, if any, on surface water quality. With the exception of Rannells Drain that would be crossed by the B-line and two unnamed canals that would be crossed by the Arrowhead Extension, all flowing waterbodies would either be crossed via an HDD, a bore, or would be avoided by crossing culverted portions of the waterbodies; therefore, the potential for the North Baja Pipeline Expansion Project to cumulatively affect surface waters within the region is low. The greatest potential for impacts on waterbodies that would be crossed by the proposed Project is if a frac-out were to occur during one of the proposed HDD crossings. Runoff from construction activities near waterbodies could also result in cumulative impacts, although this effect would be relatively minor and would be controlled by implementation of erosion and sediment control measures and by compliance with Federal, State, and local requirements. Additionally, indirect economic impacts on individuals and/or communities could result if surface waters were to become contaminated and/or limitations were placed on the beneficial uses (e.g., potable water supply, recreation, and fishing) of the affected waters. However, the potential for contamination during the construction of the North Baja Pipeline Expansion Project would be minor due to the low frequency and volumes of these occurrences and would be further minimized by implementation of North Baja's SPCC Plan.

Several of the projects listed in Table 4.15-1 are located within the watersheds crossed by the North Baja Pipeline Expansion Project, and some of these projects (e.g., Edgewater residential development, the All-American Canal Lining Project, and the Drop 2 Storage Reservoir Project) could potentially result in impacts on surface waters; however, water quality impacts resulting from construction of the proposed Project, if any, would be temporary. The potential for a frac-out at the proposed waterbody crossings would be low according to North Baja's geotechnical studies and, with the exception of the Rannells Drain crossing, streambank disturbance would be avoided. Additionally, the potential for erosion and sedimentation resulting from the disturbance of areas adjacent to waterbodies in the Project area is low given the typically flat topography and arid climate of the Project area.

Although there is the potential that cumulative impacts could result if the North Baja Pipeline Expansion Project were constructed in addition to other projects listed in Table 4.15-1, the geographic extent and duration of disturbances caused by construction of the Project would be minimal and further minimized by the implementation of North Baja's Project-specific CM&R and SPCC Plans. Therefore, the collective effects of these projects on surface water resources are expected to be minor.

Impacts on wetlands would result from construction of the proposed Project and some of the other reasonably foreseeable future projects. Specifically, the All-American Canal Lining Project would impact wetlands by reducing or eliminating the water source for wetlands that depend on seepage from the currently unlined portions of the canal. In contrast, the North Baja Pipeline Expansion Project would not result in the permanent loss or alteration of wetlands. Wetlands affected by the proposed Project would be restored following construction, and based on the mitigation monitoring reports completed for the A-Line, the primarily tamarisk-dominated wetlands affected would revegetate within 2 to 3 years. Therefore, construction and operation of the North Baja Pipeline Expansion Project would not contribute to cumulative long-term impacts on wetlands within the region.

4.15.3 Vegetation, Wildlife and Habitat, and Aquatic Resources

When projects are constructed at the same time or close to the same time, they could have a cumulative impact on vegetation and wildlife occurring in the area. Right-of-way clearing and grading and other construction activities associated with the North Baja Pipeline Expansion Project along with

other construction projects, including the All-American Canal Lining Project, the Gasoducto Bajanorte Expansion Project, the Edgewater Lane Planned Residential Community, and the mining and landfill expansion projects would result in the removal of vegetation; alteration of wildlife habitat; displacement of wildlife; and other secondary effects such as increased population stress, predation, and the potential establishment of invasive plant species. These effects would be greatest where the other projects are constructed within the same time frame and area as the proposed Project and where the recovery time of the vegetation/habitat is equal to that of the Project (i.e., long term). Because of the long-term impacts that would occur as a result of clearing desert vegetation, the North Baja Pipeline Expansion Project, if constructed along with the other projects listed in Table 4.15-1, would result in cumulative impacts on vegetation and wildlife habitats. North Baja's proposal to overlap its right-of-way onto the previously disturbed construction right-of-way, which is subject to restoration requirements, limit new clearing in desert wash woodlands, and construct within the road shoulder along portions of the B-Line, the Arrowhead Extension, and the IID Lateral would minimize the areas of previously undisturbed vegetation that would be affected and thereby not contribute to additional cumulative impacts on vegetation and wildlife habitats. Implementation of North Baja's CM&R Plan would promote revegetation of the right-of-way following construction. Disturbance in areas of desert wash woodland and areas designated as desert tortoise habitat would require compensatory mitigation in addition to restoration of the right-of-way. Additionally, because the amount of vegetation/habitat affected would be small compared to that which is regionally available, and the entire right-of-way would be allowed to return to preconstruction conditions, any cumulative impact may be long term but would be less than significant.

The projects listed in Table 4.15-1 that are linear in nature have the greatest potential to fragment wildlife habitat; however, this effect would be minimal because most of these projects (e.g., the All-American Canal Lining project, and the Gasoducto Bajanorte Expansion Project) would be adjacent to existing linear facilities and would only incrementally widen existing corridors. Similarly, many of the non-linear projects (i.e., the Drop 2 Storage Reservoir Project and the mine and landfill expansions), would occur within or adjacent to previously disturbed locations and only incrementally increase the extent of disturbance. Potential habitat fragmentation resulting from the proposed Project would be minimal because the areas would be allowed to return to pre-existing conditions although, in the case of desert habitats, this would occur over the long term. All of the projects would implement mitigation measures designed to minimize the potential for long-term erosion, increase the stability of site conditions, and in many cases control the spread of noxious weeds, thereby minimizing the degree and duration of the cumulative impacts of these projects.

Construction of the North Baja Pipeline Expansion Project at the same time as other projects listed in Table 4.15-1 that would affect waterbodies could cause cumulative impacts on aquatic resources within the Project area. The crossing of the Colorado River has the greatest potential to affect aquatic resources because it is the only waterbody with a designated fishery that would be affected by the Project. Because the river would be crossed using the HDD method, impacts are not expected to occur. As previously noted, the potential for a frac-out at the Colorado River crossing location would be low and impacts resulting from a frac-out, should one occur, would be minimized by the implementation of North Baja's HDD Plan. The duration of any disturbances caused by construction of the North Baja Pipeline Expansion Project would be minimal and further minimized by the implementation North Baja's CM&R, SPCC, and HDD Plans in addition to any conditions required by the COE and CDFG as part of their respective permit approvals. Additionally, none of the projects listed in Table 4.15-1 would involve direct in-stream impacts on the Colorado River.

Animal and plant species that are federally and/or State-listed threatened and endangered species and their critical habitat would be affected by the North Baja Pipeline Expansion Project. Cumulative impacts on these species could result if other foreseeable future projects would also affect the same species or their habitats. However, conservation measures would likely be required for each of these

projects by the jurisdictional agencies to minimize potential impacts on federally and State-listed species. Additionally, conservation measures may be recommended for candidate species and species of concern. Conservation measures would be project-specific and would be expected to reduce impacts such that the projects would not adversely affect the majority of special status species or would not jeopardize the continued existence of a species or cause the adverse modification of critical habitat. However, the Agency Staffs have determined that two species, the desert tortoise and Peirson's milk-vetch, as well as critical habitat for the desert tortoise, would be likely adversely affected by the Project (see Section 4.7) and would result in cumulative impacts on a special status species if other projects listed in Table 4.15-1 would also occur within desert habitats that support these species.

4.15.4 Land Use, Special Management Areas, Recreation and Public Interest Areas, and Aesthetic Resources

The proposed Project and several other foreseeable future projects would result in both temporary and permanent changes to current land uses. Much of the land that would be disturbed by construction is open land. The facilities associated with the North Baja Pipeline Expansion Project would temporarily disturb about 1,760.5 acres of land of which 69 percent would be open land, 25 percent would be developed land, and 6 percent would be agricultural land. The All-American Lining Project, Drop 2 Storage Reservoir Project, and mining and landfill expansion projects listed in Table 4.15-1 would disturb hundreds of additional acres of land affecting a variety of land uses. The residential development projects proposed for Imperial County would primarily affect farmlands. While most of these projects would have permanent impacts on land uses, the majority of land use impacts associated with the North Baja Pipeline Expansion Project would be temporary, as most land uses would be allowed to revert to prior uses following construction. Permanent impacts on land use would be small because 94 percent of the land affected by construction of the pipeline facilities would be allowed to revert to prior uses following construction with no restrictions and only 2.0 acres of additional land would be required for the operation of aboveground facilities.

The proposed Project, if built at the same time as other foreseeable future projects, could result in cumulative impacts on recreational and public interest areas if these projects would affect the same area or feature (e.g., trails) at the same time. The proposed pipeline facilities would cross 11 recreation or public interest areas and would be adjacent to several others. However, because the North Baja Pipeline Expansion Project would be constructed primarily within or adjacent to existing rights-of-way and would not substantially affect the current land uses, most Project-related impacts would be short term, often lasting only for the duration of construction through that area, after which the area would be restored to its preconstruction condition.

The visual character of the existing landscape is defined by historic and current land uses such as agricultural, recreation, conservation, and development. The visual qualities of the landscape are further influenced by existing linear installations such as highways, railroads, pipelines, and electrical transmission and distribution lines. Within this context, the proposed meter stations, valves, and other aboveground facilities would have the most visual impact, while the pipeline portion of the proposed Project would be visually subordinate to the existing landscape character and would contribute only incrementally to overall visual conditions, particularly after completion of reclamation and the re-establishment of vegetation. However, the majority of the Project would affect desert vegetation where the impact would be greater because it would take many years to regenerate. Of the projects listed in Table 4.15-1, the electrical generation facility, mines and landfill expansions, and the residential subdivisions would have the most impact on visual resources in the area. Because 99 percent of the proposed Project would be located within or adjacent to existing rights-of-way, the visual impact would be minimal. Additionally, the majority of the proposed aboveground facilities would be collocated with other aboveground facilities. This collocation would lessen the visual impact of the aboveground facilities because their presence would be consistent with the current viewshed in the area. The

aboveground facilities that would not be collocated with existing facilities would be painted to blend with the surrounding landscape. Therefore, the proposed Project would not significantly contribute to cumulative effects on visual resources.

4.15.5 Socioeconomics

Present and reasonably foreseeable future projects and activities could cumulatively impact socioeconomic conditions in the Project area. Employment, housing, infrastructure, and public services could experience both beneficial and detrimental impacts.

Economy and Employment

The projects considered in this section would have cumulative effects on employment during construction if more than one project is built at the same time. The North Baja Pipeline Expansion Project expects to employ up to 400 workers during the peak construction months for the B-Line but would be considerably less during other phases of construction. North Baja estimates that 25 percent of its construction workforce would be local hires. If the larger projects, such as the All-American Canal Lining Project, landfill and mine expansions, and residential development projects are built simultaneously, the demand for workers could exceed the local supply of appropriately skilled labor. The counties affected by the Project have a civilian labor force of about 2,230,030 people and an average unemployment rate of 6.5 percent. This suggests that the local labor force could meet much of the employment needs induced by construction of these projects, although it is unknown whether a sufficient number of these unemployed persons have the necessary skills to work on these projects. Therefore, if these projects are constructed at the same time, the demand for local workers may exceed supply. It is assumed that the remainder of the employment positions would be filled by non-local hires. Because North Baja currently operates pipeline facilities in the area, no additional permanent employees would be required.

In addition to impacts on local employment, these projects would provide an increase in tax revenue for California, the counties, and other local economies through the payment of payroll tax, sales tax, property tax, and other taxes and fees. As discussed in Section 4.9.6, the estimated payroll for the proposed North Baja Pipeline Expansion Project would be \$50 million during the construction phase and the annual property taxes are anticipated to be \$3.4 million. A similar net increase in payroll and tax revenues could be expected from the other projects listed in Table 4.15-1. The proposed Project would have both short- and long-term beneficial impacts on State, county, and local economies.

Temporary Housing

Temporary housing for the construction workers would be needed for the portion of the workforce not drawn from the local area. For the proposed North Baja Pipeline Expansion Project, it is estimated that a maximum of 320 housing units would be needed per month to accommodate the non-resident construction workforce. Given the vacancy rates, the number of rental housing units in the area, and the number of hotel/motel rooms and campgrounds available in the cities and towns in the vicinity of the Project, construction crews should not encounter difficulty in finding temporary housing. If construction occurs concurrently with other projects, temporary housing would still be available but may be slightly more difficult to find and/or more expensive to secure. Regardless, these effects would be temporary, lasting only for the duration of construction, and there would be no long-term cumulative effect on housing from the proposed Project.

Public Services

The cumulative impact of the North Baja Pipeline Expansion Project and the other projects listed in Table 4.15-1 on infrastructure and public services would depend on the number of projects under

construction at one time. The small incremental demands of several projects occurring at the same time could become difficult for police, fire, and emergency service personnel to address. This problem would be temporary, occur only for the length of construction, and could be mitigated by the various project sponsors providing their own personnel to augment the local capability or by providing additional funds or training for local personnel. Two fire departments within the Project area, the Winterhaven Fire Protection District and the Ehrenberg Fire Department, submitted comments in support of the Project. No long-term cumulative effect on infrastructure and public services is anticipated from the proposed Project.

4.15.6 Transportation and Traffic

Where installation of the proposed Project occurs at road crossings, road traffic could be temporarily disrupted or delayed. The transportation system in the three counties where the proposed facilities would be constructed is well developed. Construction activities could disrupt traffic flow, and result in cumulative impacts on traffic in the Project area if several projects are being constructed at once. North Baja developed Traffic Management Plans for 18th Avenue in Riverside County and for Imperial County roadways (see Appendix H) to mitigate impacts associated with construction along road shoulders. In Section 4.10.2, the Agency Staffs have recommended that North Baja develop a Traffic Management Plan for Arrowhead Boulevard. Other major roads and highways would be bored and construction would not affect traffic. The addition of traffic associated with construction personnel commuting to and from the Project sites could affect traffic congestion in the region if several of the projects listed in Table 4.15-1 would occur within the same time frame. However, workers associated with the North Baja Pipeline Expansion Project would commute to and from the pipe storage and contractor yards or aboveground facility sites during off-peak traffic hours (e.g., before 7:00 AM and after 6:00 PM). Workers traveling between the pipe storage and contractor yards and the construction site would likely share rides. Moreover, it is unlikely that each project would reach peak traffic conditions simultaneously; therefore, potential cumulative impacts on traffic from construction, should they occur, are expected to be temporary and short term. In its comments on the draft EIS/EIR, the BOR noted that the construction schedule of the IID Lateral has the potential to coincide with the BOR's Drop 2 Storage Reservoir Project. Because these two projects would be within close proximity to one another, the construction of North Baja Pipeline Expansion Project at the same time as the Drop 2 Storage Reservoir Project would result in cumulative impacts on traffic congestion. To avoid or reduce potential traffic impacts, North Baja would continue to coordinate activities associated with construction of the IID Lateral with the BLM and the BOR. Once construction of the proposed Project is complete, there would be no impacts on traffic from operation or maintenance of the facilities.

4.15.7 Cultural Resources

Past disturbances to cultural resources sites in the Project area have been related to legal collecting; accidental disturbance by OHV users; intentional destruction or vandalism; and construction and maintenance operations associated with existing roads, railroads, and transmission lines, including North Baja's existing A-Line. The currently proposed projects listed in Table 4.15-1 that are defined as Federal actions would include mitigation measures designed to avoid or minimize additional direct impacts on cultural resources. Where direct impacts on significant cultural resources are unavoidable, mitigation (e.g., recovery and curation of materials) would occur before construction. Non-Federal actions would need to comply with any mitigation measures required by the State. Increased access by rights-of-way and service roads would increase the potential for trespass or vandalism at previously inaccessible sites. However, to minimize the potential for the pipeline rights-of-way to increase accessibility for OHV use into previously inaccessible, environmentally sensitive areas, North Baja would implement various blocking measures where it has been determined that such measures may be effective in discouraging OHV use (see Section 4.8.5). In addition, North Baja would mitigate impacts on unevaluated sites and sites that are eligible for listing on the NRHP by the use of avoidance measures (including installation of exclusion fencing), construction monitors, narrowing of the right-of-way, and/or

data recovery. Therefore, the proposed Project would only incrementally contribute to the effects of the other projects and would not result in significant cumulative impacts on cultural resources in the area.

4.15.8 Air Quality

The North Baja Pipeline Expansion Project and the projects listed in Table 4.15-1 would all involve the use of heavy equipment that would generate emissions of air contaminants and fugitive dust. The majority of these impacts would be minimized because the construction activities would occur over a large geographical area. Any air impacts would be localized and confined primarily to the airsheds in which the projects occur. Cumulative impacts on air quality, therefore, would be limited primarily to areas where more than one project is proposed within the same airshed and would be constructed simultaneously. Several projects, primarily industrial and housing development projects, are planned in the vicinity of the Project and may be constructed within the same time frame. These effects could temporarily add to the ongoing effects from agricultural activities, traffic, and OHV use in the Project area. Mitigation measures similar to those outlined in Section 4.12.4 for the proposed Project would likely be required for these other projects. Because the projects listed in Table 4.15-1 would take place over a large area; have varying construction schedules; and adhere to Federal, State, and local regulations for the protection of ambient air quality, long-term cumulative impacts on air quality would not be anticipated. Additionally, because no additional compression would be installed as part of the North Baja Pipeline Expansion Project, the proposed Project would not add any stationary or permanent sources of NO_x, CO, VOC, PM₁₀, PM_{2.5}, or SO₂ to the environment; therefore, operation of the North Baja Pipeline Expansion Project would not contribute cumulatively to air quality. In their comments on the draft EIS/EIR, the EPA, the SCAQMD, the ICAPCD, and the Border Power Plant Working Group indicated that the Agency Staffs' definition of the proposed Project is too limited in focus. Sections 1.1, 1.4, and 4.12 have been revised to include additional information supporting the Agency Staffs' Project definition and cumulative impacts evaluation.

The North Baja Pipeline Expansion Project is not proposed to serve any new, modified, or expanded power plants in the Project area. However, it could be speculated that in the future the Project could transport gas for new or expanded power plants; therefore, the Project could result in a cumulative impact on the region's air quality. Any new projects, including modification of existing facilities, would have to meet applicable air quality standards of the regions where they are located.

As discussed in Section 1.4.1, Semptra's existing Gasoducto Bajanorte pipeline would be expanded in coordination with North Baja's phased expansion. The Gasoducto Bajanorte pipeline, which currently takes gas from the North Baja system at the U.S.-Mexico border and moves it west, would be reconfigured to move gas in the opposite direction, similar to the reconfiguration of the North Baja system that would occur during Phase I. Transport of the initial volumes of LNG-source gas would also require the construction of a 45-mile-long pipeline lateral from the ECA terminal to connect to the Gasoducto Bajanorte pipeline and a new compressor station (Algodones Compressor Station) on the Gasoducto Bajanorte pipeline. This compressor station would be constructed about 2.5 miles south of the California-Mexico border and 3 miles west of the Arizona-Mexico border in the State of Baja California del Norte just southwest of the border town of Algodones. All of the permits have been obtained for the construction of the lateral, the reconfiguration of the Gasoducto Bajanorte pipeline, and the construction of the Algodones Compressor Station, which are planned for completion in late 2007.

The capacity of the Gasoducto Bajanorte pipeline system would similarly be expanded in coordination with North Baja's Phase II expansion. Up to 100 percent looping of the Gasoducto Bajanorte pipeline and additional compression would be required, both at the Algodones Compressor Station and at a new compressor station near Mexicali (Mexicali Compressor Station). These facilities would be constructed in 2009 to be operational by 2010. These facilities are shown on Figure 1.4-1.

Because of the proximity of the proposed compressor stations in Mexico, the potential exists for operating emissions to affect air quality in the United States, specifically in the Imperial Valley portion of Imperial County. The cumulative impacts are described below by project phase.

Phase I Air Quality Impacts – Algodones Compressor Station

Sempra would install two 15,000 horsepower (hp) combustion turbines at the Algodones Compressor Station for a total of 30,000 hp of compression. However, only one 15,000-hp turbine would be operated at a time; the other turbine would be kept on reserve and rotated in and out of service. Using data provided by the turbine manufacturer and the operational data provided by Sempra, the emissions from one 15,000-hp turbine were modeled to determine the impact on nearby receptor locations. The EPA's ISCST3 dispersion model with the default regulatory options and 5 years of representative meteorological data from Yuma, Arizona provided by the ADEQ were used. Table 4.15.8-1 presents a summary of the modeling analysis results at the maximally impacted receptor in the vicinity of the U.S.-Mexico border from one turbine. The data in Table 4.15.8-1 indicate that emissions from the Algodones Compressor Station would result in impacts below Federal significant impact levels and the U.S. and California State standards.

TABLE 4.15.8-1						
Phase I Algodones Compressor Station Impacts ^a						
Pollutant	Averaging Period	Background ($\mu\text{g}/\text{m}^3$)	Modeled Impact ($\mu\text{g}/\text{m}^3$)	Significant Impact Level ($\mu\text{g}/\text{m}^3$)	Federal/State Standards ($\mu\text{g}/\text{m}^3$) ^b	Is Standard Currently Exceeded?
NO ₂	1 hour	355	2.625	NA	NS/470	No
	Annual AM	25	.044	1	100/NS	No
CO	1 hour	-	3.748	2000	40,000/23,000	No
	8 hour	9,478	1.325	500	10,000/10,000	No
PM ₁₀	24 hour	509	.083	5	150/50	Yes ^c
	Annual AM	80	.007	1	NS/20	Yes ^c
PM _{2.5} ^d	24 Hour	51.4	.083	5	35/NS	Yes ^c
	Annual	11.9	.007	1	15/12	No
SO ₂	1 hour	-	.017	NA	655/NS	No
	3 hour	-	.015	25	1,300/NS	No
	24 hour	8	.003	5	365/105	No
	Annual AM	-	<.001	1	80/NS	No

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 NO₂ = nitrogen dioxide
 AM = arithmetic mean
 CO = carbon monoxide
 PM₁₀ = particulate matter having an aerodynamic diameter less than or equal to 10 microns
 PM_{2.5} = particulate matter having an aerodynamic diameter less than or equal to 2.5 microns
 SO₂ = sulfur dioxide

^a Modeled impacts are at a location in the vicinity of the U.S.-Mexico border, which is approximately 4 kilometers (4,000 meters or 13,100 feet) from the compressor station site. Only one of the two proposed turbines would operate at any single time (i.e., the cumulative run time for both turbines would not exceed 8,760 hours per year, and two turbines would not run simultaneously.)

^b Federal standard/State standard. NS = no standard.

^c The Algodones Compressor Station's incremental impact does not exceed the applicable Significant Impact Level and is well below 0.5 percent of the applicable Federal and/or State standards; therefore, it would not significantly impact the existing nonattainment area.

^d PM_{2.5} emissions from the turbine were assumed to equal emissions of PM₁₀ per particulate matter specification profiles from the California Air Resources Board.

It should be noted that the PM₁₀/PM_{2.5} impacts from the turbine would be insignificant (i.e., below the significant levels for PSD Class II areas¹¹ of 5 micrograms per cubic meter (µg/m³) on a 24-hour basis, and 1 µg/m³ on an annual basis) and they are also below the significant monitoring concentration levels for PM₁₀ of 10 µg/m³ on a 24-hour basis. However, a portion of Imperial County that is within the Project area (specifically the Imperial Valley) is nonattainment for PM₁₀ and unclassified for PM_{2.5}, primarily due to ambient concentrations of windblown dust, not due to ambient concentrations of PM₁₀/PM_{2.5} from combustion sources.

Phase II Air Quality Impacts – Algodones and Mexicali Compressor Stations

Sempra has not yet signed precedent agreements with all of the potential shippers in Phase II and, therefore, has not developed design details for its Phase II expansion. Sempra has indicated to North Baja, however, that the following design assumptions would be applicable for purposes of analyzing the potential cumulative impacts of the future compression additions on the Sempra system as follows:

- The Mexicali Compressor Station would be located on or adjacent immediately to the existing facilities (i.e., either the La Rosita Power Complex [LRPC] or the Termoelectrica de Mexicali Power Plant [TDM Plant]).
- The horsepower needed at the Mexicali Compressor Station would be approximately 75,000, while the required horsepower proposed for the Algodones Compression Station would be approximately 116,000 (of which approximately 15,000 hp would be contributed by the two turbines [with one compressor in continual reserve] already proposed for Phase I, which would leave an additional need at the site of approximately 100,000 hp).
- The turbines would be equipped with the following emissions control technologies:
 - installation and operation of low-NO_x combustors;
 - good combustion practices (e.g., measurement and control of air flow, optimizing air/fuel ratios, etc.) would be implemented to reduce emissions of CO and VOC; and
 - clean fuels (natural gas) would be used to reduce emissions of PM₁₀ and PM_{2.5}.

If the new turbines would be located near the existing power plants west of Mexicali, the result would be the mixing of the new exhaust plumes with the existing plumes at the existing sites. A complete and rapid mixing of the plumes allows for the characterization of new impacts using the modeling scenarios established in the previous Imperial-Mexicali 230kV Transmission Lines (Imperial-Mexicali) final EIS (DOE 2004). This was accomplished assuming that the resulting downwind impacts would be directly proportional to emissions levels. Table 4.15.8-2 shows the predicted concentrations at the maximally impacted receptor in the vicinity of the U.S.-Mexico border resulting from both the LRPC and TDM Plant emissions as documented in Table 4.3-6 of the Imperial-Mexicali final EIS (DOE 2004). These estimated impacts are based on the power plants emitting at the proposed maximum rates and are conservative.

¹¹ All areas not classified as a Federal Class I area are classified as a Class II area in accordance with section 162(b) of the Clean Air Act.

TABLE 4.15.8-2				
LRPC and TDM Plant Estimated Impacts				
Pollutant	Average Period	Impact at Maximum U.S. Receptor ($\mu\text{g}/\text{m}^3$)	Significant Impact Level ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
CO w/o catalyst	8 Hour	7.67	500	40,000
CO w/catalyst	8 Hour	1.09	500	40,000
NO ₂	1 Hour	6.41	NA	NA
PM ₁₀ /PM _{2.5}	24 Hour	4.07/4.07	5/5	150/65

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter
 NO₂ = nitrogen dioxide
 CO = carbon monoxide
 PM₁₀ = particulate matter having an aerodynamic diameter less than or equal to 10 microns
 PM_{2.5} = particulate matter having an aerodynamic diameter less than or equal to 2.5 microns
 NAAQS = National Ambient Air Quality Standards

Table 4.15.8-3 shows the cumulative totals of emissions from the Mexicali Compressor Station added to the LRPC and TDM Plant, and emissions associated with the Phase I/Phase II Algodones Compressor Station.

TABLE 4.15.8-3			
Cumulative Estimated Emissions by Site			
Pollutant	LRPC and TDM Plant (tpy)	LRPC, TDM Plant, and Mexicali Compressor Station (tpy)	Algodones Compressor Station Phase I and Phase II (tpy)
NO _x	608	842	355.7
CO	3,089	3,383	442.1
VOC	1,069	1,080.0	16.4
SO _x	30	31.5	2.5
PM ₁₀ /PM _{2.5}	1,208/1,208	1,247.4/1,247.4	60.6/60.6

tpy = tons per year
 NO_x = nitrogen oxides
 CO = carbon monoxide
 VOC = volatile organic compounds
 SO_x = sulfur oxides
 PM₁₀ = particulate matter having an aerodynamic diameter less than or equal to 10 microns
 PM_{2.5} = particulate matter having an aerodynamic diameter less than or equal to 2.5 microns

Table 4.15.8-4 shows the resultant scaled ambient air quality impacts at the maximally impacted receptor location in the vicinity of the U.S.-Mexico border, considering the addition of the Mexicali Compressor Station emissions and the Phase I/II impacts at the Algodones Compressor Station for the same scenarios.

TABLE 4.15.8-4					
Resultant Estimated Impacts at Maximum U.S. Receptor Locations					
Pollutant	Average Time	LRPC, TDM Plant, and Mexicali Compressor Station ($\mu\text{g}/\text{m}^3$)	Algodones Compressor Station Phase I and Phase II ($\mu\text{g}/\text{m}^3$)	Significant Impact Level ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
CO	8 Hour	8.40	3.56	500	40,000
NO ₂	1 Hour	8.88	7.88	NA	NA
PM ₁₀ /PM _{2.5}	24 Hour	4.2/4.2	0.28/0.28	5/5	150/65
$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter NO ₂ = nitrogen dioxide CO = carbon monoxide PM ₁₀ = particulate matter having an aerodynamic diameter less than or equal to 10 microns PM _{2.5} = particulate matter having an aerodynamic diameter less than or equal to 2.5 microns NAAQS = National Ambient Air Quality Standards					

As shown in Table 4.15.8-4, no emitted pollutants at the Mexicali or Algodones Compressor Station sites would result in a predicted concentration above an established Significant Impact Level at the maximally impacted receptor located in the vicinity of the U.S.-Mexico border.

The Algodones Compressor Station emissions were not included with the LRPC and TDM Plant and Mexicali Compressor Station site emissions for purposes of modeling the cumulative impacts due to the following:

- the Algodones Compressor Station would be approximately 50+ miles (80+ kilometers) from the LRPC and TDM Plant sites;
- the generally accepted distance limitations of the ISCST3 dispersion model¹² is 31 miles or 50 kilometers; therefore, application of the model at distances greater than 50 kilometers would produce questionable results; and
- the cumulative impact of emissions from the Algodones Compressor Station on the LRPC/TDM Plant impact area, or vice versa, would be minimal considering the previous modeling performed for the LRPC/TDM Plant, and the recent modeling performed for the Algodones Compressor Station, which were conducted using the ISCST3 model, predicted concentrations below the established Significant Impact Levels within a few kilometers of the individual plant sites.

In addition, SO₂ emissions were not evaluated in the cumulative impacts analysis due to the following:

- emissions of SO₂ from all of the plants involved would not cumulatively add up to a value that exceeds the NSR or PSD major source threshold values;
- each individual plant site has SO₂ emissions that are considered minor;
- the previous Imperial-Mexicali final EIS (DOE 2004) analysis of emissions from the LRPC and TDM Plant only considered impacts from NO₂, PM₁₀, and CO, with no

¹² At the time the analysis was conducted, the EPA's ISCST3 was the preferred dispersion model for SIP revisions to existing sources and for NSR and PSD programs. While other air dispersion models are now currently available, the ISCST3 model is still deemed to be acceptable for this analysis.

modeling data presented for SO₂; therefore, it was not included in the cumulative impacts analysis; and

- SO₂ impact data are presented for the Algodones Compressor Station (Phase I) in Table 4.15.8-1. The predicted ambient concentrations of SO₂ were so low that impacts for the Algodones Compressor Station (Phase II) were not predicted based on the assumption that modeled ambient concentrations are directly proportional to emissions, and the SO₂ emissions at the Algodones Compressor Station only increased by approximately 1.87 tpy, which if scaled from the Phase I impacts would not result in any SO₂ standard or Significant Impact Level to be exceeded.

Based on the above preliminary analysis, it is unlikely that emissions from the proposed future compressor stations would result in any significant cumulative ambient air quality impacts at receptors in the vicinity of or across the U.S. border.

Air Toxics Emissions and Health Risk Impacts

A Health Risk Assessment was conducted to determine the potential impacts of the toxic air pollutants emitted by the existing power plants and proposed compressor stations. The analysis also includes the LRPC and TDM Plant.

Tables H-1 and H-2 of the Imperial-Mexicali final EIS (DOE 2004) indicate that the total Hazardous Air Pollutants (HAPs) emissions from the LRPC and TDM Plant are 35.2 and 9.9 tpy, respectively. Estimated HAPs emissions for the future compressors at the Mexicali Compressor Station and for the compressors at the Algodones Compressor Station would be 3.03 tpy and 4.03 tpy, respectively. Assuming that the risks at the maximally impacted receptor are directly proportional to emissions, and keeping all the modeling and risk assessment parameters constant to those used in the HAPs risk assessment modeling undertaken in the Imperial-Mexicali FEIS, the changes in risk can be directly calculated via the ratio of known emissions and known risks to expected future emissions. Table 4.15.8-5 presents the resultant scaled risk values subsequent to addition of the future compressor emissions.

TABLE 4.15.8-5			
Existing and Future Potential Risks			
Facility	Cancer Risk per Million ^a	Chronic Hazard Index ^b	Acute Hazard Index ^c
Existing LRPC	0.54	0.002	0.02
Existing TDM Plant	0.06	0.0007	0.007
Algodones Compressor Station (Phase I)	0.008	0.0002	0.0005
LRPC and Mexicali Compressor Station	0.59	0.0022	0.022
TDM Plant and Mexicali Compressor Station	0.078	0.0009	0.009
Algodones Compressor Station (Phase II)	0.062	0.0015	0.004
Significance Threshold	1.0	1.0	1.0
SCAQMD Threshold	0.5	0.5	0.5
^a Average risk values per Table H-6, Imperial-Mexicali final EIS (DOE 2004). ^b Chronic hazard results from long-term exposure. ^c Acute hazard results from short-term exposure.			

As shown in Table 4.15.8-5, the average cancer risks, as well as the chronic and acute hazard indexes, would be well below the established significance thresholds used by California air districts. In addition, the future chronic and acute hazard indexes would also be well below the more stringent thresholds set by the SCAQMD for these evaluations at a level of 0.5. Therefore, the cumulative risks associated with the emissions from the existing power plants and the future compressor stations would be considered less than significant.

A comment was received requesting the identification of air impacts resulting from the total number of power plants and future development projects that could be constructed within the Southeast Desert Air Basin (SEDAB) and evaluation of the potential long-term air quality deterioration and possible human health impacts. Table 4.15-1 contains all “reasonably foreseeable future projects” within the SEDAB. Section 15144 of the State CEQA Guidelines states, in part, “While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.”

4.15.9 Noise

Because the impact of noise is highly localized and attenuates quickly as the distance from the noise source increases, cumulative impacts associated with construction or operation would be unlikely unless one or more of the projects listed in Table 4.15-1 is constructed at the same time in the same location. However, even short-term additional noise during construction could, for example, create enough disturbance to nesting birds or breeding toads to constitute a potential adverse impact. Although the Project could result in cumulative noise impacts if other projects listed in Table 4.15-1 would be constructed within the same time frame and vicinity, the majority of these impacts would be limited to the period of construction.

4.15.10 Reliability and Safety

Impact on reliability and public safety would be mitigated through the use of the DOT Minimum Federal Safety Standards in Title 49 CFR Part 192 and the CPUC, General Order 112-E., which are intended to protect the public and to prevent natural gas facility accidents and failures. In addition, North Baja’s construction contractors would be required to comply with the OSHA Safety and Health Regulations for Construction in Title 29 CFR Part 1926. Should a pipeline failure occur on the A-Line and the B-Line simultaneously, the PIR would fall within the PIR footprint of a failure of the proposed B-Line; therefore, the close proximity of the A-Line to the B-Line would not result in a cumulative impact on the PIR calculated for the Project. No cumulative impacts on safety and reliability would be anticipated to occur.

4.15.11 Environmental Justice

As discussed in Section 4.17, some communities within the PIR of the Project have low-income and minority populations compared to the affected counties as a whole. As a result, there is a potential for these populations to bear a disproportionate share of an adverse impact. However, none of the potential impacts of the Project that could affect environmental justice issues are considered significant. Therefore, the Project would neither result in a disproportionately high and adverse effect or impact on minority or low-income populations nor contribute to a cumulative impact on these populations.

4.15.12 Conclusion

The majority of cumulative impacts would be temporary and minor. However, long-term cumulative impacts would occur on vegetation, wildlife habitat, and special status species. Long-term

cumulative benefits would be realized from the boost to the local economy associated with tax revenues. Short-term cumulative benefits would also be realized through jobs and wages and purchases of goods and materials.

4.15.13 No Project Alternative

Under the No Project Alternative, no resources as discussed in each section would be affected; therefore, no cumulative impacts would result from this alternative.

4.16 GROWTH-INDUCING IMPACTS

The CEQA requires the consideration and discussion in an EIR of the growth-inducing impact of a proposed project. NEPA does not have a similar requirement. As specified in sections 15126.2 (d) of the State CEQA Guidelines, an EIR shall:

Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Most development projects could induce growth in the area in which they are located. The following six criteria are used as a guide to evaluating the growth-inducing potential for the proposed Project.

1. Would the North Baja Pipeline Expansion Project foster growth or remove obstacles to economic or population growth?

The Project area is already served by various fuel supplies and economic activity is already taking place. The demand for energy and the proposed pipeline and Blythe connection are a result of, rather than a precursor to, development in this region. The region is currently undergoing significant growth and while there is no evidence at this time that the growth is being constrained by the lack of energy availability, the IID's Unit 3 Repower Project would increase its generating capacity by 84 megawatts, from 44 megawatts to 128 megawatts. Although it is recognized that the availability of a new or an alternative source of natural gas may be a contributing factor in stimulating economic and population growth and could result in the construction of additional power infrastructure, the power plant that the Project would serve is not solely dependent on the supply from the proposed Project. However, to the extent that the IID's Unit 3 Repower Project would diversify its suppliers of natural gas, the additional gas supplied by the proposed Project could be a growth-inducing impact. Local factors that could also influence or restrict growth include availability of infrastructure, such as roads and sewer connections, and availability of water.

2. Would the Project provide new employment?

It is anticipated that the proposed North Baja Pipeline Expansion Project would provide temporary employment for between 300 and 400 construction workers during the peak construction period. North Baja does not anticipate adding permanent staff to handle Project operations.

3. Would the Project provide new access to undeveloped or under developed areas?

The Project would require the creation of only two new permanent roads (totaling less than 0.1 mile). These roads would be used to gain access to the Blythe-Arrowhead Meter Station and pig receiver at the end of the Arrowhead Extension and the tap to the B-Line and pig launcher at the beginning of the IID Lateral. North Baja would use either new temporary access roads or existing access roads to access

the remainder of the Project. North Baja would implement OHV controls such as soil or rock berms and salvaged vegetation to prevent OHV use in environmentally sensitive areas.

4. Would the Project extend public service to a previously unserved area?

The Project would not extend public service to areas currently unserved by natural gas. The primary result of the North Baja Pipeline Expansion Project would be to meet increased energy demands from existing customers and to provide an alternate supply of natural gas to an existing power plant.

5. Would the Project tax existing community services?

The number of non-local workers would be small relative to current populations in the Project area and local communities have adequate infrastructure and community services to meet the needs of these non-local workers.

6. Would the Project cause development elsewhere?

As stated above, the power plant that would be served by the North Baja Pipeline Expansion Project is not solely dependent on the Project for an energy source. Therefore, the addition or absence of the gas supply from the proposed Project would not affect development. The Project is being proposed to meet existing energy needs and is not dependent upon future power plant expansions. However, the Project would link markets in southern California and other areas of the Southwest with an alternative source of natural gas.

During the scoping process, a comment was received from the EPA requesting that the growth and resulting impacts attributable to the IID Lateral be addressed. The IID Lateral would provide an alternate source of natural gas to the El Centro Generating Station and would have additional capacity that could support future expansions of the station. As discussed in Section 1.4.1, the IID has proposed an expansion at the station (the Unit 3 Repower) to serve the growing electrical load demands of the region. The El Centro Generating Station could be further expanded if and when IID determines that the electrical needs within its service territory have grown or will grow sufficiently to need additional generation.

While the Project is not associated with or dependent upon any specific expansions of power generation facilities or other industrial or residential developments, the availability of an alternative source of natural gas to the region could affect economic growth by exerting downward pressure on natural gas prices, by increasing competition among gas-producing regions. Lower or stable natural gas pricing could, in combination with other factors, either contribute to a positive economic climate conducive to growth, or moderate a scenario where higher gas prices may inhibit growth.

If the North Baja Pipeline Expansion Project is constructed, additional pipeline capacity would be available, which could potentially accommodate future projected growth in the Southwest and southern California regions. For this additional pipeline capacity to be fully utilized, the capacity of the Gasoducto Bajanorte pipeline would need to be doubled by looping the pipeline and adding compression. However, there is no evidence that the growth projected for the regions would be constrained by any assumed lack of availability of natural gas. Therefore, although the Project could support the projected growth, the growth could occur whether or not the Project is constructed.

Summary

The potential growth-inducing impact of the North Baja Pipeline Expansion Project would be the delivery of an alternative or additional source of natural gas to existing natural gas users as described in Section 1.1. Providing an alternate fuel supply could lead to a positive economic environment conducive to growth or prevent increases in energy costs that might restrict growth. The existing power plant that would be supplied by the North Baja Pipeline Expansion Project (i.e., the IID El Centro Generating Station) would not be solely dependent on the gas supplied by the Project. Potential infrastructure growth might occur with or without the construction of the pipeline and thus would not be attributable to the proposed Project. However, to the extent that the IID Unit 3 Repower Project would diversify its suppliers of natural gas, the additional gas supplied by the proposed Project could be a growth-inducing impact.

4.17 ENVIRONMENTAL JUSTICE

Environmental justice is concerned with the question of whether a proposed project would expose minority or disadvantaged populations to proportionately greater risks or impacts compared to those borne by other individuals. This section identifies populations with a relatively high representation of minority or low-income status and evaluates whether the proposed Project would result in significant adverse effects that disproportionately affect identified minority or low-income populations.

4.17.1 Significance Criteria

An environmental justice impact would be considered significant if Project construction or operation would:

- result in a disproportionately high and adverse effect or impact. This “means an adverse effect or impact that: (1) is predominantly borne by any segment of the population, including a minority and/or a low-income population; or (2) would be suffered by a minority and/or low-income population and is appreciably more severe, or greater in magnitude, than the adverse effect or impact that would be suffered by a non-minority and/or non-low-income population.” (*Toolkit for Assessing Potential Allegations of Environmental Injustice* [EPA 2004]).

4.17.2 Background and Regulatory Setting

The EPA defines environmental justice as the “fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” Similarly, environmental justice is defined in California State planning law as the “fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.” The EPA’s *Toolkit for Assessing Potential Allegations of Environmental Injustice* (EPA 2004) provides the following definitions for use in analyzing environmental justice impacts:

- Low-income means a person whose median household income is at or below the U.S. Department of Health and Human Services poverty guidelines.
- Low-income population means any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant farm workers or Native Americans) who will be similarly affected by a proposed project or action.
- Minority means a person, as defined by the U.S. Bureau of Census, who is a: (1) Black American (a person having origins in any of the black racial groups of Africa); (2) Hispanic person (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American or Pacific Islander (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian or Alaskan Native (a person having origins in any of the original people of North America and maintains cultural identification through tribal affiliation or community recognition).
- Minority population means any readily identifiable group of minority persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient

persons (such as migrant farm workers or Native Americans) who will be similarly affected by a proposed project or action. Minority populations should be identified where either: (1) the minority population of the affected area exceeds 50 percent or (2) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

The major Federal and State laws, regulations, policies, and plans related to environmental justice are summarized in Table 4.17.2-1. No regional or local environmental justice policies and/or assessments have been performed by agencies within the study area.

To determine whether disproportionately high and adverse effects or impacts would occur, the EPA recommends a four-step process for carrying out an environmental justice assessment: (1) problem formation; (2) data collection; (3) assessment of the potential for adverse impacts; and (4) assessment of the potential for disproportionately high adverse impacts (EPA 2004).

During the problem formation step, the affected area is identified. The data collection step involves identifying environmental sources of stress and the likelihood of exposure, and collecting health-related, demographic, social, and economic data on the affected area. The third step involves assessing the adverse impacts on the environment and human health, and the fourth step is determining whether adverse impacts are disproportionately high in the affected area compared with the reference population. The use of specific components of this methodology is intended to be flexible. These steps are discussed below.

4.17.3 Identification of Affected Area for Environmental Justice Analysis

As discussed in Section 4.14.2, the DOT has developed a criterion for identifying HCAs. HCAs are calculated using a PIR, which is the radius of a circle within which the potential failure of a pipeline could have considerable impact on people or property. The PIR is proportional to the maximum allowable pipeline pressure and the pipeline diameter and was used to determine the specific area of potential impact associated with the Project. After the PIR for the B-Line, Arrowhead Extension, and IID Lateral facilities was determined, the affected census tracts within the PIR were identified. Table 4.17.3-1 identifies the PIR associated with the proposed pipelines as well as the affected census tracts within the PIR.

Within the census tracts affected by the PIR, census block-level data were analyzed for ethnic and racial data and census block group-level data were analyzed for income-related data. As previously discussed, approximately 89 percent of the land affected by construction and operation of the Project would be authorized by the BLM on public lands (including lands managed by the BLM, the BOR, and the FWS) (53 percent), California counties (36 percent), the States of Arizona or California or cities (less than 1 percent), or the CSLC (less than 1 percent). The remainder of the land that would be affected (11 percent) is privately owned. Because of the large amount of public land crossed, most of the census blocks along the proposed pipeline routes (about 79 percent) are unpopulated (see Table 4.17.3-2). In total, the PIR associated with the proposed Project would affect 1 populated census block in La Paz County, 34 populated census blocks in Riverside County, and 40 populated census blocks in Imperial County. These 75 populated census blocks within the PIR were, therefore, considered the area of potential impact for the purposes of the environmental justice analysis.

TABLE 4.17.2-1

Major Laws, Regulatory Requirements, Policies, and Plans for Environmental Justice

Law/Regulation/Policy/Agency	Key Elements and Thresholds
FEDERAL	
Equal Protection Clause of the U.S. Constitution	<ul style="list-style-type: none"> The Fourteenth Amendment expressly provides that the States may not "deny to any person within [their] jurisdiction the equal protection of the laws."
Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (referred to as Executive Order 12898) (1994)	<ul style="list-style-type: none"> Designed to focus attention on environmental and human health conditions in areas of high minority populations and low-income communities, and promote non-discrimination in programs and projects substantially affecting human health and the environment. Requires the U.S. Environmental Protection Agency (EPA) and all other Federal agencies (as well as State agencies receiving Federal funds) to develop strategies to address this issue. Requires that disproportionately high and adverse health or environmental impacts on minority and low-income populations be avoided or minimized to the extent feasible. Requires Federal agencies to achieve environmental justice by identifying and addressing disproportionately high and adverse human health and environmental programs, policies, and activities on minority populations and low-income populations in the United States.
Environmental Justice Implementation Plan (1997)	<ul style="list-style-type: none"> Supplements the EPA environmental justice strategy and provides a framework for the development of specific plans and guidance for implementing Executive Order 12898.
Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis (1998)	<ul style="list-style-type: none"> Provides a framework for the assessment of environmental justice in the preparation of environmental impact statements (EISs) and environmental assessments under the National Environmental Policy Act (NEPA). Emphasizes the importance of selecting an analytical process appropriate to the unique circumstances of the potentially affected community.
Toolkit for Assessing Potential Allegations of Environmental Injustice (2004)	<ul style="list-style-type: none"> Provides a conceptual and substantive framework for understanding the EPA's environmental justice program. Presents a systematic approach with reference tools that can be used and adapted to assess and respond to potential allegations of environmental injustice as they occur, or to prevent injustices from occurring in the first place.
Title 49 Code of Federal Regulations Part 192	<p>The Final Rule on Operator Public Awareness Programs (May 2005) states, in part, that:</p> <ul style="list-style-type: none"> The operator's [public awareness] program must specifically include provisions to educate the public, appropriate government organizations, and persons engaged in excavation-related activities. The program must include activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations. The program and the media used must be as comprehensive as necessary to reach all areas in which the operator transports gas. The program must be conducted in English and in other languages commonly understood by a significant number and concentration of the non-English speaking population in the operator's area.
STATE	
California Constitution	<ul style="list-style-type: none"> Provides for equal protection.
Government Code Section 65040.12	<ul style="list-style-type: none"> Defines environmental justice and designates the Office of Planning and Research as the coordinator for the State's environmental justice program.
Government Code Section 65040.2	<ul style="list-style-type: none"> Requires the Office of Planning and Research to develop environmental justice guidelines for local general plans.

TABLE 4.17.2-1 (cont'd)

Major Laws, Regulatory Requirements, Policies, and Plans for Environmental Justice	
Law/Regulation/Policy/Agency	Key Elements and Thresholds
Governor's Office of Planning and Research - State of California General Plan Guidelines	<ul style="list-style-type: none"> Provides guidelines for local agencies on integrating environmental justice issues into their general plans. Identifies procedural and geographic inequity. Recommends that cities and counties develop public participation strategies that allow for early and meaningful community involvement in the general plan process by all affected population groups. Recommends gathering socioeconomic data to improve the public participation process, identify underserved neighborhoods, plan for infrastructure and housing, and identify low-income and minority neighborhoods in which industrial facilities and uses that pose a significant hazard to human health and safety may be overconcentrated. Recommends incorporating policies supportive of environmental justice in all of the mandatory elements of the general plan.
California State Lands Commission (CSLC) – Environmental Justice Policy Statement in April 2002, amended October 2002 (see www.slc.ca.gov for the entire policy statement)	<ul style="list-style-type: none"> Developed to ensure equity and fairness in the CSLC's processes and procedures, including that "environmental justice is an essential consideration in the Commission's processes, decision, and programs and that all people who live in California have a meaningful way to participate in these activities." Stresses equitable treatment of all members of the public and commits to consider environmental justice in its processes, decision-making, and regulatory affairs, which are implemented, in part, through identification of and communication with relevant populations that could be adversely and disproportionately impacted by CSLC projects or programs and by ensuring that a range of reasonable alternatives is identified that would minimize or eliminate environmental impacts affecting such populations. The staff of the CSLC is required to report back to the Commission on how environmental justice is integrated into its programs, processes, and activities.

TABLE 4.17.3-1				
Potential Impact Radius Associated with the North Baja Pipeline Expansion Project				
Facility/Milepost Range	Location	Pipe Diameter (inches)	Potential Impact Radius (feet)	Census Tracts Affected
B-Line				
MPs 0.0 to 0.2	La Paz County, Arizona	42	982 ^a	206
MPs 0.2 to 11.7	Riverside County, California	42	982 ^a	459, 460
MPs 11.7 to 22.3	Riverside County, California	48	1,123 ^a	458, 459
MPs 22.3 to 79.8	Imperial County, California	48	1,123 ^a	124
Arrowhead Extension				
MPs 0.0 to 2.1	Riverside County, California	36	842	459
IID Lateral				
MPs 0.0 to 45.7	Imperial County, California	16	374	108, 112.01, 113, 114, 124
^a A simultaneous failure of the existing A-Line would fall within the footprint of a failure of the proposed B-Line (which is the bigger diameter).				

TABLE 4.17.3-2			
Unpopulated Census Blocks within the Potential Impact Radius Associated with the North Baja Pipeline Expansion Project			
State/County	Number of Census Blocks	Number of Unpopulated Census Blocks	Unpopulated Percent
Arizona			
La Paz County	5	4	80.0
California			
Riverside County	94	60	63.8
Imperial County	263	223	84.8
Project Total	362	287	79.3
Source: U.S. Bureau of the Census, American FactFinder 2000a.			

4.17.4 Demographic and Economic Data

This section describes the composition and distribution of minority and low-income populations in the States of Arizona and California as well as the counties and populated census blocks affected by the PIR associated with the Project and identifies populations with a relatively high representation of minority or low-income status. Because most of the facilities associated with the proposed Project are in rural, unincorporated areas, county-level data rather than city-level data were used as a reference population in this analysis. The U.S. Census Bureau's American FactFinder 2000 database was analyzed to obtain the racial and ethnic composition of smaller geographic areas, including census tracts, census block groups, and census blocks, to identify potential pockets of minority communities that may not be apparent when analyzing aggregated data on a county or State level.¹³ Once populations with a relatively

¹³ A census tract, which averages about 4,000 inhabitants, is delineated as a relatively homogeneous unit with respect to population characteristics, economic status, and living conditions. A subdivision of a census tract, a census block group is the smallest geographic unit for which the U.S. Census Bureau tabulates sample data. A census block group consists of all the blocks within a census tract with the same beginning number. A census block is the smallest geographic unit for which the U.S. Census Bureau tabulates 100 percent data. Many census blocks correspond to individual city blocks bounded by streets; however, census blocks, especially in rural areas, may include many square miles and may have some boundaries that are not streets.

high representation of minority or low-income status are identified, the impact analysis in Section 4.17.5 discusses whether the Project would disproportionately affect such identified minority or low-income populations.

4.17.4.1 Minority Population

Table 4.17.4-1 presents the ethnic and racial composition of the population in the States, Counties, and populated census blocks affected by the Project.¹⁴

TABLE 4.17.4-1									
Summary of Racial and Ethnic Demographics within the Potential Impact Radius Associated with the North Baja Pipeline Expansion Project ^a									
Location	Total Population	Percent White	Percent Black or African American	Percent American Indian & Alaska Native	Percent Asian	Percent Native Hawaiian & Other Pacific Islander	Percent Other Race	Percent Hispanic or Latino -Any Race	Percent Minority
Arizona	5,130,632	75.5	3.1	5.0	1.8	0.1	14.5	25.3	24.5
La Paz County	19,715	74.2	0.8	12.5	0.4	0.1	12.0	22.4	25.8
Census Blocks Affected by the B-Line	4	75.0	0.0	25.0	0.0	0.0	0.0	0.0	25.0
California	33,871,648	59.5	6.7	1.0	10.9	0.3	21.6	32.4	40.5
Riverside County	1,545,387	65.6	6.2	1.2	3.7	0.3	23.0	36.2	34.4
Census Blocks Affected by the B-Line and Arrowhead Extension	725	73.0	4.4	1.7	0.1	0.6	20.3	32.4	27.0
Imperial County	142,361	49.4	4.0	1.9	2.0	0.1	42.6	72.2	50.6
Census Blocks Affected by the B-Line and IID Lateral	622	63.0	3.1	1.3	0.2	0.0	32.5	58.5	37.0
^a 2004 data are available for the State and county levels, but are not available for census block levels. In order to be consistent, 2000 data were used throughout. Source: U.S. Bureau of the Census, Census 2000a.									

As shown in Table 4.17.4-1, the Hispanic or Latino population within the census blocks affected by the B-Line and IID Lateral in Imperial County is 58.5 percent, which is greater than the 50 percent threshold used by the EPA to define a minority population. However, the percentage of Hispanic population affected by the Project in Imperial County is less than the percentage of the Hispanic population in the county as a whole (72.2 percent). Although there are too few individuals living in La Paz County's affected census blocks for derived statistics to be meaningful (only four people total), they are in the tables of this section for the sake of completeness. In the census blocks potentially affected by the B-Line and Arrowhead Extension within Riverside County, 1.7 percent is American Indian and/or

¹⁴ Historically, the U.S. Census Bureau has classified race and Hispanic origin as two separate concepts. The recent introduction of the option to report more than one race added more complexity to the presentation and comparison of U.S. Census data. Race and Hispanic origin are two separate concepts in the Federal statistical system. People who are Hispanic may be of any race. Each person has two attributes, their race (or races) and whether or not they are Hispanic. Overlap of race and Hispanic origin is the main comparability issue. For more information on the definition of the term "Hispanic" see U.S. Census Bureau, 2004 <http://www.census.gov/population/www/socdemo/compraceho.html>. This document uses the term "Hispanic or Latino."

Alaska Native, and 0.6 percent is Native Hawaiian and/or Other Pacific Islander, which is an appreciably higher percentage than the county average as a whole (1.2 and 0.3 percent, respectively). Within the census blocks potentially affected by the B-Line and IID Lateral in Imperial County, there are no minority populations that comprise a higher percentage of the total population than the county as a whole. Therefore, the detailed census block analysis of the ethnic composition of the population focuses only on the Hispanic or Latino population in the census blocks potentially affected by the B-Line and IID Lateral in Imperial County (see Table 4.17.4-2), the American Indian and/or Alaska Native population affected by the B-Line in La Paz County (see Table 4.17.4-3), and the American Indian and/or Alaska Native and Native Hawaiian and/or Other Pacific Islander populations affected by the B-Line and Arrowhead Extension in Riverside County (see Table 4.17.4-4).

TABLE 4.17.4-2			
Populated Census Blocks Containing Hispanic or Latino Populations within the Potential Impact Radius Associated with the North Baja Pipeline Expansion Project in Imperial County			
Location	Total Population	Total Number of Hispanic or Latino Individuals	Percent Hispanic or Latino
California	33,871,648	10,966,556	32.4
Imperial County	142,361	102,817	72.2
Census Tract 108, Block 1379	2	2	100.0
Census Tract 108, Block 1398	8	2	25.0
Census Tract 108, Block 2054	5	5	100.0
Census Tract 108, Block 2078	5	5	100.0
Census Tract 108, Block 2083	2	2	100.0
Census Tract 112.01, Block 2014	39	37	94.9
Census Tract 113, Block 1055	9	7	77.8
Census Tract 113, Block 1057	19	12	63.2
Census Tract 113, Block 1058	149	114	76.5
Census Tract 113, Block 1065	48	40	83.3
Census Tract 113, Block 1070	61	45	73.8
Census Tract 113, Block 1072	13	2	15.4
Census Tract 113, Block 1100	8	4	50.0
Census Tract 113, Block 1107	16	8	50.0
Census Tract 113, Block 1115	6	6	100.0
Census Tract 113, Block 1116	8	6	75.0
Census Tract 113, Block 1120	2	2	100.0
Census Tract 113, Block 1152	3	1	33.3
Census Tract 113, Block 2000	53	38	71.7
Census Tract 113, Block 5018	2	1	50.0
Census Tract 124, Block 2101	21	6	28.6
Census Tract 124, Block 2493	6	1	16.7
Census Tract 124, Block 2568	38	18	47.4

Source: U.S. Bureau of the Census, Census 2000a.

TABLE 4.17.4-3			
Populated Census Blocks Containing American Indian or Alaska Native Populations within the Potential Impact Radius Associated with the North Baja Pipeline Expansion Project in La Paz County			
Location	Total Population	Total Number of American Indian or Alaska Native Individuals	Percent American Indian or Alaska Native
Arizona	5,130,632	255,879	5.0
La Paz County	19,715	2,470	12.5
Census Tract 206, Block 1075	4	1	25.0
Source: U.S. Bureau of the Census, Census 2000a.			

TABLE 4.17.4-4					
Populated Census Blocks Containing American Indian, Alaska Native, Native Hawaiian, and Other Pacific Islander Populations within the Potential Impact Radius Associated with the North Baja Pipeline Expansion Project in Riverside County					
Location	Total Population	Total Number of American Indian & Alaska Native	Percent American Indian & Alaska Native	Total Number Native Hawaiian & Other Pacific Islander	Percent Native Hawaiian & Other Pacific Islander
California	33,871,648	333,346	1.0	116,961	0.3
Riverside County	1,545,387	18,168	1.2	3,902	0.3
Census Tract 458, Block 6214	68	1	1.5	0	0.0
Census Tract 459, Block 1122	12	6	50.0	0	0.0
Census Tract 460, Block 2014	116	1	0.9	0	0.0
Census Tract 460, Block 2037	30	2	6.7	4	13.3
Census Tract 460, Block 2056	68	2	2.9	0	0.0
Source: U.S. Bureau of the Census, Census 2000a.					

The census block data presented in Table 4.17.4-2 show the number and percent of the population that are Hispanic or Latino in the blocks that contain those populations within the PIR of the Project in Imperial County. The percentage of Hispanics or Latinos in each census block are presented in comparison with county and State percentages. When looking at the affected census blocks, 14 of the affected blocks contain greater than 50 percent Hispanic or Latino populations. Of these 14 blocks, 12 also contain a higher percentage of Hispanics or Latinos than the county average as a whole.

Table 4.17.4-3 shows the number and percentage of persons identifying themselves as American Indians and/or Alaska Natives in the populated census block affected in La Paz County. The percentage of American Indians and/or Alaska Natives in this census block is presented in comparison with county and State percentages. In 2000, the percentage of American Indians and/or Alaska Natives comprised 25 percent of the total population in the populated block. This percentage is twice the percentage of the county as a whole, and five times the average for the State of Arizona (12.5 and 5 percent, respectively). It is important to note, however, that this census block contains only four persons, of which one is American Indian or an Alaska Native.

The census block data presented in Table 4.17.4-4 show the number and percent of the population that are American Indians, Alaska Natives, Native Hawaiians, and/or Other Pacific Islanders in the blocks that contain those populations within the PIR of the B-Line and Arrowhead Extension in Riverside County. The percentage of American Indians, Alaska Natives, Native Hawaiians, and/or Other Pacific Islanders in each census block is presented in comparison with county and State percentages. Four of the

five populated census blocks identified in Table 4.17.4-4 have higher percentages of American Indians and/or Alaska Natives than the county as a whole. In addition, one census block has four Native Hawaiians and/or Other Pacific Islanders, comprising 13.3 percent of the population, compared to an average of 0.3 percent for both the county and State.

It should be noted that because of the often irregular sizes and shapes of census blocks, not all residents included in each block identified as having minority populations live in close enough proximity to the proposed pipeline route to be impacted. Nevertheless, the data show that minority populations are present along the proposed pipeline routes and, therefore, there is a potential for disproportionate adverse impacts on these minority communities.

Although the information discussed in this section is based on information from the U.S. Bureau of the Census, the potential exists for migrant minority populations to have been underestimated by the census in the Project area. In California, this can occur in areas with large populations of migrant workers associated with large agricultural operations, particularly orchards. It is possible that such populations exist within the Project area in the agricultural areas concentrated near Blythe and the western portion of the IID Lateral; however, based on a review of aerial photographs, no orchards occur on the land that would be affected by the Project. Nevertheless, there is a potential for disproportionate adverse impacts on these communities.

As discussed in Section 4.17.3, the majority of the census blocks within the PIR associated with the Project are unpopulated. Even though the census blocks are unpopulated, there can still be an environmental justice concern if property is owned by a member of a minority group or there are resources such as traditional cultural properties nearby. The majority of the land associated with the unpopulated census blocks is managed by Federal agencies (i.e., the BLM, the BOR, the FWS). No tribal lands would be crossed. In addition, no traditional cultural properties have been identified in the proposed Project's area of potential effect to date (see Section 4.11.5).

4.17.4.2 Income Distribution in the Project Area

Table 4.17.4-5 presents the income distribution within the Project area based on statistics from the U.S. Census Bureau. The U.S. Census Bureau uses the poverty guidelines developed annually by the U.S. Department of Health and Human Services to determine the percentage of the population living below the poverty line. The poverty guidelines do not vary geographically within the conterminous United States and are determined based on the size of the family, ages of family members, and the total family income. On average, La Paz, Riverside, and Imperial Counties all had significantly lower annual per capita and household income levels and similar or higher poverty levels than their respective State averages. However, in the case of Riverside and Imperial Counties, this is due in part to these counties being more rural than the highly urbanized western portion of the State of California.

TABLE 4.17.4-5				
Summary of Income Distribution within the Potential Impact Radius Associated with the North Baja Pipeline Expansion Project				
Location	Total Population (2000)	Per Capita Income (1999)	Median Household Income (1999)	Percentage of Persons Below Poverty (1999)
Arizona	5,130,632	\$20,275	\$40,558	13.6
La Paz County	19,715	\$14,916	\$25,839	19.3
Census Tract 206, Block Group 1	1,356	\$14,372	\$27,000	22.6
California	33,871,648	\$22,711	\$47,493	13.9
Riverside County	1,545,387	\$18,689	\$42,887	13.9
Census Tract 458, Block Group 6	1,440	\$11,303	\$27,404	28.3
Census Tract 459, Block Group 1	963	\$18,562	\$40,893	15.3
Census Tract 459, Block Group 2	994	\$8,236	\$20,625	32.9
Census Tract 460, Block Group 2	702	\$20,872	\$36,071	29.1
Imperial County	142,361	\$13,239	\$31,870	20.8
Census Tract 108, Block Group 1	608	\$15,776	\$34,219	35.2
Census Tract 108, Block Group 2	877	\$22,868	\$49,844	2.1
Census Tract 112.01, Block Group 2	1,030	\$10,526	\$30,667	12.0
Census Tract 113, Block Group 1	870	\$12,906	\$37,625	17.5
Census Tract 113, Block Group 2	1,377	\$11,021	\$30,815	23.2
Census Tract 113, Block Group 5	1,404	\$12,331	\$47,083	8.5
Census Tract 124, Block Group 2	637	\$13,286	\$16,389	28.6
Source U.S. Bureau of the Census, Census 2000a.				

A review of the block group data from the 2000 census shows that the poverty rate along the B-Line in La Paz County is 22.6 percent, which is higher than the county average of 19.3 percent although the median household income for the affected block group is higher than the county average (\$27,000 compared to \$25,839). All four of the block groups within the PIR of the proposed B-Line and Arrowhead Extension in Riverside County have lower median household incomes and higher poverty rates than the county average. In Imperial County, the PIR associated with the B-Line and IID Lateral would affect three block groups with lower median household incomes than the county average. Two of these three block groups also have higher poverty rates than the county average. A third block group also has a higher poverty rate than the county average but its median household income is above the county average. In summary, the data show that low-income populations are present along the proposed pipeline routes. Therefore, there is a potential for disproportionate adverse impacts on these low-income populations.

4.17.5 Impact Analysis

Not all impacts identified in this EIS/EIR are considered to affect minority or low-income populations. Examples of Project-related impacts that are considered impacts with potential environmental justice issues are described below.

The main adverse impacts associated with construction of the proposed Project would be the temporary noise, dust, and traffic congestion, none of which are considered significant adverse impacts after mitigation. These impacts would occur along the entire pipeline routes and in areas with a variety of socioeconomic backgrounds. Therefore, these impacts are not considered to result in a disproportionately high and adverse effect or impact on minority or low-income populations. As a result, this analysis does

not evaluate construction-related impacts any further. Impacts associated with operation of the Project are described below.

None of the proposed facilities would result in increased air emissions during operation (see Section 4.12.4). The pipeline facilities would be buried and would, therefore, not have an impact on visual resources during operation. As discussed in Section 4.8.7, construction of the new aboveground facilities would have a permanent impact on visual resources, and modifications at the existing aboveground facilities would result in an incremental increase in impacts on visual resources but would generally be minor because of the presence of the existing facilities. The impacts on visual resources associated with these facilities are considered to be less than significant and are, therefore, not considered to result in a disproportionately high and adverse effect or impact on minority or low-income populations.

The long-term potential public safety impacts associated with operation of the pipelines (the potential for a release of natural gas from a leak or rupture of the pipelines followed by ignition and burning of the gas cloud) could represent an environmental justice concern. However, construction and operation of the proposed facilities would affect a mix of ethnic and socioeconomic areas in the Project area as a whole. In addition, the pipeline and aboveground facilities associated with the Project would be designed, constructed, operated, and maintained in accordance with or to exceed the DOT Minimum Federal Safety Standards in Title 49 CFR Part 192 and the CPUC, General Order 112-E. These regulations, which are intended to protect the public and to prevent natural gas facility accidents and failures, apply to all areas along the proposed pipeline routes regardless of the presence or absence of minority or low-income populations. As discussed in Section 4.14.2, none of the safety-related potential impacts associated with the Project are considered significant. Therefore, the safety-related impacts are not considered to result in a disproportionately high and adverse effect or impact on minority or low-income populations.

Executive Order 12898 emphasizes the importance of providing opportunities for community input into the NEPA process. Similarly, the CSLC's Environmental Justice Policy stresses communication and public involvement in the decision-making process. Information on the public notification and participation process conducted for the proposed Project is provided in Section 1.3. A recent Final Federal Rule, published in May 2005 for Title 49 CFR Part 192, requires the operator to include, in its public awareness plans, measures to prepare and distribute a comprehensive program that includes activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations. The program must be conducted in English and in other languages commonly understood by a significant number and concentration of the non-English speaking population in the operator's area. As discussed in Section 1.3, open houses and public scoping meetings were held in the Project area in July and September of 2005 to inform the public about the Project and provide an opportunity for the public to ask questions and express concerns. The draft EIS/EIR was issued in September 2006 and the public was given 90 days to review and comment on the document in the form of written comments and at two public meetings held in the Project area in December 2006. These public input opportunities were announced in the local newspapers in English and Spanish, and Spanish translators were present at the public meetings.

4.17.6 No Project Alternative

Under the No Project Alternative, the FERC would deny North Baja's application for a Certificate and a Presidential Permit amendment, the CSLC would deny North Baja's application for an amendment to its right-of-way lease across California's Sovereign and School Lands, and the BLM would deny North Baja's application to amend its existing Right-of-Way Grant and obtain a Temporary Use Permit for the portion of the Project on Federal lands. The No Project Alternative means that the Project would not go forward and the Project-related facilities would not be installed. Accordingly, none of the

potential environmental impacts identified for the construction and operation of the proposed Project would occur.

Because the proposed Project is privately funded, it is unknown whether North Baja would fund another energy project in California. However, should the No Project Alternative be selected, the energy needs identified in Section 1.1 would likely be addressed through other means, such as through other LNG or natural gas-related pipeline projects. Such projects may result in potential environmental impacts of the nature and magnitude of the proposed Project as well as impacts particular to their respective configurations and operations; however, these impacts cannot be predicted with any certainty at this time.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF THE STAFFS' ENVIRONMENTAL ANALYSIS

The Agency Staffs have determined that construction and operation of the North Baja Pipeline Expansion Project would result in adverse environmental impacts. These impacts would be most significant during the period of construction. This determination is based on a review of the information provided by North Baja and further developed from data requests; field investigations; scoping; literature research; alternatives analysis; and contacts with Federal, State, and local agencies, and individual members of the public. The Agency Staffs have concluded, however, that the Project would be an environmentally acceptable action. Although many factors were considered in this determination, the principal reasons are:

- 99 percent of the proposed pipeline facilities would be constructed in or adjacent to various existing rights-of-way;
- no new permanent right-of-way would be required for the B-line, and the permanent rights-of-way for the Arrowhead Extension and the IID Lateral would be limited to a maximum width of 35 feet and 30 feet, respectively;
- North Baja would implement its CM&R Plan, SPCC Plan, HDD Plan, Traffic Management Plans, Blasting Specifications, PRMM Plan, Dust Control Plan, Fire Prevention and Suppression Plan, Site-specific Residential Construction Mitigation Plans, OHV Plan, POD, and Unanticipated Discovery Plan for Cultural Resources to protect natural and cultural resources and residential areas during construction and operation of the Project;
- use of the HDD method would avoid disturbances to the beds and banks of the Colorado River, the All-American Canal, and the East Highline Canal and associated wetlands/riparian areas;
- the appropriate consultations with the FWS, the CDFG, the SHPOs, and Native American tribes would be completed before North Baja would be allowed to begin construction in any given area; and
- an environmental inspection and MMP would ensure compliance with all mitigation measures that become conditions of the FERC Certificate, the CSLC's amended lease, and other approvals.

In addition, the Agency Staffs developed specific mitigation measures to further reduce the environmental impact that would otherwise result from construction of the Project. The FERC and CSLC staffs are recommending that these mitigation measures be attached as conditions to any authorizations issued by the FERC and the CSLC. These mitigation measures are presented in Section 5.6. The BLM will present, in its Records of Decision for the North Baja Pipeline Expansion Project, its own recommendations that incorporate the concurrence or non-concurrence of the BOR and the FWS.

Table 5.1-1 presents a summary of the Project's potential environmental impacts and the mitigation measures identified to avoid or reduce each impact. The impacts are classified before and after mitigation in accordance with the CEQA significance classifications. Table 5.1-1 also lists the agency(ies) responsible for monitoring each of the mitigation requirements. With a few exceptions,

discussed in Section 5.4, North Baja's proposed and/or the Agency Staffs' recommended mitigation would reduce potential environmental impacts to less than significant levels. Table 5.1-1 is the basis for the MMP that would be implemented during construction and operation of the North Baja Pipeline Expansion Project.

5.2 ALTERNATIVES CONSIDERED

The No Project Alternative was considered. The Agency Staffs concluded that while the No Project Alternative would eliminate the environmental impacts identified in this EIS/EIR, North Baja would not be able to provide transportation for LNG-source natural gas from the Mexican pipeline system into the United States to meet the demand for natural gas in California and other southwestern U.S. markets. This means customers in the southwestern United States would likely have fewer and potentially more expensive options for obtaining natural gas supplies in the near future. This might lead to alternative proposals to develop natural gas delivery or storage infrastructure, reduced use of natural gas, and/or the use of other sources of energy.

It is possible that the infrastructure currently supplying natural gas to the proposed market area could be developed in other ways unforeseen at this point. This might include constructing or expanding regional pipelines as well as LNG import and storage systems. Any construction or expansion work would result in specific environmental impacts that could be less than, similar to, or greater than those associated with the proposed Project. Increased costs could potentially result in customers conserving or reducing use of natural gas. Although it is possible that additional conservation may have some effect on the demand for natural gas, the level of conservation efforts, as described in the CEC's *2005 Integrated Energy Policy Report* (CEC 2005a), is not expected to significantly reduce the long-term requirements for natural gas or effectively exert downward pressures on gas prices.

Denying North Baja's applications could force potential natural gas customers to seek regulatory approval to use other forms of energy. California regulators are promoting renewable energy programs to help reduce the demand for fossil fuels. While renewable energy programs can contribute as an energy source for electricity, they cannot at this time reliably replace the need for natural gas or provide sufficient energy to keep pace with demand.

Alternatives involving the use of other existing or proposed LNG or natural gas facilities to meet the stated objectives of the proposed Project were evaluated. None of these system alternatives could meet the Project objectives within the time frame of the proposed Project. Furthermore, each of the system alternatives could result in its own set of significant environmental impacts that could be greater than those associated with the proposed Project.

The B-Line deviates from a designated utility corridor on BLM land at five locations in the CDCA. As part of the EIS/EIR for the A-Line, the alternative of following designated utility corridors was considered. Based on the analysis conducted for that project, the route selected for the A-Line, including the deviations from designated utility corridors and the crossing of the Milpitas Wash SMA, was determined to be environmentally preferable to a route that remained within designated utility corridors. The proposed B-Line would be adjacent to the existing A-Line for the entire route. The collocation of facilities is generally preferred by land management agencies, land use planners, and other regulatory agencies and has several inherent engineering and environmental advantages. Perhaps the most important of these advantages is that new land disturbance is minimized. Because of the advantages of collocation, and because the route selected for the A-Line that would be followed for the B-Line was previously determined to be environmentally preferable to a route that remains within a designated utility corridor, alternatives for the B-Line route that would follow designated utility corridors were not considered. One route alternative (22nd Avenue Alternative) in comparison with the corresponding

segment of the proposed B-Line was evaluated. The 22nd Avenue Alternative would avoid 18th Avenue. The 22nd Avenue Alternative was eliminated because it would merely transfer impacts from one or more property owners or communities to another without conferring obvious environmental advantages.

Eight route alternatives were evaluated in comparison with the corresponding segment of the proposed IID Lateral. Along the IID Lateral, North Baja proposes to deviate from a designated utility corridor at three locations within the CDCA. Two alternatives (Corridor L and Bonds Corner Alternatives) were evaluated to stay within a designated utility corridor for a longer distance than the proposed route. Four alternatives (CalTrans, ISDRA North, ISDRA Transmission Line, and ISDRA Grays Well Road Alternatives) were identified to avoid potential conflicts of the IID Lateral with existing and planned recreational use in the ISDRA. One alternative (the Modified ISDRA Transmission Line Alternative) was identified to avoid impacts on a cultural resources site. The eighth alternative (Gasoducto Bajanorte Pipeline Route Alternative) would connect directly from the Gasoducto Bajanorte pipeline west of Mexicali to the IID's El Centro Generating Station. The Agency Staffs determined that the Modified ISDRA Transmission Line Alternative is environmentally superior to the corresponding segment of the IID Lateral and are recommending that it be adopted. The remaining IID Lateral alternatives were eliminated because they would not be environmentally preferable to the corresponding segment of the IID Lateral, would be infeasible, or would not meet the Project objectives.

Four route variations (East Mesa Route Variation and Imperial Valley Route Variations A, B, and C) in comparison with the corresponding segment of the proposed IID Lateral were evaluated to avoid potential conflicts with other projects or address scoping comments. These route variations were eliminated because they would not be environmentally preferable to the corresponding segment of the IID Lateral, would be infeasible, or would merely transfer impacts from one or more property owners or communities to another without conferring obvious environmental advantages.

Aboveground facility site alternatives were evaluated. All of the proposed new and modified aboveground facilities are designed to meet the purpose and need of the North Baja Pipeline Expansion Project. The location of these facilities is dictated by the location of the existing and proposed pipelines and, in most cases, the proposed facilities would be collocated with existing and/or other proposed facilities. No significant impacts have been identified at any of the new or modified facilities; therefore, the alternative that would result in the creation of new industrial sites would not be environmentally preferable to the proposed Project and thus was eliminated from further consideration.

5.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines (section 15126.6(d)) require that an EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed Project. An analysis of the No Project Alternative in comparison with the proposed Project is included in the major resource topics in Section 4. Based on the analysis in this EIS/EIR, the No Project Alternative would eliminate the environmental impacts associated with the proposed Project and, therefore, is the environmentally superior alternative. However, as discussed above, under the No Project Alternative North Baja would not be able to provide transportation for LNG-source natural gas from the Mexican pipeline system into the United States to meet the growing demand for natural gas in California and other southwestern U.S. markets.

Section 15126.6(e)(2) of the State CEQA Guidelines provides, in part, "If the environmentally superior alternative is the "No Project Alternative," the EIR shall also identify an environmentally superior alternative among the other alternatives." The Agency Staffs have determined that the proposed Project with the incorporation of the Modified ISDRA Transmission Line Alternative is the

environmentally superior alternative. The incorporation of the Modified ISDRA Transmission Line does not affect the length of the Project that would require a BLM plan amendment.

5.4 SIGNIFICANT UNAVOIDABLE IMPACTS/STATEMENT OF OVERRIDING CONSIDERATIONS

Effects on all resources were evaluated to determine any significant impact that would remain so after mitigation. As shown in Table 5.1-1, most environmental impacts would be reduced to less than significant levels by North Baja's proposed and/or the Agency Staffs' recommended mitigation. The Agency Staffs have determined that the Project is likely to adversely affect the Federal and California-listed threatened desert tortoise and its designated critical habitat and the federally listed threatened and California-listed endangered Peirson's milk-vetch. The Agency Staffs also believe that impacts on the flat-tailed horned lizard, which is a California-listed special concern species, and its habitat would be considered significant. As such, impacts on these three species would be considered significant. Approval of the Project would be subject to a Statement of Overriding Considerations under the CEQA due to these significant unavoidable impacts that could remain after all available or feasible mitigation is applied. In the BO issued on April 20, 2007, the FWS concluded that the proposed action is not likely to jeopardize the continued existence of the desert tortoise and its critical habitat or the continued existence of the Peirson's milk-vetch. The CDFG has not yet issued its conclusions regarding the impact of the Project on the desert tortoise, the Peirson's milk-vetch, and the flat-tailed horned lizard.

5.5 IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES; SHORT- AND LONG-TERM USES OF THE ENVIRONMENT

The major nonrenewable resources that would be consumed by the proposed Project are fossil fuels used to power construction vehicles and, over the life of the Project, the pipelines. Theoretically, the pipeline components could be reclaimed at the end of the pipelines' operational life. However, there would be a number of irretrievable resources committed to the proposal if the necessary authorizations are granted. The primary resources irretrievably lost would include:

- soils (water and wind erosion could occur in disturbed areas);
- crop production (lost or reduced for one season);
- special status species (mortalities could occur during construction, additionally, the Agency Staffs have determined that the Project is likely to adversely affect the desert tortoise and its designated habitat and the Peirson's milk-vetch, and significantly impact the flat-tailed horned lizard and its habitat);
- wildlife habitat (construction activities would result in the long-term loss of native desert habitats);
- land use (aboveground facilities and permanent access roads would replace native desert vegetation and urban/ruderal vegetation communities for the life of the Project); and
- visual resources (the presence of aboveground facilities would permanently affect viewsheds).

The Agency Staffs have concluded that overall the proposed Project would result in limited unmitigated adverse environmental impacts. While the losses described above would occur, the majority would be minimized and compensated for by North Baja's mitigation plans and the Agency Staffs'

mitigation measures. For these reasons, the irreversible and irretrievable resource commitments are considered acceptable.

5.6 FERC AND CSLC STAFFS' RECOMMENDED MITIGATION

If the FERC and the CSLC approve the North Baja Pipeline Expansion Project, the FERC and CSLC staffs recommend that the following measures be included as specific conditions of their respective Commission's authorizations, as appropriate, to further mitigate the environmental impact associated with the construction and operation of the Project:

1. North Baja shall follow the construction procedures and mitigation measures described in its applications, supplemental filings (including responses to staff data requests), and as identified in the EIS/EIR, unless modified by the FERC Order. North Baja must:
 - a. file a request for any modification to these procedures, measures, or conditions with the Secretary and the CSLC;
 - b. justify each modification relative to site-specific conditions;
 - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of OEP and, for the lands under the CSLC's jurisdiction as the CEQA Lead Agency, the Executive Officer of the CSLC **before using that modification.**
2. The Director of OEP has delegation authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the Project. This authority shall allow:
 - a. the modification of conditions of the FERC Order; and
 - b. the design and implementation of any additional measures deemed necessary (including stop work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from Project construction and operation.
3. **Prior to any construction**, North Baja shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs before becoming involved with construction and restoration activities.
4. The authorized facility locations shall be as shown in the EIS/EIR, as supplemented by filed alignment sheets, and shall include the Modified ISDRA Transmission Line Alternative. **As soon as they are available, and before the start of construction**, North Baja shall file with the Secretary revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the FERC Order. All requests for modifications of environmental conditions of the FERC Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

North Baja's exercise of eminent domain authority granted under NGA section 7(h) in any condemnation proceedings related to the FERC Order must be consistent with these authorized facilities and locations. North Baja's right of eminent domain granted under NGA section 7(h)

does not authorize it to increase the size of its natural gas pipelines to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. North Baja shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area.**

This requirement does not apply to extra workspace allowed by North Baja's authorized CM&R Plan or minor field realignments per landowner needs and requirements that do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
- b. implementation of endangered, threatened, or special concern species mitigation measures;
- c. recommendations by State regulatory authorities; and
- d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **At least 60 days before the start of construction of Phase I and at least 120 days before the start of construction of Phase I-A and Phase II (unless otherwise agreed to by the CSLC),** North Baja shall file with the CSLC for the review and approval of the Executive Officer:

- a. a set of final engineering design drawings as issued for construction, certified by a California-registered civil/structural engineer. In addition to the pipeline alignments and profiles, the drawings shall provide information such as tie-in details, pipeline grade and material specifications, wall thickness, weight and corrosion coating, minimum bend radius (wherever applicable, such as HDD installations), normal and maximum operating pressure, hydrostatic test information, cathodic protection and test stations, and location and details of the nearest upstream pipeline flow emergency shutdown equipment, etc.;
- b. a set of detailed design calculations certified by a California-registered civil/structural engineer;
- c. for applicable portions of the segments, detailed HDD installation stress calculations and procedures;
- d. certified copies of any site-specific seismic hazard evaluation reports/studies and geotechnical reports;
- e. a set of construction specifications;
- f. detailed hydrotest procedures; and
- g. construction contractor's work execution plan and the contractor's site-specific blasting plan.

7. **Within 60 days of acceptance of the Certificate and before construction**, North Baja shall file an initial Implementation Plan with the Secretary and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC describing how North Baja will implement the mitigation measures required by the FERC Order and the CSLC MMP. North Baja must file revisions to the plan as schedules change. The plan shall identify:
- a. how North Baja will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
 - b. the number of EIs assigned per spread and how North Baja will ensure that sufficient personnel are available to implement the environmental mitigation;
 - c. company personnel, including EIs and contractors, who will receive copies of the appropriate materials;
 - d. what training and instructions North Baja will give to all personnel involved with construction and restoration (initial and refresher training as the Project progresses and personnel change), with the opportunity for OEP and CSLC staffs to participate in the training session(s);
 - e. the company personnel (if known) and specific portion of North Baja's organization having responsibility for compliance;
 - f. the procedures (including use of contract penalties) North Baja will follow if noncompliance occurs; and
 - g. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - i. the completion of all required surveys and reports;
 - ii. the mitigation training of onsite personnel;
 - iii. the start of construction; and
 - iv. the start and completion of restoration.
8. North Baja shall file updated status reports with the Secretary and the CSLC on a **biweekly** basis **until** all construction-related activities, including restoration, are complete. These status reports shall also be provided to other Federal and State agencies with permitting responsibilities upon request. Status reports shall include:
- a. the current construction status of each spread, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
 - b. a listing of all problems encountered and each instance of noncompliance observed by the EI(s) or the third-party compliance monitors during the reporting period (both for the conditions imposed by the FERC and any environmental conditions/permit requirements imposed by other Federal, State, or local agencies);
 - c. corrective actions implemented in response to all instances of noncompliance, and their cost;
 - d. the effectiveness of all corrective actions implemented;
 - e. a description of any landowner/resident complaints that may relate to compliance with the requirements of the FERC Order and the CSLC mitigation monitoring program, and the measures taken to satisfy their concerns; and
 - f. copies of any correspondence received by North Baja from other Federal, State, or local permitting agencies concerning instances of noncompliance, and North Baja's response.

9. North Baja must receive written authorization from the Director of OEP **before commencing service for each component of the Project**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way are proceeding satisfactorily.
10. **Within 30 days of placing the certificated facilities in service**, North Baja shall file an affirmative statement with the Secretary, certified by a senior company official:
 - a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
 - b. identifying which of the Certificate conditions North Baja has complied with or will comply with. This statement shall also identify any areas along the right-of-way where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
11. North Baja shall adopt the Modified ISDRA Transmission Line Alternative between MPs 5.6 and 8.2 of the IID Lateral. *(Page 3-22)*
12. North Baja shall prepare a revised HDD Plan that specifies the corrective action and cleanup procedures that would be followed in the event a frac-out occurs in the water during an HDD operation. North Baja shall file the revised plan with the FERC and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC **before commencement of any HDD operation**. *(Page 4-56)*
13. North Baja shall, in consultation with the FWS, the BLM, and the CDFG, develop Preclearing Plans to protect migratory bird species during construction. These plans shall include specific details of the preclearing methods to be implemented, the specific locations where preclearing would occur, and the dates preclearing would be initiated and completed for each phase of construction. North Baja shall file these plans with the FERC and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC **before initiation of Phase I-A and Phase II construction activities**. *(Page 4-87)*
14. North Baja shall restrict stringing trucks to a 10-mile-per-hour speed limit on the right-of-way between MPs 48.0 and 68.0 of the B-Line. *(Page 4-101)*
15. North Baja shall implement the following measures at the Colorado River during activities associated with the HDD:
 - a. all individuals working within or adjacent to southwestern willow flycatcher habitat shall complete southwestern willow flycatcher training **before working within the construction right-of-way in those areas**; and
 - b. dust shall be strictly controlled by watering construction areas within 1,000 feet of potential habitat at the Colorado River. *(Page 4-102)*
16. North Baja shall implement the following measures to minimize impact on the Yuma clapper rail unless North Baja provides documentation from the FWS and the CDFG that such measures are not necessary or if site-specific surveys fail to identify individuals at the Alamo River or Rannells Drain:
 - a. ensure vegetation at the proposed crossing location of Rannells Drain, extending 150 feet on either side of the proposed construction work area, is cleared **before February 1, 2009**;

- b. ensure vegetation at the proposed crossing location of the Alamo River is cleared **before February 1, 2009**; and
 - c. initiate all construction activities at Rannells Drain and the Alamo River **between the hours of 8:30 AM and 3:30 PM** to avoid periods of peak Yuma clapper rail vocalizations. *(Page 4-103)*
- 17. North Baja shall not begin Phase I-A or Phase II construction activities **until**:
 - a. the CDFG makes a consistency determination on the FWS' BO pursuant to section 2080.1 of the California Fish and Game Code or issues an Incidental Take Permit that covers both federally and State-listed species that may be affected;
 - b. North Baja obtains an Incidental Take Permit under section 2081 of the California Fish and Game Code for all State-listed species that may be affected, or receives concurrence from the CDFG that an Incidental Take Permit is not required; and
 - c. North Baja has received written notification from the Executive Officer of the CSLC that construction or use of conservation measures may begin. *(Page 4-126)*
- 18. For those portions of the Project facilities where construction would occur more than 1 year from the date of issuance of the FERC and CSLC approvals for the Project, North Baja shall consult with the FWS, the BLM, and the CDFG to update the species list and to verify that previous consultations and determinations of effect are still current. Documentation of these consultations, and the need for additional surveys and survey reports (if required), and FWS, BLM, and CDFG comments on the surveys and survey reports and their conclusions (as applicable), shall be filed with the FERC and the CSLC **before construction begins on those facilities**. *(Page 4-126)*
- 19. North Baja shall revise its OHV Plan to include:
 - a. the agency or agencies responsible for enforcement of the OHV Plan;
 - b. the frequency of monitoring that would be conducted to ensure that the implemented OHV blocking measures are functioning properly;
 - c. the methodology for reassessing the implemented OHV blocking measures in the future; and
 - d. enforcement measures.

North Baja shall file the revised OHV Plan with the FERC and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC **before construction of Phase I-A and Phase II**. *(Page 4-151)*
- 20. North Baja shall prepare a Traffic Management Plan for Arrowhead Boulevard in consultation with the County of Riverside Transportation Department to detail the specific measures that would be used to control traffic during construction of the Arrowhead Extension. North Baja shall file the plan with the FERC and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC **before construction**. *(Page 4-177)*
- 21. North Baja shall defer implementation of any treatment plans/mitigation measures (including archaeological data recovery), construction of facilities, and use of all staging, storage, or temporary work areas and new or to-be-improved access roads on each respective Project phase **until North Baja files with the FERC and the CSLC, as applicable, the materials listed in items a. through g., and the steps listed in items h. through j. below have been completed**:
 - a. any FWS, Cibola NWR comments on the Overview and Survey Report;

- b. any BOR comments on the Evaluation Plan;
- c. any comments from the BOR and Native American tribes on the draft Evaluation Report;
- d. the revised Evaluation Report;
- e. the California SHPO's comments on Addendum Reports 2 and 3, the revised Evaluation Report, and the revised Historic Properties Treatment Plan;
- f. all additional cultural resources survey reports for denied access areas and any additional areas requiring survey, evaluation reports, and any necessary treatment plans as well as documentation that these reports and plans were submitted to the SHPO(s); the BLM; the BOR; the FWS, Cibola NWR; and Native American tribes, as applicable;
- g. any comments of the SHPO(s); the BLM; the BOR; the FWS, Cibola NWR; and Native American tribes, as applicable, on all additional cultural resources reports and plans;
- h. the CSLC reviews and approves all cultural resources reports and plans prepared for the California portion of the Project and notifies North Baja in writing that construction may proceed;
- i. the ACHP is afforded an opportunity to comment, if historic properties would be adversely affected; and
- j. the Director of OEP reviews and approves all applicable cultural resources reports and plans and notifies North Baja in writing that treatment plans/mitigation measures may be implemented or construction may proceed.

All material filed with the FERC containing **location, character, and ownership information** about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: **"CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE."** (Page 4-191)

22. North Baja shall prepare a revised Project-wide Dust Control Plan that specifies the following:

- a. the sources of water that would be used for dust control;
- b. the anticipated quantities of water that would be required;
- c. the measures that would be implemented to prevent fish and fish egg entrainment during dust control water withdrawals;
- d. the precautions that would be taken to minimize fugitive dust emissions from construction activities;
- e. the measures that would be taken to limit visible density (opacity) of emissions to less than or equal to 20 percent;
- f. how visual density would be measured to determine that it is less than or equal to 20 percent;
- g. how compliance with the 20 percent visual density requirement would be documented;
- h. the individuals with authority to determine if/when water needs to be reapplied for dust control;
- i. the speed limit that would be required on unpaved roads and unpaved haul and access roads; and
- j. the individuals with authority to stop work if the contractor does not comply with dust control measures.

The revised Project-wide Dust Control Plan shall be filed with the FERC and the CSLC for the review and written approval of the Director of OEP and the Executive Officer of the CSLC **before construction.** (Pages 4-60 and 4-203)

23. North Baja shall prepare an Imperial County-specific Dust Control Plan that includes the measures of the revised Project-wide Dust Control Plan and meets the requirements of the

ICAPCD's Regulation VIII. The Imperial County-specific Dust Control Plan shall be filed with the CSLC for the review and written approval of the Executive Officer of the CSLC **before construction of the Imperial County portions of Phase I-A and Phase II.** *(Page 4-204)*

24. **Before placing the pipeline system into service in California**, North Baja shall submit to the CSLC for approval an Operation and Maintenance Plan. This plan shall address internal and external maintenance inspections of the completed facility, including but not limited to details of integrity testing methods to be applied, corrosion monitoring and testing of the cathodic protection system, and leak monitoring. The Operation and Maintenance Plan shall also specify that North Baja would, unless expressly prohibited by DOT regulations, conduct an internal inspection with a high-resolution instrument on a periodic basis, at a minimum of one inspection every 10 years, or sooner if the evidence suggests that significant corrosion or defects exist or if any new Federal or State regulations require more frequent or comparable inspections. **Within 3 months following any new Federal or State regulations**, North Baja shall update the Operation and Maintenance Plan and submit a revised copy to the CSLC. In addition, the Operation and Maintenance Plan shall include procedures for implementing operational mitigation measures recommended (if any) by the site-specific seismic hazard evaluation reports for the Project. *(Page 4-217)*

TABLE 5.1-1

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
ALTERNATIVES					
NBP1 ARM1	Construction of a portion of the Imperial Irrigation District (IID) Lateral could affect Site CA-IMP-8314. The Quechan Indian Tribe, the Kwaaymii Laguna Band of Indians, and the Bureau of Reclamation (BOR) requested that North Baja Pipeline, LLC (North Baja) avoid this cultural resources site.	Significant (California Environmental Quality Act [CEQA] Class II)	<p>The Modified Imperial Sand Dunes Recreation Area (ISDRA) Transmission Line Alternative avoids Site CA-IMP-8314. The alternative also avoids an area closed by the Bureau of Land Management (BLM) to protect the Peirson's milk-vetch and does not affect any other sensitive biological resources. The Modified ISDRA Transmission Line Alternative would be located entirely on BLM-managed lands and the BLM finds the alternative route acceptable. Therefore, North Baja would adopt the Modified ISDRA Transmission Line Alternative between mileposts (MPs) 5.6 and 8.2 of the IID Lateral.</p> <p>Although the Modified ISDRA Transmission Line Alternative would avoid Site CA-IMP-8314, a portion of another cultural resources site (the Plank Road) was identified during surveys along the alternative alignment. North Baja would avoid impacts on this portion of the Plank Road by installing exclusion fencing and monitoring during construction.</p>	Less than significant (CEQA Class III)	Federal Energy Regulatory Commission (FERC), California State Lands Commission (CSLC), and BLM
GEOLOGY					
NBP2	Disturbances to the natural topography along the right-of-way and at aboveground facilities could occur due to trenching and grading activities.	Significant (CEQA Class II)	After completion of construction, North Baja would restore topographic contours and drainage conditions as closely as practicable to their preconstruction condition.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP3	Blasting may be necessary along the B-Line near MP 29.5. Cultural resources features nearby may be affected. Temporary effects of blasting on cultural resources features could include hazards posed by uncontrolled fly-rock.	Significant (CEQA Class II)	North Baja would use blasting mats to keep fly-rock from leaving the construction work area and potentially impacting cultural resources. All blasting activities would be conducted in strict compliance with North Baja's Blasting Specifications. To avoid injury to personnel and damage to structures or other features like existing pipelines, North Baja's Blasting Specifications stipulates that the blasting contractor must prepare site-specific blasting plans and procedures for review and approval by North Baja. All blasting activities would be conducted under the supervision of a California Licensed Blasting Technician. Blasting procedures would be in accordance with Federal, State, and local regulations regarding use, storage, and transport of explosives; safety; and environmental protection.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP4	Pipeline projects have the potential to affect the production of mineral resources by restricting mineral production activities in the immediate vicinity of the pipeline right-of-way or precluding future expansion.	Less than significant (CEQA Class III)	The pipelines would not cross any active mineral resources operations. North Baja would notify the BOR before construction of the B-Line in the vicinity of the quarry the BOR operates between the Cibola National Wildlife Refuge (NWR) and State Route (SR) 78. However, because of the proximity of the BOR quarry to SR 78 and the presence of unsuitable material to the north and south of current quarrying activities, future expansion would not be affected by the pipeline.	Less than significant (CEQA Class III)	No monitoring required.
NBP5	Seismicity (which includes active faults, ground shaking, and soil liquefaction) is the primary geologic hazard that could affect the North Baja Pipeline Expansion Project (Project or proposed Project) facilities.	Significant (CEQA Class II)	<p>North Baja would construct and test the pipeline facilities to meet U.S. Department of Transportation (DOT) construction and safety standards outlined in Title 49 Code of Federal Regulations (CFR) Part 192, <i>Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards</i>. The pipelines and associated aboveground facilities would be designed using the <i>Guidelines for the Design of Buried Steel Pipe</i> (American Lifelines Alliance 2001), <i>Guidelines for the Seismic Design and Assessment of Natural Gas and Liquid Hydrocarbon Pipelines</i> (Pipeline Research Council International, Inc. 2004), applicable building codes, and/or other similar recognized seismological engineering standards. The engineering design drawings for the entire Project in California would be certified by a California-registered civil/structural engineer, and would comply with the latest edition of the California Building Code.</p> <p>North Baja has also prepared a Liquefaction Hazard Evaluation and Mitigation Study in a manner consistent with California Division of Mines and Geology Special Publication 117, <i>Guidelines for Evaluation and Mitigation of Seismic Hazards in California</i>, Chapter 6, Analysis and Mitigation of Liquefaction Hazards. North Baja's Liquefaction Hazard Evaluation and Mitigation Study indicated a potential for liquefaction hazards at the Colorado River crossing, and along the B-Line and IID Lateral. To mitigate these potential liquefaction hazards, North Baja has incorporated the recommendations of the Liquefaction Hazard Evaluation and Mitigation Study into the Project design. At the Colorado River, liquefiable soils would be avoided by the use of the horizontal directional drill (HDD) crossing method. The pipelines and associated facilities would be designed using the standards listed above and/or other similar recognized industry standards for seismic-resistant design in liquefaction-prone areas.</p>	Less than significant (CEQA Class III)	North Baja certified compliance with these construction and safety standards in its application to the FERC.

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP5 cont'd			<p>North Baja has committed to perform a site-specific seismic evaluation as part of its detailed design phase for the Project. This evaluation would determine the engineering/design solutions that are appropriate to mitigate against the hazard of seismic displacements along the Imperial Fault. The seismic evaluation would determine recommended design fault displacements for the pipeline design specifications. North Baja would develop a computer model to determine the soil-pipe interaction with the proposed applied displacement. The model would evaluate various combinations of pipe wall thickness and pipe grade to determine which pattern yields the best performance under displacement conditions. The design may also incorporate additional mitigation methods if necessary.</p> <p>North Baja would provide a copy of the final design for the Imperial Fault crossing, as well as any related geotechnical information, to the CSLC and the FERC before construction of the IID Lateral. The final design would also address any measures necessary to mitigate for liquefaction hazards.</p>		
NBP6	The potential for landslide and/or slope instability hazards could exist in areas where the pipeline route crosses steep terrain.	Significant (CEQA Class II)	<p>With the exception of the Palo Verde Mesa that would be crossed by the B-Line between MPs 11.6 and 11.8, neither the B-Line, the Arrowhead Extension, nor the IID Lateral cross steep terrain that was identified as having a high potential for landslides or slumping. North Baja would reduce the potential hazard by creating a stable and/or level right-of-way work area during the grading operation and implementing restoration practices in its Construction Mitigation and Restoration Plan (CM&R Plan). To prevent a potential instability of the B-Line at the Palo Verde Mesa, the pipeline and the grade immediately to each side of the pipeline would be laid back to no more than 30 percent gradient for the estimated 60-foot-high lower terrace slope. North Baja anticipates minor cuts would be needed to accommodate this grade transition. In other areas of steep terrain, North Baja would:</p> <ul style="list-style-type: none"> • restore damaged slope breakers on the existing permanent easement where the B-Line parallels the existing A-Line; • install slope breakers to control surface water on the new construction right-of-way; • install trench breakers to control groundwater flow in the pipe trench; 	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP6 cont'd			<ul style="list-style-type: none"> route discharge of surface water away from the slope breakers, and divert or collect surface water coming onto the construction right-of-way to pipes in an outflow below the slope; adhere strictly to erosion control and revegetation measures required by Federal, State, and local authorities; bury the pipeline in a deeper trench than normal or place armor above it in areas of potential debris flow hazards; and monitor geotechnical conditions for signs of mass wasting, and respond appropriately to any indications of instability. 		
NBP7	The IID Lateral would cross the Algodones Sand Dunes, which could expose the pipelines to damage or bury the pipelines as the dunes laterally migrate.	Significant (CEQA Class II)	The California Department of Transportation (CalTrans) has stabilized a segment of the dunes and actively manages the area to keep Interstate 8 open to vehicle traffic. The IID Lateral would be just south of the CalTrans-managed area and is, therefore, somewhat protected from sand dune migration. North Baja would bury the IID Lateral 6 feet deep between MPs 2.7 and 5.7, which includes the area most susceptible to blowing/shifting sands and pipeline exposure. If sand depth were to increase slightly over the pipeline, this would increase its protection from the elements and from vandalism.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP8	Paleontological resources could be affected by construction of the pipeline and associated aboveground facilities as well as by the resulting increased public access to these resources. Without mitigation, ground disturbance during construction could cause adverse impacts on paleontological resources.	Significant (CEQA Class II)	<p>To address potential impacts on paleontological resources resulting from pipeline construction, North Baja developed a Paleontological Resource Mitigation and Monitoring (PRMM) Plan. The PRMM Plan includes a summary of the literature and museum archival review, field survey results, and assessment of potential impacts on paleontological resources; Project-wide and site-specific mitigation and monitoring measures; and curation and reporting procedures. In accordance with the PRMM Plan, North Baja would have a paleontological monitor onsite between MPs 27.0 and 29.1 of the A-Line. Between MPs 27.6 and 46.0 of the IID Lateral, North Baja would conduct spot monitoring. If excavation between these mileposts unearths coarse beach intervals or thicker sand/gravel lenses, continuous monitoring would be conducted. Additional measures of the plan include:</p> <ul style="list-style-type: none"> availability of a qualified Project paleontologist to be called to the Project area to respond to construction-related issues; training of construction personnel and Environmental Inspectors (EIs) regarding the possibility that fossil resources may be encountered during construction; 	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP8 cont'd			<ul style="list-style-type: none"> granting of authority for the EI to temporarily halt construction to allow for assessment by the Project paleontologist and implementation of mitigation procedures if warranted; salvage of significant fossils as determined necessary by the Project paleontologist; and protocol for curation and repository storage of fossils. <p>Following construction, North Baja's Project paleontologist would prepare a final paleontological report. The final report would be distributed to the FERC, the CSLC, the BLM, the BOR, the Cibola NWR, and other interested parties.</p>		
SOILS					
NBP9 ARM2 ARM3	Construction of the pipeline and aboveground facilities could expose soils to erosional forces, compact soils, affect soil fertility, cause mixing of soil horizons, and facilitate the dispersal and establishment of weeds.	Significant (CEQA Class II)	<p>North Baja would mitigate impacts on soils by implementing its CM&R Plan developed in consultation with the BLM, the U.S. Fish and Wildlife Service (FWS), and the California Department of Fish and Game (CDFG), and its Project-wide Dust Control Plan.</p> <p>Fugitive dust generated by construction activities would be minimized by the implementation of North Baja's Project-wide Dust Control Plan. The Project-wide Dust Control Plan includes control measures identified as best management practices by some of the regulating agencies. The measures that would be implemented include:</p> <ul style="list-style-type: none"> take every reasonable precaution to minimize fugitive dust emissions from construction activities; take every reasonable measure to limit visible density (opacity) of emissions to less than or equal to 20 percent; apply water one or more times per day to all affected unpaved roads, and unpaved haul and access roads; reduce vehicle speeds on all unpaved roads, and unpaved haul and access roads; clean up track-out and/or carry-out areas at paved road access points at a minimum of once every 48 hours; if bulk transfer operations are required, spray handling and transfer points with water at least 15 minutes before use; 	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP9 cont'd ARM2 cont'd ARM3 cont'd			<ul style="list-style-type: none"> cover all haul truck loads, or maintain at least 6 inches of freeboard space in each cargo compartment. Ensure that all haul truck cargo compartments are constructed and maintained to minimize spillage and loss of materials, and clean or wash each cargo compartment at the delivery site after removal of the bulk materials; apply water to active construction areas to limit visible density (opacity) of emissions to less than or equal to 20 percent; apply water to open and/or unvegetated areas to limit visible density (opacity) of emissions to less than or equal to 20 percent; and for temporary surfaces during periods of inactivity, restrict vehicular access by means of either fencing or signage, and apply water to comply with the stabilized surface requirements. <p>Some of the measures clearly specify the performance requirement; however, some of the measures are vague and open to interpretation and, consequently, would be difficult to enforce during construction. Therefore, before construction, North Baja would prepare a revised Project-wide Dust Control Plan that specifies the following:</p> <ul style="list-style-type: none"> the precautions that would be taken to minimize fugitive dust emissions from construction activities; the measures that would be taken to limit visible density (opacity) of emissions to less than or equal to 20 percent; how visual density would be measured to determine that it is less than or equal to 20 percent; how compliance with the 20 percent visual density requirement would be documented; the individuals with authority to determine if/when water needs to be reapplied for dust control; the speed limit that would be required on unpaved roads and unpaved haul and access roads; and the individuals with authority to stop work if the contractor does not comply with dust control measures. 		

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP9 cont'd ARM2 cont'd ARM3 cont'd			The Imperial County Air Pollution Control District (ICAPCD) noted that North Baja's Project-wide Dust Control Plan does not meet the Best Available Control Measures of the ICAPCD's Regulation VIII with regard to clean up of track-out areas. The ICAPCD also noted that additional track-out control devices and further dust control measures must be utilized if construction vehicle trips per day exceed the thresholds established in Regulation VIII. The ICAPCD asked that traffic at unpaved to paved intersections be quantified in the Dust Control Plan and the Dust Control Plan modified accordingly. Therefore, before construction of the Imperial County portions of Phase I-A and Phase II, North Baja would prepare an Imperial County-specific Dust Control Plan that includes the measures of the revised Project-wide Dust Control Plan and meets the requirements of the ICAPCD's Regulation VIII. See also the mitigation measures listed in NBP13.		
NBP10	Construction of the Project could result in fugitive dust, which is a visible indication of soil loss through wind erosion.	Significant (CEQA Class II)	North Baja would mitigate impacts associated with fugitive dust by implementing its Project-wide and Imperial County-specific Dust Control Plans. See the mitigation measures listed in NBP9, ARM2, and ARM3.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP11	Contamination from spills or leaks of fuels, lubricants, and coolant from construction equipment could have an impact on soils.	Significant (CEQA Class II)	North Baja would mitigate impacts on soils by implementing its Spill Prevention, Containment, and Control Plan for Hazardous Materials and Wastes (SPCC Plan).	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP12	Construction of the pipeline would impact areas with shallow depths to bedrock near MP 29.5 where blasting would likely be required and could result in bringing excess rock to the soil surface.	Significant (CEQA Class II)	North Baja would conduct blasting in compliance with its Blasting Specifications. North Baja would implement its CM&R Plan, which requires that excess rock be removed from the upper 12 inches of soil in cropland, hayfields, pastures, residential areas, and other areas at the landowner's request. Excess rock would not be windrowed along the right-of-way unless approval was obtained from the landowner or land management agency.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP13	Construction would impact soils with high water and wind erosion potential.	Significant (CEQA Class II)	North Baja would mitigate soil erosion impacts by implementing the measures in its CM&R Plan and Project-wide and Imperial County-specific Dust Control Plans, which include: <ul style="list-style-type: none"> restricting the construction right-of-way width for the B-Line to 105 feet and further reducing the width of the right-of-way in areas with high concentrations of native trees; 	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP13 cont'd			<ul style="list-style-type: none"> • restricting the construction right-of-way width for the IID Lateral to 80 feet where parallel to existing powerlines and to 60 feet where the lateral would be installed between a powerline and a road or within or abutting the traveled portion of county roads; • preserving the native seed bank by segregating topsoil to a depth of 2 to 8 inches in non-agricultural areas where grading would be conducted and redistributing material over the right-of-way during cleanup; • preserving and redistributing cut vegetation over the right-of-way; • restricting grading and crushing or cutting of vegetation where possible, leaving rootstock and minimizing soil disturbance; • imprinting areas with a sheepsfoot or similar device to provide indentations to catch water/seed and anchor native plant material that has been respread over the right-of-way, thereby aiding in natural revegetation and erosion control; • segregating and redistributing topsoil to its actual depth up to 2 feet in agricultural areas; • maintaining water flow in crop irrigation systems, unless shutoff is coordinated with affected parties; • testing for and alleviating compacted soils in agricultural and residential areas; • implementing procedures to prevent or minimize the spread of noxious weeds or other undesirable species by limiting disposal of plant materials to suitable areas and cleaning of clearing and grading equipment before entering native species areas; and • placing intact salvaged plant materials or rock at specific locations where visual blocking would be employed to discourage use of the pipeline right-of-way by unauthorized vehicles. <p>See also the mitigation measures listed in NBP9, ARM2, and ARM3.</p>		
NBP14	The IID Lateral would cross the ISDRA between MPs 0.0 and 7.0, which consist of loose wind-blown sand and may result in pipeline exposure.	Significant (CEQA Class II)	North Baja would cross portions of the ISDRA in association with the HDDs of the two All-American Canal crossings. North Baja would bury the IID Lateral 6 feet deep between MPs 2.7 and 5.7, which includes the area most susceptible to blowing/shifting sands and pipeline exposure.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP15	Construction of the pipeline could disrupt irrigation flow (e.g., Rannells Drain).	Significant (CEQA Class II)	North Baja would cross the majority of irrigation drains and canals by boring underneath the culverts along 18th Avenue or by installing the pipeline between the drain culvert and the road. North Baja would also contact landowners in the Palo Verde and Imperial Valleys regarding the location of other irrigation systems and would maintain water flow in these systems or coordinate disruption of irrigation flow or any shutoff times with the affected landowners. North Baja would restore the banks and bed of Rannells Drain and two unnamed canals along the Arrowhead Extension (open-cut crossings) to their original configurations. Because of the steepness of the banks at the Rannells Drain crossing, erosion control fabric would be used for bank stabilization purposes upon completion of pipeline construction at this crossing.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP16	Construction of the proposed pipelines could temporarily impact about 71.7 acres of soil identified as prime farmland and 41.6 acres of farmland of Statewide importance.	Significant (CEQA Class II)	North Baja would mitigate impacts on soils in active farmlands by segregating topsoil before installation of the pipeline and reapplying topsoil over the surface of the right-of-way during restoration as outlined in its CM&R Plan. See also the mitigation measures listed in NBP9 and NBP13.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
WATER RESOURCES					
NBP17	Shallow aquifers underlying construction areas could experience changes in overland flow and recharge caused by clearing and grading of the construction right-of-way.	Significant (CEQA Class II)	In accordance with North Baja's CM&R Plan, vegetation would be cleared only where necessary. After completion of construction, North Baja would recontour and restore the ground surface and allow vegetation to regenerate to provide restoration of preconstruction overland flow and recharge patterns.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP18	Compaction of near-surface soils and soil mixing as a result of heavy construction vehicles could affect groundwater by reducing the soil's ability to absorb water.	Significant (CEQA Class II)	North Baja would comply with its soil compaction mitigation described in its CM&R Plan. This includes testing topsoil and subsoil at regular intervals in agricultural and residential areas for compaction and plowing severely compacted agricultural areas.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP19	Refueling of vehicles and storage of fuel, oil, and other fluids during the construction phase of the Project could create a potential long-term contamination hazard to groundwater resources. Spills or leaks of hazardous liquids could contaminate groundwater and affect users of the aquifer.	Significant (CEQA Class II)	North Baja would comply with its SPCC Plan. This includes avoiding or minimizing potential impacts by restricting the location of refueling activities and storage facilities and by requiring immediate cleanup in the event of a spill or leak. Additionally, the SPCC Plan identifies emergency response procedures, equipment, and cleanup measures in the event of a spill.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP20	Trench dewatering during pipeline construction could affect groundwater resources and alter the natural soil strata such that new groundwater migration pathways could be created away from surface waterbodies.	Significant (CEQA Class II)	North Baja would dewater trenches in such a manner that no heavily silt-laden water flows into any waterbody as described in its CM&R Plan. Additionally, North Baja's CM&R Plan requires the use of trench breakers or installation of trench plugs at the edges of waterbodies to avoid altering the flow of groundwater to local springs or wetland areas.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP21	Substantial amounts of groundwater may be encountered in the vicinity of the Colorado River and near canal crossings along the B-Line, Arrowhead Extension, and IID Lateral that may result in minor fluctuations in local groundwater levels.	Significant (CEQA Class II)	If necessary, North Baja would use well points in addition to standard sump pump dewatering. The water from these dewatering operations would be discharged to dewatering structures and/or otherwise filtered and discharged into field drains or canals. Minor fluctuations in local groundwater levels may occur, but would be temporary and minor.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP22	Unanticipated, pre-existing contaminated groundwater could be encountered during construction.	Significant (CEQA Class II)	In the event evidence of contaminated groundwater or contaminated soils is encountered, additional observations for the presence of a chemical sheen, free product, and chemical odor would be made and recorded before any further construction activity. Field observations would be conducted to determine the nature of the contamination, appropriate disposal/treatment options, and the need for sampling. If contaminated groundwater and/or soils are encountered, North Baja would stop work and consult with the appropriate agencies, including the California Regional Water Quality Control Board, Colorado River Basin Region (CRWQCB) and the Riverside and Imperial Counties Departments of Health on a plan to proceed. The plan would include provisions for characterizing the contaminants, appropriate health and safety measures for workers, and proper discharge of the groundwater.	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP22 cont'd			North Baja would notify the appropriate agencies of any discoveries of pre-existing contamination and would perform evaluations on the amount and composition of the contamination. Once the evaluations are completed, North Baja would coordinate with the appropriate agencies to determine appropriate actions and disposal of affected materials.		
NBP23	Construction activities could impact public and private wells located within 150 feet of the proposed construction work area. These potential impacts could include: localized decreases in groundwater recharge rates, changes to overland water flow, contamination due to hazardous materials spills, decreased well yields, decreased water quality (such as an increase in turbidity or odor in the water), interference with well mechanics, or complete disruption of the well.	Significant (CEQA Class II)	Ten water wells were identified within 150 feet of the construction work area. Before construction, North Baja would conduct a field survey to verify the location of these wells as well as any other wells that are identified within 150 feet of the construction work area. With the landowner's permission, North Baja would test these water wells before construction to determine baseline flow conditions as a means of determining any potential construction-related impacts. Where impacts are reported by landowners, North Baja would conduct post-construction water well tests. If it is determined that construction activities have impaired a well water quality or yield, North Baja would either provide bottled water for drinking and arrange for an alternate source of water (such as water truck) for other household uses, temporarily relocate the landowner until the water supply is restored, or compensate the landowner for losses. If water quality or yield is permanently impaired as a result of construction activities, North Baja would arrange for a new well to be drilled or compensate the landowner.	Less than significant (CEQA Class III)	FERC and CSLC
NBP24	Blasting near groundwater wells during construction could cause temporary changes in water level and turbidity and damage the water wells.	Significant (CEQA Class II)	No water wells have been identified within 0.5 mile of anticipated blasting locations (i.e., MP 29.5). North Baja would conduct blasting in compliance with its Blasting Specifications. North Baja's use of proper blasting techniques, which would fracture bedrock only to the point necessary for removal, would limit the effect of the blast to a local area above the aquifer in the proximity of the trenchline.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP25	Construction activities could affect waterbodies through modification of aquatic habitat, increased sedimentation, increased turbidity, decreased dissolved oxygen concentrations, stream warming, or introduction of chemical contamination from fuels or lubricants.	Significant (CEQA Class II)	North Baja would install the pipeline across all of the flowing waterbodies crossed by the Project using the HDD or bore method or install the pipeline between drain culverts and 18 th Avenue, with three exceptions (Rannells Drain and two unnamed canals crossed by the Arrowhead Extension at MPs 0.5 and 1.5). The IID Lateral would cross the Alamo River (MP 32.3), which would be crossed by installing the pipeline in the road shoulder over the culverts that carry the water under Hunt Road.	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP25 cont'd			<p>Construction and restoration at Rannells Drain would be done in accordance with the CM&R Plan. North Baja would use sediment booms downstream of the trenching, which would contain sedimentation to the localized area. In accordance with the CM&R Plan, North Baja would attempt to complete actual in-stream trenching within 48 hours.</p> <p>North Baja would obtain waterbody crossing permits from the U.S. Army Corps of Engineers (COE) under section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act. North Baja would also obtain a section 401 Water Quality Certification from the CRWQCB. In addition, North Baja would obtain a Streambed Alteration Agreement (SAA) (section 1600 seq. of the California Fish and Game Code) from the CDFG. North Baja would implement the measures and best management practices in CM&R Plan. All construction activities at waterbody crossings would be in accordance with Federal, State, and local permit requirements.</p>		
NBP26	Spoil placed in floodplains during pipeline construction could cause an increase in flood levels or could be washed downstream or be deleterious to aquatic life.	Significant (CEQA Class II)	North Baja states that it would manage spoil piles in accordance with the provisions of the CDFG's SAA. For the A-Line, these provisions required that materials placed in seasonally dry portions of a stream that could be washed downstream or could be deleterious to aquatic life must be removed before inundation by high flows. Dry washes are also regulated by the CRWQCB, which may impose additional stipulations regarding spoil pile management such as requiring North Baja to leave gaps in the spoil piles in dry washes so the washes remain open during construction. North Baja would prepare and submit an updated CM&R Plan to the Agency Staffs before construction if necessary to incorporate any additional requirements of Federal, State, and local permits.	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary
NBP27	Refueling of vehicles and storage of fuel, oil, or other hazardous materials near surface waters could create a potential for contamination if a spill were to occur. Immediate downstream users of the water could experience degradation in water quality. Acute chronic toxic effects on aquatic organisms could result from such a spill.	Significant (CEQA Class II)	North Baja would comply with its SPCC Plan. This includes avoiding or minimizing potential impacts by restricting the location of refueling activities and storage facilities and by requiring immediate cleanup in the event of a spill or leak. Additionally, the SPCC Plan identifies emergency response procedures, equipment, and cleanup measures in the event of a spill.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP28 ARM4	The primary impact that could occur as a result of the HDD method at the Colorado River, All-American Canal, and East Highline Canal is an inadvertent release of drilling mud (frac-out) directly or indirectly into the waterbody. Drilling mud could leak through previously unidentified fractures in the material underlying the riverbed, in the area of the mud pits or tanks, or along the path of the drill due to unfavorable ground conditions.	Significant (CEQA Class II)	North Baja has prepared site-specific HDD crossing plans for the Colorado River, All-American Canal, and East Highline Canal that show the drill entry and exit workspaces, the pipe fabrication and stringout areas, and the drill profiles. In addition, North Baja has developed an HDD Plan that describes how drilling operations would be conducted and monitored to minimize the potential for inadvertent releases or failure. The HDD Plan describes the agency notification procedures and the corrective action and cleanup procedures that would be followed in the event of a frac-out to land and the abandonment procedures that would be followed if it is necessary to abandon the drill hole. Before commencement of any HDD operation, North Baja would file with the FERC and the CSLC a revised HDD Plan that specifies the corrective action and cleanup procedures that would be followed in the event a frac-out occurs in the water during an HDD operation.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP29	Construction could impact the streambed and associated wildlife and vegetation habitats of the waterbodies and dry washes crossed by the proposed pipeline routes.	Significant (CEQA Class II)	North Baja would implement the mitigation measures listed in NBP25 and NBP26.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP30	The withdrawal of water from streams or rivers to use for hydrostatic testing could reduce the amount of water available for downstream uses and adversely affect aquatic habitats. The discharge of hydrostatic test water could increase erosion and downstream sedimentation and lead to the deterioration of receiving water quality.	Significant (CEQA Class II)	North Baja would conduct all hydrostatic test activities in accordance with the measures in its CM&R Plan, applicable permits (including coordination with the BOR), and DOT pipeline safety regulations set forth in Title 49 CFR Part 192. North Baja would limit the fill volume to 1,500 gallons per minute or 10 percent of streamflow, whichever is less. The water would be filtered prior to entering the pipe, and no chemicals would be added to the test water. North Baja would hydrostatically test the B-Line and piping associated with the Ehrenberg Compressor Station and Blythe Meter Station with water obtained from an existing irrigation canal located adjacent to the Ehrenberg Compressor Station, an existing well on the compressor station site, or the All-American Canal. After testing, the water would be discharged into lined irrigation canals or the All-American Canal.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP30 cont'd			<p>The Arrowhead Extension and piping within the Blythe-Arrowhead Meter Station would be tested with water obtained from the Palo Verde Irrigation District (PVID), local wells, or a commercial water source. After testing, the water would be discharged into the C-05 Canal.</p> <p>North Baja would hydrostatically test the IID Lateral with water obtained from the All-American Canal. After testing, the water would be discharged back into the All-American Canal or into other IID irrigation facilities. North Baja would discharge hydrostatic test water in accordance with the requirements of its National Pollutant Discharge Elimination System permit. The discharge rate would be regulated, and water would be discharged through energy dissipation devices and sediment barriers, as necessary, to prevent erosion or excessive flow.</p>		
ARM5	The withdrawal of water from streams or rivers to control dust could impact aquatic resources.	Significant (CEQA Class II)	Before construction, North Baja would file with the FERC and the CSLC a revised Project-wide Dust Control Plan that specifies the sources of water that would be used for dust control, the anticipated quantities of water that would be required, and measures that would be implemented to prevent fish and fish egg entrainment during dust control water withdrawals.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
WETLANDS					
NBP31	<p>The primary impact of the Project on wetlands would be the temporary and permanent alteration of wetland vegetation. Other impacts could include temporary changes in wetland hydrology and water quality, mixing of topsoil and subsoil, and compaction and rutting of soils. A 10-foot-wide maintained corridor would result in the permanent conversion of 3.0 acres of scrub-shrub wetland to emergent wetland.</p>	Significant (CEQA Class II)	<p>North Baja would adhere to its CM&R Plan, and comply with the COE's section 404 and the CRWQCB's section 401 Water Quality Certification permit conditions. Wetlands would be restored to preconstruction contours. Construction of the Project would result in "no net loss" of wetlands because no wetlands would be permanently drained or filled. North Baja states that it does not plan to actively maintain the permanent right-of-way. However, North Baja has the right to maintain a 10-foot-wide strip centered over the pipelines if necessary for periodic corrosion/leak surveys. Some of the mitigation measures pertaining to wetland crossings include:</p> <ul style="list-style-type: none"> prohibiting storage of hazardous materials, chemicals, fuels, and lubricating oils within a wetland or within 100 feet of a wetland boundary; requiring that native vegetation on the right-of-way within wetlands be cut at ground level, leaving existing root systems in place to promote regrowth; 	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP31 cont'd			<ul style="list-style-type: none"> requiring segregation of the uppermost 1 foot of wetland topsoil from the underlying subsoil in areas disturbed by trenching; limiting the operation of construction equipment within wetlands to that equipment essential for clearing, excavation, pipe installation, backfilling, and restoration activities; requiring all nonessential equipment to traverse around wetlands using upland access roads where wetland soils are prone to rutting and/or cannot be appropriately stabilized; and minimizing duration of construction-related disturbance within wetlands. 		
VEGETATION					
NBP32	The primary impact of the Project on vegetation would be the cutting, clearing, and/or removal of existing vegetation within the construction work area. The removal of desert vegetation would have longer-term impacts than in agricultural areas where vegetation reestablishes quickly.	Significant (CEQA Class II)	<p>North Baja would work over its existing pipeline to construct the B-Line, thereby minimizing the area of new disturbance and the impacts on vegetation. About 75 percent of the vegetation disturbance associated with the B-Line would be within North Baja's existing, previously disturbed right-of-way.</p> <p>North Baja would implement its CM&R Plan to reduce impacts on vegetation within the construction and permanent rights-of-way and improve revegetation potential.</p> <p>Some of the measures that would be implemented include:</p> <ul style="list-style-type: none"> Segregate topsoil in all agricultural areas and in native habitats where grading is required. This measure would preserve the superior chemical and biological qualities of the topsoil and, in nonagricultural habitats, would preserve the native seed bank contained in the soil. Crush or skim vegetation within the construction right-of-way in areas where grading is not required, which would result in less soil disturbance. The remaining root crowns would aid in soil stabilization, help retain organic matter in the soil, aid in moisture retention, and have the potential to resprout following construction. Preserve native vegetation removed during clearing operations. The cut vegetation would be windrowed along the right-of-way during construction and then respread over the disturbed areas as part of restoration activities. This measure would be considered "vertical mulch" and would aid in seedling recruitment by trapping seeds, providing shade, and improving water infiltration. Additionally, this cut vegetation would add to the organic matter in the topsoil layer as it decomposes. 	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and CDFG

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP32 cont'd			<ul style="list-style-type: none"> Replant desert wash woodland species at specified locations along the right-of-way providing a visual barrier to the right-of-way to deter off-highway vehicle (OHV) traffic on the right-of-way. Although this vegetation would not be expected to survive, it would provide many of the benefits of vertical mulch described above in addition to preventing vegetation damage by OHV use on the right-of-way. Recontour disturbed areas as needed. The contours would be reshaped after backfilling the trench and replacing the topsoil to restore preconstruction contours and natural drainage patterns. This treatment would reduce erosion and the loss of topsoil, which would improve revegetation potential. Imprint areas of soil disturbance using a "sheep's-foot" roller or other methods. Imprinting would provide micro-catchment areas for seed retention and would improve water infiltration. Maintain water flow in crop irrigation systems, unless shutoff is coordinated with affected parties. Test for and alleviate compacted soils in agricultural and residential areas. Implement procedures to prevent or minimize the spread of noxious weeds or other undesirable species by limiting disposal of plant materials to suitable areas and the cleaning of clearing and grading equipment before beginning work on the Project. Monitor the revegetation of the right-of-way the year following construction and again during the second growing season. In agricultural areas, crop monitoring would be conducted to determine if additional restoration is required. Additional revegetation efforts would be conducted until revegetation is deemed successful. In non-agricultural lands, revegetation monitoring would be conducted until 2012 and would be considered successful if upon visual survey, the density and cover are similar to adjacent undisturbed lands. 		
NBP33	Construction could reduce wildlife habitat and diversity by removing desert wash woodlands.	Significant (CEQA Class II)	North Baja would minimize tree clearing in 16 areas of native trees along the proposed route by reducing the width of the construction right-of-way from 105 feet to 80 feet. These areas are located at MP 16.9 (345 feet), MP 17.9 (270 feet), MP 20.0 (700 feet), MP 22.3 (480 feet), MP 22.5 (250 feet), MP 22.6 (1,000 feet), MP 22.8 (180 feet), MP 23.3 (340 feet), MP 23.4 (250 feet), MP 23.5 (590 feet), MP 25.8 (850 feet), MP 34.5 (860 feet), MP 45.1 (500 feet), MP 51.1 (1,800 feet), MP 51.7 (1,100 feet), and MP 64.5 (500 feet). North Baja would implement its CM&R Plan to restore desert wash woodland.	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP33 cont'd			North Baja would provide compensatory mitigation for the loss of desert wash woodland vegetation at a 2:1 ratio for the clearing of the 22.0 acres (new disturbance) of desert wash woodland in addition to the 1:1 compensation ratio it proposes to offset impacts on desert tortoise habitat. North Baja would negotiate off-site mitigation requirements with the FWS and the CDFG.		
NBP34	Open-cut trenching through Rannells Drain (MP 11.4) could have an impact on vegetation growing in and on the banks of the drain.	Significant (CEQA Class II)	The vegetation in Rannells Drain is routinely removed during drain maintenance by the PVID. Because vegetation has re-established itself in the past after dredging, vegetation in Rannells Drain is expected to regenerate on its own from existing seed and vegetative propagules within 2 years after construction.	Less than significant (CEQA Class III)	FERC and CSLC
NBP35	Construction of the B-Line (primarily along 18 th Avenue) and the IID Lateral (primarily along Hunt Road and East Ross Road) could affect mature landscaping associated with 11 residences.	Significant (CEQA Class II)	North Baja does not propose to remove any trees on residential properties. North Baja would employ mitigation measures such as tree protection fencing to protect existing trees during construction. North Baja would restore landscaping following construction as part of site-specific plans. If mature trees or shrubs need to be removed during construction, landowners would be compensated for the loss of irreplaceable vegetation as part of agreements between North Baja and the landowners.	Less than significant (CEQA Class III)	FERC and CSLC
NBP36	The revegetation of desert areas could take from 5 to 50 years.	Significant (CEQA Class II)	North Baja would implement its CM&R Plan to promote revegetation of disturbed areas. Specific mitigation measures are listed in NBP32.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP37	The Project could impact rangeland health. The removal of desert vegetation and disturbance of soils could affect the ability of the Project area to support vegetation and wildlife communities.	Significant (CEQA Class II)	North Baja would implement its CM&R Plan, which includes measures to control erosion and preserve topsoil and scarce organic matter that would minimize impacts on the revegetation potential of the Project area.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP38	Construction could result in the introduction of contaminants to soils and potentially adversely affect the potential for revegetation.	Significant (CEQA Class II)	North Baja would implement its SPCC Plan, which specifies cleanup procedures to minimize the potential for soil contamination from spills or leaks of fuels, lubricants, and coolants.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP39	The Project would permanently affect 0.2 acre of the creosote bush scrub community at the pig launcher and receiver at the Ogilby Meter Station; 0.2 acre of the urban/ruderal community at the El Centro Meter Station; 0.3 acre of urban/ruderal and 0.8 acre of creosote bush scrub communities for four valves; 0.3 acre of the creosote bush scrub community at the Rannells Trap; 0.8 acre of the agricultural community for the pig launcher, taps, and crossover piping associated with the Arrowhead Extension; and about 0.2 acre of the creosote bush scrub community for the tap to the B-Line and the pig launcher associated with the IID Lateral.	Less than significant (CEQA Class III)	No mitigation is proposed. The permanent conversion of the affected communities would represent less than a 1 percent change in each respective vegetation type in the Project area.	Less than significant (CEQA Class III)	No monitoring required.
NBP40	Removal of existing vegetation and the disturbances of soils during construction could create conditions for the invasion and establishment of exotic- nuisance species.	Significant (CEQA Class II)	North Baja would reduce the potential to spread noxious weeds and soil pests by implementing the measures included in its CM&R Plan. These measures include, but are not limited to: survey by a qualified noxious weed authority; flagging or treatment before construction; identification of populations of plants listed as invasive exotics by the California Invasive Plant Council and the BLM National List of Invasive Weed Species of Concern; not allowing for disposal of soil and plant materials from non-native areas to native areas; washing all construction equipment before beginning work on the Project; cleaning equipment that worked in Arizona before beginning work in California; washing equipment used to clear tamarisk before working elsewhere on the Project; educating construction personnel on weed identification; use of gravel and/or fill material from weed-free sources for relatively weed-free areas; use of certified weed-free hay bales; implementation of post-construction monitoring and treatment of invasive weeds; removal of tamarisk trees from the right-of-way in native areas and, in non-native areas, tamarisk trees would be removed as necessary as part of clearing operations; and burning or hauling offsite of tamarisk debris.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP40 cont'd			<p>In accordance with the CM&R Plan, North Baja would conduct surveys for noxious weeds along the IID Lateral before construction.</p> <p>In areas of weed infestations attributable to the Project, North Baja would implement control measures twice a year for 2 years after construction is complete or until the infestations have been controlled. North Baja would also implement weed control measures annually as part of routine operation and maintenance of the pipeline.</p>		
WILDLIFE AND AQUATIC RESOURCES					
NBP41	Construction and operation of the pipeline could directly impact wildlife through disturbance, displacement, mortality, and alterations of available habitats.	Significant (CEQA Class II)	North Baja would implement conservation measures for special status species that would also serve to avoid, minimize, or compensate for impacts on general wildlife and their habitats. About 99 percent of the right-of-way would be adjacent to existing utility or transportation corridors. Additionally, North Baja would implement measures identified in its CM&R Plan to avoid or minimize impacts on wildlife habitats as well as facilitate the recovery of native vegetation communities.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP42	Construction across wetlands and waterbodies could affect important habitats for a number of resident wildlife species and fishery resources.	Significant (CEQA Class II)	North Baja would cross the Colorado River, which is the only waterbody that supports fishery resources, using the HDD method. The HDD method would also be used at four other waterbody crossings, thus avoiding in-stream impacts. Rannells Drain would be disturbed; however, it is an agricultural drain that is subject to the clearing of vegetation periodically by the PVID. North Baja would implement measures in its CM&R Plan to minimize disturbance to these habitats.	Less than significant (CEQA Class III)	FERC and CSLC
NBP43	Fires inadvertently started by construction activities (e.g., welding), equipment, or personnel could affect wildlife by igniting vegetation along the right-of-way.	Significant (CEQA Class II)	North Baja would implement its Fire Prevention and Suppression Plan to minimize the potential for wildfires. Some of the measures contained in the plan include: requiring the contractor to train all personnel on fire prevention measures, restricting smoking and parking to cleared areas, requiring all combustion engines to be equipped with a spark arrestor, and requiring vehicles and equipment to maintain a supply of fire suppression equipment (e.g., shovels and fire extinguishers). A Fire Guard would be assigned to each construction spread that would be responsible for maintaining contact with local fire control agencies. North Baja would restrict activities on Federal lands during conditions of high fire danger in coordination with the BLM.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP44	Construction of the pig launcher and receiver at the Ogilby Meter Station; various valves; pig launcher, taps, and crossover piping associated with the Arrowhead Extension; and improvements/modifications to three roads would permanently replace existing wildlife habitats.	Less than significant (CEQA Class III)	No mitigation is proposed. The permanent conversion of the affected habitats would represent less than a 1 percent change in each respective habitat type in the Project area.	Less than significant (CEQA Class III)	No monitoring required.
NBP45 ARM6	Some impact on migratory birds could result from habitat loss associated with construction of the Project. Clearing of vegetation could also destroy nests and cause mortality of nestlings and nesting adults.	Significant (CEQA Class II)	<p>Along the B-Line, North Baja would overlap its construction right-of-way over the previously disturbed right-of-way. Additionally, North Baja would reduce the right-of-way width from 105 feet to 80 feet in 16 areas of microphyll woodlands and would preserve individual trees within the construction right-of-way where possible. With the exception of the dunes area, 98 percent of the habitat affected by the IID Lateral would occur within or immediately adjacent to existing disturbed utility and transportation rights-of-way. Construction would occur in the dunes area but the existing vegetation resources in the dunes area are sparse.</p> <p>North Baja would attempt to schedule construction in native habitats outside of the breeding season for migratory birds. If, however, construction activities are necessary during the bird breeding season, in accordance with its CM&R Plan, North Baja would remove vegetation that could provide nesting substrate from the right-of-way before the breeding season, thus eliminating the possibility that birds could nest on the right-of-way. Qualified biologists would conduct preconstruction surveys to confirm the absence of nesting birds before construction begins.</p> <p>North Baja would, in consultation with the FWS, the BLM, and the CDFG, develop Preclearing Plans to protect migratory bird species during construction of Phase I-A and Phase II, which are the only phases of construction that have the potential to occur in native desert habitats during the nesting period for migratory birds. These plans would include specific details of the preclearing methods to be implemented, the specific locations where preclearing would occur, and the dates preclearing would be initiated and completed.</p>	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP45 cont'd ARM6 cont'd			<p>If, in spite of vegetation removal, nesting birds are found on the construction right-of-way, the nest would not be removed until fledging has occurred or unless authorized after consultation with the FWS, the CDFG, and, if the nest is located on Federal lands, the Federal land management agency.</p> <p>North Baja would implement the measures in its CM&R Plan to promote revegetation of disturbed areas by restoring original contours, segregating topsoil where grading is required, and respraying cut vegetation over the restored areas.</p>		
NBP46	Construction-related activities could directly and indirectly impact wildlife in managed and sensitive biological resource areas such as the Cibola NWR, Milpitas Wash Special Management Area (SMA), Wildlife Habitat Management Area (WHMA), and Nature Conservancy sites.	Significant (CEQA Class II)	North Baja proposes a number of conservation measures to protect wildlife and special status plants that are generally consistent with objectives of the management plans addressing activities in the Milpitas Wash SMA and the multi-species WHMA. Construction of the Project would not directly affect sensitive wildlife habitat within the Cibola NWR. Noise associated with construction activities could indirectly impact wildlife and breeding seasons. However, because of the year-round vehicle and boat traffic associated with SR 78 and the Colorado River, wildlife in the area is expected to be somewhat acclimated to noise. The Colorado River and adjacent riparian habitat associated with the Nature Conservancy site would be avoided by the HDD crossing of the river.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP47	The Project would cross a small portion of the Cibola-Trigo Herd Management Area (HMA) and Chocolate-Mules HMA where wild horses and/or burros could be found watering. Construction could affect wild horses or burros if the animals were to fall into the open trench.	Significant (CEQA Class II)	North Baja would install wildlife escape ramps in the excavated trench at 1-mile intervals.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP48	Construction could result in sedimentation and turbidity, which might adversely affect fish eggs and juvenile fish survival, benthic community diversity and health, and spawning habitat.	Significant (CEQA Class II)	The Colorado River, the All-American Canal, and the East Highline Canal would be crossed using the HDD method. Only one flowing waterbody, Rannells Drain, would be crossed using the open-cut crossing method. Two unnamed canals along the Arrowhead Extension would also be crossed using the open-cut crossing method. The open-cut method is the quickest crossing method; therefore, sedimentation and turbidity would be limited to the relatively short period of in-stream work. Rannells Drain does not have a classified fishery and no fisheries habitat would be lost as a result of construction across Rannells Drain.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP48 cont'd			Nonetheless, North Baja proposes to use sediment booms downstream of the trenching, which would contain sedimentation to the localized area. Sediment potentially released during construction would be removed the next time the PVID dredges the drain for agricultural purposes (expected to occur 1 year after construction).		
NBP49	Construction across waterbodies could cause streambank erosion.	Significant (CEQA Class II)	North Baja would cross several waterbodies using the HDD method, which would avoid disturbance of the streambank vegetation. Retaining the existing bank composition at these waterbodies would prevent the need for bank armoring following construction. Irrigation canals and drains would be crossed at locations where these waterbodies are constrained within culverts, which would avoid any bank disturbance. North Baja would implement the measures in its CM&R Plan to facilitate revegetation of the banks following construction.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP50	A chemical or fuel spill in or near a waterbody could release contaminants, which could affect fish directly or indirectly through changes in food sources or by contaminating the water resources.	Significant (CEQA Class II)	North Baja would adhere to the measures in its CM&R Plan and SPCC Plan to prevent a large spill from occurring near surface waters. Hazardous materials would be stored, and vehicles refueled, at least 100 feet from surface waters. Should a spill occur, the containment measures in the SPCC Plan would decrease the response time for control and cleanup of the spill.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP51	Hydrostatic testing and dust control water withdrawals could cause entrainment of fish, reduced downstream flows, or impaired downstream uses associated with water withdrawals, and erosion, scouring, or a release of chemical additives.	Significant (CEQA Class II)	North Baja would cover the water intake with an adequately sized mesh screen to reduce the potential for fish and fish egg entrainment. Water withdrawals would occur from an existing well or irrigation canals and would not affect current flow levels in the Colorado River or other waterbodies containing fishery resources. No chemicals would be added to the test water, and energy dissipation devices would be employed to minimize channel erosion. See also the mitigation measures listed in NBP30 and ARM5.	Less than significant (CEQA Class III)	FERC and CSLC
NBP52	The proposed open-cut trenching through Rannells Drain would create a temporary increase in sediment load in the drain.	Significant (CEQA Class II)	The PVID has indicated it would be willing to perform maintenance clearing/dredging at the Rannells Drain crossing before construction of the B-Line in 2009, as long as it is done between August 2 and March 14 as agreed with the CDFG.	Less than significant (CEQA Class III)	FERC and CSLC
NBP53	A frac-out could occur during HDD crossings if the drilling head hits a subterranean fracture in the substrate, resulting in an inadvertent release of drilling mud.	Significant (CEQA Class II)	See the mitigation measures listed in NBP28 and ARM4.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
SPECIAL STATUS SPECIES					
NBP54	Construction could remove special status plants living within the construction right-of-way and could disturb, displace, or harm special status animals on and adjacent to construction work areas. Construction could also affect special status plants and wildlife by temporarily altering the habitat along the pipeline right-of-way and permanently altering the habitat at aboveground facility sites.	Significant (CEQA Class II)	<p>North Baja has proposed to implement the following general minimization and conservation measures to reduce the impact of the Project on special status species:</p> <ul style="list-style-type: none"> • North Baja would use its environmental training program, successfully implemented for the A-Line construction, as a basis for a site-specific environmental training program to be implemented before the start of work. All employees and contractors working in the field would be required to complete an environmental training session before beginning work on the right-of-way. The program would include discussions of the biology, distribution, and ecology of special status species within the geographic area of construction; protection afforded such species under applicable Federal and State laws and regulations; all protection measures that must be followed to protect such species during Project activities; penalties for noncompliance; reporting requirements; and the importance of compliance with all protection measures. To ensure proper focus, emphasis would be placed on the specific aspects of compliance applicable to the particular audience's activities on the Project. • Employees and contractors would be informed during one or more training sessions that they are not authorized to handle or otherwise move listed species at any time, including while commuting to work sites or at a work site. • North Baja would hire and designate at least two EIs per construction spread who would be responsible for overseeing Project environmental protection measures, including those for special status species. Environmental inspection procedures would be in compliance with the relevant provisions of North Baja's CM&R Plan. North Baja would also hire and designate at least one authorized biologist who would be responsible for identification of habitat and individuals of special status species and for implementation of all measures requiring an authorized biologist's intervention. The biologist would, if needed, hold the required permits or formal agreements with appropriate Federal and State agencies for the survey or handling of any special status species. 	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP54 cont'd			<ul style="list-style-type: none"> An authorized biologist would conduct species-specific surveys of each Project facility located within areas identified during North Baja's surveys as listed species habitat no more than 7 days before the onset of activities. Project personnel would exercise caution when commuting to the construction area to minimize any chance for the inadvertent injury or mortality of species encountered on roads leading to and from the construction area. North Baja's contractors and employees would report all such incidents directly to an EI. Only existing routes of travel and approved access roads would be used to and from construction areas. Cross-country travel by vehicles and equipment would be prohibited. Except on county- or State-maintained roads, vehicle and equipment speeds would not exceed 25 miles per hour within potential habitat of a listed species. On the B-Line, between MPs 48.0 and 68.0 (an area of relatively high tortoise density), North Baja states that it would limit vehicle and equipment speeds to 10 miles per hour except for stringing trucks, which North Baja proposes to allow to travel at 25 miles per hour (see ARM7). Authorized biologists would monitor all work where prior North Baja surveys have documented the occurrence of one or more listed species and where construction activities can reasonably be expected to adversely affect those species. In conjunction with North Baja's EIs, the biologists would have the authority to halt all non-emergency actions that might result in harm to a listed species, and would assist in the overall implementation of protection measures for listed species during Project activities. All trash and food items generated by construction and maintenance activities would be promptly placed in a closed container and regularly removed from the Project site to reduce the attractiveness of the area to common ravens and other desert predators. Firearms and domestic pets would be prohibited from work sites. In the construction work area and along access roads, employees and contractors would look under vehicles and equipment for the presence of special status species before movement. If a special status species is observed, no vehicles or equipment would be moved until the animal has left voluntarily or is removed by an authorized biologist. 		

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP54 cont'd			<ul style="list-style-type: none"> Pipeline construction activities between dusk and dawn would be limited to emergencies only (i.e., issues involving human health and safety) with the exception of the HDD operations (including those at the Colorado River, the All-American Canal, Interstate 8, the East Highline Canal) and the open-cut crossing of Rannells Drain. Open pipeline trenches, auger holes, or other excavations that could entrap wildlife would be inspected by an authorized biologist a minimum of three times per day, and immediately before backfilling. In habitats supporting special status species, pipe segments would either be capped or taped closed each night or raised on supports of sufficient height to prevent the entry and entrapment of special status species. Such pipe segments would be inspected regularly before sealing and before using in the morning. For open trenches, earthen escape ramps would be maintained at 1-mile intervals. Other excavations that remain open overnight would be covered, ramped, or fenced to prevent entrapment of wildlife. If a listed species is located during construction, and a contingency for avoidance, removal, or transplant has not been approved by the FWS or appropriate agency, North Baja would not proceed with Project activities in that location until specific consultation with the FERC, the FWS, the BLM, and/or other appropriate agency is completed. All encounters with listed species would be reported to the biologist, who would record the following information: <ul style="list-style-type: none"> species; location (narrative and maps) and dates of observations; general condition and health, including injuries and state of healing; diagnostic markings, including identification numbers or markers; and locations moved from and to. Upon locating a dead or injured listed species, North Baja would notify the FWS and the CDFG in California or the AGFD in Arizona. Written notification would be made within 15 days of the date and time of the finding or incident (if known) and would include: location of the carcass, a photograph, cause of death (if known), and other pertinent information. 		

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP54 cont'd			<ul style="list-style-type: none"> The construction right-of-way would be limited to a width of 105 feet along the B-Line and 100 feet along the Arrowhead Extension (except when in the Arrowhead Boulevard roadway or road shoulder where a 60-foot-wide construction right-of-way would be used), while the construction right-of-way for the IID Lateral would be limited to a width of 60 feet for the majority of its length and 80 feet where it parallels existing utility corridors. The construction right-of-way would be clearly staked and flagged in advance of construction. The construction area includes approved work areas for the pipelines, compressor station, and meter stations; the facilities at Rannells Trap; the taps, crossover piping, and pig launcher associated with the Arrowhead Extension; access roads; the tap to the B-line and pig launcher associated with the IID Lateral; and staging and pipe storage areas. North Baja would attempt to schedule construction in native habitats outside of the breeding season for migratory birds. If, however, construction activities are necessary in native habitats during the bird breeding season, North Baja would remove vegetation that could provide nesting substrate from the right-of-way before the breeding season, thus eliminating the possibility that birds could nest on the right-of-way. In accordance with the Agency Staffs' recommendation (see ARM6), specific plans relating to preclearing of vegetation would be coordinated with the FWS, the BLM, and the CDFG. Qualified biologists would conduct preconstruction surveys to confirm the absence of nesting birds before construction begins. If, in spite of vegetation removal, nesting birds are found on the construction right-of-way, the nest would not be removed until fledging has occurred or unless authorized after consultation with the FWS, the CDFG, and, if the nest is located on Federal lands, the Federal land management agency. At specified locations in areas of high-density microphyll woodland, North Baja would narrow the construction right-of-way width to 80 feet. Areas of this narrower construction width would be identified in the field, staked, and flagged in advance of construction. At the conclusion of work, all trenches and holes would be completely filled, surfaces cleaned and smoothed, and each site recontoured to match the original profiles as closely as possible. 		

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP54 cont'd			<ul style="list-style-type: none"> With the exception of fenced facilities, all materials and equipment would be removed from the area upon completion of work. All stakes, flagging, and fencing used to delineate and protect any environmental or cultural feature in the construction area would be removed no later than 30 days after construction and restoration are complete. Upon completion of Project activities, North Baja would submit a final report to the FERC for distribution to other agencies, including the FWS. The report would document the effectiveness and practicality of the conservation measures, the number of individuals of each species excavated from their burrows or removed from the site, the number of individuals killed or injured, and other pertinent information. The report would also recommend modifications of the Project stipulations in order to enhance the protection of species in the future. In addition, the final report would provide the actual acreage disturbed by Project activities by habitat type. 		
ARM7	North Baja's proposal to allow stringing trucks to travel at 25 miles per hour between MPs 48.0 and 68.0 of the B-Line may not adequately protect special status species.	Significant (CEQA Class II)	To protect special status species, and reduce dust, North Baja would restrict stringing trucks to a 10-mile-per-hour speed limit on the right-of-way between MPs 48.0 and 68.0 of the B-Line.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
ARM8	Southwestern willow flycatchers potentially using habitat along the Colorado River could be disturbed by activities associated with the HDD of that waterbody. Specifically, noise and light associated with HDD equipment and activities could dissuade individuals from using habitat in the vicinity of the HDD and/or could interrupt resting individuals if construction activities occurred at night.	Significant (CEQA Class II)	<p>In order to minimize the potential for construction activities to affect southwestern willow flycatchers at the Colorado River crossing, North Baja would implement the following measures at the Colorado River during activities associated with the HDD:</p> <ul style="list-style-type: none"> all individuals working within or adjacent to southwestern willow flycatcher habitat would complete southwestern willow flycatcher training before working within the construction right-of-way in those areas; and dust would be strictly controlled by watering construction areas within 1,000 feet of potential habitat at the Colorado River. 	Less than significant (CEQA Class III)	FERC and CSLC

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
ARM9	North Baja would conduct surveys for the Yuma clapper rail at Rannells Drain. However, North Baja has not proposed conservation measures to avoid impacts on individuals if identified during such surveys, nor has North Baja proposed to conduct surveys for this species at the Alamo River.	Significant (CEQA Class II)	<p>Unless North Baja provides documentation from the FWS and the CDFG that such measures are not necessary or if site-specific surveys fail to identify individuals Yuma clapper rails at the Alamo River or Rannells Drain, in order to avoid impacts on the Yuma clapper rail during construction, North Baja would:</p> <ul style="list-style-type: none"> ensure vegetation at the proposed crossing location of Rannells Drain, extending 150 feet on either side of the proposed construction work area, is cleared before February 1, 2009; ensure vegetation at the proposed crossing location of the Alamo River is cleared before February 1, 2009; and initiate all construction activities at Rannells Drain and the Alamo River between the hours of 8:30 AM and 3:30 PM to avoid periods of peak Yuma clapper rail vocalizations. 	Less than significant (CEQA Class III)	FERC and CSLC
NBP55	Construction and operation could adversely impact the Yuma clapper rail and/or rail habitat (e.g., wetlands, drains).	Significant (CEQA Class II)	Direct impacts on Yuma clapper rail and/or rail habitat along the Colorado River would be avoided through North Baja's proposed HDD crossing of this waterbody and the adjacent habitat. Suitable Yuma clapper rail and/or rail habitat at both Rannells Drain and the Alamo River would be cleared before construction; thus avoiding direct impacts (see ARM9). Impacts on wetland and drain habitat would be temporary because these vegetation communities typically revegetate within 1 year following construction.	Less than significant (CEQA Class III)	FERC and CSLC
NBP56	Construction would temporarily impact desert tortoise critical habitat at work areas, temporary access roads, and along the construction right-of-way.	Significant (CEQA Class II)	<p>North Baja would limit disturbance of previously unaffected areas to the narrowest extent practicable by constructing immediately adjacent to the existing A-Line, as well as portions of Stallard Road, SR 78, and Ogilby Road, which would minimize habitat fragmentation, and using existing access roads to the extent practicable.</p> <p>Further, to compensate for the loss of desert tortoise habitat not previously compensated for during construction of the A-Line, North Baja would implement the following measures:</p> <ul style="list-style-type: none"> Compensation rates for new impacts on desert tortoise habitat of 1:1 would be calculated and an assessed financial contribution would be paid to the BLM. In accordance with accepted guidelines previously implemented by the FERC, the FWS, and the BLM, areas of new impacts would include only those areas not previously affected by construction of the A-Line. 	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP56 cont'd			<ul style="list-style-type: none"> North Baja would provide funding to the CDFG to manage acquired lands in addition to an enhancement fee based on the same compensation rate, which would be based on the CDFG published or calculated rates per acre at the time of issuance of the final Environmental Impact Statement/Environmental Impact Report for the proposed Project. 		
NBP57	Construction-related impacts on the desert tortoise could include direct mortality or injury as a result of being crushed by vehicles, movement of soils, and entrapment in burrows and open trenches.	Significant (CEQA Class I)	<p>North Baja would minimize the potential for impacts on the desert tortoise by implementing the following measures:</p> <ul style="list-style-type: none"> North Baja would submit the names, permit numbers, and relevant tortoise experience resumes of all individuals who might need to handle desert tortoises to the FWS for approval at least 15 days before the initiation of clearance surveys. North Baja would also submit the list to the BLM for its records. Project activities would not begin until an authorized biologist has been approved. Although other biologists may be employed as biological monitors, only those approved by the FWS as authorized biologists would be permitted to handle tortoises. All persons authorized by the FWS to handle desert tortoises would follow the guidelines established in the <i>Guidelines for Handling Desert Tortoises During Construction Projects</i>. A clearance survey for the desert tortoise would be conducted by an authorized biologist within 24 hours before ground disturbance. Burrows outside of the limits of the construction right-of-way would be flagged so that the biological monitor would be able to more easily locate them during construction. All desert tortoise burrows or pallets in the construction area would be excavated by an authorized biologist. All desert tortoise handling and burrow excavation would be in accordance with the handling procedures developed by the FWS and would be conducted by authorized biologists. Desert tortoises that are found above ground and need to be moved from potential harm would be placed in the shade of a shrub by the authorized biologist. All desert tortoises removed from burrows would be placed in an unoccupied burrow of approximately the same size as the one from which it was removed. 	Significant (CEQA Class I)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project					
Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP57 cont'd			<ul style="list-style-type: none"> • If an existing burrow is unavailable, the authorized biologist would construct or direct the construction of a burrow of similar size, shape, depth, and orientation as the original burrow. Desert tortoises moved during inactive periods would be monitored for at least 2 days after placement in the new burrows to ensure their safety. The authorized biologist would be allowed some judgment and discretion to ensure that the survival of the desert tortoise is likely. • Should a tortoise wander into the construction area during construction, adjacent activities would be halted until the tortoise is moved out of the construction work area and out of harm's way. • North Baja would install exclusion fencing along the right-of-way in areas where tortoise density is sufficiently high to warrant fencing, in the opinion of the authorized biologist in charge of tortoise surveys and in consultation with the FWS and the CDFG, to prevent tortoises from entering the construction work area and getting in harm's way. • A worker bonus program would be implemented that would reward construction staff who spot a tortoise within the construction work area and, without touching or disturbing the animal, notify the authorized biologist for action. • If a tortoise is located in the construction work area and is not moving, adjacent activities would be halted until an authorized biologist is able to move it out of harm's way. • All pipeline marker signs within desert tortoise habitat would be fitted with "bird-be-gone" or similar bird repellent devices. • Only approved access roads would be used. Only approved areas would be used for temporary storage areas, laydown sites, and any other surface-disturbing activities. Any routes of travel that require construction or modification, or any additional work areas, would be surveyed for tortoises by an authorized biologist(s) before modification or construction of the route or construction or use of a new work area. • Trench segments or other excavations would be provided with tortoise escape ramps at 1-mile intervals. All excavations would be inspected for tortoises three times daily and before backfilling. 		

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP57 cont'd			<ul style="list-style-type: none"> Any time a vehicle is parked, the ground around and under the vehicle would be inspected for desert tortoises before the vehicle is moved. If a desert tortoise is observed, it would be left to move on its own. If this does not occur within 15 minutes, an authorized biologist would remove and relocate the tortoise. Within desert tortoise habitat, construction pipe, culverts, or similar structures with a diameter of 3 inches or greater that are stored on the construction site for one or more nights would be inspected for tortoises before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored on the construction site. All construction-related activities in desert tortoise habitat would be conducted between dawn and dusk. 		
NBP58	Even with North Baja's proposed mitigation and the Agency Staffs' additional recommendations, the proposed Project is likely to adversely affect the desert tortoise and its critical habitat.	Significant (CEQA Class I)	Approval of the Project would be subject to a Statement of Overriding Considerations under the CEQA. As part of the section 7 formal consultation process, the FWS' Biological Opinion (BO) included non-discretionary terms and conditions in order to ensure that the Project would not jeopardize the continued existence of the desert tortoise. North Baja would not be authorized to make any irreversible or irretrievable commitments of resources that would foreclose formulation or implementation of any reasonable or prudent alternatives needed to avoid jeopardizing the continued existence of the species and adverse modification of its critical habitat.	Significant (CEQA Class I)	FERC, CSLC, and BLM
NBP59	The razorback sucker may occur in the Project area and the FWS has designated the portion of the Colorado River crossed by the pipeline route as critical habitat for this species.	Significant (CEQA Class II)	North Baja would install the pipeline under the Colorado River using the HDD method. Used successfully, this method would avoid effects on the razorback sucker during the Colorado River crossing. In the event of a frac-out, North Baja would implement the measures in its HDD Plan. Pursuant with its CM&R Plan, North Baja would screen intake piping to prevent fish entrainment during hydrostatic test water withdrawal. See also the mitigation measures listed in NBP28, NBP30, ARM4, and ARM5.	Less than significant (CEQA Class III)	FERC and CSLC
NBP60	Construction may impact the Peirson's milk-vetch, which was identified along sandy substrate areas of the B-Line and between MPs 0.5 and 7.5 of the IID Lateral. Impacts could include the loss of the current season's seed production.	Significant (CEQA Class I)	North Baja would utilize the same techniques used during construction and restoration of the A-Line for the proposed B-Line. Techniques include topsoil and seedbank conservation measures, topsoil segregation to conserve the existing seedbank, respreading of topsoil upon completion of construction, and imprinting the right-of-way during restoration with equipment (e.g., sheepsfoot roller) to provide micro-catchment areas for seed retention. Along the IID Lateral, North Baja would similarly segregate topsoil but would not use a sheepsfoot roller in the dunes because this equipment is	Significant (CEQA Class I)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP60 cont'd			ineffective in sand. Construction of the IID Lateral through potential Peirson's milk-vetch habitat would be conducted in the summer months after adult plants (if present) have already set seed.		
NBP61	Even with the proposed mitigation, the proposed Project is likely to adversely affect the Peirson's milk-vetch.	Significant (CEQA Class I)	Approval of the Project would be subject to a Statement of Overriding Considerations under the CEQA. As part of the section 7 formal consultation process, the FWS' BO concluded that the Project would not jeopardize the continued existence of the Peirson's milk-vetch.	Significant (CEQA Class I)	FERC, CSLC, and BLM
NBP62	The proposed pipeline route would cross potential Arizona bell's vireo habitat along the proposed B-Line at the Colorado River (MPs 0.0 to 3.0) and the Davis Lake area (MPs 31.0 to 33.0).	Significant (CEQA Class II)	North Baja would use the HDD method to cross the Colorado River and implement its general conservation measures to avoid or minimize potential impact on Arizona bell's vireo habitat. The Project would be at least 1,300 feet from the Davis Lake area, thus avoiding direct impacts.	Less than significant (CEQA Class III)	FERC and CSLC
NBP63	While no California black rail habitat was identified during surveys, areas of suitable habitat could become occupied prior to construction. Disturbance of foraging and nesting habitat (i.e., wetlands and drains) could be affected by construction.	Significant (CEQA Class II)	North Baja would conduct preconstruction surveys for the California black rail if habitat for this species is not cleared before construction. North Baja would implement its general conservation measures. Because habitat for this species is similar to the Yuma clapper rail, suitable habitat for both the Yuma clapper rail and the California black rail at both Rannells Drain and the Alamo River would be cleared before construction, thus avoiding direct impacts (see NBP55 and ARM9). Impacts on wetland and drain habitat would be temporary because these vegetation communities typically revegetate within 1 year following construction.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP64	Surveys (2002) for the Gila woodpecker identified two occupied cavities at MPs 50.7 and 51.7; other suitable habitat may be affected by the Project.	Significant (CEQA Class II)	North Baja would conduct surveys for Gila woodpeckers in areas of suitable nesting habitat before initiation of construction of the B-Line if construction is scheduled to occur during the breeding season. If active Gila woodpecker nest cavities are identified within 100 feet of the right-of-way during preconstruction surveys, North Baja would monitor cavities during construction to determine if nesting individuals are being disturbed by construction activities. If disturbance (e.g., avoidance of the cavity by individuals) is noted and young are present in the cavity, North Baja would cease construction within 200 feet of the nest cavity until the young have fledged.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP65	Marginal habitat for the western yellow-billed cuckoo is present along some areas of the Colorado River near MP 0.2 of the proposed B-Line. Construction could impact this species and its habitat.	Significant (CEQA Class II)	No individual western yellow-billed cuckoos were identified during surveys conducted for this species before construction of the A-Line in June and July 2001. North Baja would implement its general conservation measures to avoid impacts on the western yellow-billed cuckoo and its habitat.	Less than significant (CEQA Class III)	FERC and CSLC
NBP66	The IID Lateral would cross suitable habitat for the Algodones Dune sunflower species in the southern Algodones Dunes within the ISDRA (MPs 0.5 to 7.9). Construction may remove individual plants.	Significant (CEQA Class II)	North Baja would assume the species is present throughout the area of suitable habitat. North Baja would implement its general conservation measures. North Baja would segregate topsoil along the IID Lateral, but would not use a sheepsfoot roller in the area of the dunes because this equipment is ineffective in sand. Construction of the IID Lateral through potential Algodones Dune sunflower habitat would be conducted in the summer months after adult plants (if present) have already set seed, which should allow for the re-establishment in the next growing season after construction is completed.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP67	The IID Lateral would cross suitable habitat for the Wiggins's croton in the southern Algodones Dunes within the ISDRA (MPs 0.5 to 7.9). Construction may remove individual plants.	Significant (CEQA Class II)	North Baja would assume the species is present throughout the area of suitable habitat. North Baja would segregate topsoil along the IID Lateral, but would not use a sheepsfoot roller in the area of the dunes because this equipment is ineffective in sand. Construction of the IID Lateral through potential Wiggins's croton habitat would be conducted in the summer months after adult plants (if present) have already set seed, which should allow for the re-establishment in the next growing season after construction is completed.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP68	Construction may impact the Colorado River cotton rat, which occurs in the marshes of the Colorado River.	Significant (CEQA Class II)	North Baja would cross the Colorado River and associated riparian areas using the HDD method. In the event of a frac-out, North Baja would implement the measures in its HDD Plan to contain the drilling mud and avoid impacting potential habitat for the Colorado River cotton rat. See also the mitigation measures listed in ARM4.	Less than significant (CEQA Class III)	FERC and CSLC
NBP69	The BLM reported that the proposed Project could encounter desert bighorn sheep near the Palo Verde Wilderness Area, which is approximately 1 mile west of the B-Line near MP 31.0. Impacts on desert bighorn sheep are likely to be indirect in nature, resulting from noise-related disturbance during construction.	Significant (CEQA Class II)	North Baja would inform workers that bighorn sheep may occur in the area and would keep all construction activities within the approved construction work area.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP70	The B-Line would cross suitable riparian and desert wash woodland habitat for the brown-crested flycatcher between MPs 22.0 to 23.0, 35.0 to 36.0, 41.0 to 46.0, 50.0 to 53.0, and 59.0 to 66.0. Habitat clearing during the breeding season could result in injury or death, or abandonment of nests.	Significant (CEQA Class II)	North Baja would complete construction of the B-Line after the breeding season. If construction is necessary during the breeding season, North Baja would preclear vegetation along the B-Line. Preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. See also the mitigation measures listed in NBP45 and ARM6.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP71	Construction could affect burrowing owls, which occur in the irrigated desert agricultural areas. The B-Line would cross suitable burrowing owl habitat from MPs 0.0 to 12.0 (which includes 18 th Avenue), and the IID Lateral would cross suitable burrowing owl habitat from MPs 28.0 to 46.0. In addition, North Baja identified one probable burrowing owl burrow and an individual burrowing owl adjacent to a burrow at approximate MP 1.5 of the Arrowhead Extension.	Significant (CEQA Class II)	<p>For owls occupying burrows within 250 feet of the construction work area, North Baja would monitor or passively or actively relocate the species to appropriate and previously installed artificial or available alternate natural burrows. Only biologists approved by the CDFG in advance would handle owls or install one-way doors during relocation activities. The management strategy utilized would be determined on a case-by-case basis. In addition to relocation or monitoring efforts, North Baja would implement the following measures to minimize impacts on the burrowing owl:</p> <ul style="list-style-type: none"> • Direct impacts on burrowing owl habitat would be minimized by constructing in the road pavement or road shoulder in agricultural areas or by boring/drilling beneath habitat areas (e.g., canals and drains). • Preconstruction surveys during the breeding season would be conducted by biologists who would visually check all potential habitat within 250 feet of both sides of the proposed construction work area within 1 week before construction. • Unoccupied burrows discovered within the construction right-of-way during preconstruction surveys would be collapsed or excavated before construction activities to prevent occupancy by burrowing owls. • Artificial burrows, installed to minimize the effect of burrow loss, would be placed within the home range of individual owls that would be affected before burrow excavation or installation of one-way doors. <p>Also, North Baja would provide compensation at the equivalency rate of 6.5 acres of foraging habitat for burrowing owls for each active burrow damaged.</p>	Less than significant (CEQA Class III)	FERC and CSLC
NBP72	The B-Line would cross potential habitat for the Crissal thrasher, which occurs near the Colorado River and the town of	Significant (CEQA Class II)	North Baja would complete construction of the B-Line after the breeding season. If construction is necessary during the breeding season, North Baja would preclear vegetation along the B-Line. Preconstruction clearing would be conducted in	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP72 cont'd	Blythe (MPs 0.0 to 3.0), the town of Palo Verde (MPs 24.0 to 29.0), and the Davis Lake area (MPs 31.0 to 33.0), along 18 th Avenue in Blythe, and in the area of Stallard Road (MP 25.0). Impacts include slow habitat re-establishment, noise, and breeding disruption.		accordance with recommendations from the FWS, the BLM, and the CDFG. See also the mitigation measures listed in NBP45 and ARM6. Further, North Baja would minimize the potential for long-term impacts on the Crissal thrasher by compensating for loss of microphyll woodland habitat through payment of an assessed financial contribution at a ratio approved by the FWS, the BLM, and the CDFG for those areas not already covered by desert tortoise habitat compensation.		
NBP73	The B-Line would cross potential habitat for the Le Conte's thrasher, which occurs from MPs 12.0 to 79.8. The IID Lateral would also cross suitable habitat in the scattered creosote bush scrub habitat between the ISDRA and the Imperial Valley from MPs 8.0 to 28.0. Impacts include slow habitat re-establishment, noise, and breeding disruption.	Significant (CEQA Class II)	North Baja would assume that the species is present throughout the area of suitable habitat. North Baja would complete construction of the B-Line after the breeding season. If construction is necessary during the breeding season, North Baja would preclear vegetation along the B-Line. Preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. See also the mitigation measures listed in NBP45 and ARM6. Further, North Baja would minimize the potential for long-term impacts on the Le Conte's thrasher by compensating for loss of microphyll woodland habitat through payment of an assessed financial contribution at a ratio approved by the FWS, the BLM, and the CDFG for those areas not already covered by desert tortoise habitat compensation.	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary
NBP74	The B-Line would cross suitable habitat for the summer tanager, which occurs along the lower Colorado River basin (MPs 22.0 to 23.0, 35.0 to 36.0, 41.0 to 46.0, 50.0 to 53.0, and 59.0 to 66.0). Impacts include slow habitat re-establishment, noise, and breeding disruption.	Significant (CEQA Class II)	North Baja would assume that the species is present throughout the area of suitable habitat. North Baja would complete construction of the B-Line after the breeding season. If construction is necessary during the breeding season, North Baja would preclear vegetation along the B-Line. Preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. See also the mitigation measures listed in NBP45 and ARM6. Further, North Baja would minimize the potential for long-term impacts on the summer tanager by compensating for loss of microphyll woodland habitat through payment of an assessed financial contribution at a ratio approved by the FWS, the BLM, and the CDFG for those areas not already covered by desert tortoise habitat compensation.	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary
NBP75	The B-Line would cross suitable habitat for the vermilion flycatcher, which occurs in the desert riparian areas of the lower Colorado River basin (MPs 0.0 to 12.0, 22.0 to 29.0, 31.0 to 33.0, 35.0 to 53.0, 59.0	Significant (CEQA Class II)	North Baja would assume that the species is present throughout the area of suitable habitat. North Baja would complete construction of the B-Line after the breeding season. If construction is necessary during the breeding season, North Baja would preclear vegetation along the B-Line. Preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. See also the	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP75 cont'd	to 66.0, and 79.0 to 79.8). Impacts include slow habitat re-establishment, noise, and breeding disruption.		mitigation measures listed in NBP45 and ARM6. Further, North Baja would minimize the potential for long-term impacts on the vermilion flycatcher by compensating for loss of microphyll woodland habitat through payment of an assessed financial contribution at a ratio approved by the FWS, the BLM, and the CDFG for those areas not already covered by desert tortoise habitat compensation. Additionally, North Baja would use the HDD method to cross the Colorado River, avoiding direct impacts on potential suitable habitat.		
NBP76	The B-Line would cross suitable habitat for the yellow-breasted chat, which occurs along the Colorado River in Blythe (MPs 0.0 to 3.0), the town of Palo Verde (MPs 22.0 to 23.0), and the Davis Lake area (MPs 31.0 to 33.0). Impacts include slow habitat re-establishment, noise, and breeding disruption.	Significant (CEQA Class II)	North Baja would assume that the species is present throughout the area of suitable habitat. North Baja would complete construction of the B-Line after the breeding season. If construction is necessary during the breeding season, North Baja would preclear vegetation along the B-Line. Preconstruction clearing would be conducted in accordance with recommendations from the FWS, the BLM, and the CDFG. See also the mitigation measures listed in NBP45 and ARM6. Further, North Baja would minimize the potential for long-term impacts on the yellow-breasted chat by compensating for loss of microphyll woodland habitat through payment of an assessed financial contribution at a ratio approved by the FWS, the BLM, and the CDFG for those areas not already covered by desert tortoise habitat compensation.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP77	Construction could affect suitable habitat for the Colorado River toad, which occurs in the Colorado River from Fort Yuma to the Blythe-Ehrenberg area.	Significant (CEQA Class II)	North Baja could cross the Colorado River and associated riparian areas using the HDD method. In the event of a frac-out, North Baja would implement the measures in its HDD Plan to contain the drilling mud and avoid impacting potential habitat for the Colorado River toad. See also the mitigation measures listed in ARM4.	Less than significant (CEQA Class III)	FERC and CSLC
NBP78	The B-Line could affect the spadefoot toad, which is historically known to occur at the Milpitas Wash (MP 35.3), and in the Stallard Road wash area (MP 25.0). Impacts include mortality or breeding disruption.	Significant (CEQA Class II)	To minimize impacts on individuals and populations of the Couch's spadefoot toad, North Baja would implement the following mitigation measures: <ul style="list-style-type: none"> If local thunderstorms occur in the habitat identified by the CDFG and provide substantial moisture under warm conditions (temperatures over 90 °F) in July, August, or September, and if construction has not already been completed in that area, North Baja biologists would examine potential Couch's spadefoot toad habitat for persistent pools. The CDFG would notify North Baja if appropriate conditions prevail, and North Baja would coordinate with the CDFG to complete the surveys. Authorized biologists would monitor temporary pools for persistence and would examine them daily for eggs, tadpoles, or toadlets.	Less than significant (CEQA Class III)	FERC, CSLC, BLM, and other agencies as necessary

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP78 cont'd			<ul style="list-style-type: none"> Construction activities would not be conducted within 150 feet of temporary pools. If water fails to persist within shallow pools for 10 days, or if no Couch's spadefoot toad eggs, tadpoles, or toadlets are found within 10 days, then construction would resume in the area. If any Couch's spadefoot toads are found, the CDFG would be immediately notified. A report on the findings would be submitted to the CDFG within 30 days of completion of the construction activities within the area. 		
NBP79	The B-Line would cross suitable habitat for the flat-tailed horned lizard, which occurs between MPs 71.0 to 79.8. Also, the IID Lateral would cross potentially suitable habitat between MPs 8.0 to 28.0. Impacts include mortality.	Significant (CEQA Class I)	<p>Approval of the Project would be subject to a Statement of Overriding Considerations under the CEQA. North Baja would implement the following mitigation measures to reduce impacts on flat-tailed horned lizards:</p> <ul style="list-style-type: none"> Authorized biologists would conduct preconstruction surveys to verify all flat-tailed horned lizard habitat in the construction area. Within 7 days before construction, biologists would identify habitat areas subject to direct construction-related ground disturbance. Biologists would conduct a final clearance survey 1 to 2 days before construction activities, which would include excavating potential burrows and relocating lizards to nearby suitable habitat. North Baja would implement the management strategy guidelines for relocation of flat-tailed horned lizards described in the <i>Flat-tailed Horned Lizard Range Management Strategy</i>. A field contact representative would initiate a worker education program and would have the authority to ensure compliance with protective measures for flat-tailed horned lizards. A biological monitor would be present in each area of active construction within flat-tailed horned lizard habitat throughout the work day from initial clearing through habitat restoration. The biological monitors would have sufficient education, field experience, and training with this species to understand its biology and behavior. The monitors would ensure that all activities are in compliance with the management strategy guidelines for relocation of flat-tailed horned lizards. The biological monitors would also have the authority and responsibility to halt activities that are in violation of the management strategy guidelines. 	Significant (CEQA Class I)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP79 cont'd			<ul style="list-style-type: none"> In areas of suitable habitat (MPs 75.2 to 79.6 of the B-Line and MPs 8.0 to 28.0 of the IID Lateral), North Baja would restrict the amount of trench open at any one time to 2 miles. Trench walkers would be employed in those areas such that each portion of open trench would be observed every 30 minutes when ground temperatures exceed 85°F (29.5 °C). Each trench walker can cover 2 miles per hour; therefore, the open portion of trench (2 miles) would require two trench walkers during hot weather to provide the desired coverage. Trench walkers would be construction workers with no other duties than to walk along the side of the open trench and look for flat-tailed horned lizards. These workers would receive specialized flat-tailed horned lizard training under the supervision of the BLM biologist and would be directly supervised by a qualified biologist who has also received flat-tailed horned lizard training. Additionally, all hazardous sites, such as open pipes, trenches, holes, or deep excavations would be inspected for the presence of lizards before backfilling. If lizards are found trapped in an excavation, the authorized biologist would capture by hand and relocate the affected lizard. The management strategy guidelines for relocation of flat-tailed horned lizards described in the <i>Flat-tailed Horned Lizard Range Management Strategy</i> would be used. 		
NBP80	Construction of the B-Line could affect fairyduster plants, which have been identified between MPs 45.1 to 49.8, 53.6 to 57.4, and 65.1 to 66.6. Also, habitat for this species may occur along the IID Lateral. Construction may remove individual plants.	Significant (CEQA Class II)	North Baja would assume that the species is present throughout the area of suitable habitat along the IID Lateral. North Baja would implement its general conservation measures, including topsoil and seedbank conservation. Post-construction surveys of the A-Line right-of-way have shown that restoration of the pipeline right-of-way allows native plants to re-establish in areas disturbed by construction.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP81	The IID Lateral would cross suitable habitat for the giant Spanish-needle, which is found in the southern Algodones Dunes within the ISDRA (MPs 0.5 to 7.9). Construction may remove individual plants.	Significant (CEQA Class II)	North Baja would assume that the species is present throughout the area of suitable habitat. North Baja would implement its general conservation measures, including the efforts to minimize the spread of non-native species, to reduce the overall abundance of the species in the area.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP82	The IID Lateral would cross suitable habitat for the sand food, which is found in the southern Algodones Dunes within the ISDRA (MPs 0.5 to 7.9). Construction may remove individual plants.	Significant (CEQA Class II)	North Baja would assume that the species is present throughout the area of suitable habitat. North Baja would implement its general conservation measures, including the efforts to minimize the spread of non-native species, to reduce the overall abundance of the species in the area.	Less than significant (CEQA Class III)	FERC and CSLC

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
ARM10	The Project may affect potential inhabitation of suitable habitats found to be lacking individual special status species during surveys in 2005, and/or new species that are listed under State or Federal law in the future.	Significant (CEQA Class II)	For those areas where construction would occur more than 1 year from the date of issuance of the FERC and CSLC approvals for the Project, North Baja would consult with the FWS, the BLM, and the CDFG to update the species list and to verify that previous consultations and determinations of effect are still current. Documentation of these consultations, and the need for additional surveys and survey reports (if required), and FWS, BLM, and CDFG comments on the surveys and survey reports and their conclusions (as applicable), would be filed with the FERC and the CSLC.	Less than significant (CEQA Class III)	FERC and CSLC
ARM11	Potential adverse effects on Federal and State-listed endangered and threatened species and compliance with the Endangered Species Act and California Endangered Species Act.	Significant (CEQA Class II)	North Baja would not begin Phase I-A or Phase II construction activities until: <ul style="list-style-type: none"> the CDFG makes a consistency determination on the FWS' BO pursuant to section 2080.1 of the California Fish and Game Code or issues an Incidental Take Permit that covers both federally and State-listed species that may be affected; North Baja obtains an Incidental Take Permit under section 2081 of the California Fish and Game Code for all State-listed species that may be affected, or receives concurrence from the CDFG that an Incidental Take Permit is not required; and North Baja has received written notification from Executive Officer of the CSLC that construction or use of conservation measures may begin. 	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
LAND USE, SPECIAL MANAGEMENT AREAS, RECREATION AND PUBLIC INTEREST AREAS, AND AESTHETIC RESOURCES					
NBP83	Land use impacts associated with the new pipelines would include disturbance of existing land uses within the construction right-of-way during construction and retention of a new permanent right-of-way for operation.	Significant (CEQA Class II)	Following construction, all land used for temporary construction right-of-way and temporary extra workspace areas would be allowed to revert to prior uses. With the exception of tree crops such as orchards, all forms of agriculture would be permitted within the permanent right-of-way. Construction of aboveground structures would be prohibited on the permanent right-of-way; however, no restrictions would be placed on the temporary right-of-way or extra workspaces. No new permanent right-of-way would be required for the B-Line.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP84	Land used for the aboveground facilities would be permanently converted to a utility use.	Less than significant (CEQA Class III)	No mitigation is proposed. The permanent conversion of the affected land uses would represent less than a 1 percent change in each respective land use in the Project area.	Less than significant (CEQA Class III)	No monitoring required.

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP85	Eighteen residences and 2 businesses are within 100 feet of the B-Line and 19 residences and 4 businesses are within 100 feet of the IID Lateral. Residences or businesses could be affected by construction and operation of the Project.	Significant (CEQA Class II)	<p>North Baja would implement the following general measures to minimize construction-related hazards and maintain access to the residences and businesses that would be affected by the Project:</p> <ul style="list-style-type: none"> • minimize the amount of trench left open at the end of the workday and cordon off the trench during non-work hours; • cover the trench with steel plates where necessary to allow traffic passage and reduce safety hazards; • install safety fencing for a minimum of 100 feet on either side of residences that are within 100 feet of the construction work area; • secure and patrol construction areas during non-work hours to minimize safety issues associated with open trenches; • maintain an emergency ingress and egress near all residences and businesses throughout the construction process; • maintain at least one lane of restricted traffic movement through the construction area for access to residences and for emergency vehicles; • minimize noise by maintaining equipment in good operating condition; and • suppress dust with the use of water trucks and regular spraying. <p>In addition, North Baja has prepared and would follow Site-specific Residential Construction Mitigation Plans to minimize disruption and to maintain access to the residences and businesses within 100 feet of the construction work area associated with the B-Line and IID Lateral. Dimensioned site plans would show the following items within a minimum of 100 feet of the construction work area:</p> <ul style="list-style-type: none"> • the proposed centerline of the pipeline; • the limits of the construction work area; • the edge of the paved road surface; • each residence/business and associated structures; • existing pipelines and powerlines; 	Less than significant (CEQA Class III)	FERC and CSLC

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP85 cont'd			<ul style="list-style-type: none"> waterbodies, roads, driveways, fences, trees or other landscaping, and private wells; and the location of safety fencing that would be installed during construction. 		
NBP86	Construction activities could conflict with planned developments.	Less than significant (CEQA Class III)	No mitigation is proposed. North Baja would work with the developers and applicable agencies associated with these projects to ensure that the proposed Project does not conflict with the development plans.	Less than significant (CEQA Class III)	No monitoring required.
NBP87	Construction activities could require plan amendments for crossing portions of designated special management areas such as the California Desert Conservation Area (CDCA) and the Milpitas Wash SMA.	Significant (CEQA Class II)	North Baja has submitted an amended Right-of-Way Grant application to the BLM for the crossing of Federal lands. Approval of the application would require an amendment to the CDCA Plan and the Yuma District Resource Management Plan, which dictate management within the CDCA and the Milpitas Wash SMA, respectively. The plan amendments would avoid conflict with the CDCA Plan and the Yuma District Resource Management Plan. The amendments would only accommodate the North Baja Pipeline Expansion Project and would not create a new corridor or modify existing corridors.	Less than significant (CEQA Class III)	The BLM is responsible for issuing an amendment to the plans.
NBP88	Public interest areas directly affected by or located near the Project, including the Milpitas Wash SMA, ISDRA, Cibola NWR, Mule Mountain Area of Critical Environmental Concern (ACEC), Pilot Knob ACEC, Plank Road ACEC, East Mesa ACEC, Lake Cahuilla ACEC, Palo Verde Wilderness Area, and the Ehrenberg Sandbowl Off-Highway Vehicle area would be affected by temporary removal of vegetation and indirectly affected by traffic, noise, and dust during pipeline construction.	Significant (CEQA Class II)	<p>In general, North Baja would minimize construction-related impacts on these areas by:</p> <ul style="list-style-type: none"> installing the B-Line entirely within the existing right-of-way maintained for the A-Line; installing the IID Lateral almost entirely within or adjacent to existing road and transmission line rights-of-way; timing construction to avoid peak usage periods, when practical; and ensuring effective post-construction reclamation of the right-of-way to preconstruction conditions. <p>Construction-induced effects such as traffic, noise, and dust may affect the quality of some users' recreational experiences, but any effects would be temporary in nature and would occur in the summer months when recreational use is at its lowest.</p>	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP89	Construction could restrict use and access to designated OHV use areas. Conversely, the pipeline rights-of-way could increase accessibility for OHV use into previously inaccessible, environmentally sensitive areas.	Significant (CEQA Class II)	<ul style="list-style-type: none"> Where the proposed pipelines would be in areas of authorized OHV use, the pipeline rights-of-way would not be restricted for OHV use. To reduce the potential for interference between pipeline construction activities and authorized OHV use, as well as unauthorized OHV use of the pipeline rights-of-way after construction, North Baja developed an Off-Highway Vehicle Management Plan (OHV Plan) that addresses the initial siting, construction, and 	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP89 cont'd			<p>operation of the proposed facilities. Some of the measures of the plan include:</p> <ul style="list-style-type: none"> • Berms would be placed across the right-of-way where it intersects an existing OHV road. Berm slopes would not exceed 30 percent. • Berms would be placed across the right-of-way as part of erosion control and strategically placed to reduce visibility and mimic local topography. • Rock redistribution and strategic placement, without making it into a challenging obstacle course, would occur across the right-of-way where large rock is available and such work would "erase" the visual cues of "road." • The right-of-way would be backbladed or raked by bulldozer or by hand, to erase the traces of the intersection of the right-of-way with an existing OHV route or dirt road. • Ocotillo and large cacti would be salvaged and replanted where they are available with the understanding that survival criteria would not be applied because even dead specimens provide convincing visual clues of "no road." • Other desert species, including creosote bush scrub and desert wash woodland species (e.g., palo verde, ironwood, smoke tree, etc.) would also be salvaged and replanted with the understanding that they would be unlikely to survive but could still provide value as a visual block. • Woody material removed during construction would be redistributed across the right-of-way to both disguise the right-of-way and serve as "vertical mulch." <p>An assessment and detailed description of where these blocking measures would be implemented is presented in North Baja's OHV Plan.</p> <p>In addition, North Baja has agreed to place additional signs and/or vegetative barriers at access points along the right-of-way if requested by the Yuma District of the BLM. North Baja would also replace fencing on the Cibola NWR that was originally installed after construction of the A-Line but subsequently destroyed by OHV users and would maintain that fencing for 2 years.</p>		
ARM12	North Baja's OHV Plan did not address enforcement and future monitoring of the proposed OHV blocking measures.	Significant (CEQA Class II)	<p>Before Phase I-A and Phase II construction activities, North Baja would revise its OHV Plan to include:</p> <ul style="list-style-type: none"> • the agency or agencies responsible for enforcement of the OHV Plan; 	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
ARM12 cont'd			<ul style="list-style-type: none"> the frequency of monitoring that would be conducted to ensure that the implemented OHV blocking measures are functioning properly; the methodology for reassessing the implemented OHV blocking measures in the future; and enforcement measures. 		
NBP90	Construction activities could disrupt recreational uses at the Colorado River.	Less than significant (CEQA Class III)	The Colorado River would be crossed using the HDD method, which would minimize impacts on the river and would not limit the use of the river for recreational purposes. However, access to the river may be restricted during welding of the pipe and the pullback for the HDD crossing. No mitigation is proposed during construction because the period of limited public access would be short term.	Less than significant (CEQA Class III)	No monitoring required.
NBP91	Use of the Bradshaw Trail could be disrupted for several days during construction.	Less than significant (CEQA Class III)	No mitigation is proposed during construction. Construction would occur in the summer months when recreational use of the trail is at its lowest and be completed within a few days.	Less than significant (CEQA Class III)	No monitoring required.
NBP92	Construction-related activities could impact wildlife in the multi-species WHMA that would be crossed by the B-Line between MPs 35.2 and 50.0.	Significant (CEQA Class II)	North Baja would limit construction activities to between July 1 and December 1 if Crissal thrashers are present, implement special mitigation measures to avoid disturbance of Couch's spadefoot toad habitat (see NBP78), and compensate for disturbance of desert dry wash woodland and desert chenopod scrub communities.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP93	Construction activities could encounter unidentified hazardous waste sites.	Significant (CEQA Class II)	North Baja would notify the appropriate agencies and adhere to the measures included in its SPCC Plan to avoid or minimize the potential impact of hazardous material spills during construction. North Baja would implement the mitigation measures listed in NBP22.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP94	Installation of new aboveground facilities would impact visual resources.	Significant (CEQA Class II)	North Baja would paint the new or additional facilities to blend with the surrounding landscape. Security lighting at the aboveground facilities would be low sodium vapor light that would be angled toward the interior of the station.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
SOCIOECONOMICS					
NBP95	Construction of the Project could temporarily increase the population in the area by about 300 to 400 people.	Less than significant (CEQA Class III)	No mitigation is proposed during construction. This negligible short-term increase in population would not significantly affect housing availability or increase the demand for public services in excess of existing and projected capabilities.	Less than significant (CEQA Class III)	No monitoring required.
NBP96	Construction-related demands on local agencies could include increased enforcement activities associated with issuing permits for vehicle load and width limits, local police assistance during construction at road crossings to facilitate traffic flow, and emergency medical services to treat injuries resulting from construction activities.	Significant (CEQA Class II)	Local communities have adequate infrastructure and community services to meet the needs of the out-of-area workers that would be required for the Project. North Baja would develop an Emergency Response Plan to establish and maintain communications with local fire, police, and public officials and would make personnel, equipment, tools, and materials available at the scene of an emergency.	Less than significant (CEQA Class III)	North Baja certified compliance with this mitigation measure in its application to the FERC.
NBP97	Construction and operation of the pipeline could generate local tax revenue.	Beneficial impact (CEQA Class IV)	No mitigation is proposed.	Beneficial impact (CEQA Class IV)	No monitoring required.
TRANSPORTATION AND TRAFFIC					
NBP98	Construction across roads and highways would result in short-term impacts on public transportation while construction activities pass through the Project area.	Significant (CEQA Class II)	Construction across paved and unpaved roads, highways, and railroads would be in accordance with requirements of applicable permits and approvals. These features would either be bored or open cut. The use of the bore crossing method would avoid disrupting traffic. No work would occur within the road or railroad rights-of-way unless expressly permitted by the applicable agency. At open-cut road crossings, North Baja would not close any roads unless adequate detours are provided. If a detour is required, traffic would be rerouted to another nearby road. If no reasonable detour is feasible, North Baja would leave at least one lane of traffic open. Where Project construction crosses roads necessary for access to private residences and no alternative entrance exists, North Baja would implement measures (e.g., plating over the open portion of the trench) to maintain passage for landowners and emergency vehicles. Most open-cut crossings would be completed and the road resurfaced in 1 or 2 days.	Less than significant (CEQA Class III)	FERC and CSLC
NBP99	Construction of the Project would result in temporary increases in traffic levels due to the commuting of the construction workforce to the Project area as well as the	Less than significant (CEQA Class III)	No mitigation during construction is proposed. The roadways in the Project area have a level of service of A (roadway has little or no delay or congestion) or B (roadway has slight congestion or delay). Because pipeline construction work is generally scheduled to take advantage of all daylight hours, workers would commute to and from the contractor yards and	Less than significant (CEQA Class III)	No monitoring required.

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP99 cont'd	movement of construction vehicles and delivery of equipment and materials to the construction work area.		construction right-of-way during off-peak traffic hours. Construction workers would typically meet at the contractor yards and share rides to the construction right-of-way, thereby reducing overall traffic. In addition, work would be spread along the length of the construction spread, which would reduce the impact on traffic at any one location. Overall, the number and frequency of construction vehicle trips would be low on any particular roadway at any one time because construction would move sequentially along the Project right-of-way.		
NBP100	Construction in the paved segment of 18 th Avenue could inconvenience residents and business owners.	Significant (CEQA Class II)	<p>North Baja would implement its Traffic Management Plan for 18th Avenue, which identifies the following mitigation measures to minimize traffic-related impacts:</p> <ul style="list-style-type: none"> the pipeline would be installed with a minimum of 36 inches of cover and 12 inches of separation from other utilities or obstructions. A minimum of 2 feet would be maintained under canals and 5 feet over drains; intersections would be bored or trenched (trenched intersections would be steel plated if construction does not occur on consecutive days); North Baja would contact each owner and/or tenant of the properties abutting the road to explain the construction process and identify any special conditions or concerns that need to be incorporated into the construction plans. In addition, these adjacent residents and businesses would be notified by hand-delivered flyers 2 weeks before construction. The flyers would include the dates of construction, work hours, traffic detours, and contact numbers for North Baja and the contractor. Emergency response agencies would also be notified of the work schedule; the Underground Service Alert would be notified at least 48 hours before beginning work; flag persons would be provided to route traffic around construction equipment and obstructions; work would be scheduled during daylight hours unless alternative schedules are authorized; access would be maintained to all residences or businesses except during actual trenching operations. Steel plates would be available to maintain access to driveways during periods when the trench is open; 	Less than significant (CEQA Class III)	FERC and CSLC

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP100 cont'd			<ul style="list-style-type: none"> • non-local traffic would be detoured around construction activities; • one lane of restricted traffic movement would be maintained through the construction area. This would allow residences, businesses, and emergency vehicles reasonable access during the construction activities; • during non-work times, the work area would be secured and patrolled to minimize safety hazards associated with open trenches, heavy equipment, and other construction operations; and • open trenches would be covered or cordoned off during non-working hours. <p>The non-local traffic that would be detoured around construction activities would be directed to a road parallel and typically only 1 block north or south of 18th Avenue.</p>		
NBP101 ARM13	Traffic along Arrowhead Boulevard could be affected during construction of the Arrowhead Extension.	Significant (CEQA Class II)	North Baja would use the same construction methods between MPs 0.0 and 1.0 of the Arrowhead Alternative as those described for portions of the proposed B-Line within 18th Avenue (see NBP100). North Baja would also prepare a Traffic Management Plan for Arrowhead Boulevard in consultation with the County of Riverside Transportation Department detailing the specific measures that would be used to control traffic during construction of the Arrowhead Extension.	Less than significant (CEQA Class III)	FERC and CSLC
NBP102	Construction would affect several Imperial County roadways (e.g., Evan Hewes Highway, Hunt Road, and East Ross Road).	Significant (CEQA Class II)	North Baja would implement its Traffic Management Plan for Imperial County Roads. The plan identifies the same mitigation measures as for 18 th Avenue (see NBP100). In addition, North Baja would install the pipeline in sections and have a specialized crew designated for construction to minimize road closures or periods of restricted access along Imperial County roadways. North Baja would close off 0.5- to 1.0-mile-long sections of road and reroute traffic around the area through the use of signs and detours (while maintaining access for residents and emergency vehicles). No more than 2 miles of work area would be active at any one time and construction would advance along the roadway at an estimated 0.5 mile per day. In general, construction impacts at any given location would last no more than 2 to 3 weeks.	Less than significant (CEQA Class III)	FERC and CSLC

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
CULTURAL RESOURCES					
NBP103 ARM14	Potential adverse effects on historic properties and compliance with the National Historic Preservation Act.	Significant (CEQA Class II)	<p>North Baja would complete cultural resources surveys for all areas of the proposed Project. To ensure that the FERC's responsibilities under the National Historic Preservation Act and its implementing regulations and the CSLC's responsibilities under the CEQA are met, North Baja would defer implementation of any treatment plans/mitigation measures (including archaeological data recovery), construction of facilities, and use of all staging, storage, or temporary work areas and new or to-be-improved access roads on each respective Project phase until North Baja files with the FERC and the CSLC, as applicable, the materials listed in bullets 1 through 6, and the steps listed in bullets 7 through 9 below have been completed:</p> <ul style="list-style-type: none"> • any FWS, Cibola NWR comments on the Overview and Survey Report; • any BOR comments on the Evaluation Plan; • any comments from the BOR and Native American tribes on the draft Evaluation Report; • the revised Evaluation Report; • the California State Historic Preservation Office's (SHPO) comments on Addendum Reports 2 and 3, the revised Evaluation Report, and the revised Historic Properties Treatment Plan; • all additional cultural resources survey reports for denied access areas and any additional areas requiring survey, evaluation reports, and any necessary treatment plans as well as documentation that these reports and plans were submitted to the SHPO(s); the BLM; the BOR; the FWS, Cibola NWR; and Native American tribes, as applicable; • any comments of the SHPO(s); the BLM; the BOR; the FWS, Cibola NWR; and Native American tribes, as applicable, on all additional cultural resources survey reports and plans; • the CSLC reviews and approves all cultural resources reports and plans prepared for the California portion of the Project and notifies North Baja in writing that construction may proceed; • the Advisory Council on Historic Preservation is afforded an opportunity to comment, if historic properties would be adversely affected; and • the Director of the Office of Energy Projects reviews and approves all applicable cultural resources reports and plans and notifies North Baja in writing that treatment plans/mitigation measures may be implemented or construction may proceed. 	Less than significant (CEQA Class III)	FERC, CSLC, and BLM

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
AIR QUALITY					
NBP104	The construction activities that would generate emissions include land clearing, ground excavation, and cut and fill operations. The intermittent and short-term emissions generated by these activities would include dust from soil disruption and combustion emissions from the construction equipment. These emissions could result in minor, temporary impacts on air quality in the vicinity of pipeline installation.	Significant (CEQA Class II)	<p>Construction equipment would be operated on an as-needed basis during daylight hours only and the emissions from gasoline and diesel engines would be minimized because the engines must be built to meet the standards for mobile sources established by the U.S. Environmental Protection Agency mobile source emission regulations including those in Title 40 CFR Part 85. Most of the construction equipment would be powered by diesel engines and would be equipped with typical control equipment (e.g., catalytic converters), and Project-related vehicles and construction equipment would be required to use the new low sulfur diesel fuel as soon as it is commercially available. In addition, North Baja would implement the following measures to minimize impacts on air resources.</p> <ul style="list-style-type: none"> • minimize idling time for diesel equipment whenever possible; • ensure that diesel-powered construction equipment is properly tuned and maintained, and shut off when not in direct use; • prohibit engine tampering to increase horsepower; • use California Air Resources Board-certified low sulfur diesel fuel (less than 15 parts per million); and • reduce construction-related trips as feasible for workers and equipment, including trucks. <p>See also the mitigation measures listed in NBP9, ARM2, and ARM3.</p>	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP105	Construction of the Project would generate emissions of non-regulated greenhouse gas (GHG). Carbon dioxide would be formed as a primary product of combustion of the diesel and gas engines used to power construction equipment and vehicles.	Less than significant (CEQA III)	None of the proposed facilities would result in increased air emissions of criteria pollutants during operation; however, emissions of GHG could occur. Direct releases of methane could occur as a result of pipeline repair or maintenance operations. These releases would be infrequent over the lifetime of the Project and would likely involve only an isolated section of pipeline resulting in a negligible increase in GHG emissions.	Less than significant (CEQA III)	No monitoring required.

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NOISE					
NBP106	Individuals in the immediate vicinity of the construction activities could experience an increase in noise.	Significant (CEQA Class II)	Noise associated with construction activities would be both temporary and intermittent. Pipeline construction would proceed at rates averaging about 1 mile per day, and equipment would be operated on an as-needed basis during day light. Nighttime construction noise would be limited to HDDs at the Colorado River, All-American Canal, and the East Highline Canal crossings; hydrostatic testing activities; and bores under major highways or railroads. The duration of activities would be generally less than several days at road or railroad crossings, 24 hours for hydrostatic testing, and up to 2 weeks at the HDD crossings. A majority of the activities would occur away from population centers. North Baja would comply with the noise elements included in the Riverside County and Imperial County General Plans.	Less than significant (CEQA Class III)	FERC, CSLC, and BLM
NBP107	Blowdown events at Blythe, Ogilby, and El Centro Meter Stations, and the Ehrenberg Compressor Station valves could result in a significant noise impact.	Significant (CEQA Class II)	Blowdowns would occur only on rare occasions. In residential areas, North Baja would install silencers to reduce noise levels. In the event of a blowdown, nearby residences would be notified in advance if possible and North Baja would provide traffic control along public roadways near the blowdown location as needed.	Less than significant (CEQA Class III)	North Baja certified compliance with this mitigation measure in its application to the FERC.
RELIABILITY AND SAFETY					
NBP108	The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas.	Significant (CEQA Class II)	The pipeline and aboveground facilities associated with the North Baja Pipeline Expansion Project would be designed, constructed, operated, and maintained to meet or exceed the DOT Minimum Federal Safety Standards in Title 49 CFR Part 192 and other applicable Federal and State regulations including the California Public Utilities Commission, General Order 112-e. These regulations, which are intended to protect the public and to prevent natural gas facility accidents and failures, include specifications for material selection and qualification; odorization of gas; minimum design requirements; and protection of the pipeline from internal, external, and atmospheric corrosion. To address seismic hazards, the facilities would be designed to meet or exceed the latest edition of the Uniform Building Code or International Building Code and to incorporate current seismological engineering standards, including the <i>Guidelines for the Design of Buried Steel Pipe</i> (American Lifelines Alliance 2001) and <i>Guidelines for the Seismic Design and Assessment of Natural Gas and Liquid Hydrocarbon Pipelines</i> (Pipeline Research Council International, Inc. 2004). The engineering design drawings for the entire Project in California would be certified by a California-registered	Less than significant (CEQA Class III)	North Baja certified compliance with these construction and safety standards in its application to the FERC. The western region of the Office of Pipeline Safety and the Arizona Corporation Commission would verify the standards are met.

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP108 cont'd			<p>civil/structural engineer, and would comply with the latest edition of the California Building Code.</p> <p>North Baja would prepare and implement an Operation and Maintenance Plan in accordance with the requirements in Title 49 CFR Part 192. Within the first 6 months of placing the pipeline into operation, North Baja would conduct an internal inspection of the pipeline. Following the initial test, internal inspections with a high resolution instrument would be conducted on a periodic basis, at a minimum of one inspection every 10 years, or sooner if the evidence suggests that significant corrosion or defects exist or if any new Federal or State regulations require more frequent or comparable inspections. The existing pipeline system is monitored and controlled 24 hours a day for pressure drops in the pipeline that could indicate a leak or other operating problem through a Supervisory Control and Data Acquisition system, which is a computer system for gathering and analyzing real-time systems. The system is programmed to take appropriate immediate action when alarm conditions are present. In addition, a crew that conducts on-site operations and maintenance is located at the Ehrenberg Compressor Station, and is on call 24 hours a day. When completed, the B-Line, Arrowhead Extension, and IID Lateral would be operated in conjunction with the existing system and subject to the same operation and maintenance procedures.</p> <p>North Baja would x-ray all girth welds over 6 inches in diameter where possible to ensure pipeline structural integrity and compliance with the applicable DOT regulations. Where x-ray inspection is impossible or impractical, other means of non-destructive inspection would be conducted. Those welds that do not meet established specifications would be repaired or replaced. Once the welds are approved, the welded joints would be coated with a protective coating and the entire pipeline would be visually inspected for any faults, scratches, or other coating defects. Any damage would be repaired before the pipeline is installed.</p> <p>After construction, North Baja would clearly mark the pipeline at line-of-sight intervals, roads, railroads, and other key points to alert the public to the presence of the pipeline. The markers would provide contact information for North Baja in the event of</p>		

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
NBP108 cont'd			<p>an emergency. In accordance with the DOT regulations in effect since 1982, North Baja would participate in all communication and notification "One-Call" services to prevent outside damage to the pipeline. These services provide preconstruction information to contractors or other maintenance workers on the underground location of pipes, cables, and culverts.</p> <p>While the primary focus of these standards is prevention of accidents, North Baja would prepare an Emergency Response Plan that would be coordinated and tested (through drills and exercises) with local fire/police departments and emergency management agencies.</p>		
ARM15	The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas.	Significant (CEQA Class II)	To ensure that North Baja's operation and maintenance commitments are documented in a comprehensive plan and to assist the CSLC in reviewing the Project for consistency with the CSLC's action on the amended lease across California's Sovereign and School Lands, North Baja would submit to the CSLC for approval an Operation and Maintenance Plan before placing the pipeline system into service in California. This plan would address internal and external maintenance inspections of the completed facility, including but not limited to details of integrity testing methods to be applied, corrosion monitoring and testing of the cathodic protection system, and leak monitoring. The Operation and Maintenance Plan would also specify that North Baja would, unless expressly prohibited by DOT regulations, conduct an internal inspection with a high-resolution instrument on a periodic basis, at a minimum of one inspection every 10 years, or sooner if the evidence suggests that significant corrosion or defects exist or if any new Federal or State regulations require more frequent or comparable inspections. Within 3 months following any new Federal or State regulations, North Baja would update the Operation and Maintenance Plan and submit a revised copy to the CSLC. In addition, the Operation and Maintenance Plan would include procedures for implementing operational mitigation measures recommended (if any) by the site-specific seismic hazard evaluation reports for the Project.	Less than significant (CEQA Class III)	CSLC
NBP109	The Project may affect high consequence areas (HCAs), which include two potential locations along the B-Line (MPs 27.0 and 75.0), and two potential locations along the IID Lateral (MPs 0.0 to 7.0 and MP 9.0).	Significant (CEQA Class II)	Per the Pipeline Safety Improvement Act of 2002, North Baja would develop an integrity management program that applies to all HCAs to minimize the potential for an accident. In locations designated as HCAs, the pipeline would be inspected every 7 years.	Less than significant (CEQA Class III)	North Baja certified compliance with these construction and safety standards in its application to the FERC.

TABLE 5.1-1 (cont'd)

Mitigation Monitoring Program for the North Baja Pipeline Expansion Project

Mitigation Number ^a	Impact ^b	Significance Before Mitigation ^{b, c}	Mitigation Measure ^{b, d}	Significance After Mitigation ^{b, c}	Monitoring Responsibility
ENVIRONMENTAL JUSTICE					
NBP110	The Project could result in a disproportionately high and adverse effect or impact on a minority or low-income portion of the population.	Less than significant (CEQA Class III)	<p>No mitigation is proposed. U.S. Bureau of Census data show that minority and low-income populations are present along the proposed pipeline routes, and there is a potential for disproportionate adverse impacts on these populations. However, North Baja would mitigate these impacts through its Project-specific plans and obtaining Federal, State, and local permits, and applying them to all areas along the proposed pipeline routes regardless of the presence or absence of minority or low-income populations.</p> <p>In addition, per a recent Final Federal Rule, North Baja would include in its public awareness plans, measures to prepare and distribute a comprehensive program that includes activities to advise affected municipalities, school districts, businesses, and residents of pipeline facility locations. The program would be conducted in English and in other languages commonly understood by a significant number and concentration of the non-English speaking population in the operator's area. North Baja conducted open houses and public scoping meetings in the Project area in July and September of 2005 to inform the public about the Project and provide an opportunity for the public to ask questions and express concerns. These public input opportunities were announced in the local newspapers in English and Spanish, and Spanish translators were present.</p>	Less than significant (CEQA Class III)	North Baja certified compliance with this mitigation measure in its application to the FERC.

^a NBP = Mitigation proposed by North Baja Pipeline, LLC.

ARM = Mitigation recommended by the Agency Staffs.

^b The No Project Alternative would eliminate the impacts of the proposed Project; therefore, no mitigation measures would be required and there would be no significance classifications.

^c California Environmental Quality Act (CEQA) Significance Classifications:

Class I = A significant adverse impact that remains significant after mitigation.

Class II = A significant adverse impact that can be eliminated or reduced below an issue's significance criteria.

Class III = An adverse impact that does not meet or exceed an issue's significance criteria.

Class IV = A beneficial impact.

^d Any mitigation measures included in the CDFG's BO that are more stringent than the mitigation measures proposed by North Baja and recommended by the Agency Staffs would supersede the measures listed in this table.

6.0 COMMENTS ON THE DRAFT EIS/EIR AND RESPONSES

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Comments on the Draft EIS/EIR and Responses

PUBLIC MEETINGS

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Public Meetings

1

[illegible]

11 Vaction Inn
12 2015 Cottonwood Circle
13 El Centro, CA
14 Tuesday, December 5, 2006

17 The above-entitled matter came on for public meeting,
18 pursuant to notice, at 7:08 p.m.

21 BEFORE: DAVE SWEARINGEN, FERC

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Public Meetings

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1 P R O C E E D I N G S

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(7:08 p.m.)

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MR. SWEARINGER: On behalf of the Federal Energy

Regulatory Commission and the California State Lands

Commission, I want to welcome you all here tonight. Let the

record show that the El Centro Public Comment meeting began

at 7:08 p.m., December 5, 2006.

My name is Dave Swearinger and I am the

environmental project manager with the FERC, Federal Energy

Regulatory Commission. At the end of the table is Tom

Filler and he's with the California State Lands Commission.

We are the respective environmental project managers for the

production of the Environmental Impact Statement

environmental impact report for the North Baja Expansion

Project. I'm just going to abbreviate that as EIS,

Environmental Impact Statement report. I'm going to call

that an EIS for short.

My agency, the FERC, is the federal lead for the

project and Tom's agency, the State Lands Commission is the

state lead agency for the North Baja Expansion Project.

Also with me tonight are Amy Davis and Dave Potter with NIG,

the environmental contractor assisting us with the

environmental analysis for the North Baja Project. Amy is

to my left and Dave is at the sign-in table at the back.

6-5

Public Meetings

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1 The U.S. Bureau of Land Management is a
2 cooperating agency for the preparation of the EIS and is
3 using the document for evaluating amendments to the
4 California Desert Conservation Area plan and the Yuma
5 District resource management plan. Linda Kastol, from the
6 BLM, is in the audience. She's here with us tonight. If
7 you have any questions for the BLM, you can talk to Linda
8 after the meeting. She'll be glad to answer any questions
9 you may have.

10 The purpose of this meeting is for the FERC, the
11 State Lands Commission and the BLM to get your comments on
12 the draft EIS that we recently released. In a moment I'm
13 going to give a brief overview of the FERC process and then
14 the State Lands Commission will have a chance to discuss
15 their agency role in the North Baja Project.

16 To speak tonight, we have a sign-in sheet in the
17 back. If you could, I'd like for you to sign up there if
18 you haven't already. If you prefer not to speak tonight,
19 you can mail a comment letter to the FERC or submit comments
20 electronically. There's a sheet at the back table that has
21 instructions on how to use the FERC website for sending in
22 electronic comments and it also has a reiteration of what
23 was in the draft EIS of how to submit written comments to
24 the Commission. If you have any question on that, you can
25 also talk to me after the meeting. I'd be glad to explain

Public Meetings

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1 it further.

2 Where we are in the process. We're in the midst
3 of the 90-day comment period on the DEIS. That comment
4 period ends on December 28th. All comments that we receive
5 within the comment period we'll address in a final EIS. The
6 types of comments that are helpful to us are specific ones
7 to the project. If you read something in the draft EIS that
8 you think is incorrect or the analysis is flawed, then your
9 comment to point us in the right direction is very helpful.
10 To say something like, "Well, I don't like it" or "I think
11 it's wrong." I mean that's interesting, but it's not
12 particularly helpful because what we do is we take your
13 comments and then we use those to either add to our analysis
14 or revise the facts that we've presented. And then when we
15 issue the final, hopefully, then we've addressed the
16 comments that you have.

17 Sometimes our analysis will lead us to a
18 different conclusion than you might hope, but that's just
19 the nature of how these things work. So please be specific
20 with your comments when you send them in or when you make
21 them. Thank you.

22 I'd like to note that North Baja recently filed
23 an amendment to the proposed action that incorporates what
24 we call the Arrowhead Alternative that is discussed in
25 chapter 3 of the draft EIS. Thus, from this point the

Public Meetings

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1 facilities associated with the Arrowhead Alternative are
2 going to be part of the proposed action and we will evaluate
3 them as such.

4 If you received a copy of the draft EIS, you'll
5 automatically receive a copy of the final. If you did not
6 get a copy of the draft and you'd like to have a copy of the
7 final, you need to sign up on the sheet in the back so that
8 we have your address and know to send you a copy. There's a
9 stack of the CD versions of the draft EIS on the back table.
10 If you don't have one, you can pick one up on the way out if
11 you'd like.

12 Once we've finished the final EIS and mailed it
13 out, we'll forward that on to our Commission at FERC. The
14 FERC Commission will consider our environmental analysis
15 along with non-environmental issues in order to determine
16 whether or not to issue an authorization for the project.
17 Thus, the EIS in itself is one tool in the process and it is
18 not a decision-making document for the FERC.

19 Now I want to turn the meeting over for a minute
20 to Tom Filler so he can explain the State Lands Commission
21 involvement in the Baja Project and how his agency is using
22 the draft and final environmental documents.

23 MR. FILLER: Good evening and welcome. My name
24 is Tom Filler. I'm with the California State Lands
25 Commission. Our agency is the SEQA lead on this project and

Public Meetings

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1 basically our regulatory function is to make sure that the
2 document and the project are following the SEQA requirements
3 or the requirements that are set forth in the SEQA.
4 Therefore, as Dave said, we're basically in the comment
5 period for the draft document now. We'll receive the
6 comments and we look forward to getting those on the
7 document, and then those will be incorporate.

8 When that is done, at some point we will take the
9 document and take that forward to the Commission and
10 therefore the Commission will have the ability to certify
11 that everything in the document is in compliance with SEQA
12 or has followed the requirements of SEQA and therefore they
13 will certify the document as such. If they don't believe
14 that is correct, then they won't certify it and we'd have to
15 go back and adjust those discrepancy.

16 Then once that's done and the document has been
17 certified, the Commission will then, based on the findings
18 of the document, either go forward to approve or disapprove
19 the project. At that point, if they decided that it's a
20 good project, if the impacts have been mitigated or there
21 are overriding considerations, then they would approve it.
22 If they don't agree with that, then again that's subject to
23 their review and their discretion regarding if they would
24 disapprove the project based on those findings. So
25 basically, that's our process and they use that document as

6-10

7

Public Meetings

1

1 a decision-making tool and it goes forward in that manner.

2 MR. SWEARINGER: Thank you, Tom.

3 Are there any questions regarding the purpose of
4 this meeting or any of the agency processes?

5 (No response.)

6 MR. SWEARINGER: We'll note that there are
7 representatives of North Baja in the back of the room. They
8 have some visual materials there, some alignment sheets. If
9 you have some questions specific to North Baja, after the
10 meeting they'll hang around and they'll be glad to answer
11 any questions that you may have.

12 With that, I'll go ahead and introduce the
13 speakers who have signed up. There is one person who has
14 signed up to speak. You'll note we have a transcription
15 service here and to make sure that we get your comments what
16 you need to do when you come up is to go ahead and spell
17 your name for the record.

18 Deborah Keeth.

19 MS. KEETH: Do I need to talk in the microphone?

20 MR. SWEARINGER: I think it helps. It helps.
21 You can sit in the chair or stand, however you want to do
22 it.

PM1-1

23 MS. KEETH: Deborah Keeth, D-E-B-O-R-A-H, last
24 name Keeth, K-E-E-T-H from the law firm of Shoot, Bahalli
25 and Wineberger and I'm legal counsel for the South Coast Air

PM1-1

The end use of the natural gas that would be transported by the North Baja Pipeline Expansion Project (Project or proposed Project) is outside the scope of the Project and, consequently, is outside the scope of the environmental impact statement/environmental impact report and proposed land use plan amendment (EIS/EIR). See the response to LA16-1 for additional discussion.

Public Meetings

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11-9

PM1-1
(cont'd)

1 Quality Management District.
2 The District is here tonight. We have intervened
3 in the proceeding and so we will be party to the proceeding
4 and we do plan on submitting detailed written comments on
5 the draft EIS. But we're here tonight just to outline a
6 couple of points of concerns that we have with the document.
7 Most fundamentally, we're concerned that the
8 project description and the definition of the project area
9 are inadequate. In our view, the project description only
10 discusses the construction of the pipeline and only looks at
11 impacts in the area immediately surrounding the pipeline and
12 we think that that's flawed. In our view, the project will
13 expand the capacity of the pipeline and bring a substantial
14 source of natural gas into southern California and we think
15 it's very important to look at that aspect of the project,
16 which is delivery and use of that resource of natural gas in
17 southern California.

PM1-2

18 Our concerns with the definition of the project
19 go in two directions. One is with the conformity analysis
20 and the second is with the NEPA and SEQA review. First, as
21 to the conformity analysis, the Clean Air Act, Section
22 176(C) requires agencies to determine whether the proposed
23 project is in conformance with the state implementation plan
24 and because the draft EIS has defined the project narrowly
25 as just construction of the pipeline, it's determined that

PM1-2

Section 4.12.3 of the draft EIS/EIR included an applicability review of the General Conformity regulations. Section 4.12.3 of the final EIS/EIR has been revised to include additional information supporting the definition of the Project evaluated for applicability and compliance with the General Conformity Rule. Project emissions would be below General Conformity Rule thresholds; therefore, a General Conformity determination is not required. Section 4.12.4 of the final EIS/EIR includes the emissions information for the construction and operation of the proposed Project. See also the responses to comments PM1-1 and LA16-1.

PM1-2
(cont'd)

1 there are no emissions from the operation of the pipeline
2 and therefore will not violate the ozone and air quality
3 standard.
4 Because we believe that the project description
5 is flawed, as I described, the conformity analysis doesn't
6 look at whether or use and delivery of natural gas
7 throughout southern California will result in a violation of
8 the air quality standard for ozone, including the precursor

PM1-3

9 pollutants. Likewise, we have concerns about the NEPA and
10 SEQA reviews stemming from the definition of the project.
11 The environmental laws require the agencies to look at the
12 air quality impacts of the proposed project as compared to
13 the existing environment, the baseline condition. And
14 again, because the project is narrowly defined, it doesn't
15 look at the air quality impact of burning what's been called
16 "hot gas" in southern California. The District respectfully
17 submits that it's an important and critical element of this
18 project and is necessary for adequate review under both NEPA
19 and SEQA.

PM1-4

20 We understand that TransCanada has committed to
21 require its suppliers to meet the most stringent air quality
22 standards that are applicable. I'm sure you're aware that
23 the Public Utilities Commission in California recently
24 increased the standard for natural gas. So while the
25 District supports the present agreements in theory, we're

Public Meetings

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PM1-3 See the responses to comments PM1-1, PM1-2, and LA16-1.

PM1-4 The California Public Utilities Commission (CPUC) is the regulatory agency responsible for setting the appropriate gas quality and interchangeability standards for gas on the Southern California Gas Company (SoCalGas) and San Diego Gas & Electric Company (SDG&E) pipeline systems. Thus the quality and interchangeability characteristics of the natural gas received by SoCalGas from the North Baja Pipeline, LLC (North Baja) system would be subject to SoCalGas' CPUC-approved natural gas quality and interchangeability standards. In order for North Baja to deliver gas into the SoCalGas system, North Baja must deliver gas that meets the gas quality and interchangeability standards set by the CPUC.

The quality of natural gas distributed in southern California from the Project would be subject to a tariff agreement negotiated between North Baja and SoCalGas. Tariff agreements, and the pipeline-quality gas specifications contained within, must be approved by the CPUC to ensure public health and safety for end users and of the environment (particularly air quality). Tariff agreements would be subject to renegotiation and change over the life of the Project if market conditions change or if regulatory requirements are modified. SoCalGas' existing tariff agreements with other suppliers require compliance with Rule 30, "Transportation of Customer-Owned Gas" (SoCalGas 1997). Rule 30 includes the following specific requirements that must be met for any natural gas distributed in southern California, regardless of whether the gas is produced in California or imported from other U.S. or international gas reservoirs:

- concentration limits for a number of substances, including hydrogen sulfide, mercaptan sulfur, total sulfur, moisture or water content, CO₂, oxygen, inerts, and hydrocarbons;
- specific acceptance criteria for gross heating values;
- specific acceptance criteria to ensure interchangeability of natural gas from different sources, including the American Gas Association's Wobbe Index (WI) (also referred to as Wobbe Number), lifting index, flashback index, and yellow tip index; and
- a prohibition on acceptance of natural gas shipments that "contain hazardous substances."

In September 2006, the CPUC revised Rule 30 to incorporate the following specifications regarding natural gas quality standards:

- minimum and maximum WI of 1,279 and 1,385, respectively;

Public Meetings

PM1-4
(cont'd)

- minimum and maximum heating value of 990 British thermal units per dry standard cubic foot (Btu/dscf) and 1,150 Btu/dscf, respectively; and
- changes to hydrogen sulfide, mercaptan sulfur, total sulfur, water vapor, hydrocarbon dew point, liquids, merchantability, landfill gas, and biogas specification.

This decision is the culmination of a proceeding initiated by the CPUC in January 2004 to assess the sufficiency of natural gas supplies and infrastructure in California and specifically resolve some matters related to the anticipated introduction of gas supplies derived through liquefied natural gas (LNG) (CPUC 2006). Combustion of natural gas with higher heating values and a higher WI results in increased combustion temperature and, possibly, increased nitrogen oxides (NO_x) emissions. Historically, natural gas in the South Coast Air Basin (SCAB) has an average heating value of about 1,020 Btu/dscf and a WI of about 1,332 (South Coast Air Quality Management District [SCAQMD] 2005). Before the adoption of the new standards, SoCalGas and SDG&E could accept natural gas with a WI as high as 1,437.

Natural gas delivered to and used in California is also regulated through CPUC General Order 58-A, "Standards for Gas Service in the State of California," which sets standards for the heating value and purity of natural gas. The heating value standard requires uniform quality of the gas supplied but does not specify an average, minimum, or maximum heating value.

As a practical matter, North Baja must meet the CPUC's standards for gas to be accepted by SoCalGas at the new interconnect. North Baja, in its precedent agreements with its shippers, has stated that it will meet the strictest gas quality standards for interconnecting pipelines.¹ Thus, North Baja would meet the gas quality and interchangeability standards of SoCalGas and SDG&E as required by the CPUC.

As discussed in Section 1.1, these requirements mean that either the gas delivered to Baja California would meet the most stringent gas quality standard, or the receiving terminal (i.e., Sempra LNG's [Sempra] Energia Costa Azul [ECA] terminal) would have to process the gas before delivering it to the pipelines to meet this standard. This standard is passed via tariff agreements from the SoCalGas system to each successive upstream

¹ It is noted that the CPUC's ruling is currently under appeal. Whatever the final outcome of the appeal, the gas quality standards for the SoCal Gas system would be applicable to shippers on the North Baja system.

Public Meetings

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PM1-4
(cont'd)

pipeline until it reaches the source, which in this case is the ECA terminal. The terminal would treat the gas by injecting nitrogen, as necessary to meet the tariff requirements of its downstream pipeline, the Gasoducto Bajanorte pipeline. To verify compliance with tariff requirements (which would match the California gas quality standards), gas chromatographs would be installed, or are already in place, at one or more locations at the ECA terminal, the Gasoducto Bajanorte pipeline, the North Baja pipeline, and the SoCalGas systems. These chromatographs are routinely installed at delivery points. For example, these measuring devices are in operation or would be installed at the Ogilby Meter Station, the El Paso Meter Station at the Ehrenberg Compressor Station site, and the Blythe-Arrowhead Meter Station. Gas quality data would be telemetered from the upstream pipeline company to the downstream pipeline, which uses the data to verify that the gas coming into its system meets tariff requirements. To verify the accuracy of the chromatograph data, SoCalGas' standard protocol includes monthly witnessing of the meter calibration of the upstream pipelines (in this case, the North Baja pipeline system) and monthly collection and analysis of gas samples to monitor the carbon dioxide (CO₂), total inerts, and high heating value (British thermal units) of the natural gas transported by the North Baja system.

See also the responses to comments PM1-1, LA16-1, and LA16-6 through LA16-8.

Public Meetings

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PM1-4
(cont'd)

1 concerned that they won't actually result in improved or at
2 least maintain their quality level in southern California.
3 Rather it would be something like a FERC mandated mitigation
4 measure that requires suppliers to the new pipeline system
5 to treat their gas to a certain level that maintains air
6 quality that would effectively mitigate any air quality
7 impacts. We know that TransCanada is already committed to
8 achieving that if it's required. So we believe that it's a
9 feasible mitigation measure that the agency should consider.

PM1-5

10 We hope that the agencies will revise the draft
11 EIS and look at air quality impacts, make the analysis as we
12 believe is required under federal and state law. And we
13 also hope that FERC will conduct a full conformity
14 determination, including adopting mitigation measures as
15 necessary to reduce air quality impacts. And then we also
16 hope that the agencies will consider recirculating the draft
17 EIS based on the substantial information that we believe is
18 required to be included in the document. Thank you.

19 MR. SWEARINGER: Thank you, Deborah. We look
20 forward to the written comments that will be provided to us
21 later.

22 Is there anybody else here tonight that would
23 like to comment on the record?

24 (No response.)

25 MR. SWEARINGER: If not, then the meeting will

PM1-5

The air quality impacts of construction and operation of the North Baja Pipeline Expansion Project are discussed in Section 4.12.4. Section 4.12.3 of the final EIS/EIR has been revised to include additional information supporting the definition of the Project evaluated for applicability and compliance with the General Conformity Rule. Project emissions would be below General Conformity Rule thresholds; therefore, a General Conformity determination is not required. See also the response to comment LA16-1 for additional discussion supporting the definition of the Project evaluated for applicability and compliance with the General Conformity Rule.

As discussed in the responses to comments PM1-1 and LA16-1, the end use of the natural gas proposed to be transported by the North Baja Pipeline Expansion Project is outside the scope of the Project and, consequently, the EIS/EIR. Under the California Environmental Quality Act (CEQA), a lead agency must recirculate an EIR only when "significant new information" is added to the EIR after public review and before certification. Pursuant to the CEQA Guidelines section 15088.5, new information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of a project or of a feasible way to mitigate or avoid such effect that the project proponent has declined to implement. Recirculation of the draft EIS/EIR for the North Baja Pipeline Expansion Project is unwarranted and unnecessary because there have been no major changes to the proposed Project and no significant new circumstances or information related to the scope of the Project have arisen that would result in a new significant environmental impact or a substantial increase in the severity of an environmental impact. No new feasible and previously unanalyzed alternatives or mitigation measures that are within the jurisdiction of the environmental staffs of the Federal Energy Regulatory Commission (FERC or Commission), the California State Lands Commission (CSLC), and the Bureau of Land Management (BLM) (Agency Staffs) to impose have been identified that would warrant recirculation.

Public Meetings

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1 close. Anyone wishing to keep up with the official activity
2 associated with the North Baja Pipeline Project can use the
3 FERC website. Within our website there's a link called
4 eLibrary. If you type in the docket number for the project,
5 which is CP06-61, you can use eLibrary to gain access to
6 everything on the FERC record concerning this project,
7 including all the public filings and information submitted
8 by North Baja.

9 On behalf of the Federal Energy Regulatory
10 Commission, the California State Lands Commission and the
11 BLM, I want to thank you all for coming here tonight. Let
12 the record show that the meeting concluded at 7:23 p.m.
13 Thank you.

14 (Whereupon, at 7:23 p.m., the above-entitled
15 matter was concluded.)

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Public Meetings

6-17

1 BEFORE THE
2 FEDERAL ENERGY REGULATORY COMMISSION
3
4 - - - - -X
5 IN THE MATTER OF: : Docket Number
6 NORTH BAJA PIPELINE : CP06-61-000
7 EXPANSION PROJECT :
8 - - - - -X
9
10
11 DEIS Comment Meeting
12 Blythe City Council Chamber
13 235 North Broadway
14 Blythe, California 92225
15
16 Wednesday, December 6, 2006
17
18
19 The above-entitled matter came on for public
20 meeting, pursuant to notice, at 7:07 p.m.
21
22 PANELISTS: DAVE SWEARINGEN, TOM FILLER, ALFREDO FIGUEROA,
23 JOSEPH SWAIN
24
25

2

Public Meetings

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1 PROCEEDINGS

2 (7:07 p.m.)

3 MR. SWEARINGEN: Okay. We'll come to order.

4 Let's get started. On behalf of the Federal Energy

5 Regulatory Commission and the California State Lands

6 Commission, I want to welcome you all here tonight. Let the

7 record show that the DEIS public comment meeting began at

8 7:07 p.m., December 6, 2006.

9 My name is Dave Swearingen, and I am an

10 environmental project manager with the Federal Energy

11 Regulatory Commission or "FERC."

12 And the gentleman here to my left is Tom Filler.

13 He is with the California State Lands Commission.

14 We are the respective environmental project

15 managers for the production of the Environmental Impact

16 Statement and Environmental Impact Report for the North Baja

17 Pipeline Expansion Project. And I'm just going to call that

18 the "EIS" for short.

19 My agency, the FERC, is the federal lead for the

20 project, and Tom's agency, the State Lands Commission, is

21 the state lead agency.

22 Also with me tonight are Amy Davis and Dave

23 Potter with NRG, the environmental contractors assisting us

24 with the environmental analysis for the North Baja Project.

25 Amy is to my left and Dave is at the sign-in

Public Meetings

2

1 table at the back.

2 The U.S. Bureau of Land Management is a
3 cooperating agency for preparation of the EIS and is using
4 the document for evaluating amendments to the California
5 Desert Conservation Area Plan and the Yuma District Resource
6 Management Plan.

7 Steve Fusilier, to my left at the end of the
8 table, from the BLM, is also here with us tonight.

9 The purpose of this meeting is for the FERC, the
10 State Lands Commission, and the BLM to get your comments on
11 the draft EIS that we recently released. In a moment, I am
12 going to give a brief overview of the FERC process, and then
13 the State Lands Commission will have a chance to discuss its
14 agency role in the North Baja Project.

15 To speak tonight, we have a sign-up sheet in the
16 back. If you could, I would like you to sign up on that
17 sheet, if you plan on making comments, if you haven't signed
18 up already.

19 If you prefer not to speak tonight, you can mail
20 a comment letter to FERC or submit comments electronically.
21 There is a sheet in the back that explains how to submit
22 comments through the mail or electronically. And it's also
23 explained in the draft EIS.

24 We give all comments equal weight, regardless of
25 how you get them to us. If you have any questions about how

Public Meetings

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1 to submit comments, you can talk to me after the meeting. I
2 will be glad to help you with that.

3 Okay. Where we are in the process. Right now,
4 we are in the midst of a 90-day comment period on the draft
5 EIS. That comment period ends on December 28th. All
6 comments that we receive within the comment period will be
7 addressed in our final EIS.

8 What's helpful for us is if you make -- if you
9 want to make a comment on the draft, is to be as specific as
10 you can. So, if you see some analysis that you think is
11 flawed or some data that you think are incorrect, you need
12 to point that out to us. If you just say, well, I don't
13 like it, or I don't agree with it, without going into
14 specifics, it's not terribly helpful.

15 What we do is, we take your comments, and then we
16 revise the draft EIS, and then we will issue a revised
17 version, which we will call a final EIS.

18 If you received a copy of the draft EIS, you will
19 automatically receive a copy of the final. If you didn't
20 get a copy of the draft, and you would like to have a copy
21 of the final, there is a sheet in the back where you can
22 fill it out with your address, and we will make sure that
23 you get a copy of it.

24 We have some CDs of the draft EIS here tonight,
25 so you can pick up one of the CDs if you need one.

Public Meetings

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1 I would like to note that North Baja recently
2 filed an amendment to its proposed action that includes what
3 we call the "Arrowhead Alternative." It's discussed in
4 Chapter 3 of the draft EIS.

5 So, from this point forward, the facilities
6 associated with the Arrowhead Alternative are now going to
7 be a part of the proposed action, but we are going to
8 evaluate it as such.

9 Once we finish the final EIS, and mail it out, we
10 will forward that on to our commissioners at FERC. The
11 Commission will consider the environmental analysis along
12 with other non-environmental issues in order to determine
13 whether or not to issue an authorization for the North Baja
14 Project.

15 So, the EIS in itself is not a decision-making
16 document for the FERC. It is just one tool of the process.

17 Now, I am going to turn the meeting over to Tom
18 Filler, so he can explain the California State Lands
19 Commission involvement in the North Baja Project and how his
20 agency is using the draft and final documents.

21 MR. FILLER: Good evening and welcome. My name
22 is Tom Filler and I am with the California State Lands
23 Commission. And basically the Commission's role is CEQA
24 lead in this project, making sure that the project meets and
25 maintains those state regulatory requirements set forth by

Public Meetings

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1 CEQA.

2 And then right now, as you heard, we are in the
3 comment stages for the draft EIR. Once those comments are
4 incorporated into the final document, that document, will be
5 presented to our Commission, and as it goes forth, the
6 Commission will certify that the project is following and
7 has followed the CEQA guidelines and that it's fulfilling
8 the regulatory requirements.

9 From that point, there will be findings made by
10 the Commission, and they will use those findings whether --
11 to authorize the project or reject the project, based on
12 those findings.

13 So, right now, I would, like Dave says, we are
14 just in the comment-gathering phase of this project. And we
15 will be proceeding from there.

16 Thanks.

17 MR. SWEARINGEN: Okay. Thank you, Tom. Tom and
18 I will be available after the meeting if you have any
19 questions. Steve at the BLM also can answer questions if
20 you have any.

21 You will probably notice that North Baja has set
22 up some posters and some information in the back that can
23 explain -- that can explain the project to you specifically
24 if you have any questions. I think they might have some
25 alignment sheets if you wanted to look at anything specific

Public Meetings

2

1 aspects of the project.

2 And, with that, we will go ahead and take anybody
3 who wants to comment. I see the speakers list. Here we
4 have somebody who wishes to make comments.

5 What I would like you to do is to come up and you
6 can stand or sit in the chair right there. When you come
7 up, spell your name, because we have a transcriber here who
8 is going to put this on the public record -- I mean, the
9 official transcript of this. So, it will be good if you
10 spell your name and speak it clearly into the microphone so
11 that your comments will be transcribed accurately.

12 So, Alfredo Figueroa.

PM2-1

13 MR. FIGUEROA: Yes. Okay. My name is Alfredo
14 Figueroa. A-L-F-R-E-D-O, F-I-G-U-E-R-O-A. I am here today
15 on behalf of the Sacred Sites Protection Circle. We have
16 been working with the BLM for a long, long time, to become
17 the conservators of the -- and so we were very interested in
18 this whole project, and we were very glad and fortunate that
19 we were able to have the PG&E people circumvent our sacred
20 sites.

21 So I am here really not to -- just to say thank
22 you. And we were very appreciative because that would
23 really have hurt us, we that are Natives here, to have had
24 Plan A, B and C going down to [inaudible] Peak destroyed
25 there. And it was really fortunate to have, I guess, some

PM2-1

These comments do not relate to the specific environmental issues analyzed within the contents of the draft EIS/EIR and raise no significant environmental issues. Thus, no changes to the document are necessary.

Public Meetings

2PM2-1
(cont'd)

1 sympathetic people from the PG&E, or somebody, some of the
2 people that decided that it was the best route to go -- it
3 was the route that you took.

4 So, I am just here because -- and also because up
5 there at Topock -- see, our creation story starts all the
6 way from Topock down the way to the Gulf of California.
7 Topock to us is called "Migla" -- it's where the beginning -
8 - and PG&E really went out and then apologized to our -- one
9 of our chairmen -- Nora from the Mojave Reservation, which
10 was great.

11 So, we are making a little inroads -- we are, as
12 far as these lines, gas lines and power lines and concerns.
13 So, really my being here is just to say thank you that there
14 was a very -- you don't know how much it means to us,
15 because you people don't know!

16 But now you begin to know! PG&E apologized to
17 our chairman over there for Mojave because of the
18 destruction that they had done without consulting the
19 Natives from the area. We know what the truth is.

20 So, before you guys leave, all you people, see
21 that mural -- that wonderful mural, right in front? Why?
22 It was meant for -- to be representative, because it is the
23 center -- this is what we call the center of Laguna Dasman -
24 - it means "cradle."

25 Be sure to see that mural, the wonderful mural in

Public Meetings

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PM2-2

1 the back. You won't forget it.

2 MR. SWEARINGEN: Okay. Thank you, Mr. Figueroa.

3 There are no other people signed up on the sheet. However,

4 the meeting is open for anybody who would like to make a

5 comment on North Baja Project.

6 MR. SWAIN: Good evening. My name is Joseph

7 Swain. That's S-W-A-I-N. I am developing a piece of

8 property on Riviera Drive, south of Interstate 10.

9 The residential community has already been

10 approved from the Planning Commission and also the City

11 Council. It is tract number 34480. It consists of 45 home

12 sites and the proposed crossing under the Colorado River is

13 going to go through a green belt area that we have set

14 aside, anticipating that would probably be its most ideal

15 location without having any further residential sandwiched

16 between the existing gas line, east lands.

17 That being said, I support the Arrowhead

18 Alternative as the meter stations or whatever facilities

19 those are. I will follow that up in a written

20 correspondence, but without becoming a major -- well, the

21 development of that community with residential component, a

22 metering station just does not fit in that area. And I

23 think Arrowhead would be a much more logical location.

24 Thank you.

25 MR. SWEARINGEN: Okay. Thank you, Mr. Swain. Is

PM2-2

Section 3.2.5 has been revised to include a discussion of the planned residential community (Edgewater Lane) on Riviera Drive that has been approved by the Blythe Planning Commission and City Council. The revised Section 3.2.5 notes that the developer has commented that the originally proposed Blythe Meter Station would impact the planned residential community and expressed a preference for the Arrowhead Alternative, which would site the meter station within the yard of SoCalGas' existing Blythe Compressor Station.

The Arrowhead Alternative was analyzed in the draft EIS/EIR and determined to be a reasonable alternative that would create no significant impacts. As discussed in Sections 1.0 and 3.2.5 of the final EIS/EIR, on November 21, 2006, North Baja filed an amendment to its February 7, 2006 FERC application requesting authorization to adopt the Arrowhead Alternative as part of the proposed Project. Based on North Baja's amendment to its application and the analysis in the draft EIS/EIR, the Arrowhead Alternative has been incorporated into the analysis of the proposed Project in the final EIS/EIR. The corresponding segment of the originally proposed Project, which included the Blythe Meter Station located at Riviera Drive, has been eliminated from further consideration.

10

1 there anybody else who would like to make a comment on the
2 project or the EIS?

3 (No response.)

4 MR. SWEARINGEN: Okay. If not, then the meeting
5 will close.

6 Anyone wishing to keep up with the official
7 activity associated with the North Baja Pipeline Project can
8 use the FERC website. Within our website, there is a link
9 called "e-library." If you type in the docket number, which
10 for the North Baja Project is CP06-61.

11 You can use e-library to gain access to
12 everything on the FERC record concerning this project,
13 including all the public filings, and information submitted
14 by North Baja.

15 On behalf of the Federal Energy Regulatory
16 Commission, the California State Lands Commission, and the
17 BLM, I want to thank you all for coming here tonight.

18 Let the record show that the meeting concluded at
19 7:20 p.m. Thank you.

20 (Whereupon, at 7:30 p.m., the meeting was
21 concluded.)

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Public Meetings

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Comments on the Draft EIS/EIR and Responses

FEDERAL AGENCIES

Unofficial FERC-Generated PDF of 20061030-0140 Received by FERC OSEC 10/27/2006 in Docket#: CP06-61-000



United States Department of the Interior
 U.S. Fish and Wildlife Service
 Arizona Ecological Services Field Office
 2321 West Royal Palm Road, Suite 103
 Phoenix, Arizona 85021-4951
 Telephone: (602) 242-0210 Fax: (602) 242-2513



In Reply Refer to:

AESO/SE
 22410-2007-I-0010

October 12, 2006

Mr. Michael J. Boyle, Chief
 Environmental Gas Branch 1
 Office of Energy Projects
 Federal Energy Regulatory Commission
 888 First Street, NE
 Washington, D.C. 20426

ORIGINAL

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 OCT 27 PM 3:51
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Re: North Baja Pipeline Expansion, Dockets CP06-61-000 and CP01-23-003

Dear Mr. Boyle:

FA1-1

Thank you for your correspondence of September 27, received on October 2, 2006. This letter documents our review of the North Baja Expansion Project in La Paz County, Arizona, in compliance with section 7 of the Endangered Species Act of 1973 (ESA) as amended (16 U.S.C. 1531 et seq.). Your letter concluded that the proposed project "may affect, is not likely to adversely affect" the southwestern willow flycatcher (*Empidonax traillii eximius*), Yuma clapper rail (*Rallus longirostris yumanensis*), and razorback sucker (*Xyrauchen texanus*) and its critical habitat. We concur with your determinations and provide our rationales below. Our concurrence is only for species that may occur in the vicinity of Ehrenburg, Arizona and the area of the Colorado River where the pipeline would cross under the river. Effects to listed species in California along the remainder of the pipeline route are not included in this analysis. You also concluded that there would be no effect to the bald eagle (*Haliaeetus leucocephalus*), brown pelican (*Pelecanus occidentalis californicus*), bonytail (*Gila elegans*) and desert pupfish (*Cyprinodon macularius macularius*). Species with "no effect" determinations do not require review from the Fish and Wildlife Service, and are not addressed further.

BACKGROUND

The North Baja Pipeline Expansion Project consists of a new, buried natural gas pipeline extending from the existing Ehrenburg Compressor Station, underneath the Colorado River to California, and south to the border with Mexico. Modifications to the Ehrenburg Compressor Station and associated facilities to allow for the operation of the new pipeline are included in the proposed action. The majority of the pipeline route is adjacent to the existing right of way for the A-line of the North Baja Pipeline.

Federal Agencies**1**

FA1-1

The U.S. Fish and Wildlife Service's (FWS) comments under section 7 of the Endangered Species Act of 1973 (ESA) concurring with the FERC's determinations of effects on listed species in the vicinity of Ehrenburg, Arizona and the area of the Colorado River where the pipeline would cross under the river are noted.

Unofficial FERC-Generated PDF of 20061030-0140 Received by FERC OSEC 10/27/2006 in Docket#: CP06-61-000	
Mr. Michael J. Boyle	
2	
FA1-1 (cont'd)	<p>The proposed action includes conservation measures that would minimize the potential for effects to listed species. These measures are consistent with measures incorporated into the construction of the A-line as a result of section 7 consultation for that project. Briefly, these measures include:</p> <ul style="list-style-type: none">• Protection for southwestern willow flycatchers at the Colorado River crossing site through worker education, sound-and light-abatement walls, restrictions on lighting the work area, restricted access to the riparian areas, and dust abatement.• Surveys for Yuma clapper rail along the Colorado River and in the Palo Verde Valley, including Davis Lake on the Cibola National Wildlife Refuge.• Use of horizontal directional drilling to place the new pipeline under the bed of the Colorado River and avoid disturbance to the river habitat of the razorback sucker. All water intakes associated with the project would be screened to prevent entrainment of eggs and small razorback suckers. <p>A complete description of the proposed action and conservation measures is found in your September 2006 Draft Environmental Impact Statement, which includes the Biological Assessment for the proposed action. That document was provided to us on September 23, 2006.</p> <p>DETERMINATION OF EFFECTS</p>
FA1-2	<p>We concur with your “may affect, not likely to adversely affect” determinations for the following reasons:</p> <p>Southwestern willow flycatcher</p> <ul style="list-style-type: none">• Conservation measures included in the proposed action limit the clearing of vegetation in flycatcher habitat to outside of the breeding season. The type of vegetation being removed generally does not qualify as breeding habitat but may be used during migration. Vegetation removal in sensitive areas will be limited to that needed for placement of the pipeline. The amount of vegetation removed that could support flycatcher habitat is not a significant amount in context of the available migration habitat. In addition, the vicinity of the pipeline route across the Cibola National Wildlife Refuge is within the area burned in July 2006 by the Cibola Fire. Therefore, any potential direct or indirect effects on the species are discountable.• Project effects will largely be limited to daylight hours and effects from nighttime noise and lights have been minimized by conservation measures. These effects are insignificant.

Federal Agencies

FA1-2 See the response to comment FA1-1.

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Mr. Michael J. Boyle

3

FA1-2
(cont'd)

Yuma clapper rail

- Placement of the pipeline beneath the Colorado River by directional drilling will avoid effects to marsh habitats that may be occupied by rails. Potential effects of nighttime noise and lighting have been minimized by conservation measures. These effects are insignificant.

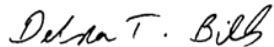
Razorback sucker

- Placement of the pipeline beneath the Colorado River by directional drilling will avoid effects to razorback sucker in the river channel. Screening of water intakes will prevent entrainment of all life stages. These effects are insignificant.
- The likelihood of any direct or indirect interaction between the proposed action and primary constituent elements of critical habitat is extremely low; therefore, any effects to critical habitat are assumed to be discountable.

FA1-3

Thank you for your continued coordination. No further section 7 consultation is required for this project in Arizona or at the Colorado River at this time. Should project plans change, or if information on the distribution or abundance of listed species or critical habitat becomes available, this determination may need to be reconsidered. We also encourage you to coordinate the review of this project with the Arizona Game and Fish Department. In all future correspondence on this project, please refer to consultation number 22410-2007-I-0010. Should you require further assistance or if you have any questions, please contact me at (602) 242-0210 (x244) or Lesley Fitzpatrick at (x236).

Sincerely,

for Steven L. Spangle
Field Supervisor

cc: Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Field Supervisor, Carlsbad FWO, Carlsbad, CA
Refuge Manager, Cibola NWR, Cibola, AZ

W:\Lesley Fitzpatrick\07-010 concur.doc:gg

Federal Agencies

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FA1-3

It is noted that no further section 7 consultation is required for the proposed Project in Arizona or at the Colorado River at this time. The FERC will continue to coordinate with the FWS and the Arizona Game and Fish Department. The assigned consultation number will be included on all future correspondence regarding the proposed Project.

Unofficial FERC-Generated PDF of 20061115-0319 Received by FERC OSEC 11/14/2006 in Docket#: CP06-61-000



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
 Carlsbad Fish and Wildlife Office
 6010 Hidden Valley Road
 Carlsbad, California 92011



In Reply Refer To:
 FWS-ERIV-5068.1

NOV -1 2006

Michael J. Boyle, Chief
 Environmental Gas Branch I
 Office of Energy Projects
 Federal Energy Regulatory Commission
 Washington, D.C. 20426

Subject: Initiation of Formal Consultation on the Proposed North Baja Expansion Project, La Paz County, Arizona; Riverside County, California; and Imperial County, California; OEP/DG2E/Gas 1; Docket Nos. CP06-61-000, CP01-23-003

Dear Mr. Boyle:

FA2-1 The U.S. Fish and Wildlife Service acknowledges your request dated September 27, 2006, and received September 29, 2006, to initiate formal consultation on the subject proposed project. The consultation concerns potential effects of the project on the federally listed desert tortoise (*Gopherus agassizi*) and Peirson's milkvetch (*Astragalus magdalenae* var. *peirsonii*).

All information required from you to initiate consultation was either included with your letter or is otherwise accessible for our consideration and reference. We have assigned log number 1-6-06-F-5068 to this consultation. Please refer to that number in future correspondence on this consultation.

FA2-2 We concur that the proposed project would not be likely to adversely affect the bald eagle (*Haliaeetus leucocephalus*), brown pelican (*Pelecanus occidentalis*), bonytail chub (*Gilia elegans*), and desert pupfish (*Cyprinodon macularis*). We also concur that the proposed project may affect, but is not likely to adversely affect razorback sucker (*Xyrauchen texanus*), southwestern willow flycatcher (*Empidonax traillii eximius*), and Yuma clapper rail (*Rallus longirostris yumanensis*). We also concur that the project is not likely to adversely affect critical habitat for the razorback sucker.

FA2-3 Section 7 of the Act allows the Service up to 90 days to conclude formal consultation with your agency and an additional 45 days to prepare our biological opinion (unless we mutually agree to an extension). Therefore, we expect to provide you with our biological opinion on or before February 11, 2007.

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Federal Agencies

2

FA2-1 Thank you for participating in the environmental review process under section 7 of the ESA. It is noted that the FWS has received or has access to all of the information necessary for the FERC to initiate formal consultation. The assigned log number will be included on all future correspondence regarding the proposed Project.

FA2-2 The FWS' comments concurring with the FERC's determinations of effects on listed species in California are noted.

FA2-3 The FWS' Biological Opinion (BO) was issued on April 20, 2007. The BO has been addressed in the analysis in Section 4.7 and included in the final EIS/EIR as Appendix R.

Unofficial FERC-Generated PDF of 20061115-0319 Received by FERC OSEC 11/14/2006 in Docket#: CP06-61-000

Mr. Michael J. Boyle (FWS-ERIV-5068.1)

2

FA2-3
(cont'd)

As a reminder, the Act requires that after initiation of formal consultation, the Federal action agency make no irreversible or irretrievable commitment of resources that limits future options. This practice insures that agency actions do not preclude the formulation or implementation of reasonable and prudent alternatives that avoid jeopardizing the continued existence of endangered or threatened species or destroying or modifying their critical habitats.

If you have any questions or concerns about this consultation or the consultation process in general, please contact Tyler Grant of my staff at (760) 431-9440.

Sincerely,


for Therese O'Rourke
Assistant Field Supervisor

Federal Agencies

2

200612205037 Received FERC OSEC 12/20/2006 01:03:00 PM Docket# CP06-61-000, ET AL.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

December 20, 2006

Magalie R. Salas
Federal Energy Regulatory Commission
888 First St., NE., Room 1A
Washington DE 20426

Subject: Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR)
and Draft Land Use Plan Amendment for the North Baja Pipeline Expansion Project
FERC Project Nos. CP06-61-000 and CP01-23-003 California (CEQ #20060392)

Dear Ms. Salas:

FA3-1

The U.S. Environmental Protection Agency (EPA) would like to request an extension of time to review the DEIS/EIR and Draft Land Use Plan Amendment for the North Baja Pipeline Expansion Project pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act.

Due to an unusually heavy workload, staffing changes and shortfalls within the Region 9 Environmental Review Office, we will be unable to complete the review by December 28, 2006. Therefore we request an extension until January 22, 2007 to provide comments on the DEIS/EIR. We do plan to submit comments and will get them to you as soon as possible.

If you have any questions, please contact me at (415) 947-4184 or Ann McPherson, the lead reviewer for the project. Ann can be reached at (415) 972-3545 or mcpherson.ann@epa.gov.

Sincerely,

/s/

Paula Bisson, Manager
Environmental Review Office
Communities and Ecosystems

Federal Agencies

3

FA3-1

In a letter dated December 22, 2006, the FERC informed the U.S. Environmental Protection Agency (EPA) that it believed adequate time had been provided to review the draft EIS/EIR, particularly since the comment period was 90 days instead of the typical 45-day CEQA/National Environmental Policy Act (NEPA) comment period. As such, the FERC did not formally extend the comment period. However, the December 22, 2006 letter further stated that the FERC will consider all comments received within a time frame that allows for their review before the issuance of the final EIS/EIR, including those submitted outside of the comment period. In a letter dated January 22, 2007, the EPA submitted its comments on the draft EIS/EIR (see comment letter FA6). Those comments are addressed in the responses to comments FA6-1 to FA6-18.

200612285070 Received FERC OSEC 12/28/2006 05:09:00 PM Docket# CP06-61-000, ET AL.



United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
1111 Jackson Street, Suite 520
Oakland, California 94607

IN REPLY REFER TO
ER06/935

Electronically Filed

28 December 2006

Honorable Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Subject: Review of Draft Environmental Impact Statement (DEIS) for the North
Baja Pipeline Expansion Project, FERC Nos. CP06-61-000 and CP01-23-
000, LaPaz County, Arizona and Riverside and Imperial Counties,
California.

Dear Ms. Salas:

The U.S. Department of the Interior has received and reviewed the subject document and
has the following comments to offer:

FA4-1

Bureau of Reclamation, Lower Colorado Region

As noted in the above-referenced letter and accompanying DEIS, federal lands withdrawn
to and administered by the Bureau of Reclamation (Reclamation) for project purposes
will be impacted by the North Baja Project Pipeline Expansion Project (Project).

Reclamation is currently in the planning stages for the Drop 2 Storage Reservoir (Drop 2)
located within and/or adjacent to portions of the described Project area. The segment of
your Project designated as the Imperial Irrigation District Lateral will potentially be
affected by our Drop 2 project north of Interstate 8, within portions of Sections 31, 32,
33, 34, and 35, Township 16 South, Range 19 East, San Bernardino Meridian, Imperial
County, California.

Continued coordination and cooperation among North Baja Pipeline, LLC; Bureau of
Land Management (BLM), and Reclamation will be imperative in order to adequately
address and plan for design and construction conflicts as these projects progress.

Federal Agencies

FA4-1

Section 4.15.6 has been revised to acknowledge a potential cumulative
impact on traffic if the Bureau of Reclamation's (BOR) Drop 2 Storage
Reservoir Project is constructed at the same time as the Imperial Irrigation
District (IID) Lateral and that North Baja would continue coordination efforts
with the BLM and the BOR.


FA4-2 | Concurrence by Reclamation for any new or amendments to existing BLM right-of-way grants or temporary use permits for crossings of Reclamation-administered lands associated with this Project is required. In addition, we would appreciate your continued coordination regarding environmental and cultural issues on Reclamation-administered lands. Please direct any questions related to this issue to Reclamation's Ms. Peggy Haren at 928-343-8547.

U.S. Geological Survey
Specific Comments

FA4-3 | **Page xv, Acronyms and Abbreviations:** The list defines USGS as "U.S. Geological Service." The correct agency name is the "U.S. Geological Survey."

FA4-4 | **Page ES-9, Executive Summary, first paragraph; Page 4-47, Section 4.3.2.3, Water Supply Wells, third paragraph; and Page 4-60, Section 4.3.4, Arrowhead Alternative, second paragraph:** The text in these sections either indicates explicitly or implies that there is potential for construction activities to impact wells within 150 feet of the right-of-way. The document should indicate how this distance was chosen, such as in consideration of local hydrology and potential mobility of selected highway related contaminants. It might also benefit readers to point out that this is a general guide; impacts could occur over a greater or lesser distance depending on variables such as aquifer properties, pumpage rates, and depth of wells.

Thank you for the opportunity to review this project.

Sincerely,

Patricia Sanderson Port
Regional Environmental Officer

cc: Director, OEPC
USGS
BOR, Lower Colorado

Federal Agencies


4

FA4-2 | As discussed in Section 1.2.3, the BLM would consider the issuance of an amended Right-of-Way Grant and associated Temporary Use Permit that would apply to all BLM-managed and BOR-administered lands and would consider the concurrence or non-concurrence of the BOR in making its decision. The FERC and the CSLC will continue to coordinate with the BOR regarding environmental and cultural resources issues on BOR-administered lands.

FA4-3 | The list of acronyms and abbreviations as well as Section 4.1.2 have been revised to correctly define "USGS" as "U.S. Geological Survey."

FA4-4 | Section 4.3.2.3 has been revised to explain that the well search distance of 150 feet from the construction work area is specified in Title 18 Code of Federal Regulations (CFR) Part 380.12(d)(9) and that wells further from the construction work area would not likely be impacted by the Project under most conditions. Section 4.3.2.3 has also been revised to identify some of the factors, other than distance, that determine the potential for a well to be impacted by construction activities.

Unofficial FERC-Generated PDF of 20070103-0113 Received by FERC OSEC 12/28/2006 in Docket#: CP06-61-000



IN REPLY REFER TO:

YAO-7100
LND-6.00

United States Department of the Interior

BUREAU OF RECLAMATION
Yuma Area Office
7301 Calle Agua Salada
Yuma, Arizona 85364

ORIGINAL

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IN AMERICA

Ms. Magalie R. Salas
Secretary
Federal Energy Regulatory Commission
888 First Street Northeast, Room 1A
Washington, DC 20426

2006 JUN 28 P 3:14

Subject: Review Comments - Draft Environmental Impact Statement (DEIS) - North Baja Pipeline Expansion Project, Federal Energy Regulatory Commission (FERC) Docket Nos. CP06-61-000 and CP01-23-003, California State Clearinghouse No. 2006081127, and Bureau of Land Management (BLM) Reference No. CACA-42662 (Your Letter Dated 9/01/2006)

Dear Ms. Salas:

6-35

FA5-1

As noted in the above-referenced letter and accompanying DEIS, federal lands withdrawn to and administered by the Bureau of Reclamation (Reclamation) for project purposes will be impacted by the North Baja Pipeline Expansion Project (Project).

Reclamation is currently in the planning stages for the Drop 2 Storage Reservoir (Drop 2) located within and/or adjacent to portions of the described Project area. The segment of your Project designated as the Imperial Irrigation District Lateral will potentially be affected by our Drop 2 project north of Interstate 8, within portions of Sections 31, 32, 33, 34, and 35, Township 16 South, Range 19 East, San Bernardino Meridian, Imperial County, California. Continued coordination and cooperation between North Baja Pipeline, LLC; BLM, and Reclamation will be imperative in order to adequately address and plan for design and construction conflicts as these projects progress.

FA5-2

Concurrence by Reclamation for any new or amendments to existing BLM right-of-way grants or temporary use permits for crossings of Reclamation administered lands associated with this Project

Federal Agencies

5

FA5-1

Section 4.15.6 has been revised to acknowledge a potential cumulative impact on traffic if the BOR's Drop 2 Storage Reservoir Project is constructed at the same time as the IID Lateral and that North Baja would continue coordination efforts with the BLM and the BOR.

FA5-2

As discussed in Section 1.2.3, the BLM would consider the issuance of an amended Right-of-Way Grant and associated Temporary Use Permit that would apply to all BLM-managed and BOR-administered lands and would consider the concurrence or non-concurrence of the BOR in making its decision. The FERC and the CSLC will continue to coordinate with the BOR regarding environmental and cultural resources issues on BOR-administered lands.

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FA5-2
(cont'd)

is required. In addition, we would appreciate your continued coordination regarding environmental and cultural issues on Reclamation administered lands. Please direct any questions related to this issue to Ms. Peggy Haren at 928-343-8547.

Sincerely,



Cynthia Hoeft, Director
Resource Management Office

cc: Ms. Patricia Port
Department of the Interior
Office of Environmental Policy
and Compliance
Jackson Center One
111 Jackson Street, Suite 520
Oakland, CA 94607

Mr. Tom Filler
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

Federal Agencies

5



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

January 22, 2007

ORIGINAL

FILED
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2007 FEB -5 P 3:01
REGION IX
SAN FRANCISCO
CALIFORNIA

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St., NE, Room 1A
Washington, DC 20426

Tim Filler
California State Lands Commission
100 Howe Ave., Suite 100 South
Sacramento, CA 95825

Subject: Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) and
Draft Land Use Plan Amendment for the North Baja Pipeline Expansion Project,
FERC Docket Nos. CP06-61-000 and CP01-23-003
CA State Clearinghouse No. 2006081127

Dear Secretary Salas and Mr. Filler:

FA6-1

The U.S. Environmental Protection Agency (EPA) has reviewed above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and Section 309 of the Clean Air Act. We are providing our comments after the close of the public comment period, as stated in our request to the Federal Energy Regulatory Commission (FERC) on December 20, 2006 (Docket Nos. CP06-61-000 and CP01-23-003).

North Baja Pipeline, LLC (North Baja) proposes to expand its existing natural gas transmission pipeline system in La Paz County, Arizona and Riverside and Imperial Counties, California. The expanded system would be capable of transporting natural gas from planned liquefied natural gas (LNG) storage and vaporization terminals located in Baja California, Mexico to customers in California and Arizona.

Based on our review, we have rated the DEIS as Environmental Concerns – Insufficient Information (EC-2) (see enclosed “*Summary of Rating Definitions*”). We have concerns about the scope of the air quality analysis, indirect impacts on air quality, and water quality impacts. EPA is particularly concerned about indirect air quality impacts on the South Coast and Imperial County air basins, given their current nonattainment status for several criteria pollutants. We recommend revisiting the indirect air quality analysis in the Final EIS and providing mitigation measures, as appropriate. Please see the enclosed Detailed Comments for a complete description of these concerns and our recommendations.

We are aware of the bilateral complexities of evaluating the proposed project under NEPA. Environmental protection along the United States/Mexico Border is a regional priority for EPA, and we recognize that energy development in this region provides an opportunity to meet bi-national needs. Consistent with our agency’s mission, we also seek to ensure that energy

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Federal Agencies

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FA6-1

The EPA’s rating of the draft EIS/EIR is noted. These general comments are followed by more specific detailed comments and recommendations that are addressed in the responses to comments FA6-2 through FA6-17. One hard copy of the final EIS/EIR will be sent to the EPA, Region IX at the letterhead address (mailcode: CED-2).

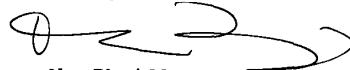
Federal Agencies

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FA6-1
(cont'd) development in the border region promotes domestic and bi-national environmental goals. Our recommendations are provided with this intent.

We appreciate the opportunity to review this DEIS. When the FEIS is released for public review, please send one (1) hard copy to the address above (mailcode: CED-2). If you have any questions, please contact me at (415) 972-3846 or Ann McPherson, the lead reviewer for this project. Ann can be reached at (415) 972-3545 or mcperson.ann@epa.gov.

Sincerely,



Nova Blazej, Manager
Environmental Review Office

Enclosures: Summary of EPA Rating Definitions
Detailed Comments

Cc: Stephen L. Birdsall, Imperial County Air Pollution Control District
Dr. Barry Wallerstein, South Coast Air Quality Management District
Bill Powers, Border Power Plant Working Group
Col. Alex C. Dornstauder, U.S. Army Corps of Engineers

Federal Agencies

6

SUMMARY OF EPA RATING DEFINITIONS¹

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACTS OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impact that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

¹ From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

Federal Agencies

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EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT (DEIS/EIR) AND DRAFT LAND USE PLAN AMENDMENT FOR THE NORTH BAJA PIPELINE EXPANSION PROJECT, JANUARY 22, 2007

Air Quality

Indirect Impacts on Air Quality

FA6-2 EPA is concerned that the DEIS does not fully consider the indirect impacts on air quality resulting from the construction of the North Baja Pipeline Expansion Project. This issue is of concern to EPA because of the nonattainment status of the South Coast and Imperial County air basins. In accordance with the Council on Environmental Quality's (CEQ's) National Environmental Policy Act (NEPA) Regulations and *CEQ's Guidance on National Environmental Policy Act (NEPA) Analyses for Transboundary Impacts, July 1, 1997*, the EIS should consider the reasonably foreseeable environmental effects that may occur as a result of this project. "Reasonable foreseeable" includes indirect effects, which are caused by the action, are later in time or farther removed in distance (40CFR 1508.8(b)). Additionally, case law interpreting NEPA has reinforced the need to analyze impacts regardless of geographic boundaries within the United States.

The scope of the air quality analysis should include the following issues: a) emissions from the two compressor stations in Mexico (upstream facilities); b) the higher energy content of the imported natural gas in downstream areas; c) mitigation of indirect air quality impacts; d) general conformity analysis, including direct and indirect emissions; and e) emissions from off-highway vehicle (OHV) use.

a. Emissions from the two Compressor Stations in Mexico

FA6-3 The Executive Summary states that the capacity of the Gasoducto Bajanorte pipeline system in Mexico will be expanded and that two new compressor stations will need to be constructed, including the Algodones Compressor Station, located 2.5 miles south of the California-Mexico border and 3 miles west of the Arizona-Mexico border, and the Mexicali Compressor Station, located near Mexicali, Mexico. The potential exists for operating emissions to affect air quality in the United States because of their proximity to the United States border. The DEIS states that the Agency Staffs (FERC, California State Lands Commission (CSLC), and Bureau of Land Management (BLM)) conducted an analysis of the operating emissions from the Mexicali and Algodones Compressor Stations and determined that no emitted pollutants at these compressor station sites would result in a predicted concentration above an established significant impact level (page ES-23).

EPA recognizes that compressor stations can be sources of large amounts of nitrogen oxides (NOx). According to table 4.15.8-3, the Mexicali Compressor Station would have NOx emissions of 235 tons/year (t/yr) and the Algodones Compressor Station will have NOx emissions totaling 355.7 t/yr, for a combined total of 570.7 t/yr. Emissions from the existing power plants west of Mexicali (the La Rosita Power Complex (LRPC) and the Termoelectrica de

FA6-2 See the responses to comments FA6-3 through FA6-7.

FA6-3 Section 4.12.4 of the EIS/EIR includes an analysis of the direct and indirect air quality impacts and mitigation measures associated with the jurisdictional facilities associated with the proposed Project. Section 4.15.8 addresses the cumulative impacts of the existing and anticipated facilities that are located in Mexico across the border from Imperial County. The cumulative impacts presented are associated with the maximally impacted receptor location at or near the U.S. border and demonstrate that the operation of the "reasonably foreseeable" Mexican facility projects would likely not result in significant impacts in the vicinity of or across the U.S. border in California. Section 4.15.8 has been revised to include additional details regarding the criteria used to make this determination.

As discussed in Section 1.4.2, the upstream facilities in Mexico are subject to the sovereign jurisdiction of another nation and there is no jurisdictional basis for the FERC, the CSLC, the BLM, or the BOR to approve, mitigate, or reject such facilities. Therefore, mitigation measures, such as the EPA's recommended Best Available Control Technology (BACT), cannot be imposed on those facilities by these agencies. For the original North Baja Pipeline Project EIS/EIR, there was a litigation challenge² concerning this issue that failed.

Regarding the issue of transboundary environmental impacts, as discussed in Section 1.4.2, Executive Order 12114 directs Federal agencies to consider the effects of their actions on the environment outside of the United States. The FERC and the BLM actions on the North Baja Pipeline Expansion Project are the issuance of a Certificate of Public Convenience and Necessity and a Presidential Permit amendment and an amended Right-of-Way Grant and plan amendment, respectively. The construction and operation of North Baja's proposed facilities in the United States would be localized and would not have a significant effect on the environment of Mexico. The upstream facilities in Mexico must comply with the Mexican environmental regulatory review process and standards.

² Superior Court of California, County of Sacramento, No. 02CS00327, filed November 8, 2002 and Court of Appeal of California, Third Appellate District, No. CO43219, filed July 27, 2004.

Federal Agencies

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FA6-3
(cont'd)

Mexicali Power Plant (TMD Plant)) are estimated to be 608 tons/year. Emissions from the two compressor stations are approximately equivalent to emissions from the two power plants in Mexicali. Because the wind blows in a northerly direction a significant part of the year, it is likely that the NOx emissions will affect air quality in Imperial County. Imperial County is in non-attainment of EPA's 8-hour ozone standard. NOx is a precursor to ozone.

The Agency Staffs have concluded that they have no jurisdiction over the associated upstream facilities (two compressor stations) to require an environmental analysis of their impacts in connection with the North Baja Pipeline Expansion project. These upstream facilities are subject to the Mexican environmental regulatory review process and standards (page 1-19).

If the compressor stations were located in the United States in a nonattainment area, each would be considered a Major Source and would require a permit to operate. The permit would require Lowest Achievable Emission Rate (LAER) technology to be installed and maintained and also would require sufficient offsets of emissions at a ratio depending upon the classification of the nonattainment area, but no less than 1:1. If the project were located in an attainment area, the permit would require Best Available Control Technology (BACT). The federal general conformity rule trigger level is 100 t/yr for NOx in a marginal area such as Imperial County. In accordance with *CEQ's Guidance on NEPA Analyses for Transboundary Impacts*, it is within FERC's control and responsibility to extend its environmental review to include the associated facilities.

Recommendation:

EPA recommends that FERC address emissions from the associated upstream facilities, including the two compressor stations located in Mexico, in the environmental review. To limit NOx emissions to Imperial County, EPA recommends BACT be required at the two compressor stations in Mexico. Examples of BACT include the use of selective catalytic reduction (SCR) for nitrogen oxide control and catalytic oxidizers for carbon monoxide (CO) reduction on the two compressor stations. This requirement could be stipulated within FERC's Amendment to the Presidential Permit.

b. Energy Content of the Imported Natural Gas

FA6-4

The DEIS does not describe, analyze, or mitigate, as appropriate, the significant air quality impacts that would result from burning increased quantities of hotter natural gas. FERC states that the terms of the precedent agreements between North Baja Pipeline, LLC (North Baja) and its shippers require that the gas delivered to the North Baja system meet the most stringent gas quality standard of any of the pipeline to which the North Baja system might ultimately deliver the gas (page 4-207) but does not provide additional information about the standard.

During the scoping process, the Imperial County Air Pollution Control District (ICAPCD) raised concerns about the energy content of the imported natural gas. Natural gas with a higher Wobbe Index has the potential to increase NOx, CO, and unburned hydrocarbon emissions. The South Coast Air Quality Management District (SCAQMD) and the ICAPCD are concerned that the introduction of the hotter gas in California and the southwestern United States

FA6-4

See the responses to comments PM1-1, PM1-4, LA16-1, and LA16-6 through LA16-8.

Federal Agencies

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FA6-4
(cont'd)

will substantially increase emissions of the ozone and fine particulate matter (PM_{2.5}) precursor NO_x, making attainment of the federal air quality standards more difficult to meet, especially in basins with pre-existing attainment problems. This issue has the potential to impact the highly compromised urban airsheds of Los Angeles, Phoenix, and San Diego, where a significant amount of the natural gas will be used. The Los Angeles and San Joaquin Valley areas have the worst ozone and PM_{2.5} problems in the country, and attainment of the National Ambient Air Quality Standards (NAAQS) for those pollutants will require massive reductions from all controllable emissions categories. Any increase in existing emissions levels, such as those associated with combustion of natural gas with a higher Wobbe Index, would make attainment of the public health standards still more difficult.

Recommendation:

The FEIS should address what the composition, quality, and British Thermal Unit (BTU) content of the imported natural gas will be. The FEIS should include a discussion of the current BTU content normally found in California's natural gas supply; SoCalGas and California Air Resources Board (CARB) existing specifications; and current efforts to revise those specifications in accordance with the California Public Utilities Commission (CPUC). The FEIS should discuss the potential impacts of increasing the BTU content of the gas supply, and address the North Baja's commitment to provide a supply of natural gas within a specific quality range. One alternative is to require that the natural gas meet, within some reasonable level of variability, the quality of natural gas currently flowing in the Southwest natural gas transmission pipeline system.

c. Mitigation of Indirect Air Quality Impacts

FA6-5

To ensure that there will not be increased concentrations of ozone precursor pollutants in the air basin from the compressor stations in Mexico or from burning "hotter" natural gas, mitigation projects to reduce basin-wide pollutant emissions should be implemented.

Recommendation:

EPA recommends that FERC consider mitigation options in response to these issues. The FEIS should address how these mitigation measures could be implemented, and evaluate the related effects on air quality. EPA recommends that FERC collaborate with the ICAPCD, the Border Power Plant Working Group, and the SCAQMD to prioritize which measures would be most effective in reducing air quality impacts. EPA recommends that FERC include mitigation commitments, as appropriate, in the Record of Decision.

d. General Conformity

FA6-6

The General Conformity requirement of the Clean Air Act (CAA) mandates that the Federal government not license, permit, or approve any activity not conforming to an approved CAA implementation plan. The FEIS should address the applicability of CAA Section 176 and EPA's general conformity regulations at 40 CFR Parts 51 and 93. Emissions authorized by a CAA permit issued by the State or the local air pollution control district would not be assessed under general conformity but through the permitting process. The DEIS concludes that project

FA6-5

As discussed in Section 1.4.2, the upstream facilities in Mexico are subject to the sovereign jurisdiction of another nation and there is no jurisdictional basis for the FERC, the CSLC, the BLM, or the BOR to approve, mitigate, or reject such facilities. Therefore, mitigation measures, such as the EPA's recommended BACT, cannot be imposed on those facilities by these agencies. For the original North Baja Pipeline Project EIS/EIR, there was a litigation challenge³ concerning this issue that failed.

As discussed in the responses to comments PM1-1 and LA16-1, the end use of the natural gas that would be transported by the proposed Project is outside the scope of the Project. The FERC, the CSLC, the BLM, and the BOR do not have jurisdiction to impose mitigation measures on the end users. As discussed in the response to comment PM1-4, authority to regulate gas content lies with the CPUC. The authority to regulate stationary emissions sources in the SCAB lies with the SCAQMD; in Imperial County this authority lies with the Imperial County Air Pollution Control District (ICAPCD).

FA6-6

See the responses to comments PM1-1, PM1-2, and LA16-1.

³ Superior Court of California, County of Sacramento, No. 02CS00327, filed November 8, 2002 and Court of Appeal of California, Third Appellate District, No. CO43219, filed July 27, 2004.

Federal Agencies

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FA6-6
(cont'd) emissions would be below general conformity *de minimis* levels; therefore, a general conformity determination is not required (page 4-201).

Imperial County, California, is designated as marginal non-attainment for the 8-hour ozone NAAQS. The Imperial Valley is also designated as serious non-attainment for particulate matter with a diameter of 10 microns or less (PM10). The South Coast Air Basin nonattainment designations under the Federal CAA are as follows: CO – serious nonattainment; 8-hour ozone – severe-17 nonattainment; PM10 – serious nonattainment; and particulate matter with a diameter of 2.5 microns or less (PM2.5) – nonattainment.

Recommendation:

A complete analysis is required to determine if the emissions associated with the proposed project (both construction and operational emissions) are subject to the requirements for a formal conformity determination under the General Conformity rule codified at 40 CFR 93, subpart B. The “applicability” analysis involves quantification of emissions caused by the proposed project that are generated within nonattainment or maintenance areas, that are reasonably foreseeable, and that the Federal agency can practicably control and will maintain control over due to a continuing program responsibility.

e. Off-Highway Vehicle (OHV) Use

FA6-7 EPA is concerned with the generation of PM10 associated with the proposed project. Large amounts of PM10 emissions are generated by off-road traffic on the current North Baja Pipeline right-of-way. To reduce the potential for interference between pipeline construction activities and OHV users and inappropriate OHV use of the pipeline right-of-way, North Baja has developed an OHV plan that addresses the initial siting, construction, and operation of the proposed North Baja Pipeline Expansion project (page P-1). This plan was developed in consultation with BLM. Although North Baja has no plans to maintain a permanent road on the right-of-way, they do plan to maintain access to all portions of the permanent right-of-way by four-wheel drive vehicles in order to conduct emergency and periodic maintenance (page ES-16). PM emissions will be generated as a result of maintenance activities and OHV use in the future. Levels may become an impediment for ICAPCD to reach PM10 attainment.

Recommendation:

EPA recommends that OHV plan be revised to include the following issues: 1) agency or agencies responsible for implementation and enforcement of the OHV plan; 2) frequency of monitoring; 3) methodology for reassessing the implemented measures in the future; and 4) enforcement measures.

FA6-7 Section 4.8.5 has been revised to include the recommendation that North Baja revise its Off-Highway Vehicle Management Plan (OHV Plan) to include the agency or agencies responsible for enforcement of the OHV Plan, the frequency of monitoring that would be conducted to ensure that the implemented OHV blocking measures are functioning properly, the methodology for reassessing the implemented OHV blocking measures in the future, and enforcement measures.

Water Resources**Clean Water Act Section 404**

FA6-8 The project applicant (North Baja) should coordinate with the U.S. Army Corps of Engineers to determine if the proposed project requires a Section 404 permit under the Clean Water Act (CWA). Section 404 regulates the discharge of dredged or fill material into waters of the U.S., including wetlands and other special aquatic sites. If a permit is required, EPA will review the project for compliance with *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA ("404(b)(1) Guidelines"). Pursuant to 40 CFR 230, any permitted discharge into waters of the U.S. must be the *Least Environmentally Damaging Practicable Alternative* (LEDPA) available to achieve the project purpose. In addition, no discharge can be permitted if it will cause or contribute to significant degradation of the waters of the U.S.

FA6-9 A total of two perennial waterbodies, 70 irrigation canals and drains, and 265 ephemeral washes would be crossed by the proposed pipeline facilities resulting in temporary impact to 35.7 acres of wetlands and permanent impact to 3.0 acres of wetlands (table 4.4.2-1). Impacts to waters include clearing and grading of streambanks, trenching and dewatering in waters, increased sedimentation, increased turbidity, decreased dissolved oxygen concentrations, and clearing of aquatic habitat. Given the extent of the impacts associated with the proposed project, North Baja bears the burden of clearly demonstrating that the preferred alternative is the LEDPA that achieves the overall project purpose, while not causing or contributing to significant degradation of the aquatic ecosystem.

Identification of the LEDPA is achieved by performing an alternatives analysis that estimates the direct, secondary, and cumulative impacts to jurisdictional waters resulting from each alternative considered. Project alternatives that are not practicable and do not meet the project purpose are eliminated. The LEDPA is the remaining alternative with the fewest impacts to aquatic resources, so long as it does not have other significant adverse environmental consequences. Only when an analysis is correctly structured can the applicant or the permitting authority be assured that no discharge other than the practicable alternative with the least adverse impact on the aquatic ecosystem has been selected (40 CFR 230.10(a)). In addition, the applicant must clearly demonstrate that alternatives that do not result in the discharge of dredged or fill material in aquatic sites are either not practicable, or have other significant adverse environmental consequences.

FA6-10 Based on our review of the DEIS, the alternatives analysis does not demonstrate compliance with the 404 (b)(1) Guidelines. On page 4-67, the DEIS states that North Baja did not incorporate one measure of FERC's Procedures into its Construction, Mitigation, and Restoration (CM&R) Plan – the provision to limit the width of the construction right-of-way in wetlands to 75 feet or less. In addition, the DEIS states that the North Baja is requesting a variance from FERC's Procedures which requires that all extra workspaces (such as staging areas and additional spoilage storage areas) be located at least 50 feet away from wetland boundaries (page 4-67). Under Section 404 of the CWA, the Guidelines require authorization of

Federal Agencies

FA6-8 North Baja has coordinated with the U.S. Army Corps of Engineers (COE) to determine whether the proposed Project requires a section 404 permit under the Clean Water Act. The COE has determined that the North Baja Pipeline Expansion Project would qualify for a nationwide permit under the COE's section 404 permit program. Nationwide permits are a type of general permit issued by the COE for certain activities having minimal impacts. Projects that qualify for a nationwide permit are not required to demonstrate compliance with the section 404(b)(1) guidelines that restrict discharges of dredged or fill material where a less environmentally damaging alternative exists. Should the COE later determine that an individual section 404 permit is necessary, as part of its section 404 permit application North Baja would be expected to demonstrate that it has taken appropriate and practicable steps to minimize wetland impacts in compliance with the section 404(b)(1) guidelines.

FA6-9 See the response to comment FA6-8.

FA6-10 See the response to comment FA6-8.

FA6-10 (cont'd) | the LEDPA. To minimize direct, indirect and secondary impacts to waters, the North Baja must demonstrate it is not practicable to reduce the construction right-of-way to 75 feet or less and stage outside of wetlands.

EPA offers the following recommendations to help facilitate compliance of the project with the Section 404 Guidelines:

FA6-11 | *Recommendation:*
The FEIS should include an evaluation of the project alternatives in order to demonstrate the project's compliance with the 404(b) (1) Guidelines and authorization of LEDPA. The alternatives analysis should include a reasonable range of alternatives that meet the project purpose while avoiding and minimizing damage to waters of the United States, including wetlands (waters). If, under the proposed project, dredged or fill material would be discharged into waters of the US, the FEIS should discuss alternatives to avoid those discharges.

FA6-12 | *Recommendation:*
North Baja should demonstrate that it is not practicable to reduce the construction right-of-way to 75 feet or less and stage outside of wetlands. This information should be included in the FEIS.

FA6-13 | *Recommendation:*
With the exception of Rannell's Drain, North Baja proposes to cross all wetlands using the horizontal directional drill (HDD) or bore method, or the pipeline would be installed between the drain culverts and a road bed. While these methods will minimize impacts to waters, North Baja must demonstrate it is not practicable for them to conduct the bore method for all waters encountered in the alignment. The FEIS should evaluate whether modification of the alignment can avoid additional waters, as well.

FA6-14 | *Recommendation:*
The FEIS should include additional information regarding indirect and secondary impacts from the bifurcation of wetlands.

FA6-15 | *Recommendation:*
The FEIS should clarify whether the impact acreage in table 4.4.2-1 includes impacts to crossing 265 ephemeral washes.

FA6-16 | Pursuant to the 404 Guidelines, North Baja must mitigate for unavoidable impacts to waters. Based on a review of the DEIS, North Baja proposes natural revegetation of the areas following construction. However, the DEIS states that few native species were able to colonize impact areas affected during construction of the A-Line, due to the high concentration of salts and the presence of non-native tamarisk propagules in the wetland topsoil.

Federal Agencies

FA6-11 | See the response to comment FA6-8.

FA6-12 | See the response to comment FA6-8.

FA6-13 | See the response to comment FA6-8.

FA6-14 | In accordance with North Baja's Construction Mitigation and Restoration Plan (CM&R Plan) (see Appendix E), trench breakers would be installed and/or the trench bottom would be sealed as necessary to restore wetland hydrology; therefore, wetland bifurcation would not likely result from pipeline construction.

FA6-15 | A footnote has been added to Table 4.4.2-1 to indicate that the table does not include ephemeral washes.

FA6-16 | The vegetation types that would be affected and that are present adjacent to the construction right-of-way are dominated by tamarisk; therefore, revegetation would likely occur within a short time frame as demonstrated by North Baja's post-construction monitoring results for the A-Line. Attempts to revegetate the right-of-way with native vegetation are not likely to be successful due to the presence of tamarisk-dominated wetlands immediately adjacent to the construction right-of-way. Because of the dominance by tamarisk immediately adjacent to the right-of-way, natural revegetation would be the most effective in restoring the affected wetlands to preconstruction conditions. The COE has determined that the North Baja Pipeline Expansion Project would qualify for a nationwide permit under the COE's section 404 permit program because the Project would result in minimal impacts. Should the COE later determine that an individual section 404 permit is necessary, the COE may require additional mitigation measures. These measures could include planting of native vegetation in the impact areas.

Federal Agencies

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FA6-16
(cont'd) *Recommendation:*
Based on this information, EPA does not support natural revegetation. A mitigation and monitoring report for the planting of native revegetation in the impact areas should be required, consistent with the 404 Guidelines.


FA6-17 *Recommendation:*
For permanent impacts to wetlands, DEIS states a 10-foot wide maintained corridor would result in the permanent conversion of wetlands, but North Baja does not anticipate annual vegetation maintenance in this corridor. Given the potential for future maintenance, North Baja should mitigate for permanent impacts through compensation of acreage and function.

FA6-17 The COE has determined that the North Baja Pipeline Expansion Project would qualify for a nationwide permit under the COE's section 404 permit program because the Project would result in minimal impacts. As such, the Project would be exempt from a compensatory mitigation requirement. Should the COE later determine that an individual section 404 permit is necessary, it may require additional mitigation measures, which could potentially include compensatory mitigation.

Comments on the Draft EIS/EIR and Responses

NATIVE AMERICAN TRIBES

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QUECHAN INDIAN TRIBE

Ft. Yuma Indian Reservation

P.O. Box 1899
Yuma, Arizona 85366-1899
Phone (760) 572-0213
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November 20, 2006

Federal Energy Regulatory Commission
Ms. Magalie R. Salas, Secretary
888 First St. NE, Room 1A
Washington, DC 20426

Dear Ms. Salas,

Thank you for notifying us of the proposed North Baja Pipeline, docket nos. CP06-61-000 and CP01-23-000.

We have reviewed the DEIS/EIR sent to us and have determined that there will be impacts on cultural resources affiliated with the Quechan Indian Tribe. The following statements from the DEIS/EIR were of great concern to both my office and the Quechan Cultural Committee:

NA1-1

1. Statement from DEIS/EIR(pg ES-16): "North Baja has no plans to maintain a permanent road on the right-of-way for operation and maintenance of the pipeline facilities. However, North Baja would maintain access to all portions of the permanent right-of-way by four-wheel drive vehicles in order to conduct emergency and periodic maintenance"

a. Comment: This is of concern because the 4WD vehicles may not be used on established routes and may impact even more resources in the area. The Tribe has worked with BLM in other projects where contractors wanted to make their own paths through the desert in order to access their project areas and they have been required to use only paved roads. If unable to adhere to this, extensive surveys need to be done for access roads and those should be marked so that workers do not go outside of them.

NA1-2

2. Statement from DEIS/EIR(pg ES-18-19): "North Baja provided its Unanticipated Discovery Plan..... The plan includes contact procedures for the FERC, the SHPOs, the BLM, the BOR, and Native American tribes, as appropriate. The plan provides for the protection in place of any unanticipated discoveries until appropriate evaluation and consultation have occurred. In the event that the discovery is determined to be of NRHP significance, a treatment plan would be developed...."

a. Comment: The Quechan Tribe would like to ensure that we are contacted if any discovery is made. Often the tribe is consulted only if a burial is discovered. However, given the location of the project area, and the

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Native American Tribes

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NA1-1

North Baja personnel would gain access to the pipeline only along the permanent right-of-way via public roads. No new permanent access roads would be constructed or used perpendicular to the permanent right-of-way.

NA1-2

North Baja's Unanticipated Discovery Plan includes provisions to contact Native American tribes in the event that prehistoric cultural materials or human remains are encountered during construction.

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Native American Tribes

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- NA1-2 (cont'd) significance of the area to the Tribe, we should be contacted in addition to SHPO not after someone makes a determination of eligibility. The Tribe should have a chance to talk about the cultural resources prior to the determination being made and once it is made, we should have a say in the treatment plan.
- NA1-3 3. Statement from DEIS/EIR(pg ES-19): "Once cultural resources surveys and evaluations are complete, the FERC, in consultation with the SHPOs, the BLM, the BOR and the FWS, Cibola NER, as applicable, would make determinations of eligibility and Project effects.... Once a treatment plan is approved, a MOA would be executed by the appropriate parties."
- a. Comment: Again, where is the consultation with the Tribe? The area in which the project is taking place is traditional territory to the Tribe and contains two Traditional Cultural Places that are linked by trails and other cultural resources. It is even acknowledged in the Cultural Resources Overview and Survey Report that "the project is for the most part in Quechan territory." The Tribe should be involved in every step of this process including the drafting of the treatment plan and being a party to the MOA.
- NA1-4 4. Statement from DEIS/EIR(pg 1-22): "The Yuma District is currently in the process of revising its plan and its considering a proposal that would reroute the designated utility corridor to follow SR 78 through the Milpitas Wash SMA."
- a. Comment: There are several sites affiliated with the Tribe in this area and we have recently become a cooperating partner with the BLM-Yuma Field Office in hopes of protecting those resources. Has the proposed reroute been surveyed? Where are those results?
- NA1-5 5. Statement from DEIS/EIR(pg 2-23): "Blasting to excavate the trench for the B-Line is not anticipated to widespread...."
- a. Comment: How would this affect cultural resources in the area? How large is the blast? What is the range of the blast?
- NA1-6 6. Statement from DEIS/EIR(pg 4-193): "Mitigation may include, but not be limited to, one or more of the following measures.... (2) data recovery, which may include the systematic professional excavation of an archaeological site..."
- a. Comment: It is unclear where the artifacts already collected are being stored and where the artifacts that may be collected during the course of this project will be stored. The Tribe would like to make arrangements to have all cultural resources within the Tribe's traditional territory returned to their museum once it is up to Federal standards. Is it possible to have the artifacts temporarily stored, not accessioned, in a location where the Tribe would be able to retrieve them in the immediate future?

- NA1-3 The Executive Summary and Section 4.11.6 have been revised to include Native American tribes, as applicable, in the list of consulting parties. North Baja's consultation efforts with Native American tribes are discussed in Section 4.11.5, which has been revised to include consultations and meetings with Native American tribes that occurred after the issuance of the draft EIS/EIR. As discussed in Section 4.11.5 and shown in Table 4.11.5-1, North Baja has consulted with the Quechan Indian Tribe on numerous occasions.
- NA1-4 The revision to the Yuma Field Office Draft Resource Management Plan is a separate action from the proposed North Baja Pipeline Expansion Project. On December 15, 2006, the EPA published a *Notice of Availability of Yuma Field Office Draft Resource Management Plan and Draft Environmental Impact Statement* (DRMP/Draft EIS) in the Federal Register. The DRMP/Draft EIS is available for viewing on the Internet at <http://www.blm.gov/az/LUP/planning.htm> or at the Yuma Field Office. The DRMP/Draft EIS includes strategies for protecting and preserving the cultural values that balance multiple uses of the BLM-managed lands throughout the Yuma Field Office Planning area and was prepared in collaboration with tribal, State, and local governments. As stated in the DRMP/Draft EIS, the management of cultural resources on BLM land must be in compliance with several Federal laws, including the Antiquities Act of 1906; the National Historic Preservation Act; NEPA; Executive Order 11593 "Protection and Enhancement of the Cultural Environment;" the Federal Land Policy Management Act of 1976; the American Indian Religious Freedom Act of 1978; the Archaeological Resource Protection Act of 1979; the Native American Graves Protection and Repatriation Act of 1990; Executive Order 13007 "Indian Sacred Sites;" Executive Order 13175 "Consultation and Coordination with Indian Tribal Governments;" and Executive Order 13287 "Preserve America." In addition, the Yuma Field Office manages its cultural resources according to the BLM Manual 8100 Series and Arizona BLM Handbooks H-8110 "Guidelines for Identifying Cultural Resources" and H-8120 "Guidelines for Protecting Cultural Resources." After the comment period on the DRMP/Draft EIS closes, and all public comments received during the comment period are reviewed and considered, a Proposed Resource Management Plan and Final EIS will be prepared by the BLM. The Quechan Indian Tribe is encouraged to continue to collaborate with the BLM and provide written comments on the DRMP/Draft EIS.
- NA1-5 As discussed in Section 4.1.2, blasting is only anticipated to be necessary along the B-Line near milepost (MP) 29.5 because that was the only area requiring blasting during construction of the A-Line. The area surrounding MP 29.5 is uninhabited desert, with no nearby residences or other

Native American Tribes

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- NA1-5
(cont'd)

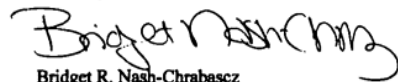
development. However, cultural resources features are nearby. Section 4.1.2 has been revised to state that the range of the blast would be limited to the trenchline. Blasting mats would be employed to keep fly-rock from leaving the construction work area. All blasting activities would be conducted in strict compliance with North Baja's Blasting Specifications (see Appendix I). Blasting procedures would be in accordance with Federal, State, and local regulations regarding use, storage, and transport of explosives; safety; and environmental protection.
- NA1-6

Under California law, property owners have ownership rights over artifacts that are discovered on private land. North Baja would consult with private landowners to determine whether the landowner wishes to retain ownership of any recovered artifacts or waive ownership in order to curate materials at an appropriate facility. On Federal land, the responsible land management agency would determine the appropriate curatorial facility.

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If you need any further information or have any questions, please contact me at (760)
572-2423.

Sincerely,



Bridget R. Nash-Chrabascz
Historic Preservation Officer

Native American Tribes

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Comments on the Draft EIS/EIR and Responses

STATE AGENCIES

State Agencies

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OCT-05-2006 THU 10:55 AM CA STATE LANDS COMM DEPT FAX NO. 916 574 1885 P. 02/02

STATE OF CALIFORNIA - BUSINESS LOCATION AND ADDRESS AGENCY ARNOLD SCHWARZKOPF, Governor

DEPARTMENT OF TRANSPORTATION

District 11
Planning Division
4050 Taylor Street, MS 240
San Diego, CA 92110
PHONE (619) 688-6954
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11-SD-78
PM Various
North Baja Expansion Project

September 28, 2006

Mr. Thomas Filler
California State Lands Commission
100 Howe Avenue Suite 100-South
Sacramento, Ca 95825

Dear Mr. Filler:

The California Department of Transportation (Caltrans) appreciates the opportunity to review the Draft Environmental Impact Report (DEIR) for the proposed North Baja Expansion Project located near State Route 78 (SR-78). Caltrans has the following comments:

SA1-1

Any work performed within Caltrans Right of Way (R/W) will require an encroachment permit. Improvement plans for construction within Caltrans R/W must include: typical cross sections, adequate structural sections, traffic handling plans, and signing and striping plans stamped by a professional engineer. Furthermore, the applicant's environmental document must include such work in their project description and indicate that an encroachment permit will be needed. As part of the encroachment permit process, the developer must provide appropriate environmental (CEQA) approval for potential environmental impacts to Caltrans R/W. The developer is responsible for quantifying the environmental impacts of the improvements (project level analysis) and completing all appropriate mitigation measures for the impacts. The indirect effects of any mitigation within Caltrans R/W must also be addressed. The developer will also be responsible for procuring any necessary permits or approvals from the regulatory and resource agencies for the improvements. Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158. Early coordination with Caltrans is strongly advised for all encroachment permits.

If you have any questions, please contact Patricia Marruf, Development Review Branch, at 619-688-6968.

Sincerely,

Mario H. Orso
MARIO H. ORSO, Chief
Development Review Branch

"Caltrans improves mobility across California"

SA1-1

Table 1.6-1 indicates that an encroachment permit from the California Department of Transportation (CalTrans) would be necessary for North Baja to cross or bore under State highways or be within a State highway right-of-way. It would be North Baja's responsibility to submit the appropriate materials to CalTrans to facilitate processing of an encroachment permit application. North Baja would also be responsible for procuring any additional necessary permits or approvals from the regulatory and resource agencies.

OCT-27-2006 FRI 04:28 PM CA STATE LANDS COMM DEPM

FAX NO. 916 574 1885

P. 02



California Regional Water Quality Control Board Colorado River Basin Region



Linda S. Adams
Secretary for
Environmental Protection

73-720 Fred Waring Drive, Suite 100, Palm Desert, California 92260
(760) 346-7491 • Fax (760) 341-6820
<http://www.waterboards.ca.gov/coloradriver>

Arnold Schwarzenegger
Governor

October 24, 2006

Thomas Filler
California State Lands Commission
100 Howe Ave, Suite 100-South
Sacramento, CA 95825

RE: RESPONSE TO DRAFT EIR FOR NORTH BAJA EXPANSION PROJECT

The Regional Board reviews the submitted CEQA documents generated by lead agencies and provides comments regarding overall adequacy of the document, water quality impacts that need to be addressed or are inadequately addressed, and the need for permits, certification, or mitigation from the Regional Board.

The following comments are in response to the submitted Draft EIR For North Baja Expansion Project" Dated September 22, 2006.

The following permits may be needed:

A. CONSTRUCTION ACTIVITIES (STORM WATER AND 401 WATER QUALITY CERTIFICATION)

- | | |
|-------|---|
| SA2-1 | 1. <u>Construction General Permit 99-08-DWQ</u> . Dischargers whose projects disturb 1 or more acres of soil or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity. |
| SA2-2 | 2. <u>Small Linear Underground/Overhead Projects Order 2003-0007-DWQ</u> . Small linear underground/overhead projects disturbing at least 1 acre but less than 5 acres (including trenching and staging areas) must be covered by the Statewide General Permit for Storm Water Discharges Associated with Construction Activity from Small Linear Underground/Overhead Projects. |
| SA2-3 | 3. <u>401 Water Quality Certification</u> . Before anyone can obtain a federal permit for any activity that may result in a discharge to a surface water of the United States, they must obtain certification from the appropriate state pursuant to Section 401 of the Clean Water Act. Section 401 provides the states with a |

State Agencies

2

- | | |
|-------|--|
| SA2-1 | In an e-mail dated November 29, 2006, the California Regional Water Quality Control Board, Colorado River Basin Region (CRWQCB) confirmed that the Storm Water Construction Permit requirements are no longer applicable to the proposed Project as long as the best management practices (BMPs) for oil and gas field activities and operations are used to minimize the discharge of pollutants in storm water runoff and protect water quality (Mirpour 2006). North Baja's BMPs are included in its CM&R Plan that is in Appendix E of the EIS/EIR. Table 1.6-1 has been revised to delete the reference to the Storm Water Construction Permit. |
| SA2-2 | See the response to comment SA2-1. |
| SA2-3 | Table 1.6-1 indicates that a section 401 Water Quality Certification from the CRWQCB would be necessary to allow activities related to dredge and fill materials. It would be North Baja's responsibility to submit the appropriate materials to the CRWQCB to facilitate processing of a section 401 Water Quality Certification application. In addition, North Baja would also be responsible for addressing and complying with all measures that may be stipulated in the section 401 Water Quality Certification. |

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FAX NO. 916 574 1885

P. 03

Thomas Filler

-2-

October 24, 2006

SA2-3
(cont'd)

mechanism to ensure that federally-permitted activities meet state requirements to protect water quality. Applications for water quality certification for this project need to be filed with this Regional Board.

B. DISCHARGE PERMITS (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT AND WASTE DISCHARGE REQUIREMENTS)

SA2-4

1. NPDES Permits. In the event that a National Pollutant Discharge and Elimination System (NPDES) permit is needed for a discharge to waters of the United States (US), you will need to submit a complete NPDES application at least 180 days prior to discharge to waters of the US.

SA2-5

2. Waste Discharge Requirements. In the event that Waste Discharge Requirements (WDRs) is needed for discharges of waste to waters of the state, you will need to submit a complete application at least 140 prior to discharge to waters of the state.

If you have any questions concerning these comments, please contact me at (760) 776-8945.


Liann Chavez
Senior Engineering Geologist

LC/ti

File: ER RIV ED

State Agencies

SA2-4

Table 1.6-1 indicates that a National Pollutant Discharge Elimination System (NPDES) permit from the CRWQCB would be necessary for the discharge of hydrostatic test water. It would be North Baja's responsibility to submit the appropriate materials to the CRWQCB to facilitate processing of an NPDES permit application and to comply with all measures stipulated in the permit. It is noted that the NPDES permit application should be submitted to the CRWQCB 180 days in advance of discharge to waters of the United States.

SA2-5

If a Waste Discharge Requirements (WDRs) permit from the CRWQCB is necessary, it would be North Baja's responsibility to submit the appropriate materials to the CRWQCB to facilitate processing of a WDRs permit application and to comply with all measures stipulated in the permit. It is noted that the WDRs permit application should be submitted to the CRWQCB 140 days in advance of discharge to waters of the United States.

6-53

2006 OCT 26 PM 12:05
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OCT-27-2006 FRI 04:29 PM CA STATE LANDS COMM DEPM FAX NO. 916 574 1885 P. 04

COLORADO RIVER BOARD OF CALIFORNIA770 FAIRMONT AVENUE, SUITE 100
GLENDALE, CA 91203-1068
(818) 500-1625
(818) 543-4685 FAX

October 24, 2006

Mr. Scott Morgan
Senior Planner
State Clearinghouse and Planning Unit
1400 Tenth Street
P.O. Box 3044
Sacramento, CA 95812-3044Regarding: SCH # 2006 081 127: Notice of Preparation of the Draft Environmental Impact
Report (EIR) for the North Baja Pipeline Expansion Project

Dear Mr. Morgan:

SA3-1

The Colorado River Board of California (CRB) has received and reviewed a copy of Notice of
Preparation of the Draft Environmental Impact Report (EIR) for the North Baja Pipeline Expansion
Project.CRB technical staff have reviewed the documents and have made the determination that the CRB
has no comments at this time regarding the proposed project as described. If you have any questions,
please contact me at (818) 500-1625.

Sincerely,

Gerald R. Zimmerman
Executive Director

cc: Tom Filler, California State Lands Commission

State Agencies

2

SA3-1

The Colorado River Board of California's comments that it has reviewed the
draft EIS/EIR and has no comments are noted.

State Agencies

2

OCT-2006 FRI 04:29 PM CA STATE LANDS COMM DEPT FAX NO. 916 574 7885 P. 05

NOP Distribution List

Resources Agency

■ Resources Agency
Nadell Geyou
Dept. of Boating & Waterways
David Johnson

■ California Coastal Commission
Elizabeth A. Fudes
Colorado River Board
Gerard R. Zimmerman

■ Dept. of Conservation
Roseanna Taylor
California Energy Commission
Paul Richtis

■ Dept. of Forestry & Fire Protection
Allen Robertson

■ Office of Historic Preservation
Wayne Donaldson

■ Dept. of Parks & Recreation
Emotional Stewardship Section
Deborah Jones

■ S.F. Bay Conservation & Development Comm.
Steve McDerm
Dept. of Water Resources
Residential Agency
Nadell Geyou

■ Fish and Game
Depart. of Fish & Game
Scott Frint
Environmental Services Division
Donald Koch
Fish & Game Region 1
Fish & Game Region 2
Bentley Curtis

County: Riverside, Imperial

■ Fish & Game Region 3
Robert Riecke

■ Fish & Game Region 4
Julie Vance

■ Fish & Game Region 5
Don Clarkick
Habitat Conservation Program

■ Fish & Game Region 6
Gabriel Guebel
Habitat Conservation Program

■ Fish & Game Region 6 IM
Tanny Allen
Hoydon, Habitat Conservation Program

■ Dept. of Fish & Game M
George Isaac
Marine Region

Other Departments

■ Food & Agriculture
Steve Sharfer
Dept. of Food and Agriculture

■ Dept. of General Services
Public School Construction

■ Dept. of General Services
Environmental Services Section
Robert Stepp
Veronica Hally
Dept. of Health Services
Dept. of Health/Drinking Water

Independent Commissions/Boards

■ Delta Protection Commission
Deby Eddy

■ Office of Emergency Services
Dennis Castillo

■ Governor's Office of Planning & Research
State Cleanhouse
Native American Heritage Comm.
Debbie Traudway

■ Public Utilities Commission
Ken Lewis

■ State Lands Commission
Jean Sarric

■ Tahoe Regional Planning Agency (TRPA)
Cherry Jacques

Business, Trans & Housing

■ Caltrans - Division of Highway Planning
Sandy Hearnard

■ Caltrans - Planning
Terri Peracovic

■ California Highway Patrol
Shirley Kelly
Office of Special Projects

■ Housing & Community Development
Lisa Nichols
Housing Policy Division

■ Caltrans, District 8
Dan Kopinsky

■ Caltrans, District 9
Gayle Roemer

■ Caltrans, District 10
Tom Durus

■ Caltrans, District 11
Mario Oiso

■ Caltrans, District 12
Bob Joseph

Cal EPA

■ Air Resources Board
Airport Projects
Jim Lerner

■ Transportation Projects
Ray Ramalingam

■ Industrial Projects
Mike Tolstrup

■ California Integrated Waste Management Board
Sue Olasay

■ State Water Resources Control Board
Jim Hockensbury
Division of Financial Assistance

■ State Water Resources Control Board
Regional Item 407 Water Quality Certification Unit
Division of Water Quality

■ State Water Resources Control Board
Steven Herrera
Division of Water Rights

■ Dept. of Toxic Substances Control
CEQA Trading Center

■ Department of Pesticide Regulation

Regional Water Quality Board (RWQCB)

■ RWQCB 1
Cathleen Hudson
North Coast Region (1)

■ RWQCB 2
Environmental Document Coordinator
San Francisco Bay Region (2)

■ RWQCB 3
Central Coast Region (3)

■ RWQCB 4
Teresa Rodgers
Los Angeles Region (4)

■ RWQCB 5
Central Valley Region (5)

■ RWQCB 5F
Central Valley Region (5)
Fresno Branch Office

■ RWQCB 5R
Central Valley Region (5)
Reading Branch Office

■ RWQCB 6
Lahontan Region (6)

■ RWQCB 6V
Lahontan Branch Office

■ RWQCB 7
Colorado River Basin Region (7)

■ RWQCB 8
Santa Ana Region (8)

■ RWQCB 9
San Diego Region (9)

■ Other

NO Comments!

Last Updated on 04/23/05

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STATE OF CALIFORNIA - THE RESOURCES AGENCY
COLORADO RIVER BOARD OF CALIFORNIA
770 FAIRMONT AVENUE, SUITE 100
GLENDALE, CA 91203-1088
(818) 500-1625
(818) 543-4866 FAX

Arnold Schwarzenegger, Governor

October 24, 2006

Mr. Scott Morgan
Senior Planner
State Clearinghouse and Planning Unit
1400 Tenth Street
P.O. Box 3044
Sacramento, CA 95812-3044

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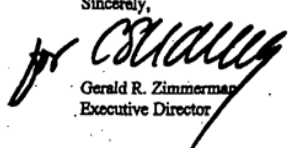
Regarding: SCH # 2006 081 127: Notice of Preparation of the Draft Environmental Impact Report (EIR) for the North Baja Pipeline Expansion Project

Dear Mr. Morgan:

The Colorado River Board of California (CRB) has received and reviewed a copy of Notice of Preparation of the Draft Environmental Impact Report (EIR) for the North Baja Pipeline Expansion Project.

CRB technical staff have reviewed the documents and have made the determination that the CRB has no comments at this time regarding the proposed project as described. If you have any questions, please contact me at (818) 500-1625.

Sincerely,


Gerald R. Zimmerman
Executive Director

cc: Tom Filler, California State Lands Commission

State Agencies

3

State Agencies



State of California - The Resources Agency

ARNOLD SCHWARZENEGGER, Governor

DEPARTMENT OF FISH AND GAME

<http://www.dfg.ca.gov>

Eastern Sierra-Inland Deserts Region

P.O. Box 2160

Blythe, California 92226

Phone (760) 921-2974

Fax (760) 922-5638

ORIGINAL

FILED
OFFICE OF THE
SECRETARY

December 21, 2006

2006 DEC 28 P 3:16
2006 DEC 28John Cassady
1400 SW Fifth Avenue, Suite 900
Portland, OR 97201

CP04-61-000

Re: Draft Environmental Impact Report for North Baja Pipeline Expansion Project
(SCH No. 2006081127)

Dear Mr. Cassady:

The California Department of Fish and Game (Department) has reviewed the Draft Environmental Impact Report (DEIR), and provides comments on biological resources that may be affected by the implementation of the activities proposed as part of the North Baja Expansion Project ("Proposed Project"). The Proposed Project includes four elements: the B-Line, which includes a metering station and interconnection facilities in Ehrenhberg, Arizona and Blythe, California, as well as an 80-mile, 42-and 48-inch diameter pipeline between Blythe and the Mexican border; the Blythe Energy Interconnection lateral (BEI Lateral), a 0.6-mile, 10-inch diameter pipeline that connects the Blythe Meter Station to the existing supply pipeline for the Blythe Energy Facility I; the 0.1-mile, 36-inch diameter SoCal Gas Interconnection Pipeline; and the Imperial Irrigation District Lateral (IID Lateral), a 46-mile, 16-inch diameter pipeline between the B-Line and IID's EI Central Generating Station.

The Department has jurisdiction over the conservation, protection and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Fish and Game Code Section 1802). The Department is responding as a Trustee Agency under the California Environmental Quality Act (CEQA) Guidelines, responsible for ensuring that fish and wildlife resources of the State are addressed pursuant to CEQA (Cal. Code of Regs., tit. 14, § 15386), and as a Responsible Agency regarding discretionary approval power over the project (CEQA Guidelines Section 15381), including issuance of a Lake or Streambed Alteration Agreement ("SAA") and an Incidental Take Permit, pursuant to the California Endangered Species Act (CESA). In those capacities, the Department will provide these comments:

SA4-1

The project will require a Lake or Streambed Alteration Agreement, pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant prior to the applicant's commencement of the project. Fish and Game Code section 1600 et seq. require project applicants to notify the Department prior to any activity that will divert, obstruct or

SA4-1

It is noted that the Project would require a Lake or Streambed Alteration Agreement pursuant to section 1600 et seq. of the California Fish and Game Code. It would be North Baja's responsibility to submit the appropriate materials to the California Department of Fish and Game (CDFG) to facilitate processing of a section 1600 permit application and for complying with the conditions stipulated in the permit.

Conserving California's Wildlife Since 1870

State Agencies

4


SA4-1
(cont'd) | change the natural flow or the bed, channel, or bank (which includes associated wetland/riparian resources) of a river, stream or lake, or use material from a streambed. Streams include, but are not limited to, intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams, and watercourses with subsurface flow. As it pertains to this project, the Department has direct authority under Fish and Game Code 1600 et seq. for those areas designated as wetlands, as well as all intermittent and ephemeral drainages/depressions, desert washes, and blue-line streams occurring within all areas affected directly or indirectly by any and all components of the project. As such, the project applicant will be required to comply with Fish and Game Code section 1600 et seq.

SA4-2 | A California Endangered Species Act (CESA) Permit should be obtained, if the project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the project. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to the proposed project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document for the issuance of a CESA permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA permit. For these reasons, the following information is requested to be included in the CESA application:

- a. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.
- b. A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act.

The Department appreciates the opportunity to comment on the DEIR, and looks forward to working with your staff to ensure that our concerns are considered and addressed as part of the CEQA process. If you have any questions regarding this letter please contact me at (760) 921-2974.

Sincerely,


Canh Nguyen
Environmental Scientist

Copy: -State Clearinghouse
-FERC
-CSLC

SA4-2 | It is noted that the Project should obtain a California Endangered Species Act (CESA) permit. The EIS/EIR adequately addresses Project impacts on listed species and specifies a mitigation monitoring and reporting program that would meet the requirements of a CESA permit. It would be North Baja's responsibility to submit the appropriate materials to the CDFG to facilitate processing of a CESA permit application and for complying with the conditions stipulated in the permit.

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Arnold Schwarzenegger
Governor

November 7, 2006

Thomas Filler
California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

Subject: North Baja Expansion Project
SCH#: 2006081127

Dear Thomas Filler:

SA5-1

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on November 6, 2006, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(e) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts
Director, State Clearinghouse

Enclosure

cc: Resource Agency

1400 TWENTH STREET P.O. BOX 8044 SACRAMENTO, CALIFORNIA 95813-8044
TEL (916) 445-0613 FAX (916) 833-8018 www.cpr.ca.gov

State Agencies

5

SA5-1

The State Clearinghouse's comments that the Agency Staffs have complied with its review requirements for draft environmental documents pursuant to the CEQA are noted.

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**Document Details Report
State Clearinghouse Data Base**

SCH# 2006081127
Project Title North Beja Expansion Project
Lead Agency California State Lands Commission

Type EIR Draft EIR
Description Construction of up to 80 miles of buried 36" or 42" natural gas pipeline with associated facilities adjacent to existing 30" and 36" natural gas pipeline, construction of 48 miles of 16" lateral natural gas pipeline with associated facilities from main line to IID El Centro Generating Station, and construction of Blythe Energy Interconnect Lateral Facilities.

Lead Agency Contact

Name Thomas Filler
Agency California State Lands Commission
Phone (916) 574-1938
email
Address 100 Howe Avenue, Suite 100-South
City Sacramento **State** CA **Zip** 95825-8202

Project Location

County Riverside, Imperial
City Blythe, El Centro
Region
Cross Streets Numerous
Parcel No. Numerous
Township **Range** **Section** **Base**

Proximity to:

Highways 78
Airports
Railways
Waterways Colorado River
Schools
Land Use Numerous

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeology-Historic; Biological Resources; Cumulative Effects; Drainage/Absorption; Economics/Job; Flood Plain/Flooding; Geologic/Seismic; Growth Inducing; Land Use; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian

Reviewing Agencies Resources Agency; Regional Water Quality Control Board, Region 7; Department of Parks and Recreation; Native American Heritage Commission; Integrated Waste Management Board; Public Utilities Commission; Office of Historic Preservation; Department of Fish and Game, Region 6; Department of Conservation; Colorado River Board; Caltrans, District 11; Caltrans, District 6; Air Resources Board, Major Industrial Projects; California Energy Commission; Office of Emergency Services

Date Received 09/22/2006 **Start of Review** 09/22/2006 **End of Review** 11/08/2006

Note: Blanks in data fields result from insufficient information provided by lead agency.

State Agencies

5

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STATE OF CALIFORNIA - THE RESOURCES AGENCY
COLORADO RIVER BOARD OF CALIFORNIA
 770 FAIRMONT AVENUE, SUITE 100
 GLENDALE, CA 91203-1088
 (818) 500-1625
 (818) 543-4865 FAX

Arnold Schwarzenegger, Governor

October 24, 2006

Mr. Scott Morgan
 Senior Planner
 State Clearinghouse and Planning Unit
 1400 Tenth Street
 P.O. Box 3044
 Sacramento, CA 95812-3044

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ORIGINAL

Regarding: SCH # 2006 081 127: Notice of Preparation of the Draft Environmental Impact Report (EIR) for the North Baja Pipeline Expansion Project

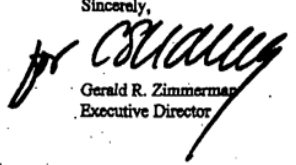
Dear Mr. Morgan:

SA5-2

The Colorado River Board of California (CRB) has received and reviewed a copy of Notice of Preparation of the Draft Environmental Impact Report (EIR) for the North Baja Pipeline Expansion Project.

CRB technical staff have reviewed the documents and have made the determination that the CRB has no comments at this time regarding the proposed project as described. If you have any questions, please contact me at (818) 500-1625.

Sincerely,


 Gerald R. Zimmerman
 Executive Director

cc: Tom Filler, California State Lands Commission

State Agencies

5

SA5-2

The comments of the Colorado River Board of California were also submitted directly to the FERC (see comment letter SA3). See the response to comment SA3-1.

ORIGINAL



Janet Napolitano
Governor

ARIZONA DEPARTMENT
OF
ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov



Stephen A. Owens
Director

December 27, 2006

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE; Room 1A
Washington, DC 20426

RE: North Baja Pipeline Expansion Project—FERC Docket Nos. CP01-23-001 & CP06-61-000; CSLC EIR No. 739; State Clearinghouse No. 2006081127; BLM Reference No. CACA-42662

Dear Ms. Salas:

SA6-1 The ADEQ Air Quality Division has reviewed the project and comments submitted by Imperial Valley Air Pollution Control District. Considering that Yuma has ozone concentrations approaching the NAAQS, we agree with comments of and suggested mitigations proposed by Imperial County with respect to use of "hot gas."

Should you have further questions, please do not hesitate to call me at (602) 771-2365 or Dave Biddle of the Air Quality Planning Staff at (602) 771-2376.

Very truly yours,

Ira M. Domsky, Deputy Director
ADEQ Air Quality Division

Cc: Gas 1, DG2E
Tom Filler, California State Lands Commission
Stephan L. Birdsall, Imperial County Air Pollution Control District
Edward M. Ranger, EV Administrative Counsel
David Biddle, Environmental Program Specialist, Air Planning
File No. 145372

Northern Regional Office
1801 W. Route 66 • Suite 117 • Flagstaff, AZ
86001
(928) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ
85701
(520) 628-6733

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State Agencies

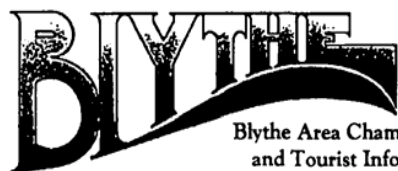
6

SA6-1 The Arizona Department of Environmental Quality's comments agreeing with the comments and suggested mitigation measures proposed by the ICAPCD in its comments (see comment letter LA8) are noted. See the responses to comments LA8-1 to LA8-9.

Comments on the Draft EIS/EIR and Responses

LOCAL AGENCIES

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ORIGINAL

201 South Broadway
Blythe, California 92225
USAPhone (760) 922-8166
Fax (760) 922-4010

October 20, 2006

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St., NE, Room 1-A
Washington, DC 20426

Re: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas:

LA1-1

The Blythe Area Chamber of Commerce wants to voice its support for the proposed North Baja Pipeline Expansion Project.

We believe that this project will benefit all of Southern California, including the Blythe area because it will:

1. Provide a new supply of natural gas from LNG that can replace the declining supplies from basins in the southwest that have provided gas to Southern California in the past,
2. Provide a downward pressure on gas costs as LNG suppliers compete with domestic gas producers, and
3. Provide improved reliability to the region by providing a new gas source and a new path to transport it to the region.

A portion of this expansion project will be built in Riverside County, on the eastern edge and south of the City of Blythe. North Baja Pipeline built the original pipeline in the same area, and did a good job during that construction making sure construction had minimal impact on the local population. We expect that they will do the same thing when they construct the expansion project.

Please register our support for this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Shipley".
Jim Shipley
Chief Operating Officer

Local Agencies

1

LA1-1

The Blythe Area Chamber of Commerce and Tourist Information Center's comments expressing support for the proposed Project are noted.

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CALEXICO CHAMBER OF COMMERCE
1100 IMPERIAL AVE. P.O. BOX 948
CALEXICO, CA 92231
"Home of the Mariachi Festival Sin Fronteras"

ORIGINAL

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SECRETARY
2006 NOV 21 P 4:24
FEDERAL ENERGY REGULATORY COMMISSION

November 1, 2006

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

RE: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas:

LA2-1

The Calexico Chamber of Commerce wants to indicate its support for the proposed North Baja Pipeline Expansion Project.

Our Executive Committee has met with the project personnel, and has had the opportunity to review the Draft Environmental Impact Statement/Environmental Impact Report that was issued last month.

We believe that this project will be good for the Imperial Valley because it will:

1. Provide a new supply of natural gas from LNG that is able to supplement the declining supplies of natural gas that have historically provided gas to Southern California,
2. Help to hold down the cost of natural gas as the LNG suppliers compete with traditional natural gas suppliers,
3. Improved reliability to Southern California because of the different route and source of supply to get gas from producers to Southern California, and
4. Add significant additional property tax revenue to Imperial County with little or no need for services from the county.

We also believe that the pipeline lateral from North Baja Pipeline system to El Centro will be good for Imperial County because it will:

1. Improve the reliability of the Imperial Irrigation District's El Centro Generating Station by providing a different pipeline route and source of supply to the plant,
2. Help IID hold down electric rates by providing access to LNG sourced natural gas that is likely to be less expensive than gas from traditional sources, and

TEL: (760) 357-1166 * FAX (760) 357-9043 * www.calexicochamber.org

Local Agencies

2

LA2-1 The Calexico Chamber of Commerce's comments expressing support for the proposed Project are noted.

Unofficial FERC-Generated PDF of 20061124-0076 Received by FERC OSEC 11/21/2006 in Docket#: CP06-61-000

LA2-1
(cont'd)

3. Provide increased pipeline capacity to Imperial County that will allow further business development to provide new jobs for an area that currently and historically has a high unemployment rate.

Calxico is located right on the US/Mexico border, directly across from Mexicali. We are the area in Imperial County most directly impacted by air pollution coming in to the US from Mexico. We note with pleasure that the Draft Environmental Impact Statement/Environmental Impact Report indicates that the compressor stations that will have to be constructed in Mexico to move gas to the North Baja Pipeline are not expected to have any significant impact on ambient air quality at locations near or across the US/Mexico border.

Please include this letter of support as a portion of the official record for this proposed project.

Sincerely,




Hildy Carrillo-Rivera
Executive Director
Calxico Chamber of Commerce

Cc: Board of Directors
Calxico Chamber of Commerce

Local Agencies

2

Unofficial FERC-Generated PDF of 20061127-0023 Received by FERC OSEC 11/21/2006 in Docket#: CP06-61-000



El Centro
Chamber of Commerce
& VISITORS BUREAU

ORIGINAL

FILED
OFFICE OF THE
SECRETARY
2006 NOV 21 P 4:34
FEDERAL ENERGY
REGULATORY COMMISSION

1095 South 4th Street
Post Office Box 3006
El Centro, CA 92244 - 3006
(760) 352-3681
Fax (760) 352-3246

November 7, 2006

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE: Room 1A
Washington, DC 20426

Re: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas:

LA3-1 The El Centro Chamber of Commerce & Visitors Bureau wishes to indicate its support for the proposed North Baja Pipeline Expansion Project.

We have had the opportunity to review the Draft Environmental Impact Statement/ Environmental Impact Report that was issued last month, and we believe this project will be good for Southern California, including the Imperial Valley, because it will do several things:

- First, it will provide a new source of natural gas from LNG that can supplement the declining supplies of natural gas that have historically provided gas to Southern California.
- Second, it should hold down the cost of natural gas as the LNG suppliers compete with traditional natural gas suppliers.
- Third, it will improve reliability of gas supply to Southern California because of the different route and source of supply to get gas from the LNG terminal to Southern California.
- Finally, it will add significant additional property tax revenue to Imperial County with little or no need for services from the county.

We also believe that the pipeline lateral from the North Baja Pipeline system to El Centro will be good for Imperial County because it will:

- Improve the reliability of gas supply to the Imperial Irrigation District's El Centro Generating Station by providing a different pipeline route and source of supply to the plant,
- Help IID hold down electric rates by providing access to LNG sourced natural gas that is likely to be less expensive than gas from traditional sources, and

"Where the Sun Spends the Winter"®
www.elcentrochamber.com

Local Agencies

3

LA3-1 The El Centro Chamber of Commerce & Visitors Bureau's comments expressing support for the proposed Project are noted.

99-9

Unofficial FERC-Generated PDF of 20061127-0023 Received by FERC OSEC 11/21/2006 in Docket#: CP06-61-000

LA3-1
(cont'd)

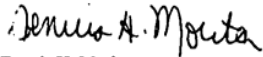
- Provide increased pipeline capacity to Imperial County that will allow further business development to provide new jobs for an area that currently and historically has a high unemployment rate.

El Centro is located approximately 10 miles north of the US/ Mexico border. We are one of the areas in Imperial County that is impacted by air pollution coming into the US from Mexico. We are pleased that the Draft EIS/EIR concludes that the compressor stations that will have to be constructed in Mexico to move gas to the North Baja Pipeline are not expected to have any significant impact on ambient air quality at locations near or across the US/Mexico border.

Finally, The Chamber has developed a policy statement that defines the types of energy infrastructure projects that it will support, or that it will oppose. The North Baja Pipeline Expansion Project meets the criteria necessary for our support.

Please make this letter of support a portion of the official record for this proposed project.

Sincerely,



Dennis H. Morita
President

Local Agencies

3

Unofficial FERC-Generated PDF of 20061127-0067 Received by FERC OSEC 11/24/2006 in Docket#: CP06-61-000



CITY OF BLYTHE

235 North Broadway / Blythe, California 92225
Phone (760) 922-6161 / Fax (760) 922-4938

November 15, 2006

ORIGINAL

2006 NOV 24 A 9 47

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OFFICE OF THE
SECRETARY

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. N.E. Room 1A
Washington, DC 20426

Re: Docket No. CP06-61-000 and CP01-23-000

Dear Ms. Salas:

LA4-1

The City Council of Blythe, California would like to go on record in support of locating the North Baja project pipeline within the public right-of-way in the Palo Verde Valley whenever possible.

The Palo Verde Valley is primarily an agricultural community. A common practice locally is to "deep rip" fields as a part of the farming operation. A steel shank as much as 5 feet deep is pulled by one or two crawler tractors to help reverse compaction of the soil and further enhance crop yields. The unsuspecting tractor operator may not be aware of an impending hazard in his path and pull that shank into the high pressure gas pipe in the middle of a farmer's field. Where necessary, field crossings should align with section or quarter section lines, be adjacent to field roads or canals.

The one-call system can be used by anyone in the State of California to request accurate locates of utilities for those intending to do underground work. Having this pipe in the right-of-way just designs in an extra measure of insurance that the accidental discovery of this facility will be less likely in the street as opposed to a wide-open field and a half asleep tractor driver.

Sincerely,

Robert Crain
Mayor, Blythe

cc: Tom Filler, California State Lands Commission
Gas Group 1, DG2E

Local Agencies

4

LA4-1

The City of Blythe's comments expressing support for the proposed Project are noted. The pipeline has been routed adjacent to or within roadways in agricultural areas where possible to minimize impacts on agricultural areas and reduce the possibility of accidental discovery during "deep ripping" practices.

Unofficial FERC-Generated PDF of 20061212-0060 Received by FERC OSEC 12/08/2006 in Docket#: CP06-61-000

**ORIGINAL****CITY OF HOLTVILLE**

121 WEST FIFTH STREET
CIVIC CENTER • HOLTVILLE, CALIFORNIA 92250-1298 • (760) 356-2912
"THE CARROT CAPITAL OF THE WORLD"

November 28, 2006

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street NE; Room 1A
Washington, DC 20426

RE: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas,

LA5-1 | The City Council of the City of Holtville, California declares our support for the proposed North Baja Pipeline Expansion Project. At our regular City Council meeting held on November 27, 2006 we adopted Resolution 06-47.

Please register our support for this project.

Sincerely,


Jerry M. Brittsan
Mayor

cc: Tom Filler, California State Lands Commission
Gas Group 1, DG2E

Local Agencies

5

LA5-1 The City of Holtville's comments expressing support for the proposed Project are noted.

Unofficial FERC-Generated PDF of 20061212-0060 Received by FERC OSEC 12/08/2006 in Docket#: CP06-61-000

RESOLUTION NO. 06-47

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF HOLTVILLE
SUPPORTING THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT**

Whereas, North Baja Pipeline LLC has proposed a modification to and an expansion of their existing pipeline to allow for the importation of Liquefied Natural Gas (LNG) sourced gas into Southern California, and the construction of a new pipeline lateral from the existing North Baja Pipeline system to the Imperial Irrigation District El Centro Generating Station in El Centro, California; and

Whereas, North Baja Pipeline is currently pursuing permits for this project with the Federal Energy Regulatory Commission and the California State Lands Commission and these permits are being reviewed by these agencies in Dockets CP06-61-000 and CP01-23-003; and

Whereas the Federal Energy Regulatory Commission and the California State Lands Commission and other Cooperating Agencies have recently issued a Draft Environmental Impact Statement/ Draft Environmental Impact Report which has reviewed the potential environmental impacts of this proposed project; and

Whereas Southern California would benefit from this proposed Project by gaining access to a new source of natural gas to replace gas from traditional domestic sources that are projected to decline in the future, by the anticipated moderating impact this new source of gas will have on natural gas prices because of the competition with traditional sources, and by improving reliability of supply to the region because gas will be delivered to California on an entirely new pipeline transportation path; and

Whereas Imperial County and the City of Holtville would benefit from the proposed project by receiving an increase in property taxes from the Project of as much as \$2.5 million per year, by the improved reliability of gas supply to the Imperial Irrigation Districts El Centro Generating Station from the new pipeline lateral, and from the more direct access to the anticipated lower cost LNG sourced gas; and

Whereas the Draft Environmental Impact Statement/ Environmental Impact Report summarizes that "if the project is constructed in accordance with applicable laws and regulations, North Baja's proposed mitigation, and the Agency Staff's additional mitigation recommendations, it would be an environmentally acceptable action;" and

Whereas the City of Holtville is concerned about the potential impact of air quality from the Project, and the Draft Environmental Impact Statement/ Environmental Impact Report indicates that the only direct air quality impact of the proposed Project would be from fugitive dust created during the construction phase and that "With the implementation of North Baja's revised Dust Control plan, fugitive dust from Project construction activities is not expected to result in a violation of Federal or State ambient air quality standards or contribute substantially to an existing or projected air quality violation due to the transient and temporary nature of the construction activities;" and

Whereas, the Draft Environment Impact Statement/ Environmental Impact Report reviewed the potential air quality impacts of the compressor stations that will need to be constructed on the upstream pipeline by Gasoducto Bajanorte and concluded "it is unlikely that emissions from these proposed stations would result in any significant cumulative ambient air quality impacts at receptors in the vicinity of or across the U. S. border" and further, as a result of a Health Risk Assessment conducted as a part of the Draft Environmental Impact Statement/ Environmental Impact Report on the potential impacts of the toxic air pollutants emitted by the existing power plants in Mexicali, and the proposed compressor stations, it was concluded that "the cumulative risks associated with the emissions from the existing power plants and the future compressor stations would be considered less than significant."


Therefore, we, the City Council of the City of Holtville, County of Imperial, California do hereby declare our support for the proposed North Baja Pipeline Expansion Project, and direct the City Manager to file this Resolution in support with the Federal Energy Regulatory Commission and the California State Lands Commission.

Local Agencies


Unofficial FERC-Generated PDF of 20061212-0060 Received by FERC OSEC 12/08/2006 in Docket#: CP06-61-000

APPROVED AND ADOPTED at a regular meeting of the City Council of the City of Holtville, California held on this 27th day of November, 2006.

CITY OF HOLTVILLE

By 
Jerry M. Brittan, Mayor

ATTEST:

By 
Denise Toth, Interim City Clerk

APPROVED AS TO FORM:

By 
Steven Walker, City Attorney

STATE OF CALIFORNIA)
COUNTY OF IMPERIAL) ss
CITY OF HOLTVILLE)


I, Denise Toth, Interim City Clerk of the City of Holtville, California, do hereby certify that the foregoing Resolution No. 06-47 was duly and regularly adopted at a regular meeting of the City Council of the City of Holtville, California, held on the 27th day of November 2006, by the following vote:

AYES: 4

NOES: 0

ABSENT: 1

ABSTAINED: 0

By 
Denise Toth, City Clerk

Local Agencies

5

Unofficial FERC-Generated PDF of 20061215-0249 Received by FERC OSEC 12/13/2006 in Docket#: CP06-61-000



City of YUMA

FILED
OFFICE OF THE
SECRETARY

2006 DEC 13 P 4: 29

FEDERAL ENERGY
REGULATORY COMMISSION

OFFICE OF THE CITY CLERK

One City Plaza
P.O. Box 13012
Yuma, AZ 85366-3012
928-373-5035 (phone)
928-373-5036 (fax)
clerk@ci.yuma.az.us

December 4, 2006

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street NE: Room 1A
Washington, D.C. 20426

Re: Dock Nos. CP06-61-000 and CPO1-23-003

Dear Madam,

LA6-1 | Enclosed please find a certified copy of the fully executed Resolution No. R2006-85,
approved at the Regular City Council Meeting of November 15, 2006.

If you have any questions, do not hesitate to contact our office.

Sincerely,

Tadeo A. Garcia
Administrative Specialist

Enclosure

City of Yuma, Arizona

Local Agencies

6

LA6-1 | The City of Yuma's resolution expressing support for the proposed Project
is noted.

Unofficial FERC-Generated PDF of 20061215-0249 Received by FERC OSEC 12/13/2006 in Docket#: CP06-61-000



City of YUMA

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OFFICE OF THE
SECRETARY

2006 DEC 13 P 4: 29

FEDERAL ENERGY
REGULATORY COMMISSION

OFFICE OF THE CITY CLERK

One City Plaza
P.O. Box 13012
Yuma, AZ 85366-3012
928-373-5035 (phone)
928-373-5036 (fax)

CERTIFICATION

I, Brigitta M. Kuiper, do hereby certify that I am a duly appointed City Clerk of the City of Yuma, Arizona, and that the attached is a true and correct copy of Resolution R2006-85, which is on file in the Office of the City Clerk, Yuma City Hall, One City Plaza, Yuma, Arizona.

Brigitta M. Kuiper
Brigitta M. Kuiper, City Clerk

12/4/06
Date

City of Yuma, Arizona

Local Agencies

6

Unofficial FERC-Generated PDF of 20061215-0249 Received by FERC OSEC 12/13/2006 in Docket#: CP06-61-000

RESOLUTION NO. R2006-85**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF YUMA, ARIZONA, SUPPORTING PROPOSED IMPROVEMENTS OF THE NORTH BAJA PIPELINE EXPANSION PROJECT AS OUTLINED IN THE DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT**

WHEREAS, on October 30, 2006, the City Council received a presentation regarding the North Baja Pipeline Expansion Project from project proponents; and

WHEREAS, the City Council has reviewed the Draft Environmental Impact Statement/Environmental Impact Report; and,

WHEREAS, the City Council believes, based on information provided in the draft Environmental Impact Statement/Environmental Impact Report that the project will be beneficial to the City of Yuma and would be of public interest.

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Yuma as follows:

SECTION 1: That the City of Yuma declares itself an affected party having a general interest in the North Baja Pipeline Expansion Project.

SECTION 2: That the City of Yuma believes this project will provide a new source of natural gas from Liquefied Natural Gas (LNG) that will be able to replace the declining supplies of natural gas that have historically provided gas to Southern California, making more gas available to Southwest Arizona.

SECTION 3: That the City of Yuma believes this project will provide a cost moderating supply of natural gas as the LNG suppliers compete with traditional natural gas providers which will also benefit gas users in Southwest Arizona.

SECTION 4: That the City of Yuma believes this project will provide increased reliability of supply to the region by providing a new gas transportation path tied to a new source of supply.

SECTION 5: While there is no current proposal for a pipeline to connect the North Baja Pipeline or Gasducto Bajanorte pipeline systems to the Yuma area, the City of Yuma believes that at some point in the future this might occur. If this is the case, such connections will be beneficial to the Yuma area because it would allow another source of gas to supply the region, and would provide an alternate gas transportation route to Yuma to supplement the existing El Paso Natural Gas pipeline lateral which operates at close to capacity at certain times of the year.

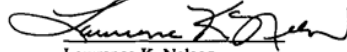
Local Agencies

Unofficial FERC-Generated PDF of 20061215-0249 Received by FERC OSEC 12/13/2006 in Docket#: CP06-61-000

SECTION 6: That the City of Yuma Council hereby expresses its support for the North Baja Pipeline Expansion Project.

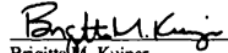
Passed and adopted this 15th day of November, 2006.

APPROVED:



Lawrence K. Nelson
Mayor

ATTESTED:



Briggitta M. Kuiper
City Clerk

APPROVED AS TO FORM:



Steven W. Moore
City Attorney

Local Agencies

6

Unofficial FERC-Generated PDF of 20061215-0239 Received by FERC OSEC 12/13/2006 in Docket#: CP06-61-000

ORIGINAL

RESOLUTION NO. 2006-48

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BRAWLEY,
CALIFORNIA, IN SUPPORT OF THE PROPOSED NORTH BAJA
PIPELINE EXPANSION PROJECT.**

LA7-1

WHEREAS, North Baja Pipeline LLC has proposed a modification to and an expansion of their existing pipeline to allow for the importation of Liquefied Natural Gas (LNG) sourced gas into Southern California, and the construction of a new pipeline lateral from the existing North Baja Pipeline system to the Imperial Irrigation District El Centro Generating Station in El Centro, California; and

WHEREAS, North Baja Pipeline is currently pursuing permits for this project with the Federal Energy Regulatory Commission and the California State Lands Commission and these permits are being reviewed by these agencies in Dockets CP06-61-000 and CP01-23-003; and

WHEREAS, the Federal Energy Regulatory Commission and the California State Lands Commission and other Cooperating Agencies have in September, 2006 issued a Draft Environmental Impact Statement/ Draft Environmental Impact Report which has reviewed the potential environmental impacts of this proposed project; and

WHEREAS, Southern California would benefit from this proposed Project by gaining access to a new source of natural gas to replace gas from traditional domestic sources that are projected to decline in the future, by the anticipated moderating impact this new source of gas will have on natural gas prices because of the competition with traditional sources, and by improving reliability of supply to the region because gas will be delivered to California on an entirely new pipeline transportation path; and

WHEREAS, Imperial County and the City of Brawley would benefit from the proposed project by receiving an increase in property taxes from the Project of as much as \$2.5 million per year, by the improved reliability of gas supply to the Imperial Irrigation District El Centro Generating Station from the new pipeline lateral, and from the more direct access to the anticipated lower cost LNG sourced gas; and

WHEREAS, the Draft Environmental Impact Statement/ Environmental Impact Report summarizes that "if the project is constructed in accordance with applicable laws and regulations, North Baja's proposed mitigation, and the Agency Staff's additional mitigation recommendations, it would be an environmentally acceptable action;"

**NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BRAWLEY,
CALIFORNIA, DO HEREBY:**

In Support the proposed North Baja Pipeline Expansion Project, and direct the City Clerk to file this Resolution in support of the Project with the Federal Energy Regulatory Commission and the California State Lands Commission.

APPROVED, PASSED AND ADOPTED at a regular meeting of the City Council held on the 21st day of November, 2006.

CITY OF BRAWLEY, CALIFORNIA


 Tom C. Carrillo, Mayor

Local Agencies

7

LA7-1

The City of Brawley's resolution expressing support for the proposed Project is noted.

Local Agencies

7

Unofficial FERC-Generated PDF of 20061215-0239 Received by FERC OSEC 12/13/2006 in Docket#: CP06-61-000

ATTEST:

Janet P. Smith City Clerk
 Janet P. Smith, City Clerk

STATE OF CALIFORNIA)
 COUNTY OF IMPERIAL)
 CITY OF BRAWLEY)

I, JANET P. SMITH, City Clerk of the City of Brawley, California, **DO HEREBY CERTIFY** that the foregoing Resolution No. 2006-48 was passed and adopted by the City Council of the City of Brawley, California at a regular meeting held on the 21st day of November, 2006 and that it was so adopted by the following roll call vote: m/s/c Benson/Vasquez 5-0

AYES: Benson, Campbell, Carrillo, Shields, Vasquez
 NAYES: None
 ABSENT: None
 ABSTAIN: None

DATED: November 21, 2006

Janet P. Smith City Clerk
 Janet P. Smith, City Clerk

STATE OF CALIFORNIA }
 COUNTY OF IMPERIAL }
 CITY OF BRAWLEY }

I, JANET P. SMITH, City Clerk of the City of Brawley, California, do hereby certify this to be a true and correct copy of the original instrument on file in my office.
 In WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of Brawley, California this 21st day of November, 2006.

Janet P. Smith City Clerk
 Janet P. Smith, City Clerk

Unofficial FERC-Generated PDF of 20070104-0049 Received by FERC OSEC 01/03/2007 in Docket#: CP01-23-001

150 SOUTH NINTH STREET
EL CENTRO, CA 92543-2850

ORIGINAL

TELEPHONE: (760) 483-4606
FAX: (760) 353-9904

December 19, 2006

Margalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE; Room 1A
Washington, DC 20426Tom Filler
California State Lands Commission
100 Howe Ave., Suite 100 South
Sacramento CA. 95825RE: North Baja Pipeline Expansion Project
FERC Docket Nos. CP01-23-001, CP06-61-000
CSLC EIR No. 739
State Clearinghouse No. 2006081127
BLM Reference No. CACA-42662

JUN -3 A 9 32

Dear Ms. Salas and Mr. Filler:

LA8-1

I am writing to provide you Imperial County Air Pollution Control District's (ICAPCD) concerns as they relate to the proposed North Baja Pipeline Expansion Project and associated Draft Environmental Impact Statement/Environmental Impact Report. Initially, I would like to point out that the ICAPCD is not opposed to the proposed project provided that all air quality concerns are appropriately identified and analyzed and any associated impacts are mitigated.

As was brought to your agencies attention during the first North Baja Pipeline process and the beginning of this proposed expansion, Imperial County already has diminished air quality and has been designated as non-attainment for several pollutants including Ozone, which Nitrogen Oxides is a precursor, and PM10. The current North Baja Pipeline supplies natural gas to two large power plant facilities in Mexicali, Mexico that have finally installed BACT for NOX emission control (Selective Catalytic Reduction - SCR) on all units, in some cases due to political pressure. However, the facilities are not required to offset their emissions - as would be required in California.

These facilities are located just across the border from Imperial County and it has been well documented that Imperial County experiences transport of pollutants from Mexicali into Imperial County that can contribute to higher concentrations of pollutants and in turn cause exceedances of the National Ambient Air Quality Standards (NAAQS).

With that being said, and the fact that our initial concerns are already on record, the ICAPCD wishes to reiterate our potential air quality concerns dealing with this proposed expansion project in order to assist the Agency Staff's evaluation efforts on the projects potential impact on air quality and the environment of this region.

Page 1 of 7

AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

Local Agencies

8

LA8-1

Section 4.12.4 includes an analysis of the air quality impacts and mitigation measures associated with the proposed Project. Section 4.15.8 includes a cumulative impacts evaluation of the existing and anticipated facilities located in Mexico across the border from Imperial County. The cumulative impacts presented are associated with the maximally impacted receptor location at or near the U.S. border and demonstrate that the operation of the Mexican facilities would likely not result in significant impacts in the vicinity of or across the U.S. border in California. Section 4.15.8 has been revised to include additional details regarding the criteria used to make this determination.

6-78

Unofficial FERC-Generated PDF of 20070104-0049 Received by FERC OSEC 01/03/2007 in Docket#: CP01-23-001

While the ICAPCD appreciates the effort and lengths that this review has taken in comparison to the last NBP project, we still have some outstanding concerns and clarifications that we would like to see addressed in the Final EIS/EIR and these are listed below.

LA8-2 Our concerns include:

- Representatives of the ICAPCD and the County of Imperial have expressed in many different forums the serious concern of an additional supply of natural gas through the Mexicali Valley that in our estimation will become a platform for the electrical power generation industry. We believe this will facilitate the construction of more power plants and other industry that would not have to meet equivalent air quality standards to protect public health and that these facilities will contribute enormous amounts of emissions (if unmitigated or offset) to our air shed which will adversely impact our air quality. In Section 4.15.8, page 4-235 it states: "... However, it could be speculated that in the future the Project could transport gas for new or expanded power plants; therefore, the Project could result in a cumulative impact on the region's air quality. Any new projects, including modification of existing facilities, would have to meet applicable air quality standards of the regions where they are located." Since it is feasible that other facilities outside Imperial County will utilize this new pipeline expansion and its gas, the ICAPCD would like to see NBP put a requirement on end user's to utilize BACT controls and offset emissions as would be required in the U.S. for the health of the people in the regions where the gas will be utilized and to ensure the air quality is not degraded due to additional sources being developed.

- LA8-3
- North Baja Pipeline (NBP) Expansion project, according to the Draft EIS/EIR, is now going to include not one but two new compressing stations located just south of the border. It is described in the Executive Summary on page ES-23 that *"To accommodate the additional volume of gas, up to 100 percent looping of the Gasoducto Bajanorte pipeline and additional compression would be required, both at the Algodones Compressor Station and at a new compressor station near Mexicali (Mexicali Compressor Station)".* It should be noted that on page 4-235 the following: *"Additionally, because no additional compression would be installed, the proposed Project would not add any stationary or permanent sources of NOX, CO, VOC, PM10, PM2.5, or SO2 to the environment; therefore, operation of the North Baja Pipeline Expansion Project would not contribute cumulatively to air quality."* This contradicts statements made in the Executive Summary mentioned above. This issue needs clarified and the EIR modified for consistency.

As pointed out in our previous letter, several currently operated compressor stations in California are considered large NOX emitters. We continue to be very concerned that these compressor stations could have similar emissions if not appropriately

Local Agencies

8

LA8-2 See the responses to comments PM1-1, FA6-3, LA16-1, and LA16-6 through LA16-8.

LA8-3 Section 4.15.8 has been revised to clarify that there would be no compression installed as part of the North Baja Pipeline Expansion Project. Section 4.15.8 has also been revised to include specific details on the implementation of good combustion practices for the turbines associated with the proposed Algodones and Mexicali Compressor Stations. See also the responses to comments PM1-1, FA6-3, LA16-1, and LA16-6 through LA16-8.

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LA8-3 (cont'd)	<p>controlled. According to Table 4.15.8-3, the Mexicali Compressor Station (minus LRPC and TDM plants) would have NOX emissions of 235 tons/year and the Algodones Compressor Station will have NOX emissions totaling 355.7 tons/year for a combined total of 570.7 tons/year of NOX. The ICAPCD continues to be concerned with sources of emissions with this magnitude being placed just south of the border from Imperial County. Each of these compressor stations by themselves would be considered a Major Source and would require a permit to enable them to operate. These permits would require Best Available Control Technology to be installed and maintained and also would require sufficient offsets of emissions. It appears these compressor stations were located in Mexico to avoid stringent air quality regulations and permitting requirements in the U.S.. These two compressor stations have emissions comparable to an electrical power generating facility.</p> <p>According to page 4-237: <i>"The turbines would be equipped with the following emissions control technologies: 1) installation and operation of low NOX combustors; 2) good combustion practices would be implemented to reduce emissions of CO and VOC; and 3) clean fuels (natural gas) would be used to reduce emissions of PM10 and PM2.5"</i>. These control strategies are not considered full BACT for turbines. Also, what is considered "good combustion practices"? This must be fully disclosed in the FEIR. At a minimum, the ICAPCD must insist that these units be built to U.S. standards by utilizing BACT (ex. Selective Catalytic Reduction (SCR) for NOX reduction, Catalytic Oxidizers for CO reduction, etc.) and must offset emissions to ensure the air quality in Imperial County is not adversely impacted.</p>
LA8-4	<ul style="list-style-type: none">On Table 4.15.8-3, page 4-238 - Cumulative Estimated Emissions by Site - In relation to pollutant PM10/PM2.5, under the column for LRPC and TDM Plant (tpy), estimated tons per year are 1,208/1,208, and under LRPC, TDM Plant, and addition of Mexicali Compressor Station (tpy) the totals are 1,192/1,192. The ICAPCD requests there be clarification as to why there is a reduction of PM10/PM2.5 when an additional source was added. The Algodones Compressor Station alone adds an additional 60.6 tons/yr. It is confusing how the addition of the Mexicali Compressor Station will reduce PM10/PM2.5. Please clarify and correct in FEIR.
LA8-5	<ul style="list-style-type: none">The ICAPCD, along with other agencies and organizations such as the California Air Resources Board, South Coast Air Quality Management District (SCAQMD), the California Air Pollution Control Officer Association, and the City of San Diego continue to be very concerned over the "Hot Gas" issue that surrounds the quality of gas that will be transported and eventually utilized in Southern California and our region. In a recent white paper from the Natural Gas Council (White Paper on Natural Gas Interchangeability and Non-Combustion End Use, NGC+ Interchangeability Work Group, February 28, 2005), it is explained that the single most important gas quality indicator of potential emission and safety impacts in end-user equipment is the

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- LA8-4
- Table 4.15.8-3 has been revised to correctly reflect the estimated emissions for the Termoelectrica de Mexicali Power Plant plus the La Rosita Power Complex plus the Mexicali Compressor Station.
- LA8-5
- See the responses to comments PM1-1, PM1-4, LA16-1, and LA16-6 through LA16-8.

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LA8-5 (cont'd)	<p>Wobbe Index (WI) - heating value of gas number. "Hot Gas" has the potential of large NOX increases due to High-Btu LNG. The impacts associated with High-Btu LNG is relatively unknown for larger industrial combustion. The Draft EIS/EIR does not address what the composition or quality of imported LNG will be or what its potential impact will be and it also does not address mitigation. The Draft EIS/EIR only discusses in Section 1.1 on page 1-5 "<i>the precedent agreements between North Baja and all of the shippers require that the gas delivered to the North Baja system meet the most stringent gas quality standard of any of the pipelines to which the North Baja system might ultimately deliver gas</i>". What happens if the gas does not meet the quality of gas requirements? The WI of LNG can be limited by: 1) importing LNG with inherently lower WI, 2) Removing excessive levels of ethane, propane, and higher hydrocarbons from the LNG at the terminal - this could be accomplished by installing separating equipment, and 3) Adding inerts such as nitrogen or carbon dioxide - this also would improve its interchangeability.</p> <p>According to CEQA guidelines, NBP is required to disclose what the most stringent gas quality standard they would have to meet would be and this needs to be identified in the EIS/EIR. The SCAQMD has done extensive research and testing regarding the WI and have concluded that the current gas quality requirements in effect in their area are not substantial enough to protect air quality. As a standard for comparison and uniformity, The ICAPCD would like NBP to identify the WI historical average for the Imperial County area and to limit the WI to 2% over that average. The ICAPCD recommends this to be identified as a required mitigation measure in the EIS/EIR.</p> <p>In consensus with SCAQMD's comments on other proposed LNG developments, the ICAPCD agrees that in order to justify LNG with greater than 1360 WI, research is needed in the following areas:</p> <ol style="list-style-type: none">1) Emission studies of the impacts of hot gas on combustion equipment, particularly larger combustion and power generation sources for which little data presently exists.2) Effects of inert gas addition on large and small equipment.3) Analysis of the regional air quality impacts from high-Btu LNG importation.4) Cost analyses of different mitigation measures, including gas treatment and end use equipment modifications. <p>With this information, the costs, benefits and cost-effectiveness of mitigation measures can be evaluated.</p>
LA8-6	<ul style="list-style-type: none">• The current North Baja Pipeline right-of-way has, and continues to be used as a
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LA8-6 Section 4.8.5 has been revised to include the recommendation that North Baja revise its OHV Plan to include the agency or agencies responsible for enforcement of the OHV Plan, the frequency of monitoring that would be conducted to ensure that the implemented OHV blocking measures are functioning properly, the methodology for reassessing the implemented OHV blocking measures in the future, and enforcement measures.

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LA8-6
(cont'd)

"freeway" for off-road traffic and this is generating a large amount of PM emissions. The Draft EIS/EIR attempts to address this issue as shown in the Executive Summary page 16 in reference to an OHV Plan that was developed in consultation with BLM. Accordingly, North Baja states they will place signs, earthen berms, and vegetation barriers at various access points along the right-of-way. It also states that the implementation of North Baja's OHV plan measures would reduce the potential impacts associated with unauthorized OHV use of the right-of-way to less than significant levels. The ICAPCD agrees that implementation of these proposed measures that are included in Appendix P (OHV Vehicle Management Plan) will minimize fugitive dust being emitted from OHV use, however, there is no commitment to "maintain" these measures or to reassess the measures to ensure the quantity and placement of the measures are sufficient to ensure mitigation. Will BLM be enforcing the measures agreed to in the OHV plan? or will it be the project Environmental Inspectors? and what are the consequences of failure to meet the OHV plan provisions? Please note that the ICAPCD Regulation VIII - Fugitive Dust rules apply to right-of-way and Best Available Control Measures must be implemented to mitigate fugitive dust.

LA8-7

- As requested in our March 3, 2006 comment letter, the ICAPCD requested to see an in-depth, detailed list of the mitigation measures that would be implemented to control emissions during the construction and operation phases of all facets of the proposed project. Appendix L - Dust Control Plan lists mitigation measures that will be implemented to control dust during the construction phase of the project. The first two measures as described in Section 4.0 page L-4 of the Dust Control Plan mention "reasonable precaution" and "reasonable measures". Please be advised that our Regulation VIII rules require implementation of "Best Available Control Measures"; these bullets should be modified accordingly. Also, same page, 5th bullet - mentions "Clean up track-out and/or carry-out areas at paved road access points at a minimum of once every 48 hours". This does not meet the BACM requirements established in Rule 802 F.1.a. (2); which requires that track out shall be cleaned "at the end of the workday..."; it should be noted that this same track-out measure is included on page 4-205 in Section 4.12 - Air Quality. Also, the ICAPCD would like to point out that if Vehicle Trips Day reach thresholds established in 802 F.1.b and 802 F.1.c additional requirements such as track out control devices and further dust control measures must be utilized. The ICAPCD would like you to quantify expected traffic at unpaved to paved intersections and modify Dust Control Plan accordingly. In summation on the Dust Control Plan, the ICAPCD supports the Agency Staff's recommendation on Section 4.12, page 4 - 205 that due to vagueness and enforceability of proposed measures, a revised Dust Control Plan be filed with FERC and the CSLC for review and written approval before construction can start. The ICAPCD would like to formally request a copy of written approval of the revised Dust Control Plan by the Director of OEP and the Executive Officer of the CSLC, along with a copy of the revised Dust Control Plan itself.

LA8-7

Section 4.12.4 of the final EIS/EIR includes a recommendation that North Baja file a revised Project-wide Dust Control Plan that specifies additional details regarding dust control with the FERC and the CSLC for review and approval before construction. It is expected that North Baja would file this plan as part of its Implementation Plan that would be submitted to support a request for Notice to Proceed with construction. North Baja's Implementation Plan and the FERC's approval of the plan/letter authorizing Notice to Proceed with construction would be available for viewing on the FERC's Internet website. To address the ICAPCD's comments regarding Regulation VIII, Section 4.12.4 has been revised to include the recommendation that North Baja prepare an Imperial County-specific Dust Control Plan that includes the measures of the revised Project-wide Dust Control Plan and meets the requirements of the ICAPCD's Regulation VIII and file the plan with the CSLC for review and approval before construction of the Imperial County portions of Phase I-A and Phase II.

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LA8-8 • General comment - throughout the Executive Summary, NBP correctly identifies that the control measures that must be utilized for PM10 mitigation shall be "...best management practices...". However, in the Section 4.12 Air Quality, page 4-201, under State Air Quality Requirements states that the fugitive dust regulations that apply and are listed "...include EPA Reasonably Available Control Measures...". This is inconsistent. All reference to fugitive dust requirements for Imperial County must be Best Available Control Measures as required by our Regulation VIII rules. The EIS/EIR must be consistent throughout specifying for fugitive dust control Best Available Control Measures is required and shall be utilized.

LA8-9 Once again, the ICAPCD is not against the use of natural gas, we do understand it is one of the cleanest burning fuels available and that emissions from utilizing this fuel can be much lower than the use of alternatives such as diesel and coal. However, we will oppose any NBP expansion unless assurances can be given that all environmental concerns can effectively be mitigated.

Our main goal is to protect the health of the citizens of Imperial County and to continue to strive to provide improved air quality for our region. The ICAPCD appreciates being involved early in this process and look forward to continuing to work with all responsible agencies and reviewing any subsequent environmental documents that will be produced.

Sincerely,



Stephen D. Birdsell
Air Pollution Control Officer

cc: Imperial County APCD Board of Directors
Deborah Jordan, Air Director, Region IX EPA
Catherine Witherspoon, Executive Director, California Air Resources Board
Congressman Bob Filner
Congressman Duncan Hunter
Senator Diane Feinstein
Senator Barbara Boxer
Senator Denise Ducheny
Assemblywoman Bonnie Garcia
Ralph Cordova, County Counsel
Robertta Burns, Imperial County CEO
Bill Powers, Border Power Plant Working Group
Barry R. Wallerstein, Executive Officer, SCAQMD
Eldon Heaston, Executive Officer, MDAQMD

LA8-8 Section 4.12.3 includes a discussion of the potential dust control regulations applicable to the Project. The EIS/EIR appropriately states that the measures required by each air pollution control agency with jurisdictional authority over the Project include the EPA's Reasonably Available Control Measures. North Baja would be required to comply with the most stringent Federal or State dust control regulations applicable to each portion or phase of the Project construction and operation as stated in Section 4.12.3. Activities conducted in Imperial County would be required to comply with Best Available Control Measures in accordance with Regulation VIII. See also the response to comment LA8-7.

LA8-9 The ICAPCD's comments are noted.

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Nancy Wrona, Air Quality Director, ADEQ

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December 28, 2006

Magalie R. Salas, Secretary
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Tom Filler
California State Lands Commission
100 Howe Avenue, Suite 100 South
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RE: Comments on Draft EIS/EIR for the North Baja Pipeline
Expansion Project/SCH No. 2006081127/FERC Docket
Nos. CP 06-61-000 and CP 01-23-003.

Dear Ms. Salas and Mr. Filler:

Imperial County has retained our law firm to represent its planning and environmental interests with respect to the proposed North Baja Pipeline Expansion Project (the Project) (SCH # 2006081127). We have reviewed the Draft Environmental Impact Statement/Environmental Impact Report (Draft EIR/EIS) for the Project to assess whether the document complies with the National Environmental Policy Act (NEPA) (Title 40 C.F.R., Parts 1500-1508) and the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.). **This response meets your deadline for public comment, which is on or before December 28, 2006.**

As we explain below, we have advised the County that the Draft EIR/EIS is deficient in a number of respects and is therefore legally inadequate. Several of the deficiencies cannot be cured without significant revisions to the Draft EIR/EIS and recirculation of the modified document. Others are less

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significant and yet require clarification so that the EIS/EIR can adequately function as an informational document satisfying the demands of NEPA and CEQA.

I. BACKGROUND

- LA9-1 The Federal Energy Regulatory Commission (FERC) is the designated NEPA "lead agency" for the Project as it crosses federal lands in Imperial County. The FERC will utilize the environmental document to determine whether to issue a "Certificate of Public Convenience and Necessity" on the proposed Project determining that it is (or is not) in the public's interest. The California State Lands Commission (CSLC) is designated as the CEQA "lead agency" for the Project as it crosses public and private lands in Imperial County. The Draft EIS/EIR, page 1-8, states that "[t]he CSLC has the principal responsibility for carrying out and approving the Project in California, and is thus the lead agency in California for preparing the EIS/EIR, comply with the CEQA [], following the guidelines for the implementation of the CEQA [], and coordinating the review of the EIS/EIR by State and local responsible and trustee agencies []."
- CEQA differs from NEPA in that, among other things, the CEQA places a relatively higher value on environmental protection, compared with economic growth. (*San Francisco Ecology Center v. City and County of San Francisco* (1975) 48 Cal.App.3d 584, 590-591.) NEPA requires only that federal agencies "consider" the potential significant adverse environmental impacts of their "major" actions, as described in "environmental impact statements" (EISs). (42 U.S.C. § 4332, subds. (B), (C); *Citizens to Preserve Overton Park, Inc. v. Volpe* (1971) 401 U.S. 402, 416-417.) The EIS must evaluate all reasonable alternatives and must suggest appropriate mitigation measures; however, although the agency must "consider" these proposals, it has no mandatory duty to *act* on them, even if they are feasible. (40 C.F.R. § 1502.14; *Robertson v. Methow Valley Citizens Council* (1989) 490 U.S. 332, 350.)
- In other words, as to those matters subject to their statutory discretion, federal agencies can effectively ignore the conclusions of an EIS, even regarding alternatives and mitigation, and can take actions causing grave environmental damage (unless their agency-specific policies or statutes or regulations other than NEPA require otherwise). (*Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.* (1978) 435 U.S. 519, 558.) While "NEPA exists to ensure a process, not particular substantive results," the process must be rigorously performed. (*Friends of Yosemite*

- LA9-1 Imperial County's comments regarding NEPA and CEQA requirements are noted. These comments, however, do not relate to the environmental issues analyzed within the contents of the draft EIS/EIR and raise no significant environmental issues. Thus, no changes to the document are necessary.

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(cont'd)

Valley v. Norton (2003) 348 F.3d 789, 793.) An agency's performance will be reviewed according to the arbitrary and capricious standard. (*Ibid.*) "The determination whether the [agency] acted in an arbitrary and capricious manner rests on whether it 'articulated a rational connection between the facts found and the choice made.'" (*Ibid.* (citing *Pub. Citizen v. Department of Transportation* (9th Cir. 2003) 316 F.3d 1002, 1020).) Further, "[c]ourts must carefully review the record to ensure that agency decisions are founded on a reasoned evaluation of the relevant factors, and may not rubber-stamp . . . administrative decisions that they deem inconsistent with a statutory mandate or that frustrate the congressional policy underlying a statute . . ." (*Ibid.*)

Neither CEQA nor NEPA is invoked where the only effects of a proposed project or governmental action are purely economic or social, unless there are related physical effects. (CEQA Guidelines, §§ 15064, subds. (e), (f)(6), 15131, 15358; 40 C.F.R. § 1508.14.) CEQA has been understood, however, to be "more focused on *physical changes* than is NEPA." (Discussion following CEQA Guidelines, § 15358 (italics added).) Although analysis under each statutory scheme is triggered by the existence of either direct or indirect physical impacts, NEPA is more focused on related "human" impacts than is CEQA. (Compare 40 C.F.R. § 1508.8 (NEPA definition of "effects") with CEQA Guidelines, § 15378, subd. (a) (CEQA definition of "effects"): the former refers to "economic, social, or health" effects, while the latter does not.)

From a procedural standpoint, a federal agency's compliance with NEPA differs somewhat from a California public agency's compliance with CEQA. In many respects, CEQA requirements are more stringent. For example, NEPA's public notice requirements are less specific than those found in CEQA. (Compare 40 C.F.R. § 1506.6 with CEQA Guidelines, §§ 15062, 15072, 15075, 15082, subd. (a), 15085, 15094.) Furthermore, whereas CEQA requires an agency to prepare detailed findings and a statement of overriding considerations prior to approving a proposed project with significant environmental effects (CEQA Guidelines, §§ 15091, 15092, 15093; Pub. Resources Code, § 21081), NEPA requires a federal agency, before approving an action subject to NEPA, to adopt a less detailed "record of decision" (40 C.F.R. § 1505.2).

The preparation of an EIS under NEPA involves content requirements different from, and sometimes more extensive than, those found in CEQA. For example, the alternatives analysis found in an EIS is typically much more detailed than that typically found in an EIR. An EIS must "[d]evote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits." (40 C.F.R. § 1502.14, subd. (b).) Under CEQA, in contrast,

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(cont'd)

alternatives need only be discussed in "meaningful detail,"¹ although a legally adequate discussion may require, under some circumstances, a "quantitative, comparative analysis" of the differences between a proposed project and environmentally superior alternatives. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 735.)

Similarly, NEPA requires agencies, in preparing EISs, to satisfy certain detailed requirements when they confront incomplete or unavailable information. First, the agencies must acknowledge that relevant scientific information is lacking. Second, they must obtain such information, with original research if necessary, unless the costs of obtaining it are "exorbitant" or "the means to obtain it are not known." Third, if the information is unobtainable for these reasons, the agency must include in the environmental document both "a summary of existing credible scientific evidence" relevant to the issue at hand, and an evaluation of the impacts in question "based upon theoretical approaches or research methods generally accepted in the scientific community." (40 C.F.R. § 1502.22.) CEQA contains no similar express provisions; and, to date, no court has read such requirements into CEQA. (But see *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1364-1370 (EIR for proposed airport expansion was inadequate because, among other reasons, its use of "scientifically outdated information" represented a failure to undertake "a reasoned and good faith effort to inform decisionmakers and the public" about toxic air contaminants" (TACs); respondent agency also failed to prove that it made "any reasonably conscientious effort . . . to collect additional data or to make further inquiries of environmental or regulatory agencies having expertise" with respect to TACs).)

A Draft EIS also must, "to the fullest extent possible," integrate into the NEPA analysis "surveys and studies" required by statutes such as the Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.), the National Historic Preservation Act of 1966 (16 U.S.C. § 470 et seq.), the Endangered Species Act of 1973 (16 U.S.C. § 1531 et seq.), and "other environmental review laws and executive orders." (40 C.F.R. § 1502.25, subd. (a).) Under CEQA, "[t]he environmental document preparation and review should be coordinated in a timely fashion with the existing planning, review, and project approval processes being used by each public agency. These procedures, to the maximum extent feasible, are to run concurrently, not consecutively." (CEQA Guidelines, § 15004, subd. (c).)²

¹ *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376, 406.

² See also Pub. Resources Code, § 21003, subd. (a) (requiring CEQA review to occur, to the greatest extent possible, simultaneously with other required planning and environmental review procedures); CEQA Guidelines, § 15124, subd. (d)(1)(c) (providing that the project

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LA9-1 (cont'd) In interpreting either statute, the clear statutory or regulatory language is the first and best authority as to its meaning. (See, e.g., *Wildlife Alive v. Chickering* (1976) 18 Cal.3d 190, 202-203 (NEPA case law governing standards for determining whether a federal agency's regulatory program, such as that of the Environmental Protection Agency, requires the "functional equivalent" of NEPA analysis does not govern such questions under CEQA, which includes a specific statute, Public Resources Code section 21080.5, creating standards different from those described in the federal cases).)

Because CEQA was modeled on NEPA, however, the California courts have often looked to federal cases interpreting the latter statute as "strongly persuasive" authority as to the meaning of the former. (See *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 86, fn. 21; *Friends of Mammoth v. Board of Supervisors* (1972) 8 Cal.3d 247, 261.)

The California statute is *more* protective of the environment, however; therefore, it seems fair to say that NEPA cases generally set the environmental *floor*, but not necessarily the ceiling, for interpreting CEQA. (See *San Francisco Ecology Center v. City and County of San Francisco* (1975) 48 Cal.App.3d 584.) In other words, the federal cases may be persuasive authority when they require environmental protection on issues not yet reached by California courts; but the state courts may find that the federal precedents require too little protection, particularly when CEQA's *substantive* mandate is at issue.

LA9-2 The CEQA analysis must address both on-site and off-site environmental impacts, including, but not limited to, air quality, health risks, and growth-inducing impacts associated with the pipeline and the resulting projects that follow. The County is concerned with the potentially significant, adverse environmental impacts as they relate to pipeline safety, the possibility of terrorist acts against the pipeline, growth inducing impacts from the increased electrical capacity the Project would facilitate, the transmission lines transporting power out of Mexico, and in particular to future air quality impacts in Imperial County and the potential health risks to all of its residents.³ Since air emissions from Baja California and Mexicali currently

LA9-3 adversely affect Imperial County, any new power plant emissions that the pipeline expansion would make possible should be comprehensively addressed and mitigation measures proposed in the joint EIS/EIR. The fact that portions of the power plant/pipeline network would be located outside of California does not excuse the lack of analysis in the EIS/EIR.

description shall contain "a list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies").

³ Imperial County also hereby incorporates by reference the more detailed comments of the Imperial County Air Pollution Control Board, submitted on December 19, 2006.

LA9-2 Reliability and safety issues are addressed in Section 4.14. An analysis of the growth-inducing impacts of the Project is presented in Section 4.16. The air quality impacts of construction and operation of the Project are discussed in Section 4.12.4.

LA9-3 See the response to comment FA6-3.

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II. GENERAL COMMENTS

LA9-4

Generally, the lack of detail provided in the Draft EIS/EIR is legally unacceptable. An environmental impact report, or “EIR,” is intended to be “a *detailed* statement prepared under CEQA describing and analyzing the significant effects of a project and discussing ways to mitigate or avoid the effects.” (CEQA Guidelines, § 15362.) The purpose of an EIR is to provide agencies and the public with *detailed* information about the environmental effects of proposed projects, to list ways in which the significant effects might be minimized, and to indicate alternatives. (Pub. Resources Code, § 21061.) As the California Supreme Court explained, it is “CEQA’s fundamental goal that the public be fully informed as to the environmental consequences of action by their public officials.” (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 404 (*Laurel Heights I.*)). “To facilitate CEQA’s informational role, the EIR must contain facts and analysis, not just the agency’s bare conclusions or opinions.” (*Ibid.*, quoting *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.) In short, “[a]n EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.” (*Laurel Heights I, supra*, 47 Cal.3d at p. 404.) This Draft EIS/EIR provides very little analysis of potential impacts even in the most complex, technical areas such as air quality and cumulative impacts.

Furthermore, the Draft EIS/EIR makes frequent references to more complete explanations to be found in various appendices. One court recently criticized this approach, stating that “a report ‘buried in an appendix,’ is not a substitute for ‘a good faith reasoned analysis’” in the text of the EIR. (*California Oak Foundation v. City of Santa Clarita* (2005) 133 Cal.App.4th 1219, 1239, quoting *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2003) 106 Cal.App.4th 715, 722-723.)

LA9-5

The County believes that the EIS/EIR fails to fully disclose, analyze and mitigate all potentially significant cumulative impacts of the Project. As is well-known, CEQA requires analysis of the environmental “effects” of a proposed action or project. CEQA Guidelines section 15358, subdivision (a), defines “effects” to include direct effects and “[i]ndirect or secondary effects which are *caused by* the project and are later in time *or* farther removed in distance, but are still reasonably foreseeable.” (Emphasis added.) Direct and indirect significant effects of a project must be “clearly identified and described, giving due consideration to both the short-

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The proposed Project, as defined for the NEPA and CEQA analysis, allowed for the preparation of the EIS/EIR in accordance with NEPA, Council on Environmental Quality (CEQ) guidelines, the CEQA, and other applicable requirements. The EIS/EIR is comprehensive and thorough in its identification and evaluation of the environmental impacts of the proposed Project and feasible mitigation measures to reduce those effects wherever possible to less than significant levels. The EIS/EIR includes sufficient detail to enable the reader to understand and consider the issues raised by the proposed Project and the Agency Staffs believe that it is appropriate to summarize the contents of the appendices in the text of the document while referring the reader to specific appendices for additional details.

LA9-5

The potential cumulative impacts attributable to the proposed Project are adequately addressed in Section 4.15 pursuant to applicable NEPA and CEQA requirements. Section 4.15 includes an analysis of both direct and indirect cumulative impacts that could occur if one or more of the other reasonably foreseeable projects within the counties affected by the Project were constructed.

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LA9-5 (cont'd) term and long-term effects.” (CEQA Guidelines, § 15126.2, subd. (a).) CEQA Guidelines section 15064, subdivision (d)(3), states that “[a]n indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project.”

“Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems.” (CEQA Guidelines, § 15358, subd. (a)(2).)

LA9-6 Furthermore, it is well-established that “an EIR must include an analysis of future expansion *or other action* if: (1) it is a reasonably foreseeable *consequence* of the initial project; and (2) the future expansion or other action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects.” (*Laurel Heights I, supra*, 47 Cal.3d at p. 396 (emphasis added).) Notably, CEQA case law assumes that “quantitative” information is generally required for meaningful analysis. (See *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 735 (*Kings County Farm Bureau*) (analysis of project alternatives was deficient because of lack of “quantitative, comparative analysis”).)

As the Court of Appeal noted in *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 157 (*Stanislaus Audubon*), in requiring an EIR for a growth-inducing resort project, “[t]he current agricultural zoning of the surrounding acreage is also not determinative. Zoning is subject to change and amendment of a general plan is not a rare occurrence.” In other words, changing economics often overwhelms the good intentions embodied in planning documents adopted under different economic circumstances. (See also *In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings* (2005) 133 Cal.App.4th 154, 214 (*Bay-Delta*) (“[i]n determining if a project has growth-inducing impacts, courts generally look to whether the project sets in motion market forces that can lead to economic pressure for growth”).)

Here, the Project dramatically increases the capacity to transport natural gas through the pipeline networks. It is reasonably foreseeable that the increased availability of natural gas will lead to the growth of many industries and activities that rely on natural gas. Potential adverse, secondary environmental impacts of the expanded pipeline network, include, but are not limited to, population and housing growth, traffic impacts and air quality impacts. These are *reasonably foreseeable consequences* of the Project, FERC and CSLC are legally obligated to include a more detailed and accurate analysis of all secondary effects of the Project in a revised Draft EIS/EIR. (See CEQA Guidelines, § 15144; *Laurel Heights I, supra*, 47 Cal.3d at p.

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LA9-6 In Section 4.16, it is acknowledged that the increased diversification of gas supply that would be a result of the proposed Project could lead to a positive economic environment conducive to growth. However, the existing power plant that would be supplied by the North Baja Pipeline Expansion Project (i.e., the IID El Centro Generating Station) would not be solely dependent on the gas supplied by the Project. Potential infrastructure growth might occur with or without the construction of the pipeline and thus would not be attributable to the proposed Project. Section 4.16 further acknowledges that to the extent that the IID Unit 3 Repower Project would diversify its suppliers of natural gas, the additional gas supplied by the proposed Project could be a growth-inducing impact. The consideration of any additional growth-inducing impacts beyond those addressed in the EIS/EIR is unwarranted because they would be too speculative.

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LA9-6 (cont'd) 396.) The potential growth-inducing impacts caused by this Project are significant, and are seriously understated, and in some instances ignored, by the EIS/EIR as currently drafted.

LA9-7 Without better and more complete analyses of the direct and reasonably foreseeable indirect environmental consequences of the Project, as well as significantly improved mitigation measures addressing those effects, the County cannot yet determine whether the benefits of the Project outweigh its undeniable, though still ill-defined, adverse environmental impacts. Such a revised document, first of all, must sufficiently address and analyze the full range of significant environmental impacts of the Project, and, second, must include tough but feasible mitigation measures to reduce such impacts to less-than-significant levels.

As you will note below, these comments identify numerous issues that require full-scale reconsideration in a revised Draft EIS/EIR. Absent such analyses, the County regrets that it cannot provide more substantive comments for many of the subjects addressed by the current Draft EIS/EIR. Unfortunately, in many respects the current analyses and proposed mitigation measures are simply too superficial and vague to allow for meaningful evaluation and comment. The County looks forward to providing further comments on a revised and recirculated document.

SPECIFIC COMMENTS

Section 2: Project Description

LA9-8	<u>Page</u>	<u>Comment</u>
	2-1	<p>In order to be legally adequate, “[a]n EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published . . . from both a local and regional perspective.” (CEQA Guidelines, § 15125, subd. (a).) Further, “[t]his environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.” (<i>Ibid.</i>) Further, the environmental setting should be described for each resource in those respective chapters, as it may vary from resource to resource.</p> <p>There is no description of the “Environmental Setting” included in the Draft EIS/EIR. Thus, the County, the public and other agencies do not have enough information to understand the environmental baseline for the Project and therefore the context and comparative significance of any changes to the existing environment. The Draft EIR/EIS is</p>

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LA9-7 See the responses to comments PM1-5 and LA9-4.

LA9-8 As discussed in the introduction to Section 4, the section describes the affected environment as it currently exists (baseline conditions) and discusses the environmental consequences of the proposed Project for each of the following major resource topics: geology; soils; water resources; wetlands; vegetation; wildlife and aquatic resources; special status species; land use, special management areas, recreation and public interest areas, and aesthetic resources; socioeconomics; transportation and traffic; cultural resources; air quality; noise; reliability and safety; cumulative impacts; growth-inducing impacts; and environmental justice. See also the response to comment PM1-5.

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LA9-8 (cont'd) | fundamentally inadequate for failing to provide this essential starting point. The document must be expanded to include a detailed description of existing environmental conditions on the Project site, as well as conditions on land located adjacent to or near the site. (See *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722-729.) Notably, changes of this magnitude would also trigger recirculation of the amended document for further public review and comment. (See CEQA Guidelines, § 15088.5.)

Section 3: Alternatives

LA9-9 |

<u>Page</u> 3-1	<u>Comment</u> An EIR's alternatives analysis should include a range of reasonable alternatives to the project that would feasibly attain most of the basic project objectives but would avoid or substantially lessen any of the significant effects of the project. (CEQA Guidelines, § 1526.6, subd. (a).) This means the EIR should consider the project, plus a "range" of alternatives, one of which must be the "no project" alternative. (CEQA Guidelines, § 15126.6, subd. (c).) The Draft EIS/EIR's discussion of alternatives does not adequately explain how the Project's impacts can be lessened by adopting an alternative to the Project, nor does it compare each proposed alternative to the goals and objectives of the Project. Upon revision and recirculation of the Draft EIS/EIR, this discussion will need to be revised to provide meaningful analysis of the relative impacts of each alternative. Potential alternatives may be eliminated from detailed consideration in the EIR, based on (i) failure to meet most of the basic project objectives, (ii) infeasibility, and (iii) inability to avoid significant environmental impacts. (CEQA Guidelines, § 15126.6, subd. (c).) The Draft EIS/EIR should be revised to include a more thorough discussion of which, if any, alternatives were considered and rejected for further analysis.
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Section 4.7: Special Status Species

LA9-10 |

<u>Page</u> <i>Passim</i>	<u>Comment</u> The Draft EIS/EIR states that impact on wildlife species and their habitats from construction and operation of the Project would vary
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LA9-9 The alternatives analysis in the EIS/EIR was prepared in accordance with NEPA, CEQ guidelines, the CEQA, and other applicable requirements. The EIS/EIR is comprehensive and thorough in its identification and evaluation of the environmental impacts of the proposed Project and includes a reasonable range of alternatives. As discussed in the introduction to Section 4, the No Project Alternative has been analyzed in comparison with the proposed Project for each of the major resource topics. See also the response to comment PM1-5.

LA9-10 As discussed in the introduction to Section 4, the section describes the affected environment as it currently exists (baseline conditions) for each of the major resource topics. Section 4.7 includes discussions of habitat requirements, occurrence of suitable habitat and individuals along the Project route, and potential Project impacts on habitat or species for those species with the potential to be affected by the Project. As shown in Table 4.7.2-1, several species are not likely to be encountered by the Project due to the construction schedule, species' range, or lack of habitat along the Project route. These species do not warrant additional discussion or species-specific surveys because they would not be affected by the Project.

For those species with the potential to occur along the Project route or with suitable habitat along the Project route, surveys were conducted or required as necessary to determine potential Project impacts. In some instances, surveys are unnecessary because impacts on habitat are the primary concern for a given species and those impacts can be quantified without species-specific survey data.

Section 4.7.8 has been revised to include a statement that the proposed Project would not restrict the range of endangered, rare, or threatened species.

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LA9-10
(cont'd)

depending on the requirements of each species and the existing habitat present along the pipeline. Furthermore, construction and operation of the pipeline would directly impact wildlife through disturbance, displacement, habitat fragmentation, habitat degradation, and mortality.

CEQA Guidelines section 15125 requires that an EIR include a description of the physical environmental conditions, as they exist at the time the notice of preparation is published. This environmental setting constitutes the baseline physical conditions by which a lead agency determines whether an impact is significant. The Draft EIS/EIR failed to adequately establish baseline environmental conditions.

CEQA Guidelines section 15380 states that a species not included on federal or state endangered or threatened lists shall be considered to be endangered if the species can be shown to be in jeopardy from loss of habitat, changes in habitat, over exploitation, predation, disease, or other factors; or rate if the species may become endangered if its environment worsens due to small population size throughout the range or a significant portion of its range.

Impacts to species on Table 4.7.2-1 may be locally or regionally significant depending on the level of use. Species-specific surveys for all species listed on Table 4.7.2-1 must be conducted to adequately assess and evaluate Project impacts on these species.

The Draft EIS/EIR should clarify whether the Project would restrict the range of any endangered, rare or threatened species, which is a mandatory finding of significance under CEQA. (CEQA Guidelines, § 15065, subd. (a).)

Section 4.12: Air Quality

LA9-11

Page
4-225

Comment
The Draft EIS/EIR acknowledges the Project's potentially significant cumulative air quality impacts. The EIS/EIR states "it could be speculated that in the future the Project could transport gas for new or expanded power plants; therefore the Project could result in a cumulative impact on the region's air quality."

Mexicali, Mexico, and Imperial County, California, share an air basin that exceeds health-based air quality standards adopted by both the

LA9-11 It would be appropriate for agencies with permitting authority in the future to determine whether health risk assessments are required for proposed new facilities and, if so, to obtain them. Such action is outside the purview of the FERC and the CLSC in this proceeding. See also the response to comment FA6-3.

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(cont'd)

United States and Mexico. Peak levels of ozone and carbon monoxide on the Imperial County side of the border are more than double the health-based standards and inhalable particles can exceed three times the standard. Regulatory authorities in the Southwest United States require that readily available, cost-effective air pollution control technologies be used on power plants sited in this region. Mexico does not have this requirement; therefore some of the plants the Project will be serving have significantly higher air pollution emissions than would be allowed in the United States. Therefore, the emissions from power plant facilities served by the Project must be further addressed in the EIS/EIR.

NEPA and CEQA direct the lead agencies to carry out their programs in an environmentally protective manner. That includes promoting efforts that will minimize damage to the environment. It is clear that the Project will indirectly result in significant adverse impacts to the air quality of the region. Accordingly, the County believes that the emissions from Mexican power plants should be identified and that the adverse impacts of these facilities be quantified and presented in the EIS/EIR for public review. As permitting agencies, FERC, CLSC, the Bureau of Land Management and the Bureau of Reclamation should ensure that all generating facilities associated with the Project, as a condition of connection to the expanded pipeline, use cost-effective and best available air pollution control technologies.

In order to fully disclose all environmental impacts caused by the Project, the EIS/EIR must be revised to comprehensively analyze both direct and indirect environmental impacts. Under CEQA, "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." (Pub. Resources Code, § 21002.)

LA9-12

Further, the EIS/EIR should include a provision stating that certain types of development would be required to prepare a health risk assessment before receiving permits for use or operation of a source of emissions. This requirement alone is not a mitigation measure. The EIS/EIR must include why the health risk assessment is required, what entity would enforce the required standards, and what the required response to a negative result would be. (See *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91

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LA9-12 See the response to comment FA6-3.

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LA9-12 | Cal.App.4th 1344, 1367-1371; see also *Bakersfield Citizens for Local*
(cont'd) | *Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1194.)

Section 4.14: Reliability and Safety

	<u>Page</u>	<u>Comment</u>
LA9-13	4-221	Imperial County is one of the most active seismic areas in the nation with seismic events occurring on a daily basis. The Draft EIS/EIR appears to downplay this, only listing the risks associated with earthquakes in Table 4.14.4-2. This potentially significant impact needs to be fully disclosed, analyzed, and mitigated in the revised Draft EIS/EIR.

Section 4.15: Cumulative Impacts

	<u>Page</u>	<u>Comment</u>
LA9-14	<i>Passim</i>	<p>Under CEQA, a lead agency should undertake a two-step analysis to determine the cumulative impacts of a project. When looking at the cumulative effects of various projects proposed for an areas with similar impacts, the first question is whether the combined impacts of the projects will constitute a significant cumulative impact. The CEQA Guidelines direct that one of two methods may be used and the method that is used should be described in the EIR. The EIR may either: (1) provide a list of past, present, and probable future projects producing related or cumulative impacts, or (2) provide a summary of projections contained in the general plan, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. (CEQA Guidelines, § 15130, subd. (b)(1).) For whichever method is used, the EIR should “define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used.” (<i>Id.</i> at subd. (b)(5).)</p> <p>If the first question is answered yes, then the second step is to ask whether a particular project’s “incremental” contribution to that significant cumulative impact is “cumulatively considerable” (and thus significant in and of itself). (See CEQA Guidelines, § 15064, subd. (i)(1); <i>Communities for a Better Environment v. California Resources Agency</i> (2002) 103 Cal.App.4th 98, 120.)</p>

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LA9-13 Section 4.14.3 has been revised to acknowledge that the Project would be subject to potential seismic impacts, and a cross reference has been added to direct the reader to Section 4.1.4, where a detailed analysis of potential seismic impacts is presented.

LA9-14 As discussed in the introduction to Section 4.15, projects and activities included in the cumulative impacts analysis are generally those of comparable type and nature of impact, and are located within the same counties that would be affected by the North Baja Pipeline Expansion Project. With some exceptions, more geographically distant projects are not assessed because their impact would generally be localized and, therefore, would not contribute significantly to cumulative impacts in the proposed Project area. One of these exceptions is air quality. Therefore, an analysis of cumulative air quality impacts associated with the Gasoducto Bajanorte Pipeline Project in Mexico is included in Section 4.15.8.

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LA9-14
(cont'd)

If a project's contribution is found to be cumulatively considerable, the project's incremental contribution can be rendered less than cumulatively considerable through the adoption of mitigation. (CEQA Guidelines, § 15064, subd. (i)(2).) It is not necessarily true that mitigation sufficient to render a *project-specific* effect less than significant is sufficient to render a "cumulatively considerable" incremental impact "less than cumulatively considerable."

Here, the Draft EIS/EIR fails to make clear the important distinction between cumulative impacts and indirect impacts of the Project. Cumulative impacts are those in relation to related overall projects (i.e., other power plant/pipeline networks). Indirect effects are those caused in some way by the Project.

The Draft EIS/EIR must be revised to analyze all cumulative impacts of the Project using the two-step approach outlined above. In particular, the County requests that the EIS/EIR be revised to adequately analyze and mitigate the Project's cumulative air impacts and growth-inducing impacts.

Section 5.6 FERC and CSLC Staff's Recommended Mitigation

LA9-15

Page
5-5

Comment

The Draft EIS/EIR includes many "recommended" mitigation measures. The document clearly explains that these measures are not mandatory, but merely "recommended" by staff. Thus, there is no guarantee that they will be adopted or implemented. As such, these measures do not constitute true "mitigation" under the definition of CEQA. If any of these "mitigation measures" would substantially lessen the severity of the Project's significant impacts, they should be revised to include mandatory, enforceable language, such as "shall" or "must."

For example, on page 4-130 of the Draft EIS/EIR, there are staff-recommended mitigation measures which, if implemented, purportedly would reduce the Project's impacts on special status species to a less than significant level. In order to ensure these mitigation measures are enforceable and binding on the Project applicant, the Draft EIS/EIR must be revised to make these measures mandatory.

LA9-16

Thank you for the opportunity to review and comment on the EIS/EIR. The County believes that significantly more information is necessary in this document before it can be deemed adequate under both NEPA and CEQA's minimum requirements. We look forward to further

LA9-15

The recommendations of the FERC and CSLC staffs presented in the EIS/EIR are, in practice, included as conditions to any authorizations issued by their respective Commissions. These recommendations are included in Table 5.1-1, which forms the basis for the mitigation monitoring program that would be implemented during construction and operation of the North Baja Pipeline Expansion Project.

LA9-16

See the responses to comments PM1-5 and LA9-4.

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LA9-16 | opportunities to review and comment on a revised, improved document. Please do not hesitate
(cont'd) | to contact us if you have any questions about our comments or the County's concerns.

Sincerely,

Sabrina V. Teller
Attorneys for Imperial County

Cc: Ralph Cordova, County Counsel for Imperial County
Joanne Yeager, Assistant County Counsel, Imperial County

61221025.001

Local Agencies

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ORIGINAL

OFFICIAL RECORDS OF
YUMA COUNTY RECORDER
SUSAN MARLER

FEE #: 2006 - 45002

11/07/2006 12:36 PAGES: 0002
FEE: .00 .00 .00 .00 .00REQ BY: 808
REC BY: PATTY MAGANAPlease return original document
to the Board of Supervisors Office,
ATTENTION: CHRISTY ISBELL 373-1107
(Name & phone number)

TYPE OF DOCUMENT:

(Check the appropriate box; fill in blanks.)

RESOLUTION NO. 06-61

In support of
TRANSCANADA'S
NORTH BAJA PIPELINE PROJECTCP06-61-000
CP01-23-003
JAN - 8 P 3 03
FILED
OF THE
CLERK
ENERGY
COMMISSION

DOCUMENT APPROVAL:

Approved by Yuma County Board of Supervisors:
November 6, 2006, Item No. 1.

Unofficial FERC-Generated PDF of 20070111-0074 Received by FERC OSEC 01/08/2007 in Docket#: CP06-61-000



YUMA COUNTY BOARD OF SUPERVISORS

RESOLUTION NO. 06- 01

A resolution in support of the proposed North Baja Pipeline Expansion Project

LA10-1

WHEREAS: North Baja Pipeline LLC has proposed a modification to and an expansion of their existing pipeline to allow for the importation of Liquefied Natural Gas (LNG) sourced natural gas into Southern California; and

WHEREAS: North Baja Pipeline is currently pursuing permits for this project with the Federal Energy Regulatory Commission and the California State Lands Commission and these permits are being reviewed by these agencies in Dockets CP06-61-000 and CP01-23-003; and

WHEREAS: Southwest Arizona, including Yuma County, would indirectly benefit from this proposed Project because Southern California and the region would gain access to a new source of natural gas to replace gas from traditional domestic sources that are projected to decline in the future, by the anticipated moderating impact this new source of gas will have on natural gas prices because of the competition with traditional sources, and by improving reliability of supply to the region because gas will be delivered to the region on an entirely new pipeline transportation path; and

WHEREAS: This project provides the potential, in the future, for a direct connection to LNG sourced gas which would provide direct benefits to Yuma County;

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of Yuma County, Arizona, do hereby declare its support for the proposed North Baja Pipeline Expansion Project, and file this Resolution in Support with the Federal Energy Regulatory Commission and the California State Lands Commission.

Adopted this 6th day of Nov, 2006.

Casey Prochaska
CASEY PROCHASKA, Chairman of the Board

ATTEST:
The Staimont
Clerk

APPROVED AS TO FORM:
[Signature]
County Attorney

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LA10-1

The Yuma County Board of Supervisors' resolution expressing support for the proposed Project is noted.

6-100



IMPERIAL COUNTY

PLANNING & DEVELOPMENT SERVICES

PLANNING / BUILDING INSPECTION / ECONOMIC DEVELOPMENT / PLANNING COMMISSION / A.L.U.C.

JURG HEUBERGER, AICP, CEP, CBO
PLANNING & DEVELOPMENT SERVICES DIRECTOR

CERTIFIED MAIL #7003-2260-0003-7209-5727 & #7003-2260-0003-7209-5741

December 28, 2006

Margalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426Tom Filler
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825**SUBJECT: Response to Draft EIS/EIR for North Baja Pipeline Expansion
SCH #2006081127/Draft BLM Land Use Plan Amendment**

Dear Ms. Salas and Mr. Filler:

The Imperial County Planning & Development Services Department has received on September 26, 2006, the proposed "Draft Environmental Impact Statement and Environmental Impact Report (Draft EIS/EIR)" for North Baja Pipeline Expansion submitted by TransCanada Pipelines Limited (TransCanada), North Baja System, Portland, Oregon.

The County has previously responded on the project's NOI (Notice of Intent for Preparation of an EIS/EIR) and the following are the staff's comments on the Draft EIS/EIR proposed expansion:

- LA11-1 1) The Draft EIS/EIR, 5.0 Conclusions and Recommendations, 5.1 Summary of the Staffs' Environmental Analysis, and 5.2 Alternatives Considered, page 5-2, states the following:

"...The No Project Alternative was considered...This might lead to alternative proposals to develop natural gas delivery or storage infrastructure, reduced use of natural gas, and/or **the use of other sources of energy**...Denying North Baja's applications could force potential natural gas customers to seek regulatory approval to use other forms of energy. California regulators are promoting renewable energy programs to **help reduce the demand for fossil fuels**. While renewable energy programs can contribute as an

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In the United States, the majority of natural gas use for the next 20 years is predicted to be for electric generation and for use by industry. In California, electricity production from fossil fuels (including natural gas) accounted for about 58 percent of the total electricity production in 2003. Non-hydro renewable resources in 2003 (Energy Information Administration 2005 [see http://www.eia.doe.gov/cneaf/solar/renewables/page/non_hydro/nonhydrorenewablespaper_final.pdf#2.3]) accounted for about 9 percent of the total electricity produced in the State. Of the 9 percent of non-hydro generated electricity, about 3 percent resulted from solar-derived production. Consequently, in the foreseeable future, solar energy production, although important as a renewable form of energy, will not by itself contribute in a major way to the energy needs of California. Even allowing for California's ambitious goal of obtaining 33 percent of its energy from renewable sources by 2020, energy users in California will continue to depend on non-renewable sources of energy such as natural gas (California Energy Commission [CEC] 2004).

6-101

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(cont'd)

energy source for electricity, they cannot at this time **reliably** replace the need for natural gas or provide sufficient energy to keep pace with demand..." (emphasis added).

The County finds that development of non-fossil fuel energy resources is paramount and strongly disagrees with the Draft EIS/EIR conclusions and recommendations.

The FERC, CSLC and BLM staffs' are intimately aware of the future potential development of the County's indigenous geothermal energy resources. Also, the Governor and his staff are proposing to have one million photovoltaic systems in place for residential, commercial and industrial uses within the next ten (10) years.

Furthermore, all of the public utilities in the State of California have to meet their renewable portfolio standard of 20% renewable energy requirements by the year 2010.

a) The reliability of geothermal power plants as a "base load" power source is undisputed as one of the **"most reliable"** sources of electrical energy generation. The potential development of significant amounts of wind, solar, or nuclear power to meet the State's burgeoning demand for future electrical power are considered to be expensive alternatives to the development of geothermal energy.

It is very important that the full development of our natural indigenous geothermal sources be exploited prior to seeking to further foreign natural gas resources and the expansion of the Mexican gas pipelines will necessarily increase the future need and dependence on more foreign natural gas. Such resources could become threatened, crippled, or destroyed in the future due to unforeseen attacks by "terrorists" or for other political reasons.

In order to continue to **"reduce the demand for fossil fuels"** from foreign fuel sources and adding to the "global warming" created by natural gas powered developments, it is necessary that local renewable energy resources be developed.

b) The existing geothermal resource capacity has been estimated at "2,000 MW's at the Salton Sea" and the CalEnergy, Salton Sea Unit #6, 215 MW, geothermal power plant has received all of its required permits from the federal, state and local governments to date. The proposed 215-MW power plant, if constructed, would in fact provide the electrical energy for approximately 215,000 new residential units.

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(cont'd)

The total estimated capacity of "2,000 MW's" of geothermal energy in Imperial County, when fully developed, is calculated to reduce the need for approximately **nine (9) million barrels of foreign oil**. In developing this indigenous geothermal resource, it can provide a future electrical energy source for residential, commercial and industrial purposes in California and the Western United States.

c) There are proposals in the County for solar energy (Sterling Energy's 300-MW mirror array), photovoltaic projects, future wind energy projects, and Imperial Irrigation District's "green path" transmission line project that could assist in reducing dependence on foreign oil resources.

d) The development of the existing geothermal "green" energy enhances the United States "homeland security" by maintaining any new transmission lines totally within the United States and does not have to rely on Mexican law enforcement to protect and defend against an attack or political manipulations on Mexican natural gas/LNG storage and Mexican gas pipelines.

LA11-2

- 2) Since 2001, the County has on numerous occasions in previous written comments on the initial natural gas North Baja Pipeline project, that the construction and operation of future Mexicali natural-gas powered plants, as well as future commercial and industrial projects from natural gas in Mexico will cause a cumulative degrading of air quality both in the Mexicali and Imperial Valley areas.

Unfortunately, the September 25, 2006 letter by Henry P. Morse, Jr., General Manager of TransCanada, regarding the improving of air quality in the "region" has proven not to be the case. The Mexicali power plants have not provided air quality "off-sets" that power plants constructed in the State of California would have been required to provide.

The position taken by the proponents that air quality would be enhanced in other parts of Mexico, e.g. the Ensenada region, due to constructing new or re-powering existing power plants does not help to improve regional air quality in either the Imperial Valley or Mexicali Valley.

LA11-3

- 3) The State Air Resources Board (ARB) is mandated by state law to ensure that all projects shall meet and comply with the CEQA requirements for future air quality impacts due to a "project" wherever located in the state.

However, even though the Imperial County Air Pollution Control District (APCD) has provided extensive air quality comments on the North Baja Pipeline project and the future potential adverse impacts, the State ARB has not supported the County's position in regards to air quality degradation due to this project within Imperial County.

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LA11-2

Section 4.15.8 includes a cumulative impacts evaluation of the existing and anticipated facilities located in Mexico across the border from Imperial County. The cumulative impacts presented are associated with the maximally impacted receptor location at or near the U.S. border and demonstrate that the operation of the Mexican facilities would likely not result in significant impacts in the vicinity of or across the U.S. border in California. Section 4.15.8 has been revised to include additional details regarding the criteria used to make this determination.

LA11-3

Imperial County Planning and Development Services' comments regarding the State Air Resources Board are noted. These comments, however, do not directly relate to the environmental issues analyzed within the contents of the draft EIS/EIR. Thus, no changes to the document are necessary.

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Tom Filler
Draft EIS/EIR Response
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LA11-4

- 4) The natural gas lateral pipeline to the Imperial Irrigation District will impact local County roads, require obtaining County road rights-of-way, impact local farmlands, impact wildlife habitat, and will require an SB-18 consultation with the Indian Tribes within the County. The Final EIS/EIR should provide the analysis and mitigation for the above pipeline construction impacts within the designated utility corridor.

In Summary:

LA11-5

The County formally requests that all comments and concerns expressed in this letter be responded to in the Final EIS/EIR and that the County receive both a hard copy and CD of said Final EIS/EIR. The County finds that the proposed North Baja Pipeline Expansion Project and the resulting Mexican projects' will continue to cumulatively adversely impact the region's air quality due to new construction of future natural gas-fired commercial, industrial and/or power plants in the Mexicali area without adequate mitigation or appropriate "off-sets". Any future increases of higher concentrations of air pollutants into the Salton Sea Air Basin could cause violations of the National Ambient Air Quality Standards to occur creating greater health risks.

In order to protect the County's health, welfare and safety of both existing and future residents, the FERC, the State Lands Commission and the State Air Resources Board should support Imperial County's efforts in stemming any future air contamination that originates in Mexico and help advance the Imperial County Air Pollution Control District's position at both the Federal and State levels.

If you have any questions, please feel free to contact me at (760) 482-4236, extension 4279, or by e-mail at darrellgardner@imperialcounty.net

Sincerely,



Darrell Gardner,
Assistant Planning & Development Services Director

cc: Board of Supervisors
Deborah Jordan, Air Director, Region IX EPA
Catherine Witherspoon, Executive Director, CARB
Congressman Bob Filner
Senator Diane Feinstein
Senator Barbara Boxer
Senator Denise Ducheny
Assemblywoman Bonnie Garcia
Robertta Burns, County Executive Officer
Ralph Cordova, County Counsel
Stephen L. Birdsall, Ag. Comm/APCO
Bill Powers, Border Power Plant Working Group
Jurg Heuberger, Planning & Development Services Director
Jim Minnick, County Planning Division Manager
State Lands Commission Correspondence File
Northern Baja Pipeline Expansion Project File
File: 10.101, 10.105, 10.130, 10.133, 10.134, 40.110

MS/S/PlanningClerical Responses to North Baja Pipeline Expansion Project Finalized MS

Local Agencies

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LA11-4 The IID Lateral is analyzed in each of the major resource topics in Section 4 of the EIS/EIR.

LA11-5 Imperial County Planning and Development Services' comments are noted. See the responses to comments LA11-1 to LA11-4. One hard copy and one CD that can be read by a computer with a CD-ROM drive of the final EIS/EIR will be sent to the county at the letterhead address.

Unofficial FERC-Generated PDF of 20070118-0022 Received by FERC OSEC 01/16/2007 in Docket#: CP06-61-000

CITY COUNCIL
Mark Gran - Mayor
Geoff Dale - Mayor Pro - Tem
Rick Breland - Council Member
Doug Cox - Council Member
Betty Sampson - Council Member

CITY CLERK
Debra Jackson

CITY TREASURER
Steve Shaner

CITY OF IMPERIAL

INCORPORATED 1904



ORIGINAL

CITY HALL
420 South Imperial Avenue
Imperial, California 92251
City Hall (760) 355-4371
Fax (760) 355-4718
<http://www.imperial.ca.gov>

CITY ATTORNEY
Dennis Morita
Dennis H. Morita A.P.C.

January 8, 2007

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE: Room 1A
Washington, DC 20426

RE: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas,

LA12-1

The City of Imperial wishes to acknowledge the efforts made by Kathleen Russeth of Russeth Strategic Communications in making information and presentations available in regards to the North Baja Pipeline Expansion Project.

We support the proposed expansion of the pipeline and in doing so, adopted Resolution No. 2006-72. This action was taken by the City Council of the City of Imperial on November 1, 2006.

Enclosed, please find one original and two copies of Resolution No. 2006-72 for your use. One of the copies is to be forwarded to the attention of Gas 1, DG2E.

Again, we appreciate the opportunity we have had to provide support of this worthwhile project.

Sincerely,

Debra Jackson
City Clerk

Enclosures (3)
Cc: CA State Lands Comm.
File
Kathleen Russeth

FILED
OFFICE OF THE
SECRETARY
2007 JAN 16 P 3 31
FEDERAL ENERGY
REGULATORY COMMISSION

Local Agencies

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LA12-1

The City of Imperial's comments and resolution expressing support for the proposed Project, as well as the acknowledgement of North Baja's efforts to make information and presentations available in regards to the North Baja Pipeline Expansion Project, are noted.

Unofficial FERC-Generated PDF of 20070118-0022 Received by FERC OSEC 01/16/2007 in Docket#: CP06-61-000

RESOLUTION NO. 2006-72**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF IMPERIAL,
IMPERIAL COUNTY, CALIFORNIA, IN SUPPORT OF THE PROPOSED
NORTH BAJA PIPELINE EXPANSION PROJECT**

Whereas, North Baja Pipeline LLC has proposed a modification to and an expansion of their existing pipeline to allow for the importation of Liquefied Natural Gas (LNG) sourced gas into Southern California, and the construction of a new pipeline lateral from the existing North Baja Pipeline system to the Imperial Irrigation District El Centro Generating Station in El Centro, California; and

Whereas, North Baja Pipeline is currently pursuing permits for this project with the Federal Energy Regulatory Commission and the California State Lands Commission and these permits are being reviewed by these agencies in Dockets CP06-61-000 and CP01-23-003; and

Whereas the Federal Energy Regulatory Commission and the California State Lands Commission and other Cooperating Agencies have recently issued a Draft Environmental Impact Statement/ Draft Environmental Impact Report which has reviewed the potential environmental impacts of this proposed project; and

Whereas Southern California would benefit from this proposed Project by gaining access to a new source of natural gas to replace gas from traditional domestic sources that are projected to decline in the future, by the anticipated moderating impact this new source of gas will have on natural gas prices because of the competition with traditional sources, and by improving reliability of supply to the region because gas will be delivered to California on an entirely new pipeline transportation path; and

Whereas Imperial County and the City of Imperial would benefit from the proposed project by receiving an increase in property taxes from the Project of as much as \$2.5 million per year, by the improved reliability of gas supply to the Imperial Irrigation Districts El Centro Generating Station from the new pipeline lateral, and from the more direct access to the anticipated lower cost LNG sourced gas; and

Whereas the Draft Environmental Impact Statement/ Environmental Impact Report summarizes that "if the project is constructed in accordance with applicable laws and regulations, North Baja's proposed mitigation, and the Agency Staff's additional mitigation recommendations, it would be an environmentally acceptable action;" and

Whereas the City of Imperial is concerned about the potential impact of air quality from the Project, and the Draft Environmental Impact Statement/ Environmental Impact Report indicates that the only direct air quality impact of the proposed Project would be from fugitive dust created during the construction phase and that "With the implementation of North Baja's revised Dust Control plan, fugitive dust from Project construction activities is not expected to result in a violation of Federal or State ambient

Local Agencies

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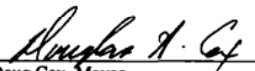
Unofficial FERC-Generated PDF of 20070118-0022 Received by FERC OSEC 01/16/2007 in Docket#: CP06-61-000

air quality standards or contribute substantially to an existing or projected air quality violation due to the transient and temporary nature of the construction activities:" and

Whereas, the Draft Environment Impact Statement/ Environmental Impact Report reviewed the potential air quality impacts of the compressor stations that will need to be constructed on the upstream pipeline by Gasoducto Bajanorte and concluded "it is unlikely that emissions from these proposed stations would result in any significant cumulative ambient air quality impacts at receptors in the vicinity of or across the U. S. border" and further, as a result of a Health Risk Assessment conducted as a part of the Draft Environmental Impact Statement/ Environmental Impact Report on the potential impacts of the toxic air pollutants emitted by the existing power plants in Mexicali, and the proposed compressor stations, it was concluded that "the cumulative risks associated with the emissions from the existing power plants and the future compressor stations would be considered less than significant."

Therefore, we, the City Council of the City of Imperial, County of Imperial, California do hereby declare our support for the proposed North Baja Pipeline Expansion Project, and direct the City Manager to file this Resolution in support with the Federal Energy Regulatory Commission and the California State Lands Commission.

Signed this 1st day of November, 2006.


Doug Cox, Mayor

ATTEST:


Debra Jackson, City Clerk

Local Agencies

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Unofficial FERC-Generated PDF of 20070118-0022 Received by FERC OSEC 01/16/2007 in Docket#: CP06-61-000

Local Agencies

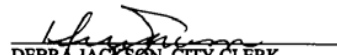
12

STATE OF CALIFORNIA)
COUNTY OF IMPERIAL)ss
CITY OF IMPERIAL)

I, the undersigned, City Clerk of the City of Imperial, DO HEREBY CERTIFY that the foregoing Resolution No. 2006-72 was duly and regularly adopted at a regular meeting of the Imperial City Council held on the 1st day of November 2006, by the following vote:

AYES: GRAN, SAMPSON, AND COX
NAYES: NONE
ABSENT: DALE AND MAZEROLL
ABSTAIN: NONE

MOTION CARRIED 3-0


DEBRA JACKSON, CITY CLERK
CITY OF IMPERIAL, CALIFORNIA

6-108

Unofficial FERC-Generated PDF of 20070119-0099 Received by FERC OSEC 01/16/2007 in Docket#: CP06-61-000

ORIGINAL

Holtville Chamber of Commerce and Agriculture

101 WEST FIFTH STREET • HOLTVILLE, CA 92250 • (760) 356-2923 • FAX (760) 356-2925

Margalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

Re: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas:

LA13-1 The City of Holtville Chamber of Commerce wants to indicate its support for the proposed North Baja Pipeline Expansion Project.

We believe that this project will be good for the Imperial Valley because it will:

1. Provide a new supply of natural gas from LNG that is able to supplement the declining supplies of natural gas that have historically provided gas to Southern California,
2. Help to hold down the cost of natural gas as the LNG suppliers compete with traditional natural gas suppliers,
3. Improved reliability to Southern California because of the different route and source of supply to get gas from producers to Southern California, and
4. Add significant additional property tax revenue to Imperial County with little or no need for services from the county.

We also believe that the pipeline lateral from the North Baja Pipeline system to El Centro will be good for Imperial County because it will:

1. Improve the reliability of the Imperial Irrigation District's El Centro Generating Station by providing a different pipeline route and source of supply to the plant,
2. Help IID hold down electric rates by providing access to LNG sourced natural gas that is likely to be less expensive than gas from traditional sources, and
3. Provide increased pipeline capacity to Imperial County that will allow further business development to provide new jobs for an area that currently and historically has a high unemployment rate.

Please make this letter of support a portion of the official record for this proposed project.

Sincerely,



Manuel Nunez, President
Holtville Chamber of Commerce



THE CARROT
CAPITAL
OF THE
WORLD

Local Agencies

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LA13-1 The Holtville Chamber of Commerce and Agriculture's comments expressing support for the proposed Project are noted.

6-109

ORIGINAL

Brawley
Chamber of Commerce

January 25, 2007

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE: Room 1A
Washington, DC 20426

Re: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas:



LA14-1

On behalf of the Brawley Chamber of Commerce please accept this letter as our support for the proposed North Pipeline Expansion Project.

We believe that this project will be good for the Imperial Valley because it will:

1. Provide a new supply of natural gas from LNG that is able to replace the declining supplies of natural gas that have historically provided gas to Southern California,
2. Help to hold down the cost of natural gas as the LNG suppliers compete with traditional natural gas suppliers,
3. Improve reliability to Southern California because of the different route and source of supply to get gas from producers to Southern California, and
4. Add significant additional property tax revenue to Imperial County with little or no need for services from the county.

We also believe that the pipeline lateral from the North Baja Pipeline system to El Centro will be good for Imperial County because it will:

1. Improve the reliability of the Imperial Irrigation District's El Centro Generating Station by providing a different pipeline route and source of supply to the plant,
2. Help IID hold down electric rates by providing access to LNG sourced natural gas is likely to be less expensive than gas from traditional sources, and
3. Provide increased pipeline capacity to Imperial County that will allow further business development to provide new jobs for an area that currently and historically has a high unemployment rate.

Please make this letter of support a portion of the official record for this project.

Sincerely,

Sue Giller
President

204 S. Imperial Avenue • P.O. Box 218 • Brawley, CA 92227 • (760) 344-3160 • Fax (760) 344-7611
www.brawleychamber.com • chamber@brawleychamber.com

Local Agencies

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LA14-1

The Brawley Chamber of Commerce's comments expressing support for the proposed Project are noted.

Local Agencies

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UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

North Baja Pipeline, LLC) Docket No. CP06-61-000
) Docket No. CP01-23-003

**MOTION TO INTERVENE
OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

Pursuant to the Public Notice issued in the captioned proceeding on September 22, 2006, and the Federal Energy Regulatory Commission's ("Commission") rules, 18 C.F.R., Sections 157.10(a)(2), 380.10(a)(1)(i), and 385.214, the South Coast Air Quality Management District ("District") hereby moves to intervene in the above-referenced proceeding on environmental grounds raised by this application, including issues concerning the North Baja Pipeline Expansion Project ("the Project") Draft Environmental Impact Statement/Environmental Impact Report and Draft Land Use Plan Amendment (September 22, 2006) ("Draft EIS").

I. THE DISTRICT'S INTEREST IN THE PROCEEDING

The District has a strong interest in this proceeding. The District is the governmental body principally charged with regulating air pollution in the South Coast Air Basin ("the Basin") in Southern California. The District's jurisdiction over the Basin includes Los Angeles, Orange, and portions of Riverside and San Bernardino Counties. The District represents the air quality interests of over 16 million people living within the Basin.

The proposed Project would have important impacts on the District's efforts to attain the federally-established national ambient air quality standards in the Basin. See 42 U.S.C. § 7410 (provision of the federal Clean Air Act requiring states to adopt plans that will achieve the standards). In particular, the District is concerned that the proposed Project would bring into the Basin large quantities of imported natural gas of a quality that, when combusted, would result in

ADMIN01/900999 00537/6992528.1

LA15-1 The SCAQMD's interest in this proceeding and concern regarding the impacts of the proposed Project on air quality in the SCAB are noted. The SCAQMD has been added to the FERC's official service list for this proceeding.

6-111

Local Agencies 15

LA15-1 (cont'd) increased emissions of nitrogen oxide. These increased emissions would make the attainment of the federal air quality standard for ozone more difficult.

The District's participation in this proceeding is in the public interest. The federal ambient air quality standard for ozone is exceeded approximately 100 days per year in the Basin. The ozone standard is exceeded by 175 to 250 percent, and children in southern California have eight percent less lung capacity due, in part, to poor air quality. A 48 percent reduction in nitrogen oxide is required to meet the least-stringent federal ozone standard. Thus, any increase in NOx emissions caused by the proposed Project would impose increased health risks to the public and would therefore be unacceptable.

The Commission's rules confer upon the District a right to participate in the proceeding. *See* 18 C.F.R. §§ 157.10(a)(2), 380.10(a)(1)(i), and Commission Rule 214, 18 C.F.R. § 385.214.

II. COMMUNICATIONS

The names and offices of persons to whom correspondence in regard to this proceeding should be addressed are as follows:

Harvey L. Reiter, Esq.
David D'Alessandro, Esq.
Stinson Morrison Hecker LLP
1150 18th Street, NW, Suite 800
Washington, DC 20036-3816
Tel: (202) 728-3016
Fax: (888) 704-8304
E-mail: hreiter@stinsonmoheck.com

Daniel P. Selmi, Esq.
919 S. Albany Street
Los Angeles, CA 90015
Tel: (213) 736-1098
E-mail: dselmi@aol.com

Kurt R. Wiese, Esq.
Michael R. Harris, Esq.
South Coast Air Quality
Management District
21865 Copley Drive
Diamond Bar, CA 91765-0940
Tel: (909) 396-3460
Fax: (909) 396-2961
E-mail: kwiese@aqmd.gov

Deborah L. Keeth, Esq.
Shute, Mihaly & Weinberger LLP
396 Hayes Street
San Francisco, CA 94102
Tel: (415) 552-7272
Fax: (415) 552-5816
E-mail: keeth@smwlaw.com

Local Agencies

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LA15-2 III. THE DISTRICT'S POSITION IN THE PROCEEDING

The District seeks to ensure that the proposed Project fully complies with National Environmental Policy Act ("NEPA"), the California Environmental Quality Act ("CEQA"), the conformity provisions of the Clean Air Act, Section 176 (42 U.S.C. § 7506), and other applicable federal environmental laws affecting air quality. The proposed Project will result in significant air quality impacts, including increased NOx emissions in the Basin. Because the District will submit a detailed comment letter describing the proposed Project's significant air quality impacts and evaluating the Draft EIS prior to the close of the public comment period, we do not provide that detail herein.

IV. THE DISTRICT'S MOTION IS TIMELY

A motion to intervene in a proceeding based on environmental grounds is timely "as long as it is filed within the comment period for the draft environmental impact statement" for the project at issue in the proceeding. 18 C.F.R. § 157.10(a)(2); *See also* 18 C.F.R. § 380.10(a)(i). The comment period for the Draft EIS prepared for the Project at issue in this proceeding runs from September 22, 2006 to December 28, 2006. *See* Notice of Availability/Completion of Draft EIS (Sept. 22, 2006). Thus, the District's Motion to Intervene in the proceeding is timely.

CONCLUSION

Based on the foregoing, the District respectfully moves to intervene in the proceedings, with full rights to participate as a party in the proceeding.

LA15-2 In a letter dated December 28, 2006, the SCAQMD submitted its detailed comments on the draft EIS/EIR (see comment letter LA16). See the responses to comments LA16-1 to LA16-16 for the Agency Staffs' responses to the detailed comments.

6-113

Local Agencies

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Respectfully submitted,

/s/ Harvey L. Reiter
Harvey L. Reiter, Esq.
David D'Alessandro, Esq.
Stinson Morrison Hecker LLP
1150 18th Street, NW, Suite 800
Washington, DC 20036-3816
Tel: (202) 728-3016
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hreiter@stinsonmoheck.com

Kurt R. Wiese, Esq.
Michael R. Harris, Esq.
South Coast Air Quality
Management District
21865 Copley Drive
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Tel: (213) 736-1098
E-mail: dselmi@aol.com

Deborah L. Keeth, Esq.
Shute, Mihaly & Weinberger LLP
396 Hayes Street
San Francisco, CA 94102
Tel: (415) 552-7272
Fax: (415) 552-5816
E-mail: keeth@smwlaw.com

**Attorneys for the
South Coast Air Quality Management District**

Dated: November 28, 2006

Local Agencies

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served, via electronic mail or first class mail, a copy of the foregoing document upon each party on the official service listed compiled by the Secretary in these proceedings.

Dated at Washington, D.C., this 28th day of November, 2006.

/s/ Harvey L. Reiter
Harvey L. Reiter



STINSON
MORRISON
HECKER LLP

Harvey L. Reiter
(202) 728-3016
hreiter@stinsonmhecker.com
www.stinsonmhecker.com

1150 18th Street N.W., Suite 800
Washington, D.C. 20036-3816

Tel (202) 785-9100
Fax (888) 704-8304

December 28, 2006

ELECTRONIC FILING

Magalie Salas
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Tom Filler
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

Re: *North Baja Pipeline Expansion Project, Draft Environmental
Impact Statement/Environmental Impact Report and Draft
Land Use Plan Amendment*
Docket Nos. CP06-61-000 and CP01-23-003
CA State Clearinghouse No. 2006081127

Dear Ms. Salas:

Attached are the Comments of the South Coast Air Quality Management District ("District") on the Draft Environmental Impact Statement/Environmental Impact Report and Draft Land Use Plan Amendment (September 22, 2006) ("DEIS") for the North Baja Pipeline Expansion Project ("Project"), including Attachments. This filing is being done in two parts, Part 1 and Part 2. Copies of these comments have been served on all parties on the service list compiled by the Secretary of the Commission.

Respectfully submitted,

STINSON MORRISON HECKER LLP

/s/ Harvey L. Reiter
Harvey L. Reiter

Attorney for South Coast Air Quality
Management District

KANSAS CITY
OVERLAND PARK
WICHITA
WASHINGTON, D.C.
PHOENIX
ST. LOUIS
OMAHA
JEFFERSON CITY

HLR:cfw

Attachments

Local Agencies

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6-116

Local Agencies

16

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

North Baja Pipeline, LLC)
) Docket No. CP06-61-000
) Docket No. CP01-23-003

COMMENTS OF THE SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT ON DRAFT ENVIRONMENTAL IMPACT
STATEMENT/ENVIRONMENTAL IMPACT REPORT
AND DRAFT LAND USE PLAN AMENDMENT

Pursuant to the Federal Energy Regulatory Commission's (FERC) September 22, 2006 notice, the South Coast Air Quality Management District (District), an intervenor herein, hereby submits its comments on the Draft Environmental Impact Statement/Environmental Impact Report and Draft Land Use Plan Amendment (September 22, 2006) (DEIS) for the North Baja Pipeline Expansion Project ("the Project").¹ As discussed in its intervention, the District is the governmental body principally charged with regulating air pollution in the largest air pollution district in California and, in that capacity, represents the air quality interests of over 16.5 million people.

The District has relied upon the use of clean natural gas as a critical part of the overall strategy to control and reduce emissions from stationary sources, as well as

¹ On November 28, 2006, the District intervened in the above-referenced proceeding before the FERC on environmental grounds. On December 5, 2006, the District submitted oral comments on the DEIS at a hearing held by FERC and the State Lands Commission (SLC) (collectively, "the Agencies") in El Centro, California.

mobile sources. Therefore, the District supports efforts to increase supplies of clean natural gas, including liquefied natural gas (LNG), provided that safety, security, and environmental issues are satisfactorily addressed. In particular, the District seeks to ensure that proposed LNG projects fully comply with: (1) the National Environmental Policy Act, 42 U.S.C. §§ 4321 *et seq.* (NEPA); (2) the California Environmental Quality Act, Cal. Public Resources Code §§ 21000 *et seq.* (CEQA); (3) the conformity provisions in Section 176 of the Clean Air Act, 42 U.S.C. § 7506 (CAA); (4) state air pollution legislation, Cal. Health & Safety Code § 39606(a)(2); and (5) other applicable environmental laws affecting air quality.

LA16-1 Unfortunately, the DEIS for the proposed Project is fundamentally flawed. The DEIS asserts that it has analyzed the air quality impacts associated with the proposed Project. But it considers, by its own account, only the air quality impacts associated with the *construction* of the Project – literally, just the emissions from the machinery that would be used to install the new pipeline and facilities. In so limiting its focus, the DEIS concludes, not surprisingly, that the air emission impacts of the proposed Project would be minimal.

The DEIS utterly ignores the main purpose of the Project – to deliver “hot” gas derived from new LNG imports from Mexico into the South Coast Air Basin (“the Basin”) of California.² The District is concerned that introduction of this hotter gas will

² The District’s jurisdiction extends over approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Orange County, and the nondesert portions of Los Angeles, Riverside, and San Bernadino Counties), and the Riverside County portions of the Salton Sea Air Basin and the Mojave Desert Air Basin. Exhibit A [AQMP,

Local Agencies

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LA16-1 As the lead Federal agency responsible for authorizing the proposed Project, the FERC has identified the emissions that would result from the Project in accordance with the published definitions of “direct” and “indirect” emissions in Title 40 CFR Part 51.852/93.152 and the supplementary information provided in the final rule for Determining Conformity of General Federal Actions to State or Federal Implementation Plans contained in 58 Federal Register 63214. This Project definition is supported by the EPA’s response to comments included in 58 Federal Register 63214 on the proposed rule.

The General Conformity Rule was proposed on March 15, 1993 (58 Federal Register 13836). The preamble to the proposed rule invited comments on two proposed definitions of indirect emissions – “inclusive” and “exclusive.” As defined in the final General Conformity Rule (58 Federal Register 63214), “exclusive” indirect emissions are “emissions of a criteria pollutant or its precursors that: (1) are caused by the Federal action, but may occur later in time and/or may be further removed in distance from the action itself but are still reasonably foreseeable; and (2) the Federal agency can practicably control and will maintain control over due to a continuing program responsibility of the Federal agency.” The EPA states that this definition was selected because it met the requirements of section 176(c) of the Clean Air Act (CAA) and because it was consistent with the Transportation Conformity Rule, can be reasonably implemented, and best fits within the overall framework of the CAA. The inclusive definition (which was broader and did not include the second part of the exclusive definition) was not selected because: (1) the mitigation measures required may not be enforceable; (2) it is not consistent with the Transportation Conformity Rule; (3) it would impose an unreasonable burden due to the large number of affected Federal actions; and (4) it establishes an overly broad role for the Federal government in attaining the National Ambient Air Quality Standards. Further, the exclusive definition requires Federal agencies to consider only those emissions over which, under their legal authorities, they can exercise and maintain practicable control and over which they have continuing program responsibilities.

The final General Conformity Rule further states that “the exclusive definition assures that Federal actions will meet the intent of section 176(c) and the States will retain the primary responsibility to attain and maintain the air quality standards.” Also, “a Federal agency has no responsibility to attempt to limit emissions that do not meet those tests, or that are outside the Federal agency’s legal control. Moreover, neither section 176(c) of the CAA nor this regulation requires that a Federal agency attempt to ‘leverage’

Local Agencies

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LA16-1
(cont'd)

its legal authority to influence or control non-Federal activities that it cannot practicably control, or that are not subject to a continuing program responsibility, or that lie outside the agency's legal authority."

"Reasonably foreseeable" emissions are defined in the final General Conformity Rule as "projected future indirect emissions that are identified at the time the conformity determination is made; the location of such emissions is known and the emissions are quantifiable, as described and documented by the Federal agency based on its own information and after reviewing any information presented to the Federal agency." An attempt to determine whether emissions from the end use of the natural gas delivered by the North Baja system are reasonably foreseeable for general conformity applicability identified several factors about the natural gas to be delivered by North Baja and the end use that are not known at this time. These factors include: (1) the precise WI of the natural gas to be delivered, other than it would meet the existing standards set by the CPUC for SoCalGas and SDG&E; (2) the sector of the SoCalGas market to which the gas would be delivered (no specific end users have been identified with the exception of the El Centro Generating Station in El Centro, California, which North Baja proposes to serve through a new lateral pipeline); (3) the ultimate character of the natural gas at the end user (the gas received by North Baja may be blended within the SoCalGas distribution system and the resultant WI of such blend is unknown); and (4) whether or not the gas would be consumed within the SCAB.

The markets of North Baja's shippers are not limited to the SCAB, and capacity constraints on the SoCalGas system would prevent all of the gas volumes proposed in Phase II from moving into SoCalGas' system. Because the new supplies of North Baja's shippers would compete with existing gas supplies, it is impossible to determine at this time where LNG-source gas would be burned, how much LNG gas would be burned, and (due to limited data) the extent of changes in NOx emissions associated with the burning of LNG gas. Also, the final General Conformity Rule provides examples of actions not reasonably foreseeable. One of these examples includes the resulting emissions from the use of electric power. This example was considered not reasonably foreseeable because the emissions cannot be precisely located or quantified. Similarly, the emissions from the end use of natural gas are not reasonably foreseeable.

The EPA has noted that "the requirements of this final rule will apply only in nonattainment and maintenance areas, as proposed," which is further supported in the June 5, 2006 EPA memorandum, Revision to General Conformity Applicability Questions and Answers. This memorandum states "the purpose of this memorandum is to make you aware of a recent revision to our questions and answers (Q&A) document for the EPA's General Conformity regulations. Some questions have arisen concerning whether emissions generated outside a nonattainment area should be

Local Agencies

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LA16-1
(cont'd)

accounted when making a General Conformity determination for a Federal action. We are revising our Q&A document issued July 13, 1994, to clarify that only direct or indirect emissions originating in a nonattainment or maintenance area need to be analyzed for conformity with the applicable State Implementation Plan (SIP)." The new guidance states that the EPA interprets this statutory amendment to mean that any direct and indirect emissions originating in an attainment or unclassifiable area do not need to be analyzed for General Conformity purposes, even if such emissions may transport into a nonattainment or maintenance area."

As supported by the General Conformity definitions, supplemental information, and subsequent guidance memos, the FERC has appropriately defined the Project's direct and indirect emissions to be those associated with the construction and operation of the pipeline in the nonattainment counties where the Project would be located. With respect to General Conformity, the Project does not include emissions associated with construction and operation of any portion of the Project in areas designated as attainment or unclassifiable, areas outside the United States, or areas where future end users of the gas are or would be located.

See also the response to comment PM1-4.

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LA16-1 (cont'd) substantially increase emissions of the ozone precursor nitrogen oxides (NOx) in the Basin, making attainment of the federal air quality standards more difficult. Because of its improperly narrow scope, the DEIS fails to describe, much less analyze or mitigate, the significant air quality impacts that would result from burning massive quantities of hotter natural gas. Thus, the DEIS fails the most basic requirements of NEPA and CEQA. Likewise, because the DEIS fails to describe properly the air quality impacts of the proposed Project, it reaches the erroneous conclusion that a full conformity determination under the CAA is not required.

In order to remedy these flaws and comply with NEPA, CEQA and the CAA, FERC and the CSLC, as the federal and state lead agencies, must: (1) revise the DEIS to describe, analyze, and mitigate the significant air quality impacts that would result from burning hotter natural gas as compared to the existing baseline gas; (2) conduct a full conformity analysis and determination under CAA Section 176 that considers the air

LA16-2 quality impacts of the end use of the hot natural gas; and (3) re-circulate the DEIS so that resource agencies and the public can comment on the significant new information and

LA16-3 analysis required by (1) and (2) above. Most critically, the DEIS must consider measures that would insulate the Basin from the adverse air quality impacts from the proposed Project.

Appendix II, Figure 1-2]. For ease of reference, we refer here to the District's entire area of jurisdiction as "the Basin."

LA16-2 See the responses to comments PM1-1, PM1-5, and LA16-1.

LA16-3 Section 4.12.4 discussed the air quality impacts and mitigation measures that would be implemented to minimize impacts related to the construction and operation of the Project. See also the responses to comments PM1-1, PM1-4, LA16-1, and LA16-6 through LA16-8.

LA16-4 The District is not opposed to construction of the Project. However, it urges the Agencies to condition their approvals on treatment of the gas prior to its delivery into the Basin so that NOx emission levels in the Basin do not increase as a result of the Project.

I. THE DISTRICT'S RESPONSIBILITY TO IMPLEMENT THE STATE IMPLEMENTATION PLAN AND ATTAIN FEDERAL AIR QUALITY STANDARDS.

A. The Basin Is a Severe Nonattainment Area for Ozone.

LA16-5 The EPA classifies the Basin as a "severe-17" nonattainment area for the federal 8-hour ozone standard and an "extreme" nonattainment area for the federal 1-hour standard. *See* Exhibit A [AQMP, p. ES-4]. CARB has adopted a similar designation under state law. *See* <http://www.arb.ca.gov/design/adm/adm.htm>. Although significant improvements in air quality have occurred in the Basin over the last several years, the most recent data confirm that the Basin still exceeds the federal 8-hour standard for ozone more frequently than any other location in the United States. *See* Exhibit A [AQMP, p. ES-4].³ In particular, the Basin experiences ozone levels over the federal standard on more than 69 days per year. *See id.* [AQMP, p.2-8; Appendix IV, Table A-4]. In 2005, the Basin exceeded the federal 8-hour ozone standard by 171 percent, and the state 1-hour and 8-hour standards by 192 percent and 193 percent, respectively. *See id.* [AQMP, p.2-5; Table 2-3; Appendix II, p.II-2-3]. These statistics demonstrate that, despite significant progress, the District still must reduce ozone emissions by one-half.

³ The federal primary ozone standard is 0.08 parts per million (ppm) average over an eight hour period. The state standard is 0.09 ppm average over a one hour period, and 0.07 ppm average over an eight hour period. *See* Exhibit A [AQMP, Table 2-1].

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LA16-4 See the responses to comments PM1-1, PM1-4, LA16-1, and LA16-6 through LA16-8.

LA16-5 It is noted that although significant improvements in air quality have occurred in the SCAB, recent data indicate that it still exceeds the Federal 8-hour standard more frequently than any other location in the United States.

LA16-6

B. The District's Plan for Achieving the Ambient Air Quality Standard for Ozone Cannot Tolerate New NOx Emissions.

The District is responsible for regulating stationary sources and planning for the attainment of the federal ambient air quality standards in the Basin. In conjunction with the California Air Resources Board (CARB) and the Southern California Association of Governments, the District has prepared a draft 2007 Air Quality Management Plan (AQMP).⁴ The approved AQMP will be submitted to the Environmental Protection Agency (EPA) as a revision to the California State Implementation Plan (SIP). As such, the CAA requires federal agencies to conform their actions to the District's AQMP.⁵

The AQMP describes the emissions reductions targets that are necessary to bring the Basin's air quality into compliance with the SIP by 2021. *See* Exhibit A [AQMP, p.6-1]. In particular, a 38 percent reduction in NOx is required by 2017 and a 50 percent reduction is required by 2021 in order to meet the federal 8-hour ozone standard. *See id.* [AQMP, pp. ES-7 to ES-8; p.4-1].

The AQMP describes the District's multi-prong strategy to achieve the mandatory emissions reductions, including measure CMB-04: Natural Gas Fuel Specifications. *See id.* [AQMP, Table 4-1; Table 4-2B; Appendix IV-A, p.IV-A-43]. This measure would prevent emissions increases from the combustion of natural gas with high heating value in stationary applications. The measure would set an upper limit on the heating value of natural gas. Natural gas producers/suppliers could achieve the objective by either not

⁴ The AQMP will be presented to the District Governing Board and the CARB for approval in Spring 2007.

⁵ *See* discussion of conformity requirements under CAA Section 176 in Section IV, *infra*.

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It is noted that the SCAQMD has prepared a draft 2007 Air Quality Management Plan (AQMP) that will need to undergo review and ultimately obtain approval from the California Air Resources Board before being submitted to the EPA as a revision to the California SIP. The AQMP includes measure CMB-04: Natural Gas Fuel Specifications. If the AQMP containing this measure is approved, it will set an upper limit on the heating value of natural gas preventing possible emissions increases from the combustion of natural gas with a high heating value (HHV). The FERC and the CSLC lack the authority to impose conditions on the gas being delivered; however, as noted by the SCAQMD, the SCAQMD has the authority to regulate stationary sources of air pollution within the SCAB, which would include the sources that may in the future be fueled by gas with a higher heating value.

As discussed in Section 1.1, North Baja has conditions in its contracts with shippers that require them to deliver gas to North Baja that meets the most stringent gas quality standards of any downstream pipeline to which the gas might be delivered. These conditions would require any gas shipped to the SCAB to exceed the most stringent heating value limits established by the CPUC or the SCAQMD, effectively mitigating any possible emissions increases from the combustion of HHV gas.

See also the responses to comments PM1-1, PM1-2, PM1-4, and LA16-1.

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(cont'd)

supplying hot gas to the District, or by treating the gas prior to delivery. *See id.* [AQMP, p.4-16]. The District anticipates that this measure would be adopted in 2008 and implemented in 2009. *See id.* [AQMP, Table 7-3].

Congress has repeatedly recognized the extent of the public health problem that air pollution poses in the Basin. For example, it authorized more stringent emissions standards for vehicles sold in California than in the other 49 states. 42 U.S.C. § 7543(b) [authorizing the EPA to waive preemption on vehicle emission standards in California]. Given the huge challenge, the unique circumstances, and the slowed progress, there is no margin for error in the District's emissions reduction strategy, and no room for wavering or hesitation in the implementation of the District's control measures. Exhibit A [AQMP, p. ES-1]. To reach the clean air goals imposed by the CAA, Southern California must intensify its pollution reduction efforts. Any increase in NOx emissions caused by the proposed Project would impede the District's efforts to meet federal standards and, thus, cannot be tolerated.

II. THE PROPOSED PROJECT WOULD PROVIDE SUBSTANTIAL QUANTITIES OF HOT NATURAL GAS TO THE SOUTH COAST AIR BASIN.

A. The Main Purpose of the Project Is to Deliver Gas to the Basin.

TransCanada's existing pipeline transports 512,500 Dekatherms per day (Dth/d) in a southbound direction from the United States into Mexico. DEIS, p. ES-2. The proposed Project would reverse the flow of natural gas to a northbound direction, and expand the existing pipeline's capacity nearly six-fold. In particular, the proposed Project would bring more than 2.9 Million Dth/d (or 2.8 Billion standard cubic feet per

LA16-7

The SCAQMD suggests that the Project would bring more than 2.9 dekatherms per day or approximately 2.8 billion standard cubic feet per day (Bscfd) of natural gas from Mexico to California and Arizona and approximately 82 percent of the capacity of the proposed Project (2.4 Bscfd) would feed the SoCalGas pipeline system.

The maximum amount of LNG-sourced gas that could flow into the SCAB would be limited to the takeaway capacity of the SoCalGas pipeline at Blythe, which is just 1.2 Bscfd. This is approximately half of the 2.4 Bscfd estimated by the SCAQMD. Although not to the extent estimated by the SCAQMD, the FERC recognizes that there could be a substantial quantity of LNG-sourced gas sent to and burned in the SCAB. However, as discussed in Section 1.1, North Baja has conditions in its contracts with shippers that require them to deliver gas to North Baja that meets the most stringent gas quality standards of any downstream pipeline to which the gas might be delivered. These conditions would require any gas shipped to the SCAB to exceed the most stringent heating value limits established by the CPUC or the SCAQMD, effectively mitigating any possible emissions increases from the combustion of HHV gas. See also the response to comment LA16-6.

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(cont'd)

day ["Bscf/d"]) of natural gas from Mexico to California and Arizona. *Id.* p. ES-2. The quantity of new natural gas moved into the United States by the Project would be enormous as compared to the existing capacity of the pipeline systems in southern California. *Id.* p.3-6 [existing capacity approximately 5.7 Bscf/d].

The proposed Project would feed the Southern California Gas (SoCalGas) pipeline system, which delivers natural gas throughout the Basin. *See* Exhibit B; *see also* DEIS, pp. ES-2, 1-3. At least 2.414 Million Dth/d, or 82 percent of the capacity of the proposed Project, would be allocated to SoCalGas. DEIS, p.1-6. Thus, the environmental and health impacts of burning the imported gas would be heavily concentrated in the Basin.

B. Approval of the Project Without Mitigating Conditions Would Increase Ozone Emissions in the Basin.

LA16-8

The so-called "Wobbe Index" is one of several indices used "to characterize the interchangeability of different natural gases." *Natural Gas Interchangeability*, 115 FERC ¶ 61,325 (2006) at p.8.⁶ Although the Wobbe Index is designed mainly to measure whether gas supplies are physically interchangeable for safety and reliability purposes, NO_x emissions are very well correlated to the Wobbe Index. In other words, the existing air quality in the Basin is directly tied to the gas quality of existing natural gas supplies. Consequently, any change in gas quality, such as an increase in the Wobbe Index of natural gas delivered to the Basin, will directly affect air quality.

⁶ Interchangeability is "[t]he ability to substitute one gaseous fuel for another in a combustion application without materially changing operational safety, efficiency, or performance or materially increasing air pollutant emissions." Exhibit C [NGC+ Report, p.3]. The Wobbe Index "is based on energy input and specific gravity." *Natural Gas Interchangeability*, 115 FERC ¶ 61,325 (2006) at p.8.

LA16-8

The Agency Staffs recognize that there has been testing conducted on the emissions from certain types of combustion equipment to identify the impacts of burning natural gas with uncharacteristically higher heating values and that the SCAQMD is concerned with the introduction of such gas in the SCAB if it would impede its ability to achieve the Federal ambient air quality standards. The Agency Staffs are also aware that the SCAQMD has introduced control measure CMB-04, which will set an upper limit on the heating value of natural gas burned in the SCAB, in the draft 2007 AQMP. As stated in CMB-04 "the purpose of this new control measure is to prevent emission increases from the combustion of natural gas with an uncharacteristically high heating value in stationary applications." The 2007 AQMP also states that "the District will continue data collection to further determine the relationship between the HHV for natural gas fuel and NO_x emissions from gas fired equipment. Based on this information, the District will make a final determination about the potential emission reductions that can be realized from this measure." If the 2007 AQMP containing this measure is approved and the heating value limit for natural gas is established, adopted, and implemented by the SCAQMD, North Baja's shippers will be required to meet those heating value limits if shipping gas to the SCAB.

See also the responses to comments PM1-1, PM1-2, PM1-4, LA16-1, and LA16-6.

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(cont'd)

For example, the District is a member of the Air Emissions Advisory Committee that participated in recent tests conducted by SoCalGas to determine the impacts of hot gas on certain types of combustion equipment. SoCalGas tested 13 small combustion devices found in residential and/or commercial facilities. The test revealed that NOx emissions increased in sensitive equipment with 1400 Wobbe Index gas, compared to the existing baseline of 1332 Wobbe Index gas. The percentage increases were:

Equipment	Percent Increase in NOx Emissions with 1400 Wobbe Index Gas
Steam boiler	117%
Deep fat fryer	26%
Instantaneous hot water heater	127%
Hot water boiler	37%
Ultra-low NOx steam boiler	75%
Condensing hot water boiler	41%
Pool heater	20%

See Exhibit D. Other studies have found higher Wobbe Index gas to increase NOx emissions from microturbines and small boilers. See Exhibit E [Responsive Testimony of the District, p.5 (District expert Dr. Liu's testimony to the CPUC describing the significant impact of Wobbe Index on NOx emissions for certain sensitive equipment)].

Even the natural gas industry recognizes the link between Wobbe Index and NOx emissions. See, e.g., Exhibit C [NGC+ Report, p.6 (declaring that "[v]arying natural gas composition beyond acceptable limits" can "in combustion turbines . . . result in an increase in emissions")]; Exhibit E [Direct Testimony of Shell Trading, pp.118-128 (Shell expert Dr. Kuipers' testimony to the CPUC: the Basin "could see an increase in NOx emissions with an increase in the maximum Wobbe index"); Responsive Testimony

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(cont'd)

of the District, p.5 (District expert Dr. Liu’s testimony to the CPUC that “[t]he significant impact of Wobbe Index on NOx emissions . . . is obvious from the figures of NOx versus Wobbe Index that are posted on SoCalGas’s website”)].

In short, the District’s concern with the proposed Project is basic: It would directly facilitate the introduction of significant quantities of new hot gas into the Basin which would increase NOx emissions. The five-year average for Wobbe Index numbers within the Basin is 1332. Exhibit A [AQMP, Appendix IV, p.IV-A-43]; Exhibit G [CPUC Tr., p.731, lines 6-9 (District expert Dr. Liu’s testimony to the CPUC); p.1085, lines 24-28 (cross-examination of District expert Dr. Liu before the CPUC)]. Under a new California Public Utility Commission (CPUC) rule governing the interchangeability and quality of gas used on the SoCalGas system, gas may enter the system up to a Wobbe Index of 1385. Thus, the existing interoperability standards will not prevent entry of hot gas into the Basin. Unless the Agencies condition their approval of the Project to require treatment of the new gas, the proposed Project would significantly harm the Basin’s already stressed air quality and significantly impede the District’s effort to achieve federal ambient air quality standards.

LA16-9

III. THE DEIS VIOLATES NEPA AND CEQA BECAUSE IT FAILS TO ANALYZE AND MITIGATE THE PROJECT’S AIR QUALITY IMPACTS.

A. The DEIS Provides a Flawed Description of the Project Which Ignores the Project’s Purpose to Deliver Hot Natural Gas to the Basin.

The DEIS describes the proposed Project as construction of the facilities necessary to connect the LNG terminal in Mexico to the SoCalGas system. See DEIS, p. ES-20. On this basis, the DEIS claims that the “Project area” is limited to the Palo Verde and

LA16-9 See the response to comment LA16-1.

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(cont'd)

Imperial Valleys in Riverside and Imperial Counties. *Id.* pp.4-197, 4-199. The DEIS reaches the important conclusion that “[e]xcept for the construction equipment and activities associated with building these facilities, there would be no air emissions generated by [the] aboveground or pipeline facilities (i.e., no emissions would occur during operation).” *Id.* p.4-199; *see also id.* p. ES-20 [claiming that there would be “no operational emissions associated with the proposed Project . . .”].

This limited view of the scope of the Project and its impact completely ignores the Project’s central purpose and effect – to facilitate the importation of LNG from a terminal in Mexico into the Basin. As a result, the DEIS ignores the significant air quality impact that would result from the delivery and use of LNG imports into the Basin, an impact made possible by the Project.

Such a narrow construction of the Project’s scope cannot be sustained under NEPA or CEQA. NEPA requires an EIS to fully describe the direct and indirect impacts of connected actions, such as the delivery and use of LNG here. For purposes of NEPA, actions are “connected” if they: (i) “[a]utomatically trigger” other actions which may require an EIS; (ii) “[c]annot or will not proceed unless other actions are taken previously or simultaneously;” or (iii) are “interdependent parts of a larger action and depend on the larger action for their justification.” 40 C.F.R. § 1508.25(a)(1).

The law is clear that an agency must analyze the impacts of a project in its entirety, including all of the connected actions. *See Sierra Club v. Marsh*, 769 F.2d 868, 872, 881-882 (1st Cir. 1985) (federal agencies required to analyze significant environmental impacts of secondary development of industrial park related to state’s

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construction of cargo port and causeway, even though precise nature of the park uncertain and park would be developed by private businesses).⁷ “Connected” actions need not be other federal actions. *See Morgan v. Wolter*, 728 F. Supp. 1483, 1493 (D. Id. 1989) [U.S. Army Corps of Engineers was required to consider impacts of a private fish propagation facility prior to issuing a Clean Water Act Section 404 permit for a water diversion project because the projects were “links in the same bit of chain”].

Thus, for example, in *Henry v. Federal Power Commission*, 513 F.2d 395, 406-07 (D.C. Cir. 1975), the court held that FERC’s predecessor was required to consider the environmental impacts of a jurisdictional tap and valve facility as well as the related, but non-jurisdictional, coal gasification project when deciding whether to grant a permit under Section 7 of the Natural Gas Act for the gasification project. In another closely analogous case, the district court in *Border Power Plant Working Group v. DOE*, 260 F.Supp.2d 997, 1017 (S.D.Cal. 2003), found that a DOE permit to construct and operate transcontinental transmission lines triggered NEPA review of air emissions impacts

⁷ *See also Baykeeper v. U.S. Army Corps of Engineers*, No. Civ. S-06-1908 FCD/GGH (E.D. Cal. 2006) (Corps permit required for harbor dredging activities triggered need to consider impacts of entire project of which dredging was only one component); *Arkansas Nature Alliance v. U.S. Army Corps of Engineers*, 266 F.Supp.2d 876, 891-892 (E.D. Ark. 2003) (Corps required to consider impacts of development on island in granting permit for modification of bridge that made access to island possible); *Friends of the Earth v. U.S. Army Corps of Engineers*, 109 F.Supp.2d 30, 40-41 (D.D.C. 2000) (Corps required to expand scope of review for “floating casinos” to include upland impacts from hotels, parking garages and other related development); *Port of Astoria, Oregon v. Hodel*, 595 F.2d 467, 489 (9th Cir. 1979) (EIS must consider supply of federal power and construction of a private magnesium plant that used the power); *Thomas v. Peterson*, 753 F.2d 754, 761 (9th Cir. 1985) (EIS had to consider both federal road and federal timber sales that the road would facilitate); *Colorado River Indian Tribes v. Marsh*, 605 F.Supp. 1425, 1433 (C.D. Cal. 1985) (EIS considered both federal action of stabilizing river bank and private housing built as a result of the stabilization).

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stemming from power generation at an associated power plant in Mexico. The court reasoned that the transmission line was a “but-for” cause of the generation of power at the plant. *Id.* As the court explained, the effects of the power plant’s operation must be included in the environmental review when the various actions in a multi-faceted project are “indispensable prerequisite[s]” or “essential catalyst[s]” for each other, as opposed to actions that can exist “independently of each other.” *See id.* p.1015.

Likewise in the instant matter, it cannot reasonably be questioned that, within the meaning of NEPA, the importation of LNG is an action “connected” to construction of the pipeline and related facilities. If anything, the connection between these components of the Project is even closer than the relationship between the transmission line and power plant in *Border Power Plant Working Group*. Here, “but for” the proposed Project’s expansion of the existing pipeline and reversal of the flow, new hot LNG would not be delivered to the Basin. Conversely, expanding the pipeline and reversing the flow serves no purpose except to deliver a new source of hot gas to the Basin. Burning the hot gas would directly affect air quality in the Basin.⁸

Under the analogous provisions of CEQA, a clear and comprehensive description of the project being proposed for approval is critical to meaningful public review. A project description that omits integral components of the project easily can result in an

⁸ Curiously, the DEIS implicitly acknowledges that the Agencies must consider actions connected to the Project that would result in significant environmental effects. *See, e.g.*, DEIS, p. ES-20 [analyzing the air quality impacts of a related compressor station in Mexico]. But while the DEIS recognizes its responsibility to consider some connected actions, it incongruously and without any explanation ignores the impact on air quality in the Basin from burning the hot gas that the proposed Project would import.

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EIS that fails to disclose the actual impacts of the project. *See Santiago County Water Dist. v. County of Orange*, 118 Cal.App.3d 818, 829 (Cal. Ct. App. 1981). Thus, as one court emphasized, “[a]n accurate, stable, and finite project description is the *sine qua non* of an informative and legally sufficient EIR.” *County of Inyo v. City of Los Angeles*, 71 Cal.App.3d 185, 192 (Cal. Ct. App. 1977).

For example, in *Santiago County Water Dist.*, 118 Cal.App.3d 818, an EIR for a sand and gravel mining operation was found inadequate because the project description omitted mention of the construction of water delivery facilities that were an integral part of the project. The court concluded that, because of this omission, important aspects of the project remained hidden from public review, in violation of CEQA. *Id.* pp.829-30. Similarly, in *Whitman v. Board of Supervisors*, 88 Cal.App.3d 397, 414-15 (Cal. Ct. App. 1979), an EIR prepared for a test oil well project failed to consider the environmental impacts associated with an oil pipeline to service the facility. In *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus*, 27 Cal.App.4th 713, 721-22 (Cal. Ct. App. 1994), a project description for a housing development did not include the expansion of a public wastewater treatment plant. The court held that the description was legally inadequate because the expansion was an integral component of the project. *Id.* p.734. Thus, as under NEPA, the DEIS here fails to satisfy CEQA’s requirement to provide a full description and analysis of the proposed Project.⁹

⁹ In addition, based on this flawed description of the Project and the Project area, the Agencies failed to name the District as a responsible/trustee agency under CEQA. *See* Cal. Pub. Res. Code §§ 21069, 21070, 21104, 21153.

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LA16-9
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The failure to describe the air quality impacts of the proposed Project is a critical omission. Ozone is harmful to human health and the environment, and, as described in detail below, the ozone emissions from the proposed Project would result in significant air quality impacts.

B. The DEIS Fails to Describe the Baseline Environmental Condition of the Basin Under a 1332 Wobbe Index Standard.

LA16-10

The DEIS provides a general comparison of the NOx emissions from burning natural gas to the emissions that would result from the use of *other* fossil fuels, such as fuel oil and coal. DEIS, pp.3-4 to 3-5. In particular, the DEIS suggests that delivery of 2.9 Dth/d (or the equivalent of 2.7 Bscf/d) of natural gas, the amount of gas that the proposed Project would deliver, would result in 44,698 tons per year (or 122.5 tons per day) of NOx in southern California markets. *Id.* p.3-5. It is impossible to determine from the DEIS, however, whether the estimated NOx emissions reflect high Wobbe Index gas that would be imported by the Project. Thus, it is impossible to provide informed public comment on the quality of the analysis in the DEIS. The DEIS recognizes that “there are emissions associated with producing, processing, transmitting, and distributing natural gas and other fossil fuels . . .” *Id.* The DEIS also admits that “credible estimates of air emissions can be developed based on reasonable assumptions regarding burning natural gas delivered by the Project . . .” *Id.* It is mandatory that the DEIS contain such reasoned analysis.

Moreover, while the DEIS uses the emissions estimate to support its conclusion that emissions from the proposed Project would be less than emissions from the use of

LA16-10 Section 4.12.2 includes a discussion of the existing air quality in the Project area. This discussion does not include a discussion of non-Project areas. As discussed in the response to comments PM1-1 and LA16-1, it is beyond the scope of the EIS/EIR to include an environmental analysis of the potential end use of the natural gas that would be transported on the North Baja system; therefore, the baseline environmental condition of the SCAB is not discussed in the EIS/EIR.

The information in Table 3.2.1-1 provides a general comparison between the differences of burning natural gas, fuel oil, or coal given an estimated amount of fuel oil or coal that would be equivalent to the burning of 2.7 Bscfd of natural gas, 365 days per year. The fuel and equipment information was based on data available from the EPA's AP-42 and RBLC database.

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other fossil fuels, the DEIS does not describe the existing environmental condition in the Basin. In particular, the DEIS does *not* compare NOx emissions from the proposed Project to the NOx emissions that occur under the existing baseline environment, or a 1332 Wobbe Index average.

CEQA explains that the “environmental setting” of a project supplies the “environmental baseline” that a lead agency then employs in analyzing whether a proposed project will have a significant environmental effect. *See* 14 Cal. Code Regs. § 15125(a). The environmental baseline describes “the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published” *Id.* An accurate description of the environmental baseline is critical to a fair and accurate determination of the potential impacts of a proposed project. The courts have “widely accepted” the principle that “the significance of a project’s impacts cannot be measured unless the EIR first establishes the actual physical conditions on the property.” *Save Our Peninsula Committee v. Monterey County Bd. of Supervisors*, 87 Cal.App.4th 99, 125 (Cal. Ct. App. 2001).

In the instant matter, the DEIS ignores the environmental baseline of air quality in the Basin, which is based on 1332 Wobbe Index gas. Thus, even assuming that the NOx emissions estimate in the DEIS accurately states the emissions that would occur under the proposed Project, the DEIS does not provide sufficient information on which the decision makers could make a reasoned analysis of whether the emission of 44,698 tons per year (or 122.5 tons per day) of NOx would cause a significant air quality impact as compared to the existing environment.

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(cont'd)

Fundamentally, the purpose of environmental review is to provide decision-makers with the information necessary to make an informed decision on whether or not to approve a project. *See Laurel Heights Improvement Ass'n v. Regents of the Univ. of Calif.*, 47 Cal. 3d 376, 392 (Cal. 1988) ("Laurel Heights I"); *Laurel Heights Improvement Ass'n v. Regents of the Univ. of Calif.*, 6 Cal. 4th 1112, 1123 (Cal. 1993) ("Laurel Heights II"). "CEQA requires a good faith effort at full disclosure A prejudicial abuse of discretion occurs if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process." *Kings County Farm Bureau v. City of Hanford*, 221 Cal. App. 3d 692, 712 (Cal. Ct. App. 1990). A lead agency's ultimate decision regarding project approval is a "nullity" if it is based upon an EIR that fails to provide decision-makers and the public with the information that CEQA requires. *Save Our Peninsula Comm.*, 87 Cal. App. 4th at p.118 (quoting *San Joaquin Raptor/Wildlife Rescue Center*, 27 Cal. App. 4th at pp.721-22). It is simply inconceivable that the Agencies could make a decision to approve the Project with essentially no reliable information about how the Project would harm air quality in the Basin.

LA16-11

C. The Proposed Project's Ozone Emissions Would Result in Significant Air Quality Impacts.

Although the DEIS is bereft of analysis, substantial evidence otherwise available suggests that the proposed Project would result in significant air quality impacts. For example, even 1.2 tons of NOx emissions per day would far exceed the emissions from a new 800 MW power plant and would be equivalent to the seventh largest NOx source in

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LA16-11

The Agency Staffs acknowledge the possible adverse impacts on human health and the environment in areas exceeding the Federal 8-hour ozone standard such as the SCAB. However, as discussed in the responses to comments PM1-1 and LA16-1, it is beyond the scope of the EIS/EIR to include an environmental analysis of the possible end use of the gas that would be transported on the North Baja system. See also the response to comment PM1-4.

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the Basin. *See* Exhibit G [CPUC Tr. p.806, lines 19-27 (cross-examination of Sempra witness Hower)]. That amount would greatly exceed the significance level of 55 pounds of NOx per day that the District has established for its own CEQA compliance. *See* Exhibit H.

Ozone exposure over the federal 8-hour air quality standard is damaging to human and animal health. For example, exposure over the primary standard results in: (1) pulmonary function decrements and localized lung edema in humans and animals; (2) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (3) increased mortality risk; and (4) risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements on chronically exposed humans. Exhibit A [AQMP, Table 2-1; Appendix I].

Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for ozone effects. *Id.* [AQMP, p.2-8; Appendix I, pp.I-3 to I-4]. For example, an increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities. *Id.* [AQMP, p.2-8; Appendix I]. In particular, children in southern California have eight percent less lung capacity than children who grow up in cleaner environments due, in part, to poor air quality. *See* Exhibit G [CPUC Tr. p.728, lines 19-23 (testimony of the District's Dr. Liu)].

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Elevated ozone levels are associated with increased school absences. Exhibit A [AQMP, p.2-8; Appendix I]. For example, the Children's Health Study, conducted by researchers at the University of Southern California, followed a cohort of children that live in 12 communities in southern California with differing levels of air pollution for several years. The researchers found that school absences in fourth graders for respiratory illnesses were associated with ambient ozone levels. An increase of 20 ppb ozone was associated with an 83 percent increase in illness-related absence rates. *Id.* [AQMP, Appendix I, p.I-3].

In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. *Id.* [AQMP, p.2-8; Appendix I]. These excess hospital room admissions and emergency room visits are observed when hourly ozone concentrations are as low as 0.08 to 0.10 ppm. *Id.* [AQMP, Appendix I, p.I-3].

In addition to human and animal health, ozone exposure over the federal standard also results in vegetation damage and property damage. *Id.* [AQMP, Table 2-1].

Without this crucial information and analysis concerning the air quality impacts of the proposed Project, there can be no reasoned and informed decision-making regarding the environmental impacts resulting from the Project. *See Laurel Heights II*, 6 Cal.4th at p.1123; *Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal.3d 553, 564 (Cal. 1990) (the EIR process "protects not only the environment but also informed self government"); *see also* 14 Cal. Code Regs. § 15002(a)(1) (one of the "basic purposes" of CEQA is to inform decision-makers and the public about the environmental consequences of their

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projects). Here, the DEIS simply does not provide any information on which the decision makers could determine that the Project would not result in significant air quality impacts or that such impacts have been mitigated.

LA16-12

D. The Proposed Project Would Bring New, Hotter Gas to the Basin, Rather than Merely Replace Existing Sources of Gas.

The proposed Project would not merely replace/displace an existing source of natural gas. It would add significantly increased capacity to the existing system to supply an asserted increased demand for natural gas. *See* DEIS, p. ES-2 [existing pipeline capacity 512,500 Dth/d; proposed Project capacity 2.9 Million Dth/d]. As the DEIS admits, the proposed Project would interconnect with SoCalGas to “provide markets in California and the Southwest with access to LNG-source gas, either physically or through displacement.” *Id.* p.1-4. The proposed Project would “deliver[] an alternative or *additional* source of natural gas to existing natural gas users.” *Id.* p. ES-23 [emphasis added]; *see also id.* p.1-3 [declaring that the Project would provide “an entirely new source of natural gas supply”]. The DEIS explains that the proposed Project would “expand the current capacity” of the existing pipeline, (*id.* p.1-2), and “expand [the] existing natural gas transmission pipeline system.” *Id.* p.2-1. The DEIS also suggests that the proposed Project, unlike the No Project Alternative, is intended to “meet the growing demand for natural gas in California and other southwestern U.S. markets.” *Id.* p. ES-26; *see also id.* p.3-3 [No Project Alternative, unlike the proposed Project, would “not be able to provide transportation for LNG-source natural gas from the Mexican pipeline system into the United States to meet the demand for natural gas in California”]. It explains that

LA16-12 See the responses to comments PM1-1, PM1-4, LA16-1, and LA16-6 through LA16-8.

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“[t]he demand for natural gas in California, as in the rest of the United States, is expanding.” *Id.* p.1-3.

The DEIS fails to provide critical information about how the proposed Project would fit into the natural gas supply system in Southern California and Arizona. For example, the DEIS does not explain the existing sources and amounts of natural gas supply in the Basin, whether the existing system is operating at capacity, whether the existing system satisfies current demand, and where existing sources of supply would be diverted to if the proposed Project were to displace, rather than supplement, existing supply. This information is a prerequisite to a reasoned analysis of the environmental impacts of the Project.

Even if the Project’s imports merely displace existing supplies of natural gas, however, the replacement supplies of LNG would have a higher Wobbe Index and, thus, would be hotter than existing gas supplies which make up the baseline of comparison. Because this new source of gas would be hotter than the existing supply, the effect necessarily would be to increase NOx emissions and result in air quality impacts, unless the Agencies require mitigation.

LA16-13

E. The DEIS Fails to Propose Mitigation Measures to Reduce the Significant Air Quality Impacts.

As detailed above, the proposed Project would result in significant air quality impacts through increased NOx emissions. NEPA and CEQA require the Agencies to consider mitigation measures to reduce these impacts below the threshold of significance. More specifically, NEPA requires that “all agencies of the Federal government shall”

LA16-13 See the responses to comments PM1-1, PM1-4, LA16-1, and LA16-6 through LA16-8.

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include in "every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official" on not only the environmental impacts of a proposed action, but also alternatives to the proposed action. 42 U.S.C. § 4332(c). The agency must "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." *Id.* § 4332(e). CEQA likewise requires the DEIS to identify mitigation measures that would reduce significant impacts. Cal. Pub. Res. Code § 21002 [finding "it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects"].

Because the DEIS fails to recognize that the Project would result in significant air quality impacts, it also fails to consider whether such impacts could be mitigated. Yet, the District submits that feasible mitigation measures to reduce the significant air quality impacts of the proposed Project are available. For example, limiting the Wobbe Index of gas delivered and used in the Basin is a direct and effective way to limit NOx emissions. The Wobbe Index number of LNG can be limited by: (1) importing LNG with an inherently low Wobbe Index number; (2) "stripping" the LNG by removing heavy hydrocarbons, such as petroleum and ethane, at the receiving terminal; and (3) blending the LNG with an inert gas, such as nitrogen. *See* Exhibit I [2006 CEC Report, pp.11, 44];

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Exhibit A [AQMP, p.4-16]. Thus, there is no technical reason why hotter gas could not be treated before entry into the Basin.

In addition, various members of the natural gas industry have represented that it would be feasible to supply gas at a lower Wobbe Index number and/or treat hotter gas prior to delivery to the Basin. And the District is not aware of any suggestion that the decline in existing supplies of natural gas is imminent.

Finally, particular to the proposed Project, TransCanada is in a position to require its shippers to comply with “the most stringent gas quality standards of any of the pipelines to which the North Baja system might ultimately deliver the gas.” DEIS, p.1-5. Thus, it does not appear that there are any contractual impediments to such conditions. The FERC application says only that the gas imported by the Project would comply with pipeline standards and that TransCanada has committed to “precedent agreements” which would require gas suppliers in its system to meet the strictest applicable gas quality standard. This commitment addresses only a promise to meet applicable CPUC interoperability standards which, as noted earlier, do not themselves address CAA requirements and will, in fact, permit substantial increases in NOx emissions above current levels in the Basin. Thus, TransCanada’s commitment by itself provides no protection to air quality.

F. The DEIS Fails to Prepare a Health Risk Assessment.

The DEIS states that “[a] Health Risk Assessment was not conducted for the proposed Project because it would not result in increased operational emissions.

LA16-14 Conducting a Health Risk Assessment on the potential emissions changes in the SCAB due to the burning of the natural gas that would be transported on the North Baja system is beyond the scope of the EIS/EIR. See also the responses to comments PM1-4 and LA16-1.

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Therefore, the potential for the Project to expose the public to substantial pollutant concentrations . . . would be less than significant.” DEIS, p.4-207.

For the same reasons as described above, the DEIS errs in concluding that a health risk assessment is not required. Quite the opposite: Because there are significant health risks associated with increased NOx emissions, a Health Risk Assessment is required.

LA16-15

G. The Agencies Must Revise and Re-Circulate the DEIS.

Based on the inadequacies discussed above, the DEIS cannot form the basis of a legally adequate final EIS or final EIR under NEPA or CEQA. CEQA requires recirculation when an agency adds significant new information to an environmental document after notice of the DEIR but before certification of the FEIR. *See* Cal. Pub. Res. Code § 21092.1; 14 Cal. Code Regs. § 15088.5. “Significant new information” includes new information regarding the environmental impacts of the proposed Project or new mitigation measures. *See Laurel Heights II*, 6 Cal.4th at p.1130; *see also* 14 Cal. Code Regs. § 15162(a)(1), (3)(B)(1).

Recirculation ensures that the public is afforded a “meaningful opportunity to comment on a substantial adverse environmental effect.” *Laurel Heights II*, 6 Cal. 4th at p.1129. The opportunity for meaningful public review of significant new information is essential “to test, assess, and evaluate the data and make an informed judgment as to the validity of the conclusions to be drawn therefrom.” *Sutter Sensible Planning, Inc. v. Sutter County Board of Supervisors*, 122 Cal. App. 3d 813, 822 (Cal. Ct. App. 1981); *City of San Jose v. Great Oaks Water Co.*, 192 Cal. App. 3d 1005, 1017 (Cal. Ct. App. 1987). An agency cannot simply release a draft report “that hedges on important

LA16-15 See the response to comment PM1-5.

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environmental issues while deferring a more detailed analysis to the final [EIR] that is insulated from public review.” *Mountain Lion Coalition v. California Fish and Game Comm’n*, 214 Cal. App. 3d 1043, 1052 (Cal. Ct. App. 1989).

Of course, if the EIR is so fundamentally inadequate that meaningful public review was precluded, the EIR must be revised and recirculated. “The revised environmental document must be subjected to the same ‘critical evaluation that occurs in the draft stage’” *Save Our Peninsula Committee*, 87 Cal. App. 4th at p.130-31. Likewise under NEPA, if there remains “major Federal actio[n]” to occur, and if the new information is sufficient to show that the remaining action will “affec[t] the quality of the human environment” in a significant manner or to a significant extent not already considered, a supplemental EIS must be prepared. *See Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (2005).

In this case, the significant air quality impacts of the hotter gas that would be imported by the proposed Project have been improperly disregarded in the DEIS analysis. As described above, here the DEIS must be re-circulated because new information about the air quality impacts of the Project and feasible mitigation measures must be included, and because the DEIS remains so fundamentally inadequate that meaningful public review and comment on the air quality impacts has been impossible. Both CEQA and NEPA require that the public have a meaningful opportunity to review and comment upon this significant new information in the form of a re-circulated DEIS.

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LA16-16 IV. FERC FAILED TO PRPARE AN ADEQUATE CONFORMITY ANALYSIS.

A. The Regulatory Context of the Conformity Requirements.

Clean Air Act (CAA) Section 176 and its implementing regulations, 40 C.F.R. Parts 51(W) and 93, require federal agencies to assure that their actions conform to any applicable State Implementation Plan (SIP) for achieving and maintaining the National Ambient Air Quality Standards for criteria pollutants and precursor pollutants. *See* 40 C.F.R. § 93.150(a).

Federal agencies must conform their actions to a SIP's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards. Conformity means ensuring that federal actions will not: "(i) cause or contribute to any new violation of any standard in any area; (ii) interfere with provision in the applicable SIP for maintenance of any standard; (iii) increase the frequency or severity of any existing violation of any standard in any area; or (iv) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area" *Id.* § 93.153(g).

Federal actions subject to the conformity analysis broadly include "any activity engaged in by a department, agency, or instrumentality of the Federal government, or any activity that a department, agency or instrumentality of the Federal government supports in any way, provides financial assistance for, licenses, permits, or approves" *Id.* § 93.152 [defining "federal action"]. "Where the federal action is a permit, license, or other approval for some aspect of a non-Federal undertaking, the relevant activity is the

LA16-16 The air quality impacts of construction and operation of the North Baja Pipeline Expansion Project are discussed in Section 4.12.4. Section 4.12.3 of the final EIS/EIR has been revised to include additional information supporting the definition of the Project evaluated for applicability and compliance with the General Conformity Rule. See also the response to comment LA16-1 for additional discussion supporting the definition of the Project evaluated for applicability and compliance with the General Conformity Rule.

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part, portion, or phase of the non-Federal undertaking that requires the Federal permit, license, or approval.” *Id.*

Conformity review under the CAA is a two-step process. The first step requires a federal agency to determine if the proposed Project would result in emissions of at least 25 tons per year of NOx in a severe non-attainment area, such as the Basin. *Id.* § 93.153(b)(1). If it would, then the second step requires the agency to prepare a “conformity determination” in which it analyzes whether an action would conform to the SIP, as described above.

If the proposed action would not conform to the SIP, then the agency must prepare either a plan for mitigating the emissions, or a plan for offsetting the emissions. Such mitigations and offsets would involve another emissions source. The conformity analysis must be prepared *before* adopting and implementing the action. *Id.* § 93.150(b).

The CAA delegates responsibility for developing conformity analysis rules to those states with approved SIPs. California has an approved SIP and has delegated its responsibility for developing conformity analysis rules to the local air pollution districts. District Rule 1901 adopts and incorporates by reference the federal conformity analysis regulations.

B. The Agencies Failed to Prepare a Conformity Determination.

Based on its artificially narrow definition of the Project and Project area, as described above, the DEIS claims that the Project is only in a “marginal ozone nonattainment” zone in Imperial County. DEIS, p.4-201. It notes that the conformity threshold for a nonattainment zone is 100 tons per year of NOx. *Id.* Thus, it concludes

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that "Project emissions would be below general conformity thresholds; therefore, a general conformity determinations is not required." *Id.*

The DEIS uses the wrong conformity threshold. As described above, the Basin is a severe-17 nonattainment area for ozone under the federal 8-hour ozone standard. The conformity threshold for this much more seriously impaired region is 25 tons of NOx per year. 40 C.F.R. § 93.153. Moreover, based on a recent decision by the D.C. Circuit, the federal 1-hour standard once again applies to conformity determinations. *See South Coast Air Quality Management Dist. v. EPA*, -- F.3d --, 2006 WL 3751461 (D.C. Cir.) (December 22, 2006). Under that standard, the Basin is designated an "extreme" area, and the conformity threshold is just 10 tons of NOx emissions per year. 40 C.F.R. § 93.153. Thus, the DEIS must analyze whether the proposed Project would emit more than 25 tons of NOx per year under the severe nonattainment area standard, and must also determine whether the Project would emit just 10 tons of NOx per year under the extreme nonattainment standard.

More fundamentally, however, the DEIS cannot ignore the NOx emissions that would result from delivery and use of natural gas in the Basin. The CAA requires the Agencies to consider the proposed Project's direct and *indirect* emissions. *See* 40 C.F.R. § 93.152. "Indirect emissions" are those emissions that are caused by the federal action, but which occur later in time and/or are further removed in distance from the action itself, although still reasonably foreseeable, and which the federal agency can practicably

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control and will maintain control over due to a continuing program responsibility of the federal agency. *Id.* [defining “indirect emissions”].¹⁰

Here, the Agencies ignored the indirect emissions that would result from the proposed Project. The Agencies conclude that “Project emissions would be below general conformity thresholds; therefore, a general conformity determination is not required.” DEIS, p.4-201. For the same reason that the DEIS must consider general environmental impacts connected to the Project (as discussed *supra*), the Agencies cannot simply ignore the delivery and use of a substantial new source of natural gas that would be facilitated – indeed, is *contemplated* -- by the proposed Project.

In sum, the proposed Project would have important impacts on the District’s efforts to attain the federally established national ambient air quality standards in the Basin. *See* 42 U.S.C. § 7410 [provision of the federal Clean Air Act requiring states to adopt plans that will achieve the standards]. Accordingly, the preparation of a complete conformity determination, including mitigation, is both required and critically important.

¹⁰ An emission is “caused” by the agency action if the emission would not otherwise occur in the absence of the federal action. 40 C.F.R. § 93.152 [defining “caused by”]. An emission is “reasonably foreseeable” if the agency identifies it at the time the agency makes the conformity determination, the agency knows the location of the emission, and agency can quantify the amount of the emission, based on the agency’s information as well as information presented to it. *Id.* [defining “reasonably foreseeable emissions”]. The agency “controls” indirect emissions if it has the ability to regulate in some way the emissions from the action. *Id.* [defining “indirect emissions”]. An agency has “continuing program responsibility” if an emission is specifically caused by an agency carrying out its authorities. It does not include emissions that occur due to subsequent activities, unless such activities are required by the federal agency. An agency has continuing program responsibility over emissions when the agency implements an action or imposes conditions that result in emission by a non-federal entity.

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CONCLUSION

For the foregoing reasons, the District respectfully requests that the Agencies: (1) conduct a full conformity analysis and determination under the CAA section 176 that considers the effects of the natural gas that the proposed Project will deliver to the Basin; (2) revise the DEIS to describe, analyze, and mitigate the significant air quality impacts that would result from burning substantial new quantities of high Wobbe Index gas; and (3) re-circulate the DEIS so that resource agencies and the public can provide comments on the significant new information and analysis.

Respectfully submitted,

SHUTE, MIHALY & WEINBERGER LLP,
DANIEL P. SELMI and
STINSON MORRISON HECKER LLP

/s/ Harvey L. Reiter
Harvey L. Reiter

Attorneys for South Coast Air Quality
Management District

December 28, 2006

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Attached Exhibits

Exhibits:

- A South Coast Air Quality Management District, excerpts of draft 2007 Air Quality Management Plan ("AQMP").
- B Sempra, Impact of LNG Terminals on Gas Flows in Southern California & Baja California (undated).
- C Natural Gas Council, "White Paper on Natural Gas Interchangeability and Non-Combustion End Use" (February 28, 2005) ("NGC+ Report").
- D South Coast Air Quality Management District, figures regarding Southern California Gas Co./Air Emissions Advisory Committee equipment tests (undated).
- E California Public Utilities Commission, Rulemaking 04-01-25, excerpts of Direct and Responsive Testimony.
- F [intentionally omitted]
- G California Public Utilities Commission, Rulemaking 04-01-025, excerpts of Reporter's Transcript of Proceedings ("CPUC Tr.").
- H South Coast Air Quality Management District, excerpt of *CEQA Air Quality Handbook* (revised October 2006).
- I California Energy Commission, Natural Gas in California: Environmental Impacts and Device Performance (October 2006) ("2006 CEC Report").

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served, via electronic mail or first class mail, a copy of the foregoing document upon each party on the official service list compiled by the Secretary in these proceedings.

Dated at Washington, D.C., this 28th day of December, 2006.

/s/ Harvey L. Reiter
Harvey L. Reiter

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Attachments to this letter are too voluminous to include in this EIS/EIR. They are available for public inspection from the FERC's Office of External Affairs at 1-866-208-FERC or on the FERC Internet website (www.ferc.gov) using the eLibrary link. Click on the eLibrary link, click on "General Search," and enter the docket number excluding the last three digits in the Docket Number field (i.e., CP06-61). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll free at 1-866-208-3676, or for TTY, contact (202) 502-8659. **The Category/Accession number for this submittal is 20061228-5066.**

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UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

North Baja Pipeline, LLC)
) Docket No. CP06-61-000
) Docket No. CP01-23-003

**MOTION OF THE SOUTH COAST AIR QUALITY
MANAGEMENT DISTRICT TO STRIKE UNTIMELY AND UNAUTHORIZED
ANSWER OF NORTH BAJA PIPELINE TO COMMENTS**

Pursuant to Rule 212, the South Coast Air Quality Management District (SCAQMD or District) hereby moves to strike the January 22, 2007 "reply comments" filed in these proceeding by North Baja Pipeline, LLC (North Baja) or, in the alternative for permission to respond to those comments. As discussed below, North Baja's comments are not authorized by the Commission's procedural schedule and even if otherwise authorized are untimely. If, these facts notwithstanding, the Commission accepts North Baja's filing, SCAQMD requests permission to file this limited response to correct and complete the record.

1. North Baja's Reply Comments Are Not Authorized By the Procedural Schedule and North Baja Has Failed To Show Good Cause Why They Should Be Considered.

The procedural schedule in this case set a due date for comments on the DEIS of December 28, 2006. Both the District and North Baja filed timely comments. There was no provision in the schedule, however, for any party to file reply comments. Even if the District's comments were considered a motion under Rule 212 (which they are not), the Commission's rules require that answers to motions be submitted within 15 days. Since North Baja's filing was not submitted for more than three weeks after the District filed its comments, North Baja's filing, even if otherwise authorized, is untimely. North Baja, moreover, has not asked for waiver of the

LA17-1 The SCAQMD's motion to strike North Baja's January 22, 2007 "reply comments" (see comment letter A2) is noted. Points raised in North Baja's reply comments and the SCAQMD's motion have been taken into consideration in the analysis in the EIS/EIR.

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Commission’s rules, nor offered any reason why its pleading should be considered out of time.

Accordingly, the Commission should disregard North Baja’s filing.

II. If the Commission Does Consider North Baja’s Filing, It Should Also Consider This Limited Response.

While the Commission does not ordinarily permit answers to answers, it has allowed them where the filing party has demonstrated that its answer would either correct misstatements, complete the record or assist the Commission in its understanding of the issues. *See Alabama-Tennessee Natural Gas Co.*, 69 FERC ¶61,246, at p. 61,935 (1994); *Northern Natural Gas Co.*, 110 FERC ¶61,253 at P 17 (2005); *Arizona Independent Scheduling Administrator Association* , 93 FERC ¶61,231 at 61,759 (2000). Those reasons, as shown below, are present here. More specifically, North Baja's January 22 answer to the comments the District filed makes several points that either mischaracterize or misapprehend the District’s position.

First, North Baja argues that the Project impact isn’t really as big as the District claims it to be - - only about half as much gas will flow into the South Coast Air Basin as the District asserted. North Baja Reply Comments at 3. Moreover, North Baja argues, “it is reasonable to *assume*” that the sources that need the gas will have to meet current emission requirements regardless of the Wobbe index of the gas burned. *Id.* (emphasis added). North Baja misapprehends the District’s position. Our objection is that even incremental increases of the amount of hot gas delivered into the Basin will have a significant impact on already stressed air quality. By any measure, the incremental increase of LNG deliveries into the Basin is very large. North Baja’s *assumption*, moreover, that emission requirement limits on the end user recipients of the gas will offset the impact of introducing the hot gas is just speculation, with no factual support in the record.

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Second, North Baja maintains that SCAQMD “mistakenly describes the purpose of the project ‘to deliver hot gas.’” *Id.* The purpose of the project, North Baja asserts, “is to deliver LNG-sourced gas, and to replace declining supplies from traditional sources, to California and the Southwest.” *Id.* This contention is equally meritless. The Project’s “central purpose,” of course, *is* (as the District noted) “to facilitate the importation of LNG from a terminal in Mexico into the Basin.” SCAQMD Comments at 10. But the *specific* LNG that North Baja seeks to deliver is hot gas. North Baja’s description of the Project’s purpose obliterates its effect. Saying that the purpose of a project that will deliver hot gas is simply to transport LNG is like saying that the purpose of building a fallout shelter is to provide emergency housing – technically accurate, but woefully incomplete.

Third, North Baja says that it is already obligated to meet “the most stringent gas quality standards of any downstream pipeline to which the gas might be delivered.” North Baja Reply Comments at 3. Therefore, it maintains that to suggest FERC “must impose even more stringent standards than those that have been set by the appropriate California regulatory body defies fairness and common sense.” *Id.* at 4. North Baja’s response again misses the point. Its agreement to meet the most stringent gas quality standards set by the state regulator ignores the fact that, by the CPUC’s own account, these standards are set to protect interoperability and safety, not to protect air quality (except incidentally). *See* SCAQMD Comments at 9, 22.

Finally, North Baja maintains that we have ignored the fact that gas is desperately needed in the Basin and that the benefits of supplying gas to replace declining supplies “are huge in comparison to the extremely limited impacts of ‘hot gas’ that these parties have indicated they are concerned about.” North Baja Comments at 4. The District has already stated in its initial comments that it is not proper to weigh the benefits of new gas imports against the harm from

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other dirtier-burning fuels if declining natural gas supplies are not replaced. Rather, the Project's impacts must be measured against a baseline of current conditions. SCAQMD Comments at 14-15. If it is feasible -- and it is (*Id.* at 22) -- to treat the imported gas so that air quality is not harmed, it is irrelevant that the gas in its untreated state would have less of a detrimental impact on air quality than burning some other fuel.

Respectfully submitted,

SHUTE, MIHALY & WEINBERGER LLP,
DANIEL P. SELMI and
STINSON MORRISON HECKER LLP

/s/ Harvey L. Reiter
Harvey L. Reiter

Attorneys for South Coast Air Quality
Management District

Dated: January 31, 2007

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CERTIFICATE OF SERVICE

In accordance with 18 C.F.R. § 385.2010, I hereby certify that I have this day served, via electronic mail or first class mail, a copy of the foregoing document upon each party designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C., this 31st day of January, 2007.

/s/ Harvey L. Reiter
Harvey L. Reiter

Comments on the Draft EIS/EIR and Responses

COMPANIES AND ORGANIZATIONS

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October 25, 2006

Margie R. Salas, Secretary
 Federal Energy Regulatory Commission
 888 First St. NE, Room 1A
 Washington, DC 20426

Re: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas:

CO1-1

The Imperial Valley Board of REALTORS® would like to formally indicate its support for the proposed North Baja Pipeline Expansion Project.

Our Executive Committee has met with the project proponents, and has had the opportunity to review the Draft Environmental Impact Statement/ Environmental Impact Report.

We believe that this project will be beneficial to the Imperial Valley primarily because it will:

1. Provide a new source of natural gas from LNG that will be able to replace the declining supplies of natural gas that have historically provided gas to Southern California,
2. Provide a cost moderating supply of natural gas as the LNG suppliers compete with traditional natural gas providers,
3. Provide improved reliability to Southern California because of the different pipeline route to get gas from producers to Southern California, and
4. Provide significant additional property tax revenue to Imperial County with little of no need for services from the county.

We also believe that the proposed lateral from the North Baja Pipeline system to El Centro will be beneficial because it will:

1. Improve the reliability of the Imperial Irrigation District's El Centro Generating Station by providing an alternate gas transportation route to the plant,
2. Help IID hold down electric rates by providing access to LNG sourced natural gas that is likely to be less expensive than gas from traditional sources, and
3. Provide increased gas transportation capability to Imperial County that will allow further business development to provide new jobs for an area that has a high unemployment rate.

Please make this letter of support a portion of the official record for this proposed project.

Sincerely,

Judy Tagg
 2006 President
 Imperial Valley Board of REALTORS®

Companies/Organizations

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CO1-1

The Imperial Valley Board of Realtor's comments expressing support for the proposed Project are noted.

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FEDERAL ENERGY
REGULATORY COMMISSION***Blythe Search, Rescue & Assist***

.....

November 15, 2006

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street NE: Room 1A
Washington, DC

RE: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas,


CO2-1

The team members of Blythe Search, Rescue and Assist wish to voice our support for the proposed North Baja Pipeline Expansion Project.

We believe that this project will benefit all of Southern California, including the Blythe Area and we feel that the employees of TransCanada/North Baja Pipeline have worked diligently to ensure the safety of the residents of the affected areas.

TransCanada/North Baja Pipeline has been very supportive of Blythe Search, Rescue and Assist and other local area emergency service organizations. It seems that they place much emphasis on the safety of their own employees, and of the area's residents. We believe that they warrant community support for their expansion plans. Please register our support for this project.

Sincerely,


Joel W. Hudson, President
Blythe Search, Rescue and Assist
17780 S. Broadway
Blythe, California
92225

760-922-2573 H
909-376-7825 C

Companies/Organizations

2

CO2-1

Blythe Search, Rescue & Assist's comments expressing support for the proposed Project are noted.

6-157

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 SECRETARY

Magali R. Salas, Secretary
 Federal Energy Regulatory Commission
 888 First St. NE: Room 1A
 Washington, DC 20426

Attention: Gas1, DG2E

Re: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas:

CO3-1 The Greater Yuma Economic Development Corporation wishes to indicate its support for the proposed North Baja Pipeline Expansion Project.

We believe that this project will be beneficial to Southwest Arizona because it will:

1. Provide a new source of natural gas from LNG that will be able to replace the declining supplies of natural gas that have historically provided gas to Southern California, making more gas available to Southwest Arizona,
2. As the LNG suppliers compete with traditional natural gas providers, the additional supply will help moderate costs thereby benefiting all gas users in Southwest Arizona.
3. Provide increased reliability of supply to the region by providing a new gas transportation path tied to a new source of supply.

Also, while there is no current proposal for a connection to the North Baja Pipeline or Gasoducto Bajanorte pipeline systems to the Yuma area, we believe that at some point in the future this might occur. If this were the case, it would be beneficial to the Yuma area because it will allow for another source of natural gas to the region. This could supplement the existing El Paso Natural Gas pipeline that is currently operating at close to capacity at certain times of the year.

Regards,



Chris Carnacho
 President/CEO

cc: Tom Filler, California State Lands Commission



170 West 16th Street * Ste 200 * Yuma, Arizona 85364
 928 782-7774 * Fax 928 782-7775
 www.greateryuma.org

Companies/Organizations

3

CO3-1 The Greater Yuma Economic Development Corporation's comments expressing support for the proposed Project are noted.

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WINTERHAVEN FIRE PROTECTION DISTRICT

495 S. 3rd Avenue / P.O. Box 906
Winterhaven, CA 92283

(760)572-0549 Fax (760)572-5615



November 24, 2006

Magalie R. Salas; Secretary Federal
Energy Regulatory Commission
888 First Street NE: Room 1A
Washington, D.C. 20426

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OFFICE OF THE
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2006 DEC -8 P 3:31
NATIONAL ENERGY
REGULATORY COMMISSION

Re: Dock Nos. CP06-61-000 and CPO1-23-003

CO4-1

The Winterhaven Volunteer Fire Protection District is expressing their support for the proposed North Baja Pipeline Expansion Project.

The District believes that this project will benefit all of Southern California including Imperial Counties where we are located. TransCanada / North Baja Pipeline employees have worked diligently to ensure the safety of the surrounding area residents of the affected areas.

TransCanada / North Baja have been very supportive of the Winterhaven Volunteer Fire Protection District as well as other surrounding area emergency service organizations.

The Winterhaven Volunteer Fire Protection District is the closest emergency response agency to the current pipeline. We firmly believe that TransCanada / North Baja places much emphasis on the safety of their employees and of the surrounding area residents.

We believe they warrant community support for their expansion plans, in closing please register the Winterhaven Volunteer Fire Protection District for supporting this expansion project. Thank you.

Jarrell L. Brown Sr.

Jarrell L. Brown Sr.
Fire Chief, Winterhaven Fire

Companies/Organizations

4

CO4-1

The Winterhaven Fire Protection District's comments expressing support for the proposed Project are noted. Sections 4.9.4, 4.14.4, and 4.15.5 have been revised to acknowledge this support.

6-159

Unofficial FERC-Generated PDF of 20061220-0139 Received by FERC OSEC 12/18/2006 in Docket#: CP06-61-000

 ORIGINAL**EHRENBURG FIRE DEPARTMENT**P.O. Box 567 Ehrenberg, AZ 85344
Ph. 928.923.8033 Fax 928.923.1104FILED
SECRETARY
2006 DEC 18 P 3:01
FEDERAL ENERGY COMMISSION

December 11, 2006

Magalie R. Selas, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426

Re: Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Selas:

CO5-1

The Ehrenberg Fire District since expanding our service area in 2005 would like to voice it's support for the proposed North Baja Pipeline Expansion Project.

As the Fire District moves to finish our own expansion project to include a new 12,000 square foot facility, we look forward to being the first responder to the existing Ehrenberg Compressor Station as well as the portion of this expansion project located in the Ehrenberg Fire District service area.

The growth of the Community, as well as the personnel who serve, makes it extremely important to have a modern facility owned by North Baja. There commitment to safety, high standards of their operation and excellent staff makes working closely with North Baja Pipeline a pleasure.

Please register our support for this project.


Larry Covei
Board Chairman

Companies/Organizations

5

CO5-1

The Ehrenberg Fire Department's comments expressing support for the proposed Project are noted. Sections 4.9.4, 4.14.4, and 4.15.5 have been revised to acknowledge this support.

6-160



December 25, 2006

Margalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Mr. Tom Filler
California State Lands Commission
100 Howe Avenue South, Suite 100
Sacramento, CA 95825

Subject: North Baja Pipeline Expansion Project, FERC Docket Nos. CP01-23-003, CP06-61-000, California State Lands Commission EIR No. 739, State Clearinghouse No. 2006081127, BLM Reference No. CACA-42662

Dear Ms. Salas and Mr. Filler:

- CO6-1 I have reviewed the Draft Environmental Impact Statement for North Baja Pipeline Expansion Project (NBPEP) and see two substantive deficiencies with the proposed project as defined that must be mitigated before a Presidential Permit is granted. The purpose of the NBPEP is to move natural gas from the Semptra liquefied natural gas (LNG) import terminal in Baja California to markets in California and Arizona. One deficiency is the failure of the project proponent to incorporate the use of selective catalytic reduction (SCR) for nitrogen oxide (NO_x) control on the two compressor stations, as explained below:
1. The potential nitrogen oxide (NO_x) emissions from the two compressor stations associated with NBPEP sum to 571 tons per year (tpy) per Table 4.15.8-3. The purpose of these two compressor stations is to move natural gas beyond existing users in Baja California to markets in California and Arizona. The gas turbines at these compressor stations will not be equipped with advanced NO_x control known as selective catalytic reduction (SCR). Best available control technology (BACT) for gas turbines of similar size anywhere in California or Arizona is 5 ppm.
 2. There is no question that these two compressor stations are an integral part of the pipeline project itself.
 3. The wind blows north from the Mexicali area approximately 40 percent of the time per meteorological wind rose analysis in DOE/EIS-0365 (December 2004).
 4. This means up to 228 tpy of NO_x (571 tpy × 0.40) would enter Imperial County as a direct result of the proposed project. This is far above the federal conformity rule trigger level of 100 tpy for NO_x (see p. 4-201 for conformity rule discussion).
 5. The U.S. owners of two export power plants in Mexicali installed SCR on all gas turbines at those power plants to limit NO_x emissions as a pre-requisite to applying for Presidential Permits in 2001. See DOE/EIS-0365. These SCR controls reduce NO_x emissions by 90 percent or more.

Use of SCR in this case would reduce compressor station NO_x emissions impacting Imperial County to less than 23 tpy.

Companies/Organizations

CO6-1 See the response to comment FA6-3.

Page 2 of 3
Ms. Margalie Salas
December 25, 2006

CO6-2 A second deficiency is the failure of the DEIS to analyze the impact of “hot” natural gas on the air quality in the urban airsheds of Los Angeles, Phoenix, and San Diego where the vast majority of the natural will be used. The action by the California Public Utilities Commission (CPUC) to relax the Southern California Gas Company Rule 30 gas quality specification in October 2006 is highly contentious and will face a legal challenge. It is highly contentious for two reasons: 1) the relaxation of the gas quality specification could result in an additional NO_x burden equivalent to several new utility power plants in the Los Angeles area alone, and 2) the ruling favors a single company, Sempra Energy, as all other LNG project proponents proposing to serve the Southern California market had already agreed that their imported LNG would meet the Southern California Gas Company Rule 30 gas quality specification.

The obvious alternatives to the NBPEP that mitigate the hot gas issue are: 1) greater reliance on domestic natural gas resources in the Rockies, an area of dramatic natural gas production growth with low prices due to limited pipeline access to major Southwest markets like Los Angeles and Phoenix (see Attachment 1), or 2) all other LNG projects proposed for the West Coast that have already agreed to only import LNG that meets the unmodified Southern California Gas Company Rule 30 gas quality specification. Table 3.2.2-1 (below) from the DEIS lists these competing LNG projects.

TABLE 3.2.2-1 Proposed LNG Import Terminals and Pipelines in California					
Proponent	Project Name	Location/Type	Proposed Capacity in MMscfd (average/peak)	Anticipated In-Service Date ^a	Needed Pipeline Construction
BHP Billiton	Cabrillo Port LNG Deepwater Port Project	Offshore Oxnard, CA/New Facility	800/1,500	2010	two 21.5-mile-long, 24-inch-diameter offshore pipelines; 14.3-mile-long, 36-inch-diameter pipeline; and 7.7-mile-long, 30-inch-diameter onshore pipeline
North Star Natural Gas	Cleanwater Port Project	Offshore Oxnard, CA/Conversion of Oil Platform Grace	800/1,200	2009	12.6-mile-long, 32-inch-diameter offshore pipeline and 12-mile-long, 36-inch-diameter onshore pipeline
SES Terminal LLC	Long Beach LNG Import Project	Long Beach, CA/New Facility	700/800	2010	2.3-mile-long, 36-inch-diameter onshore pipeline and 4.6-mile-long, 10-inch-diameter onshore pipeline
^a All projects are undergoing delays in the environmental review process and the in-service dates, if the projects were approved, potentially would be later. Source: CEC 2004, FERC and POLB 2005.					

As the DEIS correctly states (p. 3-7): “Each of these projects, if built, could provide southern California with access to LNG-source gas.”

The DEIS goes on to state (p. 3-7): “While it would not be infeasible for SoCal Gas to transport gas from the BHP Billiton or SES Terminal LLC projects to the southwestern United States, none of these terminals has yet to receive regulatory approval; therefore, it is unlikely that any of

Companies/Organizations 6

CO6-2 See the responses to comments PM1-1, PM1-4, LA16-1, and LA16-6 through LA16-8. The purpose and need for the Project are discussed in Section 1.1. Section 1.1 has been revised to state that the natural gas currently transported on the SoCalGas system between Blythe and the Los Angeles metropolitan area comes entirely from the San Juan and Permian Basins, which are in decline or are projected to go into decline in the relatively near future. While the gas in the Rockies Basin is not declining, the only pipeline system that supplies significant amounts of gas from the Rockies to southern California is the Kern River system, which is currently operating at close to capacity. There are no known plans to expand the Kern River system. The other projects currently planned to transport gas from the Rockies will carry the gas to the east away from California.

Companies/Organizations 6

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Ms. Margalie Salas
December 25, 2006

CO6-2 (cont'd) *these projects would be in service before 2010. The proposed Project could allow LNG-source gas to flow into California and southwestern U.S. markets by early 2008."*

The United States is currently experiencing an unprecedented glut in natural gas. Natural gas storage is at historic highs. Rockies natural gas is consistently selling below \$5/MMBtu, and has dropped as low as \$2.50/MMBtu in the past few months. China is the LNG demand growth market in the Pacific Rim. China now links the price it will pay for LNG to the price of oil, as does Japan. With oil at approximately \$60 per barrel, this equates to an LNG price of approximately \$6/MMBtu. See **Attachment 2**. If China will pay \$6/MMBtu for LNG, transporting LNG across the Pacific to the California market will require a price closer to \$7/MMBtu to be competitive. There is no clear reason why it is in the benefit of the U.S. to authorize the importation of expensive hot gas on a fast-track schedule when such gas will further compromise the air quality of urban centers in the Southwest when much less expensive and cooler regional natural gas supplies are available to serve the same purpose.

CO6-3 The California Attorney General filed an October 27, 2006 amicus brief opposing the introduction of hot gas into California in response to the CPUC ruling. The Attorney General's amicus brief is provided as **Attachment 3**. The CPUC's ruling favoring a single LNG import company will almost certainly be litigated. FERC has an obligation under NEPA to thorough assess the negative impact of the use of hot gas, which could occur if a Presidential Permit is granted in this case, on highly contaminated urban airsheds of Los Angeles and Phoenix in the EIS. One obvious alternative available to FERC to mitigate the impact of hot gas is to simply require that the natural gas flowing in the NBPEP meets, within some reasonable level of variability, the quality of natural gas currently flowing in the Southwest natural gas transmission pipeline system.

Please contact me at (619) 295-2072 or billp@borderpowerplants.org if you have any questions about this letter.

Best regards,

Bill Powers, P.E.

Bill Powers, P.E., U.S. Co-Chair
Border Power Plant Working Group

Attachments:

- 1. DOE primer on Rocky Mountain natural gas potential (September 2003)
- 2. News brief – China will pay \$6/MMBtu for LNG (December 2006)
- 3. California Attorney General amicus brief – hot gas issue (October 2006)

cc: U.S. Senator Dianne Feinstein U.S. Congressman Bob Filner
U.S. Senator Barbara Boxer U.S. Congressman Duncan Hunter
U.S. Congresswoman Susan Davis

CO6-3 See the responses to comments PM1-1, PM1-4, LA16-1, and LA16-6 through LA16-8.

Companies/Organizations

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Attachments to this letter are too voluminous to include in this EIS/EIR. They are available for public inspection from the FERC's Office of External Affairs at 1-866-208-FERC or on the FERC Internet website (www.ferc.gov) using the eLibrary link. Click on the eLibrary link, click on "General Search," and enter the docket number excluding the last three digits in the Docket Number field (i.e., CP06-61). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at FERCOnlineSupport@ferc.gov or toll free at 1-866-208-3676, or for TTY, contact (202) 502-8659. **The Category/Accession number for this submittal is 20061226-5022.**

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SOUTHERN CALIFORNIA



ASSOCIATION OF
GOVERNMENTS

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Orange County: Chris Hardy, Orange County • Christine Barnes, La Palma • John Bowman, Brea • Lou Bone, Tustin • Art Brown, Buena Park • Richard Chavez, Anaheim • Debbie Cook, Huntington Beach • Leslie Dangle, Newport Beach • Richard Davis, Lake Forest • Paul Gluck, Laguna Niguel

Riverside County: Jeff Stone, Riverside County • Thomas Buckley, Lake Elsinore • Bonnie Rickman, Moreno Valley • Sam Lowbridge, Riverside • Greg Pettis, Cathedral City • Ron Roberts, Temecula

San Bernardino County: Gary O'Neil, San Bernardino County • Lawrence Dale, San Bernardino • Paul Eaton, Montclair • Lee Ann Garcia, Grand Terrace • Tom Jasper, Town of Apple Valley • Larry McCallister, Highland • Deborah Robertson, Rialto • Alan Wagner, Orange

Ventura County: Judy Mikeli, Ventura County • Glen Bezerra, Santa Valley • Carl Moonhouse, San Buenaventura • Tom Young, Port Huemene

Orange County Transportation Authority: Lou Gertz, County of Orange

Riverside County Transportation: Commissioners: Robin Lower, Hemet

Ventura County Transportation: Commissioners: Keith Moonhouse, Moorpark

ORIGINAL

28 December 2006

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, DC 20426
FERC Docket Nos. CP06-61-000 and CP01-23-000;
Attention: Gas 1, DG2E

Tom Filler
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825
Attention: CA State Clearinghouse No. 2006081127

RE: SCAG Comments on the Draft Environmental Impact Statement/Environmental Impact Report and Draft Land Use Plan Amendment for the North Baja Pipeline Expansion Project, SCAG No. I20060698

Dear Ms. Salas and Mr. Filler,

Thank you for submitting the Draft Environmental Impact Statement/Environmental Impact Report and Draft Land Use Plan Amendment for the North Baja Pipeline Expansion Project to the Southern California Association of Governments (SCAG) for review and comment. As the clearinghouse for regionally significant projects per Executive Order 12372, SCAG reviews the consistency of local plans, projects, and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

SCAG staff has reviewed the aforementioned Draft EIS/EIR/plan amendment, and has determined that the proposed project is regionally significant per the California Environmental Quality Act (CEQA) Guidelines (Section 15206). The proposed project identifies that three significant unavoidable impacts would remain after environmental mitigation is applied. The North Baja Pipeline Expansion Project is likely to adversely affect the Peirson's milk-vetch; the Desert tortoise and its critical habitat; and the Flat-tailed horned lizard and its habitat.

CEQA requires that EIRs discuss any inconsistencies between the proposed project and applicable general plans and regional plans (Section 15125 [d]). If there are inconsistencies, an explanation and rationalization for such inconsistencies should be provided. SCAG recognizes that this document is a programmatic level environmental review in accordance with CEQA Section 15168. Please review SCAG's policies for consistency in subsequent documentation and send this documentation to SCAG.

Policies of SCAG's Regional Comprehensive Plan and Guide, Regional Transportation Plan, and Compass Growth Vision that may be applicable to your project are outlined in the attachment. We expect the Final EIS/EIR to cite the appropriate SCAG policies and address the manner in which the project is consistent with applicable core policies or supportive of applicable ancillary policies. Please use our policy numbers to refer to them in the Final EIS/EIR. Also, we would encourage you to use a side-by-side comparison of SCAG policies with a discussion of the consistency or support of the policy with the proposed project.

SCAG's Compass Growth Vision, adopted in 2004, encourages better relationships between housing, transportation, and employment. For a clearer understanding of the

Companies/Organizations

7

COT-1

Section 1.5.3 has been revised to include a side-by-side comparison of the Southern California Association of Governments' (SCAG) Regional Comprehensive Plan and Guide Policies with a discussion of the consistency of the policies with the proposed Project. The revised Section 1.5.3 also includes a discussion of the proposed Project's consistency with the Regional Transportation Plan and the Compass Growth Vision.

6-165

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28 December 2006
Ms. Magalie R. Salas
Mr. Tom Filler
Page 2

CO7-1
(cont'd)

intent of and possibilities with Compass, please consult our website, www.socalcompass.org in addition to the guidance offered in this letter.

Please provide a minimum of 45 days for SCAG to review the Final EIS/EIR/plan amendment. If you have any questions regarding the attached comments, please contact Jill Egeman at (213) 238-1919. Thank you.

Sincerely,


Sylvia Patsaouras
Manager, Environmental Division

Companies/Organizations

7

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Ms. Magalie R. Salas
Mr. Tom Filler
Page 3

3

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT AND DRAFT LAND USE PLAN AMENDMENT, SCAG NO. I 20060698

PROJECT DESCRIPTION

The Federal Energy Regulatory Commission (FERC), the California State Lands Commission (CSLC), and the Bureau of Land Management (BLM) have prepared a Draft Environmental Impact Statement/Environmental Impact Report and draft land use plan amendment (Draft EIS/EIR/plan amendment). The Draft EIS/EIR/plan amendment was prepared according to the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), and the Federal Land Management and Policy Act. The FERC is the lead Federal agency for this project.

On February 7, 2006, North Baja Pipeline, LLC (North Baja), an indirect wholly owned subsidiary of TransCanada Pipelines Ltd., filed an application with the FERC seeking permission to construct, own, and operate an expansion of its existing interstate natural gas pipeline system. North Baja is also seeking FERC authorization to allow construction of additional facilities at the U.S. - Mexico border and the importation of vaporized liquefied natural gas (LNG). North Baja's proposal would involve the construction and operation of 79.8 miles of pipeline adjacent to North Baja's existing pipeline; 45.7 mile lateral pipeline; a new odorant facility; two new meter stations; modifications at North Baja's existing compressor and meter stations; and installation of new valves and internal tools. The proposed phased construction schedule would begin in 2007 and end in 2009.

A total of 65.3 miles of the proposed pipeline would be on lands managed by the BLM. The proposed route would deviate from a designated utility corridor on BLM land and would cross the Milpitas Wash Special Management Area. Therefore, the BLM would need to amend two resource management plans: the California Desert Conservation Area Plan and the Yuma District Resource Management Plan.

With three exceptions, North Baja's proposed and/or the Agency Staffs' recommended mitigation would reduce potential environmental impacts to less than significant levels. The Agency Staffs have determined three significant unavoidable impacts would remain after all mitigation is applied. In summary, the North Baja Pipeline Expansion Project is likely to adversely affect the:

- Peirson's milk-vetch;
- Desert tortoise and its critical habitat; and
- Flat-tailed horned lizard and its habitat

As such, impacts on these three species and habitats would be considered significant. Approval of the project would be subject to a Statement of Overriding Considerations under the CEQA due to these significant unavoidable impacts that remain after all available or feasible mitigation is applied.

CONSISTENCY WITH REGIONAL COMPREHENSIVE PLAN AND GUIDE POLICIES

The Growth Management Chapter (GMC) of the Regional Comprehensive Plan and Guide (RCPG) contains the following policies that are particularly applicable and should be addressed.

CO7-2

3.01 *The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies shall be used by SCAG in all phases of implementation and review.*

DOCS# 130332 v1

Companies/Organizations

7

CO7-2 See the response to comment CO7-1.

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Ms. Magalie R. Salas
Mr. Tom Filler
Page 4

Regional Growth Forecasts

CO7-2
(cont'd)

The Draft EIS/EIR/plan amendment for the North Baja Pipeline Expansion Project should reflect the most current SCAG forecasts, which are the 2004 RTP (April 2004) Population, Household and Employment forecasts. The forecasts for the region, subregions (Imperial Valley Association of Governments, Coachella Valley Association of Governments), counties and cities are as follows:

Adopted SCAG**Regionwide****Forecasts**

	2010	2015	2020	2025	2030
Population	19,208,861	20,191,117	21,137,519	22,035,416	22,890,797
Households	6,072,578	6,483,402	6,885,355	7,283,519	7,660,107
Employment	8,729,192	9,198,818	9,659,847	10,100,776	10,527,202

Adopted**IVAG****Forecasts**

	2010	2015	2020	2025	2030
Population	189,025	210,079	230,858	250,771	269,874
Households	54,826	61,974	69,336	76,606	83,735
Employment	76,724	85,088	93,635	102,280	111,072

Adopted**CVAG****Forecasts**

	2010	2015	2020	2025	2030
Population	470,827	540,105	607,149	670,378	730,001
Households	164,169	190,221	218,311	242,071	267,612
Employment	186,124	206,537	227,494	248,730	270,336

Adopted**Imperial County****Forecasts**

	2010	2015	2020	2025	2030
Population	189,025	210,079	230,858	250,771	269,874
Households	54,826	61,974	69,336	76,606	83,735
Employment	76,724	85,088	93,635	102,280	111,072

Adopted**Riverside County****Forecasts**

	2010	2015	2020	2025	2030
Population	2,085,432	2,370,528	2,644,278	2,900,563	3,143,468
Households	685,775	796,360	907,932	1,018,239	1,127,780
Employment	727,711	839,698	954,499	1,070,761	1,188,976

Adopted**City of Blythe****Forecasts**

	2010	2015	2020	2025	2030
Population	21,795	24,194	26,560	28,829	31,005
Households	4,504	5,139	5,775	6,399	7,015
Employment	8,993	10,399	11,857	13,342	14,862

DOCS# 130332v1

Companies/Organizations

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6-168

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Ms. Magalie R. Salas
Mr. Tom Filler
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CO7-2
(cont'd)

Adopted
City of El Centro
Forecasts

	2010	2015	2020	2025	2030
Population	42,829	45,311	47,780	50,109	52,382
Households	13,533	14,580	15,545	16,536	17,461
Employment	21,341	23,833	26,380	28,959	31,582

The 2004 RTP growth forecast at the regional, county and subregional level was adopted by RC in April, 2004. City totals are the sum of small area data and should be used for advisory purposes only.

SCAG staff comments: The Draft EIS/EIR/plan amendment, Tables 4.9.2-1 and 4.9.3-1 at pages 4-170 and 4-172, respectively, show population and housing characteristics for the study area. The data provided does not appear to utilize SCAG's growth forecasts. It would be helpful if the Final EIS/EIR/plan amendment addressed the manner in which the project is supportive or detracts from the achievement of this policy. Based on the information provided in the Draft EIS/EIR/plan amendment, we are unable to determine if the project is consistent with Policy 3.01. Please address this in the Final EIS/EIR.

CO7-3

3.03

The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.

SCAG staff comments: The Draft EIS/EIR/plan amendment Section 4.16 on page 4-242 states that, "the availability of a new or an alternative source of natural gas may be a contributing factor in stimulating economic and population growth and could result in the construction of additional power infrastructure... the additional gas supplied by the proposed Project could be a growth-inducing impact. Local factors that could also influence or restrict growth include availability of infrastructure, such as roads and sewer connections, and availability of water." Based on the information provided in the Draft EIS/EIR/plan amendment, we are unable to determine if the project is consistent with Policy 3.03. Please address this in the Final EIS/EIR.

CO7-4

GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL STANDARD OF LIVING

The Growth Management goals to develop urban forms that enable individuals to spend less income on housing cost, that minimize public and private development costs, and that enable firms to be more competitive, strengthen the regional strategic goal to stimulate the regional economy. The evaluation of the proposed project in relation to the following policies would be intended to guide efforts toward achievement of such goals and does not infer regional interference with local land use powers.

3.05

Encourage patterns of urban development and land use that reduce costs of infrastructure construction and make better use of existing facilities.

SCAG Staff Comments: The Draft EIS/EIR/plan amendment, Section 1.1 states that, "the anticipated delivery points for the proposed Project are: the El Centro Generating Station in El Centro, California (via the proposed 45.7-mile-long lateral [IID Lateral]); the Blythe Energy Facility I supply pipeline and the SoCal Gas system in Blythe, California; and the El Paso system in Ehrenberg, Arizona." The Draft EIS/EIR/plan amendment also states that, "no modifications would be required on the SoCal Gas system to receive gas from the North Baja Pipeline Expansion Project and that the El Paso pipelines appear to have the necessary capacity without the need to construct additional pipeline facilities." Furthermore, the Draft EIS/EIR/plan amendment Section 2.2.1, states that, "of the 126.1

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CO7-3 See the response to comment CO7-1.

CO7-4 See the response to comment CO7-1.

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CO7-4 (cont'd)	miles of proposed pipeline loop and laterals, approximately 125.4 miles (99 percent) would be constructed in or adjacent to various existing rights-of-way." As such, based on the analysis provided in the Draft EIS/EIR/plan amendment, this project would be consistent with this policy to reduce costs of infrastructure construction and make better use of existing facilities.
CO7-5	<p>3.08 <i>Encourage subregions to define an economic strategy to maintain the economic vitality of the subregion, including the development and use of marketing programs, and other economic incentives, which support attainment of subregional goals and policies.</i></p> <p><u>SCAG Staff Comments:</u> Section 4.9, Socioeconomics, describes the amount of tax revenues generated by the proposed project. Based on the analysis in this section, it is unclear how the subregional goals and policies of the Imperial Valley and Coachella Valley Associations of Government were addressed. It would be helpful if the Final EIS/EIR would provide a discussion and address the manner in which the project is supportive or detracts from the achievement of this policy. Based on the information provided in the Draft EIS/EIR/plan amendment, we are unable to determine if the project is consistent with Policy 3.08. Please address this in the Final EIS/EIR.</p>
CO7-6	<p>3.09 <i>Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.</i></p> <p><u>SCAG Staff Comments:</u> Section 4.9.8, Tax Revenues, states that construction and operation of the Project would have a beneficial impact on local tax revenue resulting in annual sales tax revenues of \$180,050 to Riverside County and \$118,400 to Imperial County. This section further states that the increase in property tax revenue, about \$3.4 million annually, would be generated throughout the life of the Project. It is unclear if this revenue would cover the cost of infrastructure and public service delivery. Based on the information provided in the Draft EIS/EIR/plan amendment, we are unable to determine if the project is consistent with Policy 3.09. Please address this in the Final EIS/EIR.</p>
CO7-7	<p><u>Additional SCAG Staff Comments:</u> The Draft EIS/EIR/plan amendment, Section 1.1, Project Objectives, Purpose and Need states that, "according to North Baja, access to natural gas from the southern and western Pacific Rim countries would provide an entirely new source of natural gas supply and allow gas consumers in the Southwest (including California) to replace North American reserves. This new supply would benefit American consumers by increasing gas-on-gas competition and putting downward pressure on prices. Any action that can reduce prices will have a significant impact on the total amount spent by consumers, because the California gas market is the second largest in the United States." SCAG is currently updating its Regional Comprehensive Plan, which includes a chapter on energy. With the leadership of our Regional Council, SCAG held a conference on our energy future in March 2006. One of the speakers, Julian Darley from Post Carbon Institute, addressed the potentially constrained outlook for natural gas. Specifically, Mr. Darley identified that key gas producing regions are in decline (USA, Canada, Western Siberia, United Kingdom, Indonesia) and other future sources are not drilled (Saudi Arabia, Qatar, Iran). He also discussed that the limited amount of data on proven natural gas reserves prevent a full picture of future natural gas supplies. Subsequently, SCAG has drafted a goal to reduce consumption of fossil fuels, including natural gas, to address concerns raised by the Regional Council. Staff recognizes that natural gas prices have direct impacts on the economy of California due in part to our reliance on natural gas for cleaner electric power generation. However, based on information presented at SCAG's energy conference, staff is concerned about the long-term reliance on a potentially constrained resource. Although SCAG does not currently have an adopted policy directly related to energy supply, SCAG encourages North Baja to consider long-term natural gas supplies in relation to the economic vitality of the region in the Final EIS/EIR/plan amendment.</p>
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- CO7-5
- See the response to comment CO7-1.
- CO7-6
- See the response to comment CO7-1.
- CO7-7
- The purpose and need for the Project are discussed in Section 1.1. See also the response to comment LA11-1.

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CO7-8	<div><div>GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL QUALITY OF LIFE</div><div><p>The Growth Management goals to attain mobility and clean air goals and to develop urban forms that enhance quality of life, that accommodate a diversity of life styles, that preserve open space and natural resources, and that are aesthetically pleasing and preserve the character of communities, enhance the regional strategic goal of maintaining the regional quality of life. The evaluation of the proposed project in relation to the following policies would be intended to provide direction for plan implementation, and does not allude to regional mandates.</p><p>3.20 <i>Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, productions lands, and land containing unique and endangered plants and animals.</i></p><p><u>SCAG Staff Comments:</u> Table 4.7.8-1 on page 4-130 identifies project impacts on state and federally listed endangered or threatened species and their critical habitats. The Draft EIS/EIR/plan amendment further states that, "the Federal and California-listed threatened desert tortoise and the federally listed threatened and California listed endangered Peirson's milk-vetch would likely be adversely affected by construction of the Project. Page 4-126 also states that, "construction of the pipeline through habitat occupied by the flat-tailed horned lizard could result in direct mortality or injury of individual lizards as a result of being crushed by vehicles, movement of soil, and entrapment in open trenches." As a result, the Draft EIS/EIR/plan amendment determined this to be significant impact on the flat-tailed horned lizard.</p><p>SCAG understands that North Baja would be prohibited from beginning construction until the U.S. Fish and Wildlife Service (FWS) issues their Biological Opinion regarding whether the project would jeopardize the continued existence of the Peirson's milk-vetch and the desert tortoise and its critical habitat. The Biological Opinion would contain the FWS' terms and conditions to avoid jeopardizing the continued existence of these species and adverse modification of critical habitat for the desert tortoise. Further, North Baja would implement mitigation measures to reduce impacts on flat-tailed horned lizards during construction of the B-Line and the IID Lateral. Although the proposed mitigation measures would not reduce impacts to the flat-tailed horned lizard, the Draft EIS/EIR/plan amendment on page 4-127 states that, "the Agency Staffs do not expect the Project to reduce the overall abundance of the species in the area or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the flat-tailed horned lizard." North Baja would implement general and species-specific conservation measures as well as recommendations that would allow the project to avoid, minimize, or compensate for project impacts on these species. North Baja would also implement a Construction Mitigation and Restoration Plan to minimize and restore disturbances to native vegetation, reduce impacts to water resources, prevent the invasion and establishment of exotic-nuisance species, and protect nesting migratory birds. Given North Baja's efforts to support the protection of lands containing unique and endangered plants and animals, SCAG staff has determined the North Baja Pipeline Expansion Project Draft EIS/EIR/plan amendment is consistent with policy 3.20.</p></div></div>
CO7-9	<div><div>3.21 <i>Encourage the implementation of measures aimed at the preservation and protection of the recorded and unrecorded cultural resources and archaeological sites.</i></div><div><p><u>SCAG Staff Comments:</u> The Draft EIS/EIR/plan amendment, Section 4.11, Cultural Resources, indicates that North Baja is coordinating with the appropriate agencies, including Native American tribes, the Arizona and California State Historic Preservation Offices, the California States Lands Commission, and the Bureau of Land Management among others regarding potential impacts to cultural resources. SCAG understands that North Baja has prepared cultural resource assessments</p></div></div>

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CO7-8 See the response to comment CO7-1.

CO7-9 See the response to comment CO7-1.

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CO7-9 (cont'd)	<p>including an Overview and Survey Report and an Unanticipated Discovery Plan. The Draft EIS/EIS/plan amendment also lists a series of recommendations to ensure that the Federal Energy Regulatory Commission's responsibilities under the National Historic Preservation Act and its implementing regulations and the California State Lands Commission's responsibilities under the CEQA are met. Based on the description provided in the Draft EIS/EIR/plan amendment SCAG staff has determined that these measures, with input from the appropriate agencies, would preserve and protect cultural resources and archaeological sites. As such, the North Baja Pipeline Expansion Project Draft EIS/EIR/plan amendment is consistent with policy 3.21.</p>
CO7-10	<p>3.22 <i>Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.</i></p> <p><u>SCAG Staff Comments:</u> As discussed in Section 4.1, Geology, North Baja would prepare and implement an Operation and Maintenance Plan and an Emergency Response Plan in accordance with the requirements in Title 49 CFR Part 192. Further, North Baja has developed a Fire Prevention and Suppression Plan to minimize the potential for wildfires. As a result, SCAG staff has determined that the North Baja Pipeline Expansion Project Draft EIS/EIR/plan amendment is consistent with policy 3.22.</p>
CO7-11	<p>3.23 <i>Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.</i></p> <p><u>SCAG Staff Comments:</u> Section 4.13, Noise, adequately addresses noise impacts from construction and operation. In addition, North Baja would comply with the noise elements included in the Riverside County and Imperial County General Plans; reducing the potential for the Project to result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies to be less than significant. Therefore, the North Baja Pipeline Expansion Project Draft EIS/EIR/plan amendment is consistent with policy 3.23.</p>
CO7-12	<p><u>GMC POLICIES RELATED TO THE RCPG GOAL TO PROVIDE SOCIAL, POLITICAL, AND CULTURAL EQUITY</u></p> <p>The Growth Management Goal to develop urban forms that avoid economic and social polarization promotes the regional strategic goal of minimizing social and geographic disparities and of reaching equity among all segments of society. The evaluation of the proposed project in relation to the policy stated below is intended guide direction for the accomplishment of this goal, and does not infer regional mandates and interference with local land use powers.</p> <p>3.25 <i>Encourage the efforts of local jurisdictions, employers and service agencies to provide adequate training and retraining of workers, and prepare the labor force to meet the future challenges of the regional economy.</i></p> <p><u>SCAG Staff Comments:</u> Section 4.15.5, Socioeconomics, states that the North Baja Pipeline Expansion Project expects to employ up to 400 workers during the peak construction months for the B-Line and estimates that 25 percent of its construction workforce would be local hires. This section further states that the local labor force could meet much of the employment needs induced by construction of these projects, although it is unknown whether a sufficient number of these</p>

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CO7-10 See the response to comment CO7-1.

CO7-11 See the response to comment CO7-1.

CO7-12 See the response to comment CO7-1.

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CO7-12 (cont'd)	unemployed persons have the necessary skills to work on these projects. Therefore, the demand for local workers may exceed supply. It would be helpful for SCAG to understand if North Baja anticipates training local workers to address the projected deficiency of skilled local workers. Based on the information provided in the Draft EIS/EIR/plan amendment, we are unable to determine if the project is consistent with policy 3.25. Please address this in the Final EIS/EIR.
CO7-13	3.26 <i>Encourage employment development in job-poor localities through support of labor force retraining programs and other economic development measures.</i> <u>SCAG Staff Comments:</u> Section 4.15.5, Socioeconomics, states that the counties affected by the Project have a civilian labor force of about 2,230,030 people and an average unemployment rate of 6.5 percent. As discussed under Policy 3.25, we are unable to determine if the project is consistent with Policy 3.26, specifically if the project supports retraining programs. Please address this in the Final EIS/EIR.
CO7-14	3.27 <i>Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.</i> <u>SCAG Staff Comment:</u> Section 4.17, Environmental Justice, identifies whether the proposed project would expose minority or disadvantaged populations to proportionately greater risks or impacts compared to those borne by other individuals. The analysis concludes that negative adverse impacts would not disproportionately occur to minority or low-income populations. Section 4.9.4, Public Services, also states that the project would not increase the short- or long-term demand for public services in excess of existing and projected capabilities. However, it is unclear if the benefits of the project would be provided equally to all members of society. Therefore, we are unable to determine if the project is consistent with policy 3.27. Please address this in the Final EIS/EIR.
<u>AIR QUALITY CHAPTER CORE ACTIONS</u>	
CO7-15	The Air Quality Chapter (AQC) core actions that are generally applicable to the Project are as follows: 5.11 <i>Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.</i> <u>SCAG staff comments:</u> Section 4.12, Air Quality, discusses and analyzes relevant air quality requirements adopted by the Arizona Department of Environmental Quality, the Mojave Desert Air Quality Management District, the Imperial County Air Pollution Control District, and the U.S. Environmental Protection Agency. Specific mitigation measures are proposed in order to reduce air quality emissions including the implementation of North Baja's Dust Control Plan. As a result, air quality impacts would be less than significant. Therefore, the proposed project is consistent with core policy 5.11.
<u>REGIONAL TRANSPORTATION PLAN</u>	
CO7-16	The 2004 Regional Transportation Plan (RTP) also has goals and policies that are pertinent to this proposed project. This RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development

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CO7-13 See the response to comment CO7-1.

CO7-14 See the response to comment CO7-1.

CO7-15 See the response to comment CO7-1.

CO7-16 Section 1.5.3 has been revised to include a discussion of the Project's consistency with the Regional Transportation Plan.

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patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations. The RTP continues to support all applicable federal and state laws in implementing the proposed project. Among the relevant goals and policies of the RTP are the following:

RTP Goals

- Protect the environment, improve air quality and promote energy efficiency.
- Encourage land use and growth patterns that complement our transportation investments.

RTP Policies

- Transportation investments shall be based on SCAG's adopted Regional Performance Indicators.
- Ensuring safety, adequate maintenance, and efficiency of operations on the existing multi-modal transportation system will be RTP priorities and will be balanced against the need for system expansion investments.
- RTP land use and growth strategies that differ from currently expected trends will require a collaborative implementation program that identifies required actions and policies by all affected agencies and sub-regions.

Performance Indicator	Performance Measures	Definition	Performance Outcome
Mobility	• Average Daily Speed	Speed-experienced by travelers regardless of mode.	10% Improvement
	• Average Daily Delay	Delay-excess travel time resulting from the difference between a reference speed and actual speed. Total daily delay and daily delay per capita are indicators used.	40% Improvement
Accessibility	• Percent PM peak work trips within 45 minutes of home		Auto 90% Transit 37%
	• Distribution of work trip travel times		Auto 8% Improvement Transit 8% Improvement
Reliability	• Percent variation in travel time	Day-to-day change in travel times experienced by travelers. Variability results from accidents, weather, road closures, system problems and other non-recurrent conditions.	10% Improvement
Safety	• Accident Rates	Measured in accidents per million vehicle miles by mode.	0.3% Improvement
Cost Effectiveness	• Benefit-to-Cost (B/C) Ratio	Ratio of benefits of RTP investments to the associated investments costs.	\$3.08
Productivity	• Percent capability utilized during peak conditions	Transportation infrastructure capacity and services provided.	
		• Roadway Capacity - vehicles per hour per lane by type of facility. • Transit Capacity -- seating capacity utilized by mode.	20% Improvement at known bottlenecks N/A
Sustainability	• Total cost per capita to sustain current system performance	Focus in on overall performance, including infrastructure condition. Preservation measure is a subset of sustainability.	\$20 per capita, primarily in preservation costs

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CO7-16
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Performance Indicator	Performance Measures	Definition	Performance Outcome
Preservation	<ul style="list-style-type: none"> Maintenance cost per capita to preserve system at base year conditions 	Focus is on infrastructure condition. Sub-set of sustainability.	Maintain current conditions
Environmental	<ul style="list-style-type: none"> Emissions generated by travel 	Measured/forecast emissions include CO, NOX, PM10, SOX and VOC. CO2 as secondary measure to reflect greenhouse emissions.	Meets conformity requirements
Environmental Justice	<ul style="list-style-type: none"> Expenditures by quintile and ethnicity Benefit vs. burden by quintiles 	<p>Proportionate share of expenditures in the 2004 RTP by each quintile.</p> <p>Proportionate share of benefits to each quintile ethnicity.</p> <p>Proportionate share of additional airport noise by ethnic group.</p>	No disproportionate impact to any group or quintile

SCAG staff comments: SCAG staff acknowledges that because most roadways in the Project area currently operate at a level of service of A or B, the relatively minor increase in traffic associated with the Project would not result in a significant change in the level of service on any roadway. Furthermore, to ensure that the local transportation network operates at an acceptable level of service, North Baja has developed the Traffic Mitigation Plan for Imperial County Roads and the Traffic Management Plan for 18th Avenue prepared in consultation with the County of Riverside Transportation Department. As such, the proposed project is consistent with the RTP.

GROWTH VISIONING

CO7-17

The fundamental goal of the Compass Growth Visioning effort is to make the SCAG region a better place to live, work and play for all residents regardless of race, ethnicity or income class. Thus, decisions regarding growth, transportation, land use, and economic development should be made to promote and **sustain** for future generations the region's **mobility**, **livability** and **prosperity**. The following "Regional Growth Principles" are proposed to provide a framework for local and regional decision making that improves the quality of life for all SCAG residents. Each principle is followed by a specific set of strategies intended to achieve this goal.

Principle 1: Improve **mobility** for all residents

- Encourage transportation investments and land use decisions that are mutually supportive.
- Locate new housing near existing jobs and new jobs near existing housing.
- Encourage transit-oriented development.
- Promote a variety of travel choices

Principle 2: Foster **livability** in all communities

- Promote infill development and redevelopment to revitalize existing communities.
- Promote developments, which provide a mix of uses.
- Promote "people scaled," walkable communities.
- Support the preservation of stable, single-family neighborhoods.

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CO7-17

Section 1.5.3 has been revised to include a discussion of the Project's consistency with the Compass Growth Visioning effort.

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CO7-17 (cont'd)	<p>Principle 3: Enable prosperity for all people</p> <ul style="list-style-type: none">• Provide, in each community, a variety of housing types to meet the housing needs of all income levels.• Support educational opportunities that promote balanced growth.• Ensure environmental justice regardless of race, ethnicity or income class.• Support local and state fiscal policies that encourage balanced growth• Encourage civic engagement. <p>Principle 4: Promote sustainability for future generations</p> <ul style="list-style-type: none">• Preserve rural, agricultural, recreational and environmentally sensitive areas.• Focus development in urban centers and existing cities.• Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution and significantly reduce waste.• Utilize "green" development techniques. <p><u>CONCLUSIONS</u></p> <p>CO7-18 1. As noted in the Staff comments, the Final EIS/EIR/plan amendment should address the relationships to SCAG's policies and discuss any inconsistencies between the proposed project and applicable regional plans.</p> <p>CO7-19 2. All feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project should be implemented and monitored, as required by CEQA.</p> <p>CO7-20 3. SCAG encourages North Baja to consider long-term natural gas supplies in relation to the economic vitality of the region in the Final EIS/EIR/plan amendment.</p> <p>CO7-21 4. Subsequent environmental documentation should be sent to SCAG for review pursuant to CEQA Section 15206. The policies and core actions cited in this letter should be discussed analyzed in subsequent environmental documentation.</p> <p>DOCS# 130332v1</p>

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- CO7-18 See the responses to comments CO7-1, CO7-16, and CO7-17.
- CO7-19 The final EIS/EIR documents all of the feasible mitigation measures to reduce impacts associated with the Project to less than significant levels. However, the Agency Staffs have determined that impacts on the Peirson's milk-vetch, the desert tortoise and its critical habitat, and the flat-tailed horned lizard and its habitat would remain significant after all available or feasible mitigation is applied. Approval of the Project would be subject to a Statement of Overriding Considerations under the CEQA.
- CO7-20 See the responses to comments LA11-1 and CO7-7.
- CO7-21 The SCAG is on the environmental mailing list for the Project and will receive the applicable issuances associated with the Project. See also the response to comment CO7-1.

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SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

Roles and Authorities

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (SCAG) is a *Joint Powers Agency* established under California Government Code Section 6502 et seq. Under federal and state law, SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). SCAG's mandated roles and responsibilities include the following:

SCAG is designated by the federal government as the Region's *Metropolitan Planning Organization* and mandated to maintain a continuing, cooperative, and comprehensive transportation planning process resulting in a Regional Transportation Plan and a Regional Transportation Improvement Program pursuant to 23 U.S.C. '134, 49 U.S.C. '5301 et seq., 23 C.F.R. '450, and 49 C.F.R. '613. SCAG is also the designated *Regional Transportation Planning Agency*, and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080 and 65082 respectively.

SCAG is responsible for developing the demographic projections and the integrated land use, housing, employment, and transportation programs, measures, and strategies portions of the *South Coast Air Quality Management Plan*, pursuant to California Health and Safety Code Section 40480(b)-(c). SCAG is also designated under 42 U.S.C. '7504(a) as a *Co-Lead Agency* for air quality planning for the Central Coast and Southeast Desert Air Basin District.

SCAG is responsible under the Federal Clean Air Act for determining *Conformity* of Projects, Plans and Programs to the State Implementation Plan, pursuant to 42 U.S.C. '7506.

Pursuant to California Government Code Section 65089.2, SCAG is responsible for *reviewing all Congestion Management Plans (CMPs) for consistency with regional transportation plans* required by Section 65080 of the Government Code. SCAG must also evaluate the consistency and compatibility of such programs within the region.

SCAG is the authorized regional agency for *Inter-Governmental Review* of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12,372 (replacing A-95 Review).

SCAG reviews, pursuant to Public Resources Code Sections 21063 and 21067, Environmental Impacts Reports of projects of regional significance for consistency with regional plans [California Environmental Quality Act Guidelines Sections 15206 and 15125(b)].

Pursuant to 33 U.S.C. '1288(a)(2) (Section 206 of the Federal Water Pollution Control Act), SCAG is the authorized *Area-wide Waste Treatment Management Planning Agency*.

SCAG is responsible for preparation of the *Regional Housing Needs Assessment*, pursuant to California Government Code Section 65584(a).

SCAG is responsible (with the Association of Bay Area Governments, the Sacramento Area Council of Governments, and the Association of Monterey Bay Area Governments) for preparing the *Southern California Hazardous Waste Management Plan* pursuant to California Health and Safety Code Section 25135.3.

Revised July 2001

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December 28, 2006

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, D.C. 20426
Attn: Gas 1, DG2E

Tom Filler
California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA 95825

Re: FERC Docket Nos. CP06-61-000
CP01-23-003
CA State Clearinghouse No. 2006081127

Dear Secretary Salas and Mr. Filler:

Southern California Gas Company ("SoCalGas") and San Diego Gas & Electric Company ("SDG&E") appreciate this opportunity to comment on the Draft Environmental Impact Statement/Report and Draft Land Use Plan Amendment for the proposed North Baja Pipeline Expansion Project.

SoCalGas and SDG&E request the correction of a misstatement of material fact set forth in Section 3.0 of the draft EIR/EIS/plan amendment, concerning alternatives to the proposed Project. As stated at the outset of Section 3.0:

One of the most important aspects of the environmental review process is the identification and assessment of reasonable alternatives that could potentially avoid or minimize the impacts of a proposed project.

CO8-1

On March 13, 2006, SoCalGas and SDG&E intervened and filed comments in North Baja's certificate application proceeding, FERC Docket Nos. CP06-61-000 and CP01-23-003. The March 13 comments of SoCalGas and SDG&E stated, in relevant part:

8. In Phase I-A, North Baja proposes to construct a 46-mile lateral west from its existing mainline to serve a customer of SoCalGas, the Imperial Irrigation

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CO8-1

SoCalGas' and SDG&E's comments that service to the IID has not been curtailed in the past 16 years are noted. Section 3.2.2.1 has been revised to state that customers of SoCalGas and SDG&E would be able to nominate LNG supplies at Blythe and Otay Mesa when supplies from Mexico become available. The revised Section 3.2.2.1 further states that while the SoCalGas Alternative would provide the IID with indirect access to LNG-source gas through the SoCalGas system, it would not provide direct access to LNG supplies nor direct access to an interstate pipeline system, which are objectives of the proposed Project. Therefore, this alternative was eliminated from further consideration.

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(cont'd)

District (IID), at the IID's El Centro Generating Station in El Centro, California. The design capacity of the proposed lateral is 110,000 Dth/d, and the estimated in-service date is June 1, 2009.

....

11. With respect to Phase I-A of North Baja's proposed expansion project, the Precedent Agreement between IID and North Baja briefly and obliquely references a risk of curtailment from IID's existing supplier of transportation service, and also recites IID's desire to increase its access to LNG supplies.

For purposes of clarification of the record, service to IID has not been curtailed in the past sixteen years under SoCalGas' longstanding CPUC tariff procedures for prioritizing curtailment between customer classes, including during the California Energy Crisis of 2000-01, and **customers of SoCalGas and SDG&E will be able to nominate LNG supplies at the Blythe and Otay Mesa receipt points when supplies from the ECA and/or Chevron LNG terminals become available.** (emphasis added)

Despite the filing of these comments by SoCalGas and SDG&E, the draft EIS/EIR/plan amendment mistakenly states at page 3-7 under the heading "SoCal Gas Alternative:"

Currently, the IID receives natural gas from SoCal Gas' existing intrastate pipelines that extend south through the Chocolate Mountains to the Imperial Valley. At present, this system provides neither the supply diversity (i.e., access to LNG-source gas) nor direct access to an interstate pipeline system. The SoCal Gas alternative, as a stand-alone system, does not presently, or within the time frame of the proposed Project, meet the objectives of the Project. Therefore, this alternative was eliminated from further consideration.

This assessment of alternatives misstates the fact that the same future LNG supplies which would be transported by the proposed North Baja Pipeline Expansion Project will also be transported by SoCalGas and SDG&E, in the same time frame – if not sooner than – the proposed North Baja Project.

The draft EIS/EIR/plan amendment thus reflects a fundamental misunderstanding of the ability of customers of SoCalGas, such as IID, to nominate LNG supplies when such supplies become available for delivery to southern California. Accordingly, SoCalGas and SDG&E request that the draft EIS/EIR/plan amendment be corrected to reflect that the "SoCal Gas Alternative" would provide IID with access to LNG-source gas.

As an additional reference, the IID's May 19, 2006 application to the California Energy Commission ("CEC") for a Small Power Plant Exemption states:

There is an existing gas transportation agreement between IID and [SoCalGas] for 2,157 MMBtu/h of firm gas transportation capacity during peak periods of the year, which provides adequate natural gas transportation capacity to operate the Unit 3 Repower Project.

CO8-1 | This information is available on the CEC's website, www.energy.ca.gov, under the
(cont'd) | "siting cases" index for the El Centro Generating Station project, at Volume 1 of the
Application, Section 2.2.6, entitled "Natural Gas Fuel System." Thus, it is apparent that
IID recognizes gas service from SoCalGas as a viable alternative.

SoCalGas and SDG&E would be happy to address any questions you may have concerning this matter.

Sincerely,

/s/ John R. Ellis
John R. Ellis
Attorney for
Southern California Gas Company and
San Diego Gas & Electric Company

Companies/Organizations

200701105134 Received FERC OSEC 01/10/2007 04:16:00 PM Docket# CP06-61-000, ET AL.

Janaury 10, 2007

Ms. Magalie Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: North Baja Pipeline Expansion Project Draft Environmental Impact Statement
Docket Nos. CP06-61-000 and CP01-23-003

Ms. Salas:

CO9-1

Sempra LNG Marketing Corp. ("Sempra LNG") and Coral Energy Resources, L.P. ("Coral") are parties to this proceeding and have executed precedent agreements to receive transportation service from North Baja Pipeline, LLC ("North Baja") in association with the installation of the new natural gas pipeline facilities that are the subject of the application filed by North Baja in the referenced dockets (the "Expansion Project"). The Draft Environmental Impact Statement ("DEIS") prepared by the Commission's staff contains a comprehensive and thorough analysis of the environmental impacts of the Expansion Project.

On December 28, 2006, the South Coast Air Quality Management District (the "District") and the Border Power Working Group ("Border Power") filed comments on the DEIS. Both the District and Border Power unfairly criticize the DEIS for not analyzing what both parties assert will be negative impacts to air quality resulting from the Expansion Project. Their comments contain numerous misstatements of fact and law and omit other material facts that will assist the Commission in its analysis.

To address the misstatements and omissions in the District's and Border Power's comments, Sempra LNG and Coral submit these reply comments to clarify and supplement the record in this proceeding.

1. An Analysis of Potential Indirect Air Quality Impacts that May Occur in End Use Markets is Outside the Scope of the DEIS

The District and Border Power assert that the DEIS is incomplete because it does not analyze alleged and highly speculative impacts to air quality in metropolitan areas that are far removed from the route of the Expansion Facilities. After completion of the Expansion Project, the North Baja pipeline system will interconnect with the Southern California Gas Company ("SoCalGas") transmission system at Blythe, California, which is located at the Arizona/California border. Blythe is at least a hundred miles from any of the

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Sempra LNG Marketing Corporation's and Coral Energy Resources, L.P.'s reply comments to comments on the draft EIS/EIR submitted by the SCAQMD and the Border Power Working Group (see comment letters LA16 and CO6, respectively) are noted. Points raised in these reply comments have been taken into consideration in the analysis in the EIS/EIR.

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major population centers in the District's jurisdictional area (referred to by the District as the "Basin"). It is, for example, approximately 200 miles from both Los Angeles and Anaheim, California, and almost 170 miles from Riverside, California. The same is true for the proposed lateral that North Baja proposes to construct, which will terminate at the El Centro Generating Station in Imperial County, California.

The analysis requested by the District and Border Power would be unprecedented. Despite the fact that the Commission has prepared numerous environmental impact statements and environmental assessments of LNG terminals and related natural gas pipeline facilities in the past several years, the District and Border Power can point to no other instance in which the Commission has conducted an analysis of the air quality impacts of new gas supplies in downstream markets. The Commission did not, for example, conduct an environmental analysis of the air quality impacts in end use markets of liquefied natural gas terminals that are currently under development along the U.S. Gulf Coast, although each of those projects could also result in the delivery to end use markets of natural gas with a higher Wobbe Index value than existing supplies.¹

The District and Border Power do not refer to any provision in the Commission's regulations that would require the environmental analysis that they request. The Commission has adopted regulations that specifically address the extent to which an environmental impact report is required to analyze non-jurisdictional activities.² Under those regulations, the only non-jurisdictional activities required to be addressed are those that involve construction or installation of new non-jurisdictional facilities that are closely related to the jurisdictional facilities under review. An environmental report is required to "[i]dentify and describe all non-jurisdictional facilities, including auxiliary facilities, that will be built in association with the [jurisdictional] project, including facilities to be built by other companies."³ No mention is made in the regulations of other non-jurisdictional activities (i.e., activities that do **not** involve the construction of facilities).

The cases cited by the District in its comments also involved the construction or installation of non-jurisdictional facilities, and provide no support for the claim that the Commission is somehow required to examine the District's speculative and theoretical concerns in this proceeding. For example, Henry v. Federal Power Commission, 513 F.2d 395, 406-07 (D.C. Cir. 1975), addresses the issue of whether, under the National Environmental Policy Act ("NEPA"), an environmental analysis of jurisdictional pipeline facilities should have included an evaluation of an adjacent non-jurisdictional coal gasification plant that was also under development as part of the same project. Likewise, Border Power Plant Working Group v. DOE, 260 F. Supp. 2d 997, 1017 (S.D. Cal. 2003), involved the construction of cross-border transmission lines that would connect with

¹ See, e.g., Final Environmental Impact Statement, Freeport LNG Project (May 2004); Final Environmental Impact Statement, Casote Landing LNG Project (December 2006).

² See 18 C.F.R. § 380.12(c)(2) (2006).

³ Id.

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electric generating facilities in Mexico that were also under development. Again, this case involved the application of NEPA to related non-jurisdictional facilities.

Similarly, each of the cases cited by the District relating to the California Environmental Quality Act ("CEQA") involved construction of related non-jurisdictional facilities. See Santiago County Water District v. County of Orange, 118 Cal. App. 3d 818 (1981) (water delivery facilities); Whitman v. County Board of Supervisors, 88 Cal. App. 3d 397 (1979) (an oil pipeline); and San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus, 27 Cal. App. 4th 713 (1994) (a wastewater treatment plant).

The rationale behind the Commission's regulations and all of these cases is simple and straightforward: an administrative agency, such as the Commission, can reasonably and accurately evaluate the quantifiable environmental impacts of non-jurisdictional facilities with a close nexus to a jurisdictional project. That rationale does not exist, however, when the agency is asked, in the absence of any related non-jurisdictional facilities, to evaluate theoretical and speculative concerns relating to the activities of end users in distant markets.

2. Any Environmental Concerns Raised by the District and Border Power are Theoretical and Highly Speculative

Both the District and Border Power assert that "significant quantities" of "hotter burning gas" will be delivered to the Southern California market as a result of the Expansion Project. However, they fail to quantify how much "hotter" the new supplies will be compared to existing sources and further fail to identify the actual quantities that can reasonably be expected to be consumed in the areas that they claim will be impacted. The absence of any clear baseline against which to attempt to measure the alleged air quality impacts is also highly problematic.

Although the Wobbe Index of new LNG supplies is expected to be higher than some existing domestic supplies, the District neglects to mention that a number of existing domestic supply sources have Wobbe Index values that are comparable to those of potential new LNG supplies. Evidence introduced in a recent California Public Utilities Commission ("CPUC") proceeding showed that the Wobbe Index of California in-state production and interstate supplies at times has been as high as 1430.⁴ The Wobbe Index of supplies delivered into Southern California by Kern River Gas Transmission, a major interstate supplier, has ranged as high as 1380 over the past three years.⁵

⁴ California Public Utility Commission Rulemaking to Establish Policies and Rules to Ensure Reliable, Long-Term Supplies of Natural Gas to California, R.04-01-025, Exhibit 107 at p. 11.

⁵ California Public Utility Commission Rulemaking to Establish Policies and Rules to Ensure Reliable, Long-Term Supplies of Natural Gas to California, R.04-01-025, Exhibit 129.

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In fact, the actual Wobbe Index of any new LNG supplies will not be known until the volumes are actually delivered from their overseas supply sources, and such deliveries are not scheduled to commence until 2008. Further, those volumes will form only part of the aggregate supply pool and will therefore be mixed with supplies from other sources (i.e., domestic U.S. production), which will obviously affect the aggregate Wobbe Index of the delivered gas stream. This mixing will occur not only in the North Baja pipeline system, but also in the transmission and distribution systems of SoCalGas and San Diego Gas & Electric Company ("SDG&E") prior to delivery to end use customers.

The District also significantly overstates the potential quantities of LNG supplies that can be delivered to the Basin through the proposed North Baja/SoCalGas interconnection at Blythe, California ("Blythe Interconnection"). Although the District refers to total Phase II volumes of 2.4 Bcf/day, the Blythe Interconnection will have a physical capacity of only 1.2 Bcf/day. In addition, the Blythe Interconnection will be located in SoCalGas' southern transmission zone ("Southern Zone") and any new LNG supplies received by SoCalGas from North Baja at the Blythe Interconnection must be transported by SoCalGas through the Southern Zone in order to be delivered into the Basin. The aggregate takeaway capacity for volumes received in the Southern Zone is also only 1.2 Bcf/day and SoCalGas has publicly announced that it has no plans to expand this takeaway capacity.⁶ Thus, even during periods of peak demand, and assuming no flows through the other receipt points in the Southern Zone, the maximum volumes that can be delivered by SoCalGas from the Blythe Interconnection to the Basin will not exceed 1.2 Bcf/day. In addition, the SoCalGas/El Paso interconnection at Ehrenberg (with receipt capacity of 1.2 Bcf/day) is also located in the Southern Zone, and the SDG&E Otay Mesa receipt point (with physical capacity of 800,000 Mcf/day) will be located there as well when it is completed. Volumes from those two other receipt points will be competing with volumes delivered at the Blythe Interconnection for the 1.2 Bcf of takeaway capacity.

Further, the Basin is by no means the only potential market for new LNG supplies that would be transported through the Expansion Facilities. Volumes delivered by North Baja to SoCalGas at the proposed Blythe interconnection point may also be delivered to the San Diego market or to other markets in California outside of the Basin, or delivered off-system to Pacific Gas and Electric customers in the central and northern portions of California. North Baja is also interconnected to the El Paso Natural Gas system, which serves Phoenix and other areas east of California. Thus, it is not yet known what volumes of any new LNG supplies will be delivered into the Basin and it would be purely speculative to attempt to estimate that at this point. As the District itself notes, new LNG supplies will have to compete with existing supply sources for market share in the Southern California area. It is currently unknown to what extent new LNG supplies will capture a share of that market and what percentage of the overall supply volumes LNG will represent.

⁶ California Public Utilities Commission, Docket No. A.04-12-004, Exhibit 1.

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It is also uncertain what "baseline" would be used to measure any alleged air quality impacts, even if the other variables discussed above could be determined. The District asserts in its comments that the baseline is the current condition of air quality in the Basin, which it says is based on the five-year average system-wide Wobbe Index of 1332 for SoCalGas. The District, however, stated in a recent CPUC proceeding that significant new quantities of gas with a Wobbe Index as high as 1360 would not result in a material change in the air quality in the Basin. In urging the CPUC to adopt a Wobbe Index limitation of 1360 for SoCalGas and SDG&E, the District stated that a 1360 limitation would "preserve the status quo by ensuring that sources will burn the same quality gas as they have in the past."⁷ The District concluded that an environmental assessment would not be required if the CPUC had adopted a 1360 Wobbe Index limitation since, in the opinion of the District, there would be no resulting material adverse change in the air quality in the Basin.⁸

The District itself has acknowledged the highly speculative nature of its concerns. Although the District asserts in its comments on the DEIS that higher Wobbe Index gas "will substantially increase emissions" of NO_x, the District took a different position only two months ago in its application for rehearing of the decision by the CPUC that approved revised gas quality standards for SoCalGas and SDG&E. In that pleading, the District acknowledged that there is a lack of reliable and meaningful information to demonstrate that natural gas with a higher Wobbe Index will result in a significant adverse impact on air quality. The District, for example, itself cited to "existing gaps in critical information" and concurred with the statement that "further research is needed to fully understand the impacts of higher Wobbe Index gas on emissions."⁹ The District urged the CPUC to conduct additional testing to determine whether higher Wobbe Index gas would, in fact, have any adverse impact on air emissions.

Thus, even if the Commission were to conduct an analysis of the alleged air quality impacts related to the Expansion Project, the District would almost certainly criticize that analysis and claim that it was incomplete and based on insufficient information. The District has made clear from its participation in the CPUC proceeding that it will only be satisfied with extensive additional testing. The District is apparently undeterred by the fact that the existing data indicate that any such additional testing will only confirm that the air quality impacts of new LNG supplies will be, at most, minimal.

⁷ California Public Utility Commission Rulemaking to Establish Policies and Rules to Ensure Reliable, Long-Term Supplies of Natural Gas to California, R.04-01-025, Opening Brief of the South Coast Air Quality Management District at p. 45.

⁸ *Id.*

⁹ California Public Utility Commission Rulemaking to Establish Policies and Rules to Ensure Reliable, Long-Term Supplies of Natural Gas to California, R.04-01-025, Application for Rehearing of the South Coast Air Quality Management District at p. 13.

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In this regard, the technical information set forth in the District's comments that purports to show an increase in emissions from burning higher Wobbe Index gas is inaccurate and misleading. The District refers to testing conducting by SoCalGas on a variety of natural gas appliances. The District, however, overstates the actual test results by as much as 50%. Further, the District selectively includes only a portion of the test results. The District neglects to include the results of other, much more widely-used, types of residential appliances included in the study. The test results for those other types of appliances showed in some cases decreases in NOx emissions and in other cases only nominal increases of one to two percent.¹⁰

3. The Commission is not Required to Analyze Speculative Environmental Concerns

Under both NEPA and CEQA, the Commission is not required to examine alleged environmental impacts that are speculative in nature.¹¹ In order to trigger the application of either NEPA or CEQA, a proposed agency action must have a potentially significant effect on the environment that is reasonably foreseeable and supported by substantial evidence in the record of the proceeding.¹² In this regard, the Commission's staff has properly limited the scope of the DEIS to potential environmental impacts that are reasonably foreseeable, material and ascertainable. The speculative allegations by the District and Border Power satisfy none of those requirements.

4. New Gas Quality Standards Adopted by the CPUC Will Effectively Mitigate Air Quality Impacts in the Basin

The CPUC recently adopted new gas quality and interchangeability standards for SoCalGas and SDG&E. All gas delivered to end users in the Basin and elsewhere in southern California is transported through the SoCalGas/SDG&E system at some point prior to delivery and therefore must comply with the new CPUC gas quality standards. This will also be the case for the new LNG supplies that will be transported through the Expansion Facilities. Thus, in order for those LNG supplies to access the Basin, they must comply with the new CPUC-approved gas quality standards.

¹⁰ California Public Utility Commission Rulemaking to Establish Policies and Rules to Ensure Reliable, Long-Term Supplies of Natural Gas to California, R.04-01-025, Exhibits 108 and 150.
¹¹ See, e.g., *NO Oil Inc. v. City of Los Angeles*, 196 Cal. App. 3d 223, 237 (1987) (finding environmental review of oil pipeline route improper because project was too speculative before the quantity and quality of oil was known and before the specifications or location of the pipeline was determined).
¹² See, e.g., *Laurel Heights Improvement Assn. v. Regents of University of California*, 47 Cal. 3d 376, 398 (Cal. 1988).

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The new standards approved by the CPUC significantly **tighten** the permissible Wobbe Index range for natural gas delivered into the SoCalGas and SDG&E systems. Prior to the adoption of the new standards, the utilities could accept natural gas with a Wobbe Index as high as 1437. The new standards lower that limit to 1385. In this regard, the statement in Border Power's comments that the effect of the new CPUC-approved standards is "to relax" the SoCalGas/SDG&E gas quality standards is simply incorrect. A comparison of the previous standard with the new, much more restrictive, standard demonstrates this. Similarly, Border Power's statement that the new CPUC standards favor Sempra LNG is also incorrect. The new standards, like the ones previously in effect, apply equally to all out-of-state supplies. All LNG and interstate supplies entering the SoCalGas/SDG&E system must comply with the new standards.¹³

The 1385 Wobbe Index limitation adopted by the CPUC is based on, and entirely consistent with, the recommendations set forth in the NGC+ White Paper on gas quality and interchangeability issues. As the Commission is aware, the NGC+ White Paper recommendations reflect the consensus of the diverse group of parties that participated in the NGC+ Work Group and are based on years of research and experience. In its recent policy statement on gas quality and interchangeability, the Commission expressly endorsed the use of the recommendations in the NGC+ White Paper and urged pipelines and other parties to use those recommendations as the key reference point in developing new or revised standards.¹⁴

The District actively participated in the CPUC proceeding. As noted above, the District advocated a Wobbe Index limitation of 1360 and took the position that such a limitation would not materially impact the air quality conditions in the Basin. It is important to note that neither the District nor any other party to the CPUC proceeding introduced substantive evidence showing a material impact on air quality from burning gas with a Wobbe Index of 1385 as compared to burning gas with a Wobbe Index of 1360.

Since any gas burned in the Basin (including gas delivered through the Expansion Facilities) must, in compliance with the revised CPUC standards, have a Wobbe Index of no greater than 1385, the CPUC has already effectively mitigated any legitimate environmental concerns of the District.

¹³ California production, however, is granted a generic waiver from the new standards.

¹⁴ Policy Statement on Provisions Governing Natural Gas Quality and Interchangeability in Interstate Natural Gas Pipeline Company Tariffs, 115 FERC ¶ 61,325 (2006).

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5. Conclusion

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In their comments, the District and Border Power fail to provide either legal or technical support for their claims that the DEIS should be expanded to include an analysis of their highly speculative environmental concerns. They propose to unnecessarily and improperly widen the scope of the DEIS. The analysis that they request would amount to little more than guesswork and would improperly delay a much-needed project. Their comments should be disregarded.

Respectfully submitted,

Sempra LNG Marketing Corp.

By: /s/ William D. Rapp
William D. Rapp
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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at San Diego, California, this 10th day of January, 2007.

_____/s/ Jenifer E. Nicola

Jenifer E. Nicola
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Companies/Organizations

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Comments on the Draft EIS/EIR and Responses

APPLICANT

Applicant**1**

December 28, 2006

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

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**RE: North Baja Pipeline, LLC, Docket CP06-61-000, CP01-23-003,
Comments on Draft Environmental Impact Statement
Docket No. _____**

Dear Ms. Salas:

Enclosed please find North Baja Pipeline, LLC's, Comments on the Draft Environmental Impact Statement for the North Baja Pipeline Expansion Project issued by the Federal Energy Regulatory Commission on September 22, 2006. Please contact me at the number above with any questions with respect to this filing.

Sincerely,

/s/

Carl M. Fink
Associate General Counsel

Enclosures

6-190

North Baja Pipeline, LLC

FERC Docket Nos. CP06-61-000
CP01-23-003
CA State Clearinghouse No. 2006081127
BLM Reference No. CACA-42662

**NORTH BAJA PIPELINE EXPANSION PROJECT
Draft EIS/EIR COMMENTS**

**Submitted by
North Baja Pipeline LLC**

GENERAL

A1-1 | Please note that North Baja amended its application on November 21, 2006 to adopt the Arrowhead Alternative as part of its proposed project, and the relevant sections of the EIS should be revised accordingly.

EXECUTIVE SUMMARY

- A1-2a | 1. EIS-13, second and third paragraphs. See comments on special status species, page 4 of this document.
- A1-2b | 2. EIS-18, fourth paragraph, third line. Delete “recommended as.”
- A1-2c | 3. EIS-18, fifth paragraph, fifth line. Insert “eligible” between “No” and “cultural.”
- A1-2d | 4. EIS-27, first paragraph. See comments on special status species, page 4 of this document.

INTRODUCTION (1.0)

- A1-3 | 1. Page 1-17, second paragraph. The California Energy Commission’s (CEC’s) draft Initial Study for Imperial Irrigation District’s proposed Unit 3 Repowering Project was completed in September of this year, with a final Initial Study expected before the end of the year. Our understanding is that a final CEC decision is expected in January, 2007.
- A1-4 | 2. Pages 1-25 and 1-26, Table 1.6-1. NPDES storm water construction permits are no longer required for natural gas pipeline construction; see comment on section 4.2.

Applicant **1**

A1-1 The applicable sections of the EIS/EIR have been revised to incorporate the analysis of the Arrowhead Alternative into the proposed Project.

A1-2a See the responses to comments A1-19 and A1-20.

A1-2b The Executive Summary has been revised to incorporate the suggested deletion.

A1-2c The Executive Summary has been revised to incorporate the suggested addition.

A1-2d See the responses to comments A1-19 and A1-20.

A1-3 Section 1.4.1 has been revised to reflect that the environmental review for the IID’s Unit 3 Repower has been completed by the CEC, and that the CEC determined that the project would cause no unmitigated significant environmental impacts or adverse impact on energy resources.

A1-4 Table 1.6-1 has been revised to remove references to Storm Water Construction Permits.

161-9

6-192

DESCRIPTION OF THE PROPOSED ACTION (2.0)

- A1-5 | 1. Page 2-16, second paragraph regarding compaction. See comment pertaining to Page 4-38, last paragraph.
- A1-6 | 2. Page 2-16, third paragraph. North Baja has agreed to replant desert wash woodland at selected locations but not specifically "large intact vegetation specimens."
- A1-7 | 3. Page 2-23, last paragraph. The milepost should be revised to 29.5 to be consistent with references on ES-7, third paragraph and Page 4-5, first paragraph.

ALTERNATIVES (3.0)

- A1-8 | 1. Page 3-5, Table 3.2.1-1. It should be noted that the table may underestimate impacts of the no project alternative by burning fossil fuels other than natural gas, if for example, natural gas were to be curtailed to power plants, rather than industrial boilers (the basis for the assumptions used in the table).
- A1-9 | 2. Page 3-20, second paragraph. Based on informal communication with BLM, North Baja understands that BLM now plans to maintain the Pierson's milk vetch closure for the foreseeable future.

ENVIRONMENTAL ANALYSIS (4.0)

GEOLOGY (4.1)

No comments

SOILS (4.2)

- A1-10 | 1. Page 4-38, first paragraph. This section should be revised to reflect that CRWQCB Storm Water Construction Permit requirements are no longer applicable to the Project. EPA has taken final action to codify in the Agency's regulations changes to the Federal Water Pollution Control Act, also known as the "Clean Water Act" or "CWA," resulting from the Energy Policy Act of 2005. This action modifies the National Pollutant Discharge Elimination System regulations to provide that certain storm water discharges from field activities or operations, including construction, associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities are exempt from National Pollutant Discharge Elimination System permit requirements. This action also encourages application of best management practices (BMPs) for oil and gas field activities and operations to minimize the discharge of pollutants in storm water runoff and protect water quality. Correspondence with Jay Mirpour of CRWQCB, confirming that a Storm Water Construction Permit is no longer applicable, is attached as Attachment A. North Baja's BMPs are reflected in the Construction Mitigation and Restoration Plan (Appendix E of the DEIS).

Applicant

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- A1-5 | Section 2.3.1 has been revised to reflect the results of North Baja's recent consultation with the BLM in which the BLM stated that it had no concerns regarding compaction levels in native desert soils along the existing A-Line and potential compaction along the B-Line.
- A1-6 | Section 2.3.1 has been revised to state that North Baja would replant desert wash woodland species at specified locations along the right-of-way to provide a visual barrier to deter off-highway vehicle (OHV) traffic on the right-of-way.
- A1-7 | Section 2.3.2 has been revised to note that blasting was only necessary at MP 29.5 during construction of the A-Line.
- A1-8 | Table 3.2.1-1 has been revised to note that the emissions may be underestimated if natural gas were to be curtailed to power plants rather than industrial boilers.
- A1-9 | Based on confirmation from the BLM, Section 3.2.3.2 has been revised to note that the BLM has indicated that it plans to maintain the referenced vehicle closure to protect the Peirson's milk-vetch for the foreseeable future.
- A1-10 | Section 4.2.3 has been revised to delete the discussion of the requirements of the CRWQCB. See also the response to comment SA2-1.

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- A1-11 2. Page 4-38, last paragraph. North Baja has re-consulted with the BLM. BLM has not identified any milepost location where trees are dead or dying as a result of compaction. (See email correspondence from Penny Eckert to BLM's Jennifer Green, Attachment B). The requirement to identify these areas in a revised CM&R Plan can therefore be deleted.

WATER RESOURCES (4.3)

- A1-12 1. Page 4-57, Section 4.3.3.3 Surface Water, HDD Plan. North Baja requests clarification that the measure would require North Baja to submit an amended HDD plan prior to any construction phase that involves HDD procedures.

- A1-13 2. Page 4-58, Section 4.3.3.4 BLM consultation. North Baja will prepare a revised Dust Control Plan that specifies the sources of water to be used for dust control, the anticipated quantities of water that would be required, and measures to prevent fish and fish egg entrainment during dust control water withdrawals. Since most of the land requested for the project is managed by BLM, North Baja will first submit the Dust Control Plan to BLM for approval.

North Baja also requests clarification that the revised plan and documentation of BLM approval is to be submitted to the FERC and CSLC before any construction phase involving pipeline construction on Federal lands.

WETLANDS (4.4)

No comments.

VEGETATION (4.5)

- A1-14 1. Page 4-82, 83. The Agency Staffs have recommended that North Baja revise the Construction Mitigation and Restoration (CM&R) Plan to include establishment of weed wash stations along the construction right-of-way. This measure should be deleted because it is unnecessary, and therefore needlessly increases the cost of construction (estimated at \$250,000 per wash down station). The A-line was successfully constructed without such stations and no weeds were spread. BLM concurs that no weed wash stations would be necessary along the right-of-way (see Attachment B). BLM also indicated a desire to discuss with North Baja a proposal to provide assistance with a weed removal program in Milpitas Wash. North Baja intends to discuss a proposal with BLM, but not as mitigation for any project impacts, as it is clear that North Baja's original project did not create or exacerbate weed problems. (See email correspondence from BLM's Jennifer Green to Penny Eckert, Attachment C).

North Baja has proposed that all equipment be washed prior to arrival in native desert habitat areas. After clearing areas of tamarisk infestation, all equipment used in clearing would be loaded on to trucks, transported to a commercial wash station, washed, and returned clean to the right-of-way. This technique will be used only where equipment could come into contact with tamarisk during clearing. Once the ROW has been cleared, there is no further need for equipment washing. In light of the documented success of these methods in avoiding the

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- A1-11 Section 4.2.3 has been revised to reflect the results of North Baja's recent consultation with the BLM in which the BLM stated that it had no concerns regarding compaction levels in native desert soils along the existing A-Line and potential compaction along the B-Line.
- A1-12 The recommendation in Section 4.3.3.3 requiring a revised Horizontal Directional Drill Plan (HDD Plan) has been revised to clarify that the revised HDD Plan shall be filed with the FERC and the CSLC for review and approval before commencement of any horizontal directional drill operation.
- A1-13 The recommendation in Section 4.3.4 of the final EIS/EIR, which has been revised from the recommendation that was in Section 4.3.3.4 of the draft EIS/EIR, requires North Baja to file with the FERC and the CSLC for review and approval before construction a revised Project-wide Dust Control Plan that specifies the sources of water that would be used for dust control, the anticipated quantities of water that would be used, and the measures that would be implemented to prevent fish and fish egg entrainment during dust control water withdrawals. Because much of the Project crosses Federal land, it is appropriate for North Baja to first submit the plan to the BLM for approval as North Baja has stated. Section 4.12.4 of the final EIS/EIR includes a recommendation that North Baja file with the FERC and the CSLC for review and approval before construction a revised Project-wide Dust Control Plan that specifies additional details regarding dust control measures that would be implemented to protect air quality. It would be confusing to construction and inspection personnel to have more than one Project-wide Dust Control Plan for the Project. Therefore, recommendations in Section 4 associated with the revised Project-wide Dust Control Plan (combined into one recommendation in Section 5.6 of the final EIS/EIR) require that the revised plan be submitted before construction (i.e., before construction of any phase of the Project). See also the response to comment LA8-7.
- A1-14 Section 4.5.5 has been revised to reflect the results of North Baja's recent consultation with the BLM in which the BLM stated that the weed control measures contained in North Baja's CM&R Plan are adequate.

6-194

A1-14 (cont'd) | spread of weeds to native desert habitats, North Baja can ascertain no reasonable basis for additional costly requirements.

A1-15 | 2. Page 4-82. The DEIS indicates that BLM “would require North Baja to treat all weeds within the disturbed right-of-way”. BLM has concurred that treatment of weeds within the disturbed right-of-way is not necessary, so this statement should be deleted (see Attachment B).

WILDLIFE AND AQUATIC RESOURCES (4.6)

A1-16 | 1. Page 4-90, Section 4.6.2.3 Migratory Birds. North Baja requests clarification regarding the requirement for a Pre-clearing Plan. First, North Baja requests confirmation of its understanding that the measure would be required only if construction is to occur for a construction phase in which construction would occur in native desert habitat during migratory bird breeding season (generally March 1 through September 15 annually). Second, North Baja requests confirmation of its understanding that, if Pre-clearing Plans are applicable, they would be submitted for approval prior to construction of each associated construction phase.

SPECIAL STATUS SPECIES (4.7)

A1-17 | 1. Page 4-105, first bullet, Section 4.7.3, General measures. North Baja applied a 25 mile per hour speed limit for pipe stringing trucks on the initial pipeline construction and had no desert tortoise takes resulting from encounters with such vehicles. The requirement appears to lack any experiential or empirical basis and seems somewhat arbitrary. This measure would not appear to be necessary for dust control purposes either, since dust control measures must be implemented in any case, regardless of speed. Therefore, North Baja requests that Agency Staffs reconsider the proposed requirement to limit stringing truck speed to 10 mph between MPs 48.0 and 68.0.

Southwest Willow Flycatcher:

A1-18 | Page 4-106. The DEIS recommends constructing a sound abatement wall on the pullback side of the Colorado River HDD to prevent disturbance to migrating or resting Southwest Willow Flycatchers. Based on implementing a similar requirement for the initial construction of the North Baja Pipeline, this requirement is out of proportion to the potential temporary, localized, and minimal impact on migrating birds, and we suggest it be deleted. Ample habitat for migratory rest stops is available up and down the River in areas where North Baja is not working.

Desert Tortoise:

A1-19 | Page 4-111. During the environmental analysis of the A-Line, it was determined that impacts to the Desert Tortoise and its habitat had the potential to adversely affect the species and its habitat, yet were not considered significant under CEQA and did not require a statement of overriding consideration. North Baja is unaware of any reason why the significance criteria should have changed since 2002. In fact, impacts on the species and its critical habitat are substantially reduced from those of the initial construction, given the already-compensated reduction in

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A1-15 | See the response to comment A1-14.

A1-16 | The recommendation in Section 4.6.2.3 has been revised to clarify that Preclearing Plans would be required to be filed before initiation of Phase I-A and Phase II construction activities. Based on North Baja’s currently proposed construction schedule for these phases, it appears likely that some construction would occur in native desert habitats during the migratory bird breeding season. If that is not the case at the time of construction, North Baja may address whether Preclearing Plans are necessary in its Implementation Plan (see recommended mitigation measure number 7 in Section 5.6 of the final EIS/EIR).

A1-17 | The recommendation in Section 4.7.3 that restricts the speed limit for stringing trucks to 10 miles per hour within the area of relatively high desert tortoise density between MPs 48.0 and 68.0 was re-evaluated. However, because North Baja has not committed to have biological monitors conduct “sweeps” of the construction right-of-way for desert tortoises immediately ahead of the arrival of stringing trucks in this stretch of high desert tortoise density, the FERC, the CSLC, and the BLM continue to believe that limiting the speed of stringing trucks to 10 miles per hour between MPs 48.0 and 68.0 would provide a greater level of protection for the desert tortoise. This is not an arbitrarily imposed measure. Rather it was the result of reports from the FERC/BLM/CSLC Compliance Monitors that were present during construction of the A-Line about the excessive speed of stringing trucks traveling along the right-of-way. The BO issued by the FWS for the A-Line included more stringent biological monitoring requirements for the desert tortoise than are included in the BO for the proposed Project. Given that there would be less biological monitoring of the right-of-way before the arrival of the stringing trucks, and the speed limit restriction has been identified well in advance of construction (i.e., in time to be factored into the schedule and incorporated into the construction bid documents), this measure has been retained in the final EIS/EIR.

A1-18 | Follow-up consultation with the FWS has confirmed that eliminating the requirement to erect an abatement wall would not affect the FWS’ concurrence with the FERC’s determination of effect for the southwestern willow flycatcher. Accordingly, the recommendation in Section 4.7.4.1 requiring an abatement wall has been eliminated.

A1-19 | As discussed in Section 4.7.1, a project’s impacts on a species would be considered significant if the project would result in the loss or alteration of designated critical habitat. Even with mitigation, temporary alteration of critical habitat falls under this criterion. Accordingly, the Project’s impacts on the desert tortoise and desert tortoise critical habitat would be considered significant according to the significance criteria established for this Project under the CEQA, regardless of the determination made for the original North Baja Pipeline Project.

A1-19 (cont'd) | habitat quality along the A-line ROW. Therefore, North Baja requests that the CSLC staff reconsider the significance criteria of ANY disturbance of critical habitat and consider the level of disturbance in its analysis as well as the level of prior and presently-proposed compensation measures. A recent precedent was set with the certification of the Blythe Energy Project Transmission Line, which was certified as having no significant effect on Desert Tortoise although it disturbed critical tortoise habitat.

Peirson's Milk-Vetch:

A1-20 | Page 4-113-114. The DEIS states:

"It appears that there is a substantial seed bank of Peirson's milk-vetch available that was not adversely affected by construction of the A-Line. Additionally, it appears as if the topsoil and seed bank conservation measures implemented during construction of the A-Line in 2002 successfully preserved and distributed Peirson's milk-vetch seeds and provided for the quick reestablishment of this species (Page 4-112)."

This statement indicates that the construction would not exceed the significance criteria listed in section 4.7.1. However, the section goes on to conclude that the project is *likely to adversely affect* this species. The DEIS does not present the basis for that conclusion. North Baja does not believe that there is one. North Baja's original construction experience provides substantial, practical evidence that construction will not adversely affect the population. North Baja requests a reconsideration of the conclusion. North Baja submits that the project is *unlikely to adversely affect* the Peirson's milk-vetch and as such should not be considered a significant impact.

OTHER SPECIAL STATUS SPECIES (section 4.7.5)

Gila Woodpecker:

A1-21 | Page 4-116. North Baja proposes that surveys will not be necessary for the Gila Woodpecker because preconstruction clearing will remove all vegetation capable of supporting a Gila Woodpecker nest prior to construction within the right-of-way. However, in the interests of better science, North Baja agrees to conduct a pre-construction survey for Gila Woodpeckers if construction will occur during the breeding season and to monitor any birds nesting within 100 feet of the right-of-way during construction to document their response to construction. North Baja therefore proposes the following modified monitoring measure:

North Baja will conduct surveys for Gila Woodpeckers in areas of suitable nesting habitat before initiation of construction of the B-Line if construction is scheduled to occur during breeding season. If active Gila Woodpecker nest cavities are identified within 100 feet of the right-of-way during preconstruction surveys, North Baja shall monitor cavities during construction to determine if nesting individuals are being disturbed by construction activities. If disturbance (e.g., avoidance of cavity by individuals) is noted and young are present in the cavity, North Baja shall cease construction within 200 feet of the nest cavity until young have fledged from the nest cavity.

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A1-20 | FWS guidance documents state that if any adverse effect on listed species may occur as a result of a proposed project, the appropriate finding for the species is "likely to adversely affect." In the case of the Peirson's milk-vetch, the clearing of occupied habitat during construction of the Project would result in direct impacts on the species. Although the species may recolonize the area following construction due in part to conservation measures agreed to by North Baja, existing individuals would be removed. The EIS/EIR acknowledges that the species is likely to re-establish in the construction area, but re-establishment does not replace avoidance as a measure needed to avoid adverse impacts. Specifically, the EIS/EIR states "nonetheless, the proposed Project would result in direct impacts on the species, including crushing and cutting of individuals and populations. Thus, although construction in locations adjacent to populations of this species may increase habitat suitability or otherwise make the area suitable for proliferation of the species, the likelihood of overall positive benefits is uncertain. The clearing and grading of areas currently containing individuals and populations of this species would result in direct and adverse impacts on existing populations." The EIS/EIR provides a clear discussion of how the proposed Project would adversely affect the species and exceed the significance criteria established for the Project under the CEQA. The Agency Staffs' conclusion remains as stated in the draft EIS/EIR. In a letter dated November 1, 2006, the FWS agreed with this determination of effect. In the BO issued on April 20, 2007, the FWS concluded that the proposed action is not likely to jeopardize the continued existence of the Peirson's milk-vetch.

A1-21 | Section 4.7.5.3 has been revised to include North Baja's acceptance of the recommendation regarding surveys and monitoring for Gila woodpeckers including North Baja's commitment to cease construction activities within 200 feet of active nest cavities if disturbance is noted until the young have fledged. Accordingly, the recommendation has been removed.

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Flat-tailed Horned Lizard:

- A1-22 Page 4-127. North Baja provided its "lessons learned" from the construction of the A-Line. We concluded that a major contributing factor to the limited mortality experienced by the FTHL was the amount of open ditch. We have offered mitigation measures that, at considerable cost, keep open ditch distance to an absolute minimum. The DEIS concludes: "... based on the mitigation measures described above (e.g., preconstruction clearance surveys, biological monitoring during construction, lizard relocation as necessary, restricted open trench lengths), the Agency Staffs do not expect the Project to reduce the overall abundance of the species in the area or result in other direct or indirect impacts that could contribute to or result in Federal or State listing of the flat-tailed horned lizard." This section then reaches the puzzling conclusion that the project will have a significant impact on the FTHL. Such a conclusion is unsupported by any reasoning in the document, and seems particularly unwarranted given that the initial project was constructed within its take limits and potential for lizard deaths due to entrapment in the trench has been *even further reduced* as a result of proposed mitigation measures. Consequently, North Baja requests a reconsideration of the conclusion.

GENERAL RECOMMENDATIONS

- A1-23 1. Page 4-130, first bullet. In instances where construction would occur more than one year after issuance of FERC and CSLC approvals, the DEIS would require that North Baja consult with FWS, BLM and CDFG, "to update the species list and to verify that previous consultations and determinations of effect are still current." North Baja requests that "previous consultations" be deleted from this sentence, as it suggests that any of the consulted agencies might find parts of their "previous consultation" invalid for any reason. North Baja agrees that the agencies should be able to re-visit those parts of previous consultations where species status or the bases for project effect determinations have changed. However, once a consultation is complete, it is reasonable to expect that the agency responsible for finalizing the consultation will support that consultation into the future unless there are substantive changes in species listing status or project changes that might warrant a new look at the effect determination. Therefore, if North Baja can confirm with the agencies that a) species' status have not changed, and b) no project changes justifying a re-examination of effect determinations have occurred, then no further consultation should be required.

LAND USE, SPECIAL MANAGEMENT AREAS, RECREATION AND PUBLIC INTEREST AREAS AND AESTHETICS (4.8)

- A1-24 1. Page 4-147, second paragraph. North Baja has reached agreement with the developer of the proposed Edgewater Lane Planned Residential Community regarding the mutual compatibility of the proposed pipeline easement across the property and the proposed

- A1-22 Section 4.7.6.13 has been revised to clarify that impacts associated with the Project are not expected to reduce the overall population size, but that loss of individuals would still result in a reduction in abundance in the area. Therefore, impacts on the flat-tailed horned lizard would still be considered significant according to the significance criteria established for the Project under the CEQA.

- A1-23 As North Baja states, it is reasonable to expect that agencies responsible for finalizing consultation would support existing consultation into the future unless substantive changes in listing status or Project details occur. The inclusion of "previous consultation" in the recommendation in Section 4.7.8 would ensure that North Baja considers consequences of a Project delay on all comments previously provided by an agency. It is not expected that such a requirement would necessarily allow or prompt consulting agencies to reconsider previous consultations. Accordingly, the recommendation has been retained in its entirety in the final EIS/EIR.

- A1-24 Section 4.8.3.2 has been revised to indicate that North Baja has reached an agreement with the developer of the proposed Edgewater Lane Planned Residential Community.

6-197

A1-24 (cont'd) | residential development, which has been now been approved by the Blythe Planning Commission and City Council.

A1-25 | 2. Page 4-155, second paragraph. Please note that the OHV-Vehicle Management Plan included as Appendix P, Section 4.1 provides that blocking measures will be proposed only where it's been judged that such measures may be effective in discouraging OHV use.

TRANSPORTATION AND TRAFFIC (4.10)

A1-26 | 1. Page 4-183, fourth paragraph. Please change "Traffic Mitigation Plan to "Traffic Management Plan".

CULTURAL RESOURCES (4.11)

A1-27 | 1. Page 4-188, fifth paragraph, fifth line. Starting with "North Baja indicated..." delete and replace with "North Baja provided Addendum Reports 1, 2, and 3 to CSLC. Addendum Report 3 has been provided to California SHPO and BLM.

A1-28 | 2. Page 4-188, sixth paragraph, last line. Delete last line and update with "BLM has provided comments on the Evaluation Plan, and California SHPO and FWS have indicated that they will not be commenting."

A1-29 | 3. Page 4-190, third paragraph, last sentence. Insert "eligible" between "No" and "cultural."

RELIABILITY AND SAFETY (4.14)

A1-30 | 1. Page 5-75, last paragraph. Part 192 requires that a sectionalizing block valve of MLV must be "within" 10 miles of any residence in a Class 1 area, 7.5 miles in Class 2 and 4 miles within Class 3. This means that the maximum distance between MLVs is 20, 15 and 8 miles in Class 1, 2 and 3 respectively, not the 10, 7.5 and 4 miles listed in the draft EIS.

CUMULATIVE IMPACTS (4.15)

A1-31 | 1. Page 4-232. North Baja disagrees that impacts to any sensitive species remain significant after mitigation. Please see comments on Section 4.7, above.

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A1-25 Section 4.8.5 has been revised to clarify that blocking measures would be proposed only where it has been determined that such measures may be effective in discouraging OHV use.

A1-26 Section 4.10.2 has been revised to correct the reference to the Traffic Management Plan.

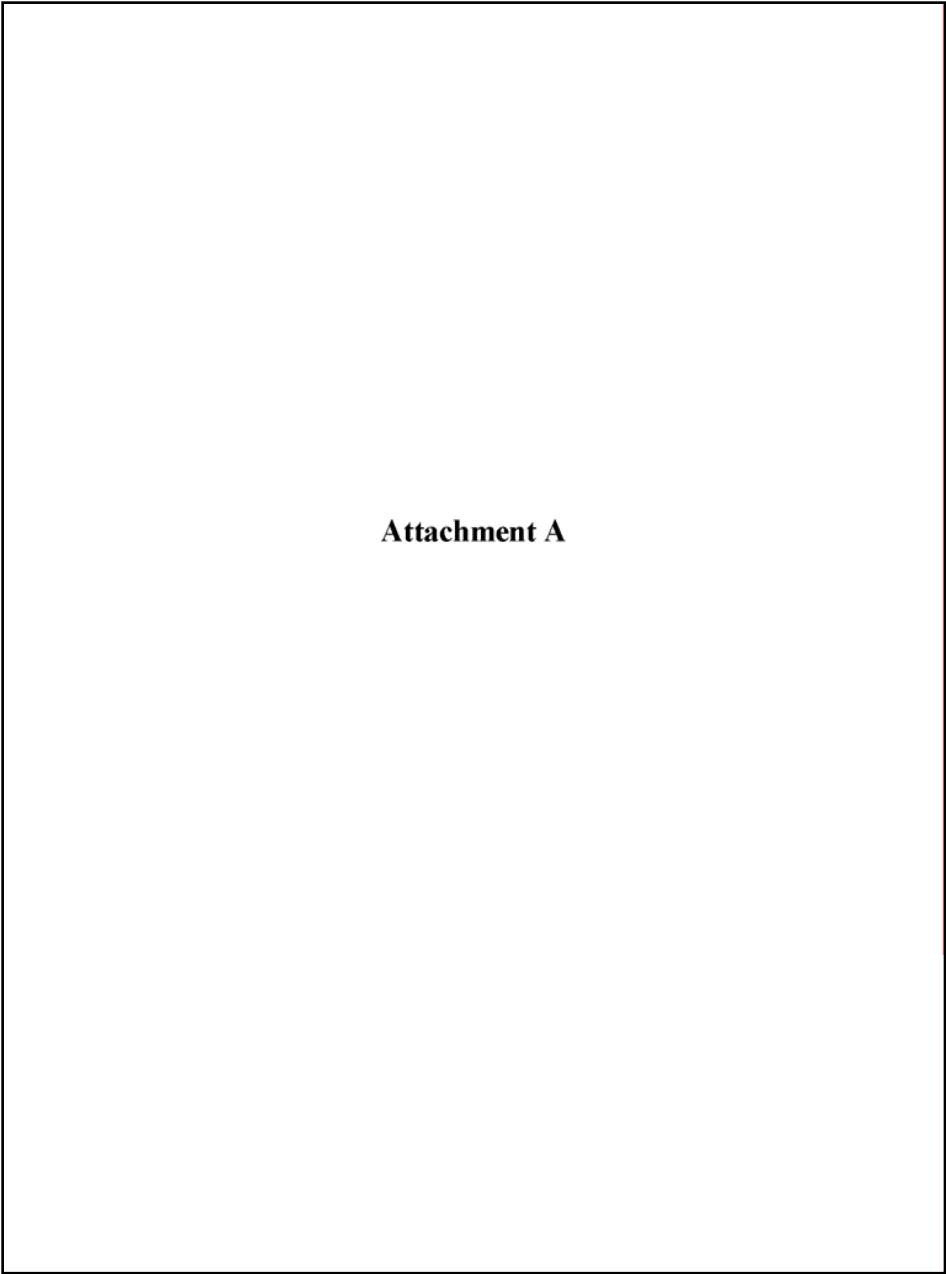
A1-27 Section 4.11.3 has been updated with the current status of North Baja's consultations with the CSLC, the BLM, the BOR, and the California State Historic Preservation Office.

A1-28 Section 4.11.3 has been updated with the current status of the BLM's comments on the cultural resources survey reports and plans.

A1-29 Section 4.11.3 has been revised to incorporate the suggested addition.

A1-30 The text in Section 4.14.2 of the draft EIS/EIR correctly stated the distance between mainline valves within the various class areas (i.e., at least one valve every 20 miles in Class 1 locations, every 15 miles in Class 2 locations, every 8 miles in Class 3 locations, and every 5 miles in Class 4 locations). Accordingly, no change has been made to the final EIS/EIR..

A1-31 Because the proposed Project would result in adverse impacts on sensitive species that would be considered significant according to the significance criteria established for the Project under the CEQA, the Project would result in cumulative impacts on sensitive species if other reasonably foreseeable future projects in the vicinity of the proposed Project would also adversely impact sensitive species. See also the responses to comments A1-19, A1-20, and A1-22.



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From: Jim.Nickerson@tteci.com
Sent: Thursday, November 30, 2006 6:04 AM
To: Jay Mirpour
Cc: John Carmona; John Cassady
Subject: Re: North Baja

Jay

Thank you for your quick response.

Jim
712.898.9320

"Jay Mirpour" <JMirpour@waterboards.ca.gov>

To <Jim.Nickerson@tteci.com>

cc "John Carmona" <jcarmona@waterboards.ca.gov>

11/29/2006 02:32 PM

Subject Re: North Baja

Hello Jim:

As we discussed, the Storm Water Construction Permit requirements are no longer applicable to this projectas long as the best management practices (BMPs) for oil and gas field activities and operations are used to minimize the discharge of pollutants in storm water runoff and protect water quality.

Thanks
Jay

Jay J. Mirpour
Water Resources Control Engineer
California Regional Water Quality Control Board
Colorado River Basin Region - 7
Ph: (760) 776-8981 Fax: (760) 341-6820
E-mail: jmirpour@waterboards.ca.gov

>>> <Jim.Nickerson@tteci.com> 11/29/2006 5:31 AM >>>

Jay

This e-mail is a follow up to our telephone conversation of a couple of weeks ago. At that time I had called about the October 24, 2006 comment letter from the CRRWQB submitted by your office in response to the North

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Baja Expansion Project DEIS concerning the need to obtain coverage under the General Permit for Discharge of Stormwater Associated with Construction Activity.

As we discussed, the Storm Water Construction Permit requirements are no longer applicable to the Project. EPA has taken final action to codify in the Agency's regulations changes to the Federal Water Pollution Control Act, also known as the "Clean Water Act" or "CWA," resulting from the Energy Policy Act of 2005. This action modifies the National Pollutant Discharge Elimination System regulations to provide that certain storm water discharges from field activities or operations, including construction, associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities are exempt from National Pollutant Discharge Elimination System permit requirements. This action also encourages voluntary application of best management practices (BMPs) for oil and gas field activities and operations to minimize the discharge of pollutants in storm water runoff and protect water quality. North Baja will incorporate BMPs into project construction.

Please confirm by e-mail our understanding of this change in regulation as it would apply to the North Baja Expansion project. Your response would help keep the record straight.

Thanks
Jim

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6-200

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Attachment B

6-201

6-202



Penny Eckert/SCI/CSQ
11/09/2006 10:12 AM

To Jennifer_Green@blm.gov
cc Karen_Reichhardt@blm.gov,
Stephen_Fusilier@blm.gov, Jim
Nickerson/CEPM/CSQ@CSQ,
john_cassady@transcanada.com
bcc
Subject Re: Brassica removal- milipitas wash

Jennifer,

You and I met out on the North Baja right-of-way near Ogilby on Tuesday, November 7. We discussed several points. What follows is my recollection of our agreements. Please make any corrections you think appropriate, or let me know if this is substantially correct:

The proposed equipment washing protocol was acceptable and no other wash stations would be needed on the ROW. We discussed that all equipment would be washed at a commercial truckwash before being brought on to the ROW, and that after the clearing equipment had finished in tamarisk areas, it would be loaded back up on the lowboys, trucked into Blythe, and washed again. After that, no further washing would be needed of either clearing or pipeline construction equipment or vehicles, as demonstrated by the success of the North Baja weed control last time.

There would be no need to do any other weed control measures other than those proposed in our latest CM&RP. You agreed that both brassica and schismus are widespread, and that it was reasonable to concentrate on limiting tamarisk spread, as we had done for the last construction.

You mentioned that there were a couple of new invasive weeds just recently discovered in the desert, and wanted us to be on the lookout for them. You said that you would send me descriptions and most recent known locations, and we agreed that the long-term monitoring crew could have those especially in mind. We'd also keep an eye out during preconstruction surveys for any new invasives, map them if found, and remove them if present.

You commented that you had no compaction concerns, but said you'd talk with the soils person in Yuma to see if he had been the source of the concern.

Have I left anything out for the formal record?

+++++

Penny Eckert
Tetra Tech EC, Inc.
penny.eckert@tteci.com
425.241.0415 cell
425.482.7847 Seattle Office
949.756.7547 Santa Ana office
+++++

Jennifer_Green@blm.gov



Jennifer_Green@blm.gov
v
11/08/2006 03:59 PM

To Stephen_Fusilier@blm.gov,
Karen_Reichhardt@blm.gov
cc



penny.eckert@ttaci.com
Subject: Brassica removal- milipitas wash

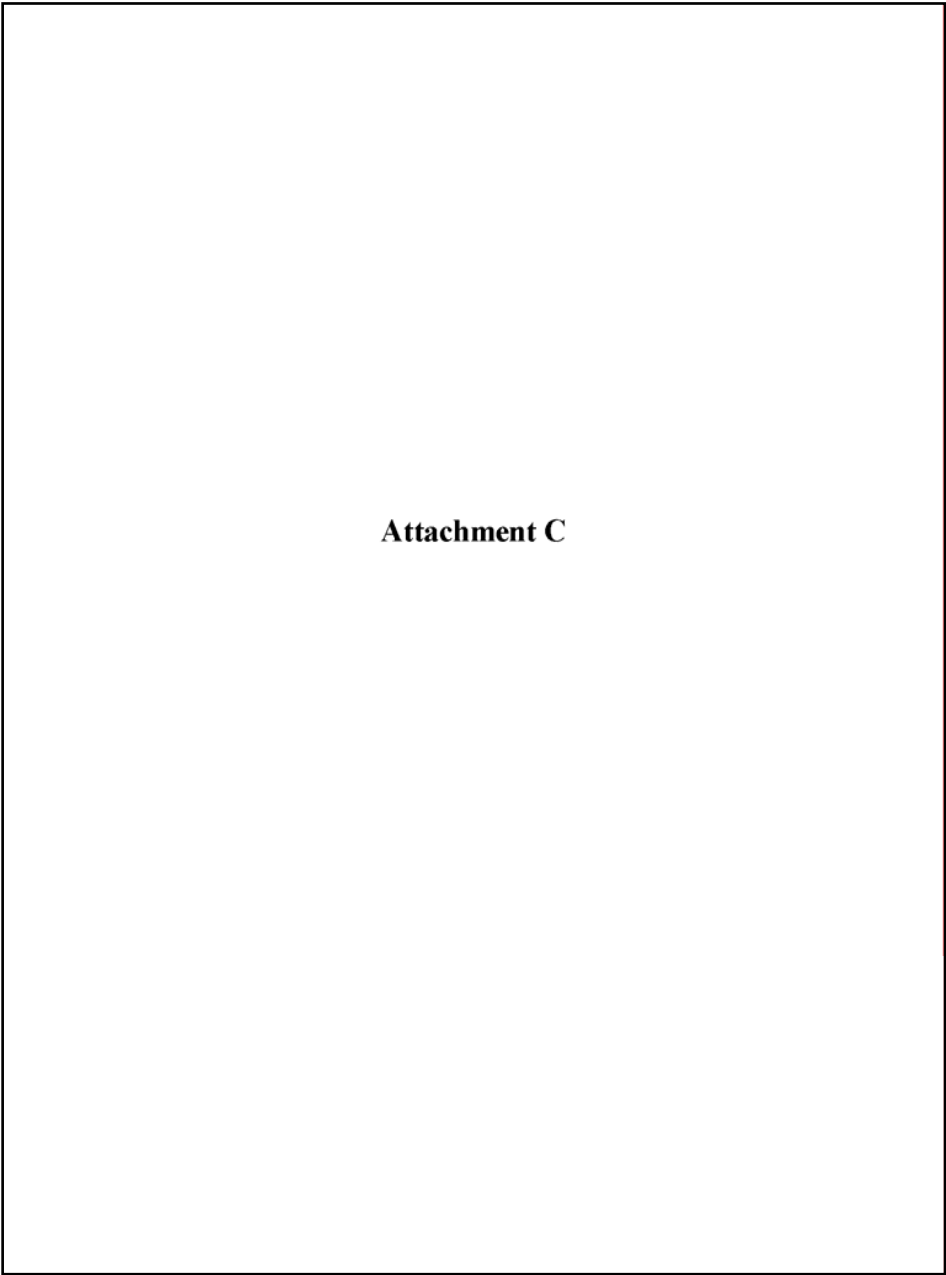
Hi Penny,

I am still getting in touch with the CREC (oconino rural env. youth corps) to get pricing data for the brassica work at Milipitas wash. We are thinking of having an event there in December to tackle Brassica while it is still small and hasn't bolted. Could you ask North Baja if they would be willing to fund a work group this year (2006) as well? It would be about 10K.

Thank-you,
Jennifer

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6-204



Jennifer_Green@blm.gov
v
11/16/2006 02:55 PM
To Penny.Eckert@ttaci.com
cc
bcc
Subject Re: Brassica removal- milipitas wash

Penny,

You are correct. One addition would be our conversation about North Baja Pipeline contracting a Youth Labor Corps each year to assist with a BLM weed removal in Milipitas Wash. This wash is an area of special botanical concern and assistance from NBP would be appreciated. You said you would discuss this option with your employer and add it to the list of Mitigation if they supported weed management.

thx.

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CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon all parties designated on the official service list compiled and maintained by the Secretary in these proceedings.

Dated at Washington, D.C., this 28th day of December 2006.

/s/

C. Todd Piczak

6-206



North Baja Pipeline, LLC
1400 SW Fifth Avenue, Suite 900
Portland, Oregon 97201
USA

Carl M. Fink
Associate General Counsel

tel 503.833.4256
fax 503.402.4004
email: Carl_Fink@TransCanada.com
web www.northbajapipeline.com

January 22, 2007

Ms. Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
Dockets Room, Room 1A
888 First Street, N.E.
Washington, D.C. 20426

Re: North Baja Pipeline, LLC; Docket Nos. CP06-61-000 and CP01-23-003

Dear Ms. Salas:

A2-1 North Baja encloses herein for filing an original and seven copies of its reply comments to comments on the Draft Environmental Impact Statement/Report submitted by the South Coast Air Quality Management District, Imperial County Air Pollution Control District and the Border Power Working Group. The comments of these groups contain misstatements of fact and omissions of other material information; consequently North Baja is providing its reply for the FERC's consideration in addressing these comments in the final environmental document.

If you have any questions, please contact the undersigned.

Sincerely,

/s/ Carl M. Fink

Carl M. Fink

cc:

Barry R. Wallerstein, Executive Officer, South Coast Air Quality Management District
Harvey L. Reiter, Attorney for South Coast Air Quality Management District
Stephen Birdsall, Imperial County Air Pollution Control District
Bill Powers, Border Power Plant Working Group
Eldon Heaston, Executive Officer, Mojave Desert Air Quality Management District
Imperial County APCD Board of Directors
Deborah Jordan, Air Director, Region IX EPA
Catherine Witherspoon, Executive Director, California Air Resources Board

Applicant

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A2-1

North Baja's reply comments to comments on the draft EIS/EIR submitted by the SCAQMD, the ICAPCD, and the Border Power Working Group (see comment letters LA16, LA8, and CO6, respectively) are noted. Table 1.1-1 has been revised to indicate that the delivery path for the natural gas transported by the proposed Project would be from the U.S.-Mexico border to El Paso Natural Gas Company and that deliveries to SoCalGas would fall within the path. The exception is the delivery path for the IID Lateral, which is shown in Table 1.1-1 as Ogilby Meter Station to El Centro Generating Station. Other points raised in these reply comments have been taken into consideration in the analysis in the EIS/EIR.

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Senator Dianne Feinstein
Senator Barbara Boxer
Senator Denise Ducheny
Congressman Bob Filner
Congressman Duncan Hunter
Congressman Susan Davis
Assemblywoman Bonnie Garcia
Ralph Cordova, Imperial County Counsel
Robertta Burns, Imperial County CEO
Nancy Wrona, Air Quality Director, Arizona Department of Environmental Quality

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North Baja Pipeline, LLC
Docket Nos. CP06-61-000 and CP01-23-003

Reply Comments to ICAPCD, SCAQMD
& Border Power Plant Working Group
January 22, 2007
Page 1 of 4

**Reply Comments to ICAPCD, SCAQMD
And Border Power Plant Working Group**

A2-1
(cont'd)

North Baja Pipeline, LLC ("NBP") submits the following comments in response to those of Imperial County Air Pollution Control District ("ICAPCD"), South Coast Air Quality Management District ("SCAQMD") and Border Power Plant Working Group ("BPPWG") to correct some factual inaccuracies in their comments and to highlight some information that these parties appear to have overlooked. We hope our comments may be helpful in addressing these comments in the Final EIR/EIS.

1. The ICAPCD and the BPPWG suggest that natural gas turbines used for pipeline compressor station purposes in California would require the installation of Selective Catalytic Reduction ("SCR") for NOX reduction to achieve the required Best Available Control Technology ("BACT"). While it is true that SCR constitutes BACT for gas turbines used in electric generation, it is not true for gas turbines used in natural gas transmission. When NBP permitted the Ehrenberg Compressor Station for the original NBP pipeline in 2002, BACT for gas turbines used in compressor stations was low-NOX combustors in the turbine itself. This remains the case today. Sempra is installing low-NOX combustors in the compressor stations on the Gasoducto Bajanorte ("GB") pipeline in Mexico. These units, therefore, will be equipped with the same emission controls that would be required for compressor stations in California.
2. The ICAPCD, concerned about unspecified future power plants in the Mexicali Valley, suggests that NBP be required to place a requirement on end users to utilize BACT and provide offsets. Leaving aside the questionable legality of such a requirement, ICAPCD apparently does not understand that power plants (or any other gas users) in Mexico will not utilize the NBP pipeline to ship LNG-sourced gas. Gas consumers in the Mexicali Valley will acquire gas from the suppliers at the LNG terminal(s) on the Baja coast, who will transport that gas to the facilities in the Mexicali Valley through the Gasoducto Bajanorte pipeline. It is unnecessary and unlikely that they will contract to transport gas through the NBP pipeline as they will not need to utilize the NBP pipeline to get their gas to their facilities. A requirement such as that proposed by the ICAPCD would be meaningless if NBP has no contractual mechanism to enforce it.

To the extent gas consumers are building facilities in the United States, they are already subject to U.S. permitting requirements, which may or may not require BACT and offsets depending on the air quality status of the location of the facilities.

3. The ICAPCD suggests that the compressor stations are being located in Mexico "to avoid stringent air quality regulations and permitting requirements in the U.S." In fact, the locations are dependent on the physical/hydraulic requirements

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of operating pipelines. The pressure of gas transported through a pipeline decreases as a result of the friction between the gas and the internal wall of the pipeline. The pressure of the gas has to be boosted periodically to overcome this pressure decline. Most pipelines have compressor stations located between every 40 to 100 miles depending on the quantity of gas flowing through the pipeline, the terrain over which the pipeline runs, and the accessibility and available infrastructure (roads, water, and electricity) of the potential sites for the compressor stations. The location of the compressor stations to push gas from the LNG terminal through the GB pipeline into the NBP pipeline are based on these criteria, not on avoiding air quality regulations in the U.S. It might be useful to note as well that the original North Baja – Gasoducto Bajanorte system was designed with a single compressor station, (the Ehrenberg Compressor Station), *in the U.S.*, and none in Mexico.

4. The BPPWG suggests that one of the alternative sources for natural gas to supply southern California, other than LNG, is gas from the Rockies, which is the only basin in the U.S. that is showing significant growth in production. As discussed in greater detail below, however, the only pipeline that supplies significant amounts of gas from the Rockies to southern California is the Kern River Pipeline, and it currently is operating at close to capacity. There are no known plans for an expansion of this pipeline. In fact, all of the newly planned pipeline capacity to carry the increased production from the Rockies are pipelines that will carry gas to the east. The most significant of these is the Rockies Express, which will move an incremental 1.5 Bcf/d of the new Rockies production to the east, *away* from southern California, reducing the availability of gas for the California market.
5. The BPPWG, through a very simplistic analysis, suggests that as much as 228 tpy of NOX would be blown north into Imperial County from the compressor stations to be built by GB. BPPWG provides no new information that would refute the much more detailed analysis in the Draft EIS, which shows that “no emitted pollutants at the Mexicali or Algodones Compressor Station sites would result in a predicted concentration above an established significant impact level (SIL) at the maximally impacted receptor located in the vicinity of the U.S.-Mexico border.” (DEIS p. 4-238)
6. The SCAQMD misinterprets Table 1.1-1 to mean that 2.4 million Dth/d would feed the SoCalGas pipeline that delivers natural gas to the South Coast Air Basin. The reference in that table to SoCalGas as the termination point of the delivery path does not mean that all the gas will go to SoCalGas. At the time that the DEIS was prepared, the proposed pipeline configuration defined the delivery path as starting at the U.S./Mexico border and ending at the delivery connection with SoCalGas, with all other delivery points being “within the path” as that term is used for FERC-regulated pipelines. With the recent amendment to the NBP

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Application to make the Arrowhead Alternative the delivery point to SoCalGas, the delivery path will now be from the border to El Paso at Ehrenberg, with deliveries to SoCalGas falling within the path.

The maximum amount of LNG-sourced gas that could flow into the South Coast Air Basin is limited by the take away capacity of the SoCalGas pipeline at Blythe, which is just 1.2 Bcf/d. There are no proposals to increase the SoCalGas pipeline capacity. That maximum theoretical amount would also be reduced by the amount that SoCalGas must deliver to the Imperial Valley and to San Diego Gas and Electric Company, along with the SoCalGas customers in southern Riverside County, all of whom are fed only by the pipeline that runs from Blythe (where it will interconnect with NBP) to the South Coast Air Basin. And west of Moreno, where the SoCalGas pipeline connects with the pipeline that runs to San Diego, the capacity of the SoCalGas pipeline that continues into the greater Los Angeles metropolitan area diminishes to 850 MMcf/d. Therefore, at worst, no more than 1.2 Bcf/d of LNG-sourced gas transported on NBP will enter the South Coast Air Basin, and most likely less than 1 Bcf/d will arrive at the basin. All other LNG-sourced gas will be delivered to other air basins throughout the southwest.

Even in this "worst-case" scenario, a large percentage of the LNG-sourced gas that enters the South Coast Air Basin will be burned by sources operating under air quality permits, and it is reasonable to assume that such sources will still need to meet their current air emission requirements regardless of the Wobbe Index of the gas burned (all of which will meet State standards in any case). Therefore, SCAQMD's claims that the project would result in 2.4 million Dth/d of LNG-sourced gas being delivered to the South Coast Air Basin are vastly overstated, even in a worst-case scenario.

7. SCAQMD also mistakenly describes the purpose of the project "to deliver 'hot' gas derived from new LNG imports from Mexico into the South Coast Air Basin." This mischaracterizes the purpose of the project which is to deliver LNG-sourced gas, and to replace declining supplies from traditional sources, to California and the Southwest.
8. ICAPCD, BPPWG and SCAQMD all raise concerns about what they describe as "hot gas" and all, in one way or another, suggest that NBP be required to limit the Wobbe Index of the gas delivered over the NBP system. All are aware that NBP has conditions in its contracts with shippers that require shippers to deliver gas to NBP that meets the most stringent gas quality standards of any down stream pipeline to which the gas might be delivered. All are also aware that the California Public Utilities Commission recently set new standards for gas quality for SoCalGas, which would be the most stringent of any downstream pipeline, and that these new standards have been appealed by SCAQMD. When this issue is resolved on appeal, whatever the final resolution, those gas quality standards

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(assuming they are the most stringent) will be those that are applied to shippers on NBP. To suggest that NBP must impose even more stringent standards than those that have been set by the appropriate California regulatory body defies fairness and common sense.

9. Finally, the ICAPCD, SCAQMD and BPPWG comments all mischaracterize the purpose for the NBP project. Supplies of gas from the two traditional sources (the Permian Basin and the San Juan Basin) that serve a significant part of southern California are currently in a state of decline, or are projected to go into decline in the relatively near future. In addition, with the exception of the Rockies, all North American sources of gas are projected to be either in decline or, at best, static. Without some new source or sources of natural gas, there will be inadequate gas supplies to serve the growing needs of southern California. The impact is particularly severe on those parts of the SoCalGas system that are served primarily, if not entirely, by the pipeline that runs between Blythe and the Los Angeles metropolitan area, as these areas currently obtain *all* of their natural gas from either the Permian or the San Juan Basins. This pipeline provides the only current service to Imperial County, portions of southern Riverside County, and all of San Diego County. The environmental impacts of inadequate supplies of natural gas, requiring the burning of alternate fuels to produce electricity (power plants are the first to be curtailed and shift to alternate fuels if there are inadequate supplies of natural gas) are huge in comparison to the extremely limited impacts of “hot gas” that these parties have indicated they are concerned about. Any evaluation of the impacts of LNG-sourced gas must be made within this context.

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CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 22nd day of January 2007.

/s/ C. Todd Piczak

C. Todd Piczak

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APPENDIX A

FINAL EIS/EIR AND PROPOSED LAND USE PLAN AMENDMENT DISTRIBUTION LIST FOR THE NORTH BAJA PIPELINE EXPANSION PROJECT

APPENDIX A

FINAL EIS/EIR AND PROPOSED LAND USE PLAN AMENDMENT DISTRIBUTION LIST**Federal Agencies**

Advisory Council on Historic Preservation, CO
Advisory Council on Historic Preservation, DC
 Director of Cultural Resources
 Office of Federal Agency Programs
 Laura Henley Dean
 Don L. Klima, Director
Army Corps of Engineers, AZ
 Arizona Section
 Marjorie Blaine
Army Corps of Engineers, CA
 Los Angeles District
 Deanna Cummings
 Crystal Marquez
 Dan Swenson
Army Corps of Engineers, DC
 Headquarters
 Chief, Regulatory Branch
 Office of the Chief of Army Engineers
Council on Environmental Quality, DC
 Dina Bear, General Counsel
 Horst Greczmiel
Department of Agriculture, DC
 Forest Service
 Deputy Chief, National Forest System
 Director of Lands
 Ecosystem Management Coordination
 Natural Resources Conservation Service
 National Environmental Coordinator
 Office of Finance and Management
Department of Commerce, DC
 National Oceanic and Atmospheric Administration, National Marine Fisheries Service
 Office of the Secretary
 Sloan Rappoport, Senior Policy Advisor
Department of Commerce, MD
 National Oceanic and Atmospheric Administration, National Marine Fisheries Service
 Karen Abrams, Marine Resource Habitat Specialist, Office of Habitat Protection
Department of Defense, CA
 Navy
 JOC Bob Haagenson
 John D. White
 Captain Paul Ziegler, Commanding Officer
Department of Defense, DC
 Philip Grone
 Sonny White
 Navy

APPENDIX A (cont'd)

Federal Agencies (cont'd)

Office of the Assistant Secretary of the Army (Civil Works), Tribal and Regulatory Affairs
Chip Smith, Assistant for Environment

Department of Defense, VA
Paul Mason, ACSIM
Air Force

Department of Energy, AZ
Western Power Administration
Carla Cristelli

Department of Energy, DC
Robert Corbin, Manager, Natural Gas Regulatory Activities
Harvey Harmon, Director for Import/Export Activities
Office of Environmental Compliance
Office of Intergovernmental Affairs
Steve Lerner

Department of Health and Human Services, GA
Centers for Disease Control

Department of Homeland Security, CA
Border Patrol
Rick Lopez
Carl McClafferty

Department of Homeland Security, DC
Coast Guard
Admiral Thomas H. Collins, Commandant
Captain David Scott

Department of Housing and Urban Development, DC
Director of Environment

Department of Justice, CA
Drug Enforcement Administration

Department of Justice, DC
Land and Natural Resources Division

Department of Labor, DC
Office of Regulatory Economics

Department of State, DC
Office of Environment/Health

Department of the Air Force, DC
Environment, Safety and Occupational health
Office of the Deputy Secretary

Department of the Interior, AZ
Bureau of Indian Affairs, Fort Yuma Agency
William Pyott
Bureau of Land Management
Sandra Arnold, Archaeologist, Yuma Field Office (YFO)
Stephen Fusilier, Lead Realty Specialist, YFO
Rebecca Heick, Field Manager, YFO
Bureau of Reclamation
Jim Cherry, Area Manager
John English, Engineering
Peggy Haren
Cynthia Hoeft, Director

APPENDIX A (cont'd)

Federal Agencies (cont'd)

Kim Garvey, NEPA Coordinator
Russ Reichelt, Project Manager
Rick Strahan
Rex Wahl, Environmental Planning and Compliance
Fish and Wildlife Service
Lesley Fitzpatrick
Bill Seese
Steve Spangle, Field Supervisor
Department of the Interior, CA
Bureau of Indian Affairs
Melanie M. Daniel
Virgil Townsend
Bureau of Land Management
Gail Acheson, Field Manager, Palm Springs South-Coast Field Office (PSSCFO)
John Dalton, Planning/NEPA Coordinator, California Desert District (CDD)
Erin Dreyfus, Natural Resource Specialist, El Centro Field Office (ECFO)
J. Anthony Danna, Deputy State Director, Natural Resources, California State Office (CSO)
Jim Foote, Outdoor Recreation Planner, PSSCFO
Diane Gomez, Realty Specialist, PSSCFO
Neil Hamada, Dunes Manager, ECFO
John Kalish, Associate Field Manager, PSSCFO
Lynda Kastoll, Realty Specialist, ECFO
Larry LaPre, Wildlife Biologist, CDD
Duane Marti, Realty Specialist, CSO
Jack Mills, NEPA Specialist, CSO
Rolla Queen, District Archaeologist, CDD
Wanda Raschkow, Archaeologist, PSSCFO
Linda Self, Realty Specialist, ECFO
Al Stein, ADM, Lands, Minerals, and Renewable Resources, CDD
Daniel Steward, Wildlife Biologist, ECFO
Vicki Wood, Field Manager, ECFO
Tom Zale, Resource Staff Supervisor, ECFO
Fish and Wildlife Service
Jon Avery
Jim Bartel, Field Supervisor
Tyler Grant
Sylvia Pelizza, Refuge Manager
Kurt Roblek
Office of Environmental Policy and Compliance
Patricia Sanderson Port, Regional Environmental Officer
Department of the Interior, DC
Minerals Management Service
Walter Cruickshank, Deputy Director
Patricia E. Morrison, Deputy Assistant Secretary
National Park Service
Office of Environmental Policy and Compliance
Willie Taylor, Director

APPENDIX A (cont'd)

Federal Agencies (cont'd)

Department of the Interior, NM
Fish and Wildlife Service
David Siegel

Department of the Interior, NV
Bureau of Reclamation
Pat Hicks, Regional Archaeologist
Joe Liebhauser
Deanna J. Miller, Director
Laurie Perry

Department of Transportation, CO
Office of Pipeline Safety
Kimbra Davis

Department of Transportation, DC
Environmental Policies
Camille Mittelholtz
Office of Pipeline Safety
Alex Dankanich
Tom Fortner
William H. Gute, Director, E. Region
Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration
Samuel G. Bonasso, P.E., Deputy Administrator
Stacy Gerard, Associate Administrator
Kimberly Hughes, Executive Secretary
James K. O'Steen, Deputy Associate Administrator for Pipeline Safety
Office of the Secretary
Martin T. Whitmer, Jr., Asst. to the Secy. for Policy

Department of Transportation, GA
Office of Pipeline Safety
Mike Schwarzkopf

Department of Transportation, MO
Office of Pipeline Safety
Karen Butler
Harold Winnie

Department of Transportation, TX
Office of Pipeline Safety, Pipeline and Hazardous Materials Safety Administration
Houston Office

Earl Lewter, Depository Library, U.S. Government Printing Office, Washington, DC

Environmental Protection Agency, CA
Region 9

Paula Bisson, Manager, Communities and Ecosystems
Nova Blazej, Manager
Ann McPherson
David P. Schmidt

Environmental Protection Agency, DC
Office of Federal Activities
Director
Joseph Montgomery – Director, NEPA Compliance Division
Cliff Rader, NEPA Compliance Division

APPENDIX A (cont'd)

Federal Agencies (cont'd)

International Boundary Water Commission, TX
Carlos Marin
Elizabeth Verdecchia
Interstate Commerce Commission, DC
Chief Energy and Environment
Library of Congress, DC
Joe Mahar
U.S. Senate, DC
Committee on Energy and Natural Gas

Federal Representatives and Senators**Arizona**

Representative Raúl M. Grijalva
Senator Jon Kyl
Senator John McCain

California

Representative Mary Bono
Representative Bob Filner
Senator Barbara Boxer
Senator Dianne Feinstein

State Representatives and Senators**Arizona**

Representative Amanda Aguirre
Representative Russell L. Jones
Senator Robert Cannell

California

Assemblywoman Bonnie Garcia
Senator Denise Moreno Ducheny

Native American Tribes

Raphael Bear, President, Fort McDowell Yavapai Nation, AZ
Louise Benson, Chairwoman, Hualapai Tribe, AZ
Elda Butler, Director, Fort Mojave Indian Tribe, AhaMaKav Cultural Society, AZ
Lorey Cachora, Cultural Committee, Fort Yuma-Quechan Tribe, AZ
Sherry Cordova, Chairwoman, Cocopah Tribe, AZ
Betty Cornelius, Cultural Contact, Colorado River Reservation, AZ
Daniel Eddy, Jr., Chairman, Colorado River Indian Tribes, AZ
Terry O. Enos, Chairman, Ak-Chin Indian Community, AZ
Earl Hawes, Quechan Indian Tribe, AZ

APPENDIX A (cont'd)

Native American Tribes (cont'd)

Mike Jackson, Sr., President, Fort Yuma Indian Reservation-Quechan Tribe, AZ
Vivian Juan-Saunders, Chairwoman, Tohono O'odham Nation, AZ
Linda Mahone, Chairwoman, Havasupai Tribe, AZ
Richard Narcia, Governor, Gila River Indian Community, AZ
Bridget Nash-Chrabasz, Historic Preservation Officer, Quechan Indian Tribe, AZ
Joni Ramos, President, Salt River Pima - Maricopa Indian Community, AZ
Wayne Taylor, Jr., Chairman, Hopi Tribe, AZ
Bill Anderson, Environmental Manager, Cabazon Band of Mission Indians, CA
Mary Ann Andreas, Chairperson, Morongo Band of Mission Indians, CA
Anthony J. Andreas, Jr., CA
Christina Arzate, Spokesperson, Santa Rosa Band of Mission Indians, CA
Steve Banegas, Spokesman, Kumeyaay Cultural Repatriation Committee, CA
Richard Begay, THPO Director, Agua Caliente Band of Cahuilla Indians, CA
Joseph R. Benitez (Mike), CA
Greg Cervantes, Cabazon Band of Mission Indians, CA
Ron Christman, Kumeyaay Cultural Historic Committee, CA
William J. Contreras, Cultural Resources Coordinator, Torres-Martinez Desert Cahuilla Indians, CA
Courtney A. Coyle, Attorney at Law, Held Palmer House, CA
H. Paul Cuero, Jr., Chairperson, Campo Band of Mission Indians, CA
Paul Cuero, Kumeyaay Cultural Heritage Preservation, CA
Thomas J. Davis, Agua Caliente Band of Cahuilla Indians, CA
Leroy Elliot, Manzanita Band of Mission Indians, CA
Attn: EPA Director, Manzanita Band of Mission Indians, CA
Attn: EPA Specialist, Campo Band of Mission Indians, CA
Alfredo E. Figueroa, CA
Michael Garcia, EPA Director, Ewiiapaayp Tribal Office, CA
Mary Ann Green, Chairperson, Augustine Band of Cahuilla Mission Indians, CA
Joseph Hamilton, Vice Chairman, Ramona Band of Mission Indians, CA
Manuel Hamilton, Chairperson, Ramona Band of Mission Indians, CA
Terry Hughes, Tribal Administrator, Santa Rosa Band of Mission Indians, CA
John James, Chairperson, Cabazon Band of Mission Indians, CA
Karin Kupcha, Tribal Administrator, Augustine Band of Mission Indians and Ramona Band of Mission Indians, CA
Clifford LaChappa, Chairperson, Barona Band of the Kumeyaay Nation, CA
Anthony Largo, Environmental Coordinator, Ramona Band of Mission Indians, CA
Carmen Lucas, Kwaaymii Laguna Band of Mission Indians, CA
Anthony Madrigal, Jr., Chairperson, Cahuilla Band of Indians, CA
Malki Museum, Morongo Indian Reservation, CA
Nora McDowell, Chairwoman, Fort Mojave Indian Tribe, CA
Will Micklin, Executive Director, Ewiiapaayp Tribal Office, CA
Dean Mike, Chairperson, Twenty-Nine Palms Band of Mission Indians, CA
Richard Milanovich, Chairperson, Agua Caliente Band of Cahuilla Indians, CA
Ernest Morreo, Torres-Martinez Desert Cahuilla Indians, CA
Susan Pantell, Morongo Band of Mission Indians, Morongo Reservation, CA
Gwendolyn Parada, La Posta Indian Reservation, CA
Anthony Pico, Chairperson, Viejas Band of the Kumeyaay Nation, CA
Harlan Pinto, Sr., Chairperson, Ewiiapaayp Tribal Office, CA
Alberto Ramierz, Environmental Coordinator, Torres-Martinez Desert Cahuilla Indians, CA
James Robertson, Cultural Resources Coordinator, Ewiiapaayp EPA Office, CA

APPENDIX A (cont'd)

Native American Tribes (cont'd)

Charlene Ryan, Cultural Program Director, Soboba Band of Luiseño Indians, CA
Robert J. Salgado Sr., Chairperson, Soboba Band of Mission Indians, CA
Katherine Saubel, Spokesperson, Los Coyotes Band of Mission Indians, CA
Judy Stapp, Director of Cultural Affairs, Cabazon Band of Mission Indians, CA
Wilson T. Thibodeaux, Cabazon Band of Mission Indians, CA
Raymond Torres, Chairperson, Torres-Martinez Desert Cahuilla Indians, CA
Daniel Tucker, Chairperson, Sycuan Band of the Kumeyaay Nation, CA
Britt W. Wilson, Cultural Resources Coordinator, Morongo Band of Mission Indians, CA
Charles Wood, Acting Chairperson, Chemehuevi Reservation, CA

State Agencies**Arizona**

Governor Janet Z. Napolitano
Arizona Department of Environmental Quality
 Air Quality Division
 Dave Biddle
 Ira M. Domskey, Deputy Director
Arizona Historical Society
Arizona State Land Department
 Jim Gross, Rights-of-Way Administrator
Arizona State Parks
 Public Archaeology Programs
 Ann Valdo Howard, Manager/Archaeologist, State Historic Preservation Office
Department of Public Safety
 Curt Knight
International Boundary Water Commission
 Al Goff, Project Manager

California

Governor Arnold Schwarzenegger
California Business, Transportation and Housing Agency
 The Honorable Sunne Wright McPeak
California Chamber of Commerce
 Allan Zaremborg, President and Chief Executive Officer
California Department of Fish and Game
 Joe Brana
 Arturo Delgado, Staff Biologist
 Chris Hayes, Blythe Area Field Manager
 Gerry P. Mulcahy
 Canh Nguyen, Environmental Scientist
California Department of Transportation
 Will Kempton, Director
 Patricia Marrufo, Development Review Branch, District 11 Planning Division
 Mario H. Orso, Development Review Branch, District 11 Planning Division
 Pedro Orso-Delgado, District 11 Director (Riverside County)
 Michael Perovich, District 8 Director (Imperial County)

APPENDIX A (cont'd)

State Agencies (cont'd)

California Electricity Oversight Board

Ken Glick, Staff Counsel

California Energy Commission

Steve Larson, Executive Director

Terrence O'Brien, Deputy Director

California Public Utilities Commission

Wesley M. Franklin, Executive Director

California State Lands Commission

Chandra Basavalinganadoddi, Senior Engineer

Thomas Filler, Staff Environmental Scientist

Jim Porter, Public Land Management Specialist

Dwight Sanders, Division Chief

Centinela State Prison

Juan A. Nessi

Colorado River Basin Regional Water Quality Control Board

Jose Angel, Assistant Division Chief

Liann Chavez, Senior Engineering Geologist

John Carmona, Supervisor

Robert Perdue, Executive Officer

Colorado River Board and California

Gerald R. Zimmerman, Executive Director

Department of Conservation

Division of Oil, Gas, and Geothermal Resources

Department of Fish and Game

Department of Parks and Recreation

Office of Historic Preservation

Wayne Donaldson, State Historic Preservation Officer

Michael D. McGuirt, Associate State Archaeologist

Governor's Office of California - Mexico Affairs

Kristen Miller Aliotti, Director

Mojave Desert Air Quality Management District

Ellen DeJarnette, Executive Assistant

Eldon Heaston, Executive Director

Native American Heritage Commission

Carol Gaubatz

Dave Singleton, Program Analyst

Picacho State Recreation Area

Robin Greene

South Coast Air Quality Management District

David D'Alessandro, Esq., Stinson Morrison Hecker LLP

Michael R. Harris, Esq.

Deborah Keeth, Shute, Mihaly & Weinberger, San Francisco, CA

Harvey L. Reiter, Esq., Stinson Morrison Hecker LLP

Daniel P. Selmi, Esq.

Kurt R. Wiese, Esq.

State Board of Food and Agriculture

Louise K. Willey

State Clearinghouse and Planning Unit

Terry Roberts, Director

APPENDIX A (cont'd)

State Agencies (cont'd)

State Water Resources Control Board

Celeste Cantu, Executive Director

Tom Howard, Chief Deputy Director

Beth Jines, Chief Deputy Director

County AgenciesArizona

La Paz County

Sheriff Hal Collett, La Paz County Sheriff's Office

The Honorable Cliff Edey, Supervisor, La Paz County

La Paz County Board of Supervisors

La Paz County, Public Works

Pat Wall, Community Development Director (Acting), La Paz County

Yuma County

Casey Prochaska, Chairman of the Board

Ken Rosevear, Yuma County Chamber of Commerce

California

Imperial County

Steve Birdsall, Imperial County Air Pollution Control District

William Burnet, Director of Public Works, Imperial County Public Works Department

Robertta Burns, County Executive Officer, Imperial County

Administrative Office, Imperial County

Victor Carrillo, Imperial County Board of Supervisors

Harold Carter, Imperial County Sheriff

Darrell Gardner, Imperial County Planning

Larry Grogan, Imperial County Board of Supervisors, District 2

Cliff Gruenberg, Agricultural Commissioners Office

Bob Ham, Executive Director, I.V. Association of Governments, Imperial County

Jurg Heuberger, Director, I.C. Planning & Development Department, Imperial County

Imperial County Fish and Game Commission

Imperial County Historical Society

Wally Leimgruber, Imperial County Board of Supervisors, District 5

Rosa C. Lopez, Imperial Valley Association of Governments

Joe Maruca, Imperial County Board of Supervisors, District 3

Mark McNay, Imperial County Sheriff's Office

Jim Monk, Imperial County Planning

Brad Poiriez, Imperial County Air Pollution Control District

Nicole M. Rottfleisch, Executive Director, Imperial County Farm Bureau

Gary Wyatt, Imperial County Board of Supervisors, District 4

Joanne Yeager, Imperial County

Kern County

Marilyn J. Beardslee, Kern County Council of Governments

Riverside County

Karin L. Bazan, Riverside County

Board of Supervisors, Riverside County

APPENDIX A (cont'd)

County Agencies (cont'd)

Building and Safety Department, Riverside County
Tony Carstens, Riverside County Transportation and Land Management Agency
Sheriff Bob Doyle, Riverside County Sheriff's Department, Administration
Fire Department, Headquarters, Riverside County
John Guerin, Planner, Riverside County
Riverside County Planning Department, Planning Director
Riverside County Historical Commission
Riverside County Planning Commission
Roger S. Streeter, County of Riverside
The Honorable Roy Wilson, Supervisor, Riverside County
San Bernardino County
Board of Supervisors, San Bernardino County
Various County
Randy Gray, Imperial Irrigation District, Real Estate Section
Roger Henning, Palo Verde Irrigation District
Imperial Irrigation District
Imperial Valley Association of Governments
Jim Kelley, Imperial Irrigation District, Real Estate Section
Steve L. Nagle, Coachella Valley Association of Governments
Ed Smith, General Manager, Palo Verde Irrigation District
Minh C. Tran

City and Town Agencies**Arizona**

Larry Covell, Board Chairman, Ehrenberg Fire Department, Ehrenberg, AZ
Ehrenberg Chamber of Commerce, Ehrenberg, AZ
Ehrenberg Water Company, Ehrenberg, AZ
Tadeo A. Garcia, Administrative Specialist, City of Yuma, Yuma, AZ

California

Anza Valley Chamber of Commerce, Anza, CA

Chad Aaby, City of Blythe, Blythe, CA
Blythe Development Services Department, Development Services Director, Blythe, CA
City of Blythe, c/o Bill Brunet, City Engineer, Blythe, CA
Barbara Burrow, Blythe, CA
Robert Casias, City of Blythe, Development Services Dept., Blythe, CA
The Honorable Robert Crain, Mayor, City of Blythe, Blythe, CA
Charles "Butch" Hull, City of Blythe, Blythe, CA
Jim Shipley, Chief Operating Officer, Blythe Area Chamber of Commerce, Blythe, CA
Jennifer Wellman, Planning Director, City of Blythe, Blythe, CA

Toni C. Carrillo, Mayor, City of Brawley, Brawley, CA
Sue Giller, President, Brawley Chamber of Commerce, Brawley, CA
Nicole Gilles, Brawley Chamber of Commerce, Brawley, CA
Oscar G. Rodriguez, City Manager, City of Brawley, Brawley, CA

APPENDIX A (cont'd)

City and Town Agencies (cont'd)

Marlene Best, City Manager, City of Calexico, Calexico, CA
Hildy Carrillo-Rivera, Executive Director, Calexico Chamber of Commerce, Calexico, CA
The Honorable Alex Perrone, Mayor, City of Calexico, Calexico, CA

Patti K. Drusky, Cathedral City Chamber of Commerce, Cathedral City, CA

Coachella Chamber of Commerce, Coachella, CA
Tom Levy, General Manager-Chief Engineer, Coachella Valley Water District, Coachella, CA
Commission, El Centro, CA
Ruben Duran, City Manager, City of El Centro, El Centro, CA
Jim Gay, City of El Centro Planning Department, El Centro, CA
Dennis H. Morita, President, El Centro Chamber of Commerce, El Centro, CA
Norma Villicana, City of El Centro Planning Department, El Centro, CA
Sedalia Sanders, Mayor, City of El Centro, El Centro, CA

Ken Mishino, Mayor, City of Hemet, Hemet, CA

Jerry M. Brittsan, Mayor, City of Holtville, Holtville, CA
Chief, City of Holtville Police Department, Holtville, CA
Steve Hogan, City Manager, City of Holtville, Holtville, CA
Manuel Nunez, President, Holtville Chamber of Commerce, Holtville, CA

Debra Jackson, City Clerk, City of Imperial, Imperial, CA

City of Indian Wells, Indian Wells, CA
Currie D. Kates, City of Indian Wells, Indian Wells, CA

Jon Carlson, Riverside County Sheriff, Indio, CA
Indio Chamber of Commerce, Indio, CA
Indio Planning Department, Indio, CA
Gary H. Werner, City of Indio, Indio, CA

Laura J. Simonek, Manager, Environmental Planning Team, Metropolitan Water District of Southern California, Los Angeles, CA

Robert W. Morin, City of Moreno Valley, Moreno Valley, CA

Jean Benson, Mayor, Palm Desert City Hall, Palm Desert, CA

David Aaker, Palm Springs Chamber of Commerce, Palm Springs, CA
Alan Denefeld, City of Palm Springs, Palm Springs, CA
Doug R. Evans, City of Palm Springs, Palm Springs, CA
Palm Springs Chamber of Commerce, Palm Springs, CA

Ron Eggertsen, City of Rancho Mirage, Rancho Mirage, CA
Jeanne Parrish, City of Rancho Mirage, Rancho Mirage, CA
Ronald O. Loveridge, City of Riverside, Riverside, CA

APPENDIX A (cont'd)

City and Town Agencies (cont'd)

West Shores Chamber of Commerce, Salton City, CA

| Jarrell Brown, Sr., Fire Chief, Winterhaven Volunteer Fire Protection District, Winterhaven, CA

Libraries

Yuma County Library District, Yuma, AZ

Palo Verde Valley Library, Blythe, CA

El Centro Public Library, El Centro, CA

Hemet Public Library, Hemet, CA

Holtville City Library, Holtville, CA

Imperial Public Library, Imperial, CA

City of Rancho Mirage Public Library, Rancho Mirage, CA

Glen Avon Library, Riverside, CA

Palo Verde District Library, Rollins Hills Estates, CA

Media

Bajo El Sol, Yuma, AZ

KECY-TV, Yuma, AZ

KSWT - TV 13, Yuma, AZ

KYMA - News Channel 11, Yuma, AZ

Yuma Daily Sun, Yuma, AZ

Palo Verde Valley Times, Blythe, CA

Arturo Boronquez, Imperial Valley Press, El Centro, CA

Imperial Valley Press, El Centro, CA

Ruby Yniguez, Imperial Valley Press, El Centro, CA

Intervenors

Diane McVicker, Senior Principal Analyst, Salt River Project, Scottsdale, AZ

David C. Nowell, Nowell Investment Company, Glendale, AZ

Mayan Tahan, Salt River Project Agricultural Imp. and P.D, Tempe, AZ

| Maurice Lyons, Chairperson, Morongo Band of Mission Indians, Banning, CA

Melissa Schlichting, Morongo Band of Mission Indians, Karshmer & Associates, Berkely, CA

Stephen V. Quesenberry, Morongo Band of Mission Indians, Karshmer & Associates, Berkely, CA

Jonathon Bromson, Counsel, California Public Utilities Commission, San Francisco, CA

John R. Ellis, Sempra Energy, Los Angeles, CA

Kim M Kiener, Imperial, CA

Kerry C. Klein, Attorney, Pacific Gas and Electric Company, San Francisco, CA

Frank R. Lindh, Attorney, Pacific Gas and Electric Company, San Francisco, CA

Norman A. Pedersen, Attorney, Hanna and Morton LLP, Los Angeles, CA

Douglas Kent Porter, Senior Counsel, Southern California Edison Company, Rosemead, CA

Bill Rapp, Imperial Irrigation District, Imperial, CA

William D. Rapp, Senior Counsel, Sempra Energy, San Diego, CA

Sabrina Teller, Attorney, Remy, Tomas and Moose, LLP, Sacramento, CA

Larry Bautista, El Paso Pipeline Group, Colorado Springs, CO

APPENDIX A (cont'd)

Intervenors (cont'd)

Lee Alan Alexander, Hogan and Hartson L.L.P., Washington, DC
Douglas M. Canter, Attorney, McCarthy, Sweeney and Harkaway, P.C., District of Columbia, DC
Stuart Caplan, White and Case LLP, Washington, DC
Melanie Devoe, Associate, Patton Boggs LLP, Washington, DC
Joel L. Greene, Jennings, Strouss and Salmon, Washington, DC
Charles H. Shoneman, Partner, Bracewell and Giuliani LLP, Washington, DC
Deborah A. Swanstrom, Partner/Attorney, Patton Boggs LLP, Washington, DC
Sarah E. Tomalty, Senior Attorney, FPL Energy, LLC, Washington, DC

Myra W. McAbee, Senior Attorney, FPL Group Resources, LLC, Juno Beach, FL

Edward C. McMurtrie, Southwest Gas Corporation, Las Vegas, NV

Carl M. Fink, Assistant General Counsel, North Baja Pipeline, LLC, Portland, OR
Henry P. Morse, General Manager, North Baja Pipeline, LLC, Portland, OR

Donna Bailey, Managing Counsel, Chevron U.S.A. Inc., Houston, TX
Bruce Alan Connell, Director Regulatory Affairs, ConocoPhillips Company, Houston, TX
Stephanie D. Jones, Sr. Analyst, ConocoPhillips Company, Houston, TX
Frederick T. Kolb, BP Energy Company, Houston, TX
J. Jeannie Myers, Senior Counsel, Chevron U.S.A. Inc., Houston, TX
Chris Sorensen, Director Business Development, Houston, TX
Steve P. Tarpey, BP America Production Company, Houston, TX

Katherine B. Edwards, Edwards and Associates, Alexandria, VA

Organizations, Individuals, and Landowners

Carey Johannesson, Comsult Inc., Calgary, AB, Canada

Floyd A. Davis, Linda L. Davis, Springdale, AR

R. Nilson, K. Nilson, and R. Nilson, Casa Grande, AZ
Walter Nilson and Karen N. Schroeder, Casa Grande, AZ
CBI Prop, c/o Manuel Cavazos, Ehrenberg, AZ
Steven Whisennand, Ehrenberg, AZ
Ronald J. Sutter, Trustee, c/o Nilson-New Children's Trust, Flagstaff, AZ
Lakota Resources, Gilbert, AZ
L.R. Layton and Assoc., Gilbert, AZ
Roberta V. Bevins, Trustee, Glendale, AZ
Joeann Morton, Nowell Inv, Levee Block Ltd Partnership, c/o David Nowell, Glendale, AZ
David C. Nowell, Betty A. Nowell, Glendale, AZ
David C. Nowell, Lee Nowell, Glendale, AZ
Jack Seiler, Jack Seiler Farms, An Arizona General Partnership, Lake Hazasu City, AZ
John and Mary Lou Smith, Maricopa, AZ
Greg Gorman, American Sand Association, Mesa, AZ
N. H. Killian Farms, c/o Mark and Nancy Killian, Mesa, AZ
LDS Church, Desert Grain Storage, c/o Chris Wagner, Mesa, AZ

APPENDIX A (cont'd)

Organizations, Individuals, and Landowners (cont'd)

Arizona-California Railroad, c/o Wayne Gilman, Parker, AZ
Albert Rovey, Rovey Land and Cattle Co., Parker, AZ
Desert Cotton Distributing, Roger Murphey, Peoria, AZ
Arizona Desert Bighorn Sheep Society, Phoenix, AZ
Dovie L. Bevins and Ray Gerald, Co-Trustees, Phoenix, AZ
Bool Properties, LP, Phoenix, AZ
Roberta A. Bright, Phoenix, AZ
El Paso Natural Gas Company, c/o Bob Brooks, Phoenix, AZ
Joe Maggio Family Limited Partnership, Phoenix, AZ
Jerry Seaver, American Sand Association, Phoenix, AZ
WAPA, Desert Southwest Customer Service Region, Phoenix, AZ
Carl E. and Patricia J. Weiler, Trustees, Phoenix, AZ
Quartzsite Historical Society, Quartzsite, AZ
TDS Cable, Harley Lemons, Supervisor, Quartzsite, AZ
Lakota Resources, c/o Robert Layton, Queen Creek, AZ
Joe Maggio Family Limited Partnership, Scottsdale, AZ
Milton P. Smith, Trustee, Scottsdale, AZ
Peter Galvan, Desert Ecologist, Center for Biological Diversity, Tucson, AZ
Joy Leanne Johnson, Tucson, AZ
Cullison Family Limited Partnership, Jerry Cullison, Wellton, AZ
Chris Camancho, President/CEO, Greater Yuma Economic Development Corporation, Yuma, AZ
Ken Edwards, Manager, Yuma, AZ
I.B.W.C., Al Goff, Project Manager, Yuma, AZ
Cary Meister, Yuma Audubon Society, Yuma, AZ
Meyer Farms, LLC, Yuma, AZ
Glenn Montgomery, Yuma Duffers, Yuma, AZ
Ron Pierce, Range Management Department MCAS, Yuma, AZ

Louis A. Audet, Lorraine Audet, Anaheim, CA
Self Serve Auto Dismantlers, Anaheim, CA
Scaroni Properties, Inc., c/o Linda Scaroni Rossi, Aptos, CA
John Studer, Jr., et al., c/o Barbara Collins, Arroyo Grande, CA
William D. Wilson, Atascadero, CA
Ralph M. Black, Auburn, CA
Jack Simonson, Banning, CA
Elaine Anzick and Thomas John Newidouski, Blythe, CA
Pratt Apiaries, Blythe, CA
Lawrence and Edith Marie Augusta, Blythe, CA
Clarence Benjamin Baker, Blythe, CA
Kayian Enterprises, Barnes and Berger Farms, Blythe, CA
Celeste Barnett, Blythe, CA
Thomas S. Barnett, Blythe, CA
Jerry Birdsong, Blythe, CA
David B. Brown, Peggy Ann Brown, Stanley W. Stroschein, Eric W. Stroschein, Blythe, CA
Gary A. Bryce, Barbara L. Bryce, Blythe, CA
Gary Bryce, Rio Rancho 2000, LLC, Blythe, CA
Rosalie Ann Campa, Christina Marie Gonzales, Raymond Milton Cox, Blythe, CA
Bobby Carnes and Mary E. Gage, Blythe, CA
Lawrence Chaffin, Chaffin Holdings, Inc., c/o Chaffin Farms, Blythe, CA

APPENDIX A (cont'd)

Organizations, Individuals, and Landowners (cont'd)

Chairel Custom Hay, c/o Jody Johns, Blythe, CA
Gerald J. and Sonja E. Colcun, Blythe, CA
Richard C. and Donna Cox, Blythe, CA
Desert Security Farms, Blythe, CA
Desert Mining Co., Blythe, CA
Richard Dill, Blythe, CA
Richard Dodson and Teresita Cube Mercado, Blythe, CA
William R. Downs, Blythe, CA
Anita Duenes, Blythe, CA
Christina Duenes, Blythe, CA
Floyd L. Dunagan Trust, c/o Donald Nelson, Trustee, Blythe, CA
Christina Elizalde, Blythe, CA
D & B Fisher, Blythe, CA
Fisher Ranch, Bart Fisher, Fisher Family Properties, Blythe, CA
Fisher Wireless Services, Blythe, CA
William and Sara L. Fletcher, Blythe, CA
Clinton H. Ford, Blythe, CA
Rigo Garnica, Blythe, CA
Gilbert Guilin, Blythe, CA
Betty Gillett, Blythe, CA
Gary Grisamer, Blythe, CA
Chuck Grotke, Blythe, CA
Tonia Grubbs, Blythe, CA
Hanna Farms, Inc., Blythe, CA
Orson P. Holt, Idawna W. Holt, Blythe, CA
The Holt Group, c/o Rob Holt, Blythe, CA
Joel W. Hudson, President, Blythe Search, Rescue and Assist, Blythe, CA
Danny Hughes, Blythe, CA
Mike Jimenez, Blythe, CA
Carl Jones, c/o Eddie Love, Blythe, CA
Kayian Enterprises, Blythe, CA
Kingfisher Corporation, Bart Fisher, Blythe, CA
Don Lange, Blythe, CA
LDS Church, Desert Grain Storage, c/o Steven Vickery, Blythe, CA
Augustus Love, Blythe, CA
Calvin and Sylvia Love, Blythe, CA
Eddie Beatrice Love, Blythe, CA
Jesus Luna, Armando Cortez, Celedonio Luna, Miguel Cortez, Blythe, CA
Floyd Marlowe, Blythe, CA
Barbara Martin, Blythe, CA
Dennis Melton, Cori Melton, Blythe, CA
Manuel Milke and Jose Milke, Blythe, CA
Steven Montgomery, Blythe, CA
Albert L. Morgan, Doris E. Morgan, Blythe, CA
Harold E. Morgan, Blythe, CA
James P. Nelson, Blythe, CA
Esther H. Nowland, Blythe, CA
Occupant (nine mailing list entries), Blythe, CA
P.V.I.D., Blythe, CA

APPENDIX A (cont'd)

Organizations, Individuals, and Landowners (cont'd)

Palo Verde Historical Museum Society, Blythe, CA
Chas San Prop, Blythe, CA
Randy Rausch, Blythe, CA
Thomas Robinson, Blythe, CA
Robinson Farms, Blythe, CA
Leonard Rutledge Estate, c/o Preston Rutledge, Blythe, CA
Savelle, Blythe, CA
Louis Schindler, Schindler Brothers, Blythe, CA
Aubrey M. Seale, Blythe, CA
Shepwells, Inc., Blythe, CA
Quinton Smith, Blythe, CA
SoCal Gas Company, Local Office, Blythe, CA
Southern California Edison, c/o David Ramirez, Blythe, CA
Eric W. Stroschein, Blythe, CA
Elton Thatcher, Blythe, CA
Mark A. and Tina M. Todd, Blythe, CA
Stephanie D. Todd, Blythe, CA
Ulmer Farms, LLC, John Ulmer, Blythe, CA
Joe Van Dyke, Priscilla Van Dyke, Blythe, CA
Verizon, c/o Mike Firquain, Blythe, CA
Stanley Wayne and Gloria J. Stroschein, Blythe, CA
Donald Williams, Blythe, CA
Jack Wilson, Glenda Wilson, Blythe, CA
Wuertz Ranches Inc., Verne Wuertz, Blythe, CA
Matthew Wylee, Blythe, CA
John and Monica Wylie, Blythe, CA
Betty Binggeli and Joseph Binggeli, et al., c/o Betty Binggeli, Brawley, CA
John Heuenber, Brawley, CA
Dennis P. Laybourn, Newmont Mining Corporation, Brawley, CA
Marjetta Masserini, Trustee, Brawley, CA
Thomas B. Rutherford, Desert Wildlife Unlimited, Brawley, CA
Vincent J. Signorotti, Cal Energy Company Inc., Brawley, CA
Stallard Family Trust, c/o Geraldine Stallard, Burbank, CA
Joaquin Campos-Godinez and S.T. Tugadi, Calexico, CA
Juana Lopez, Calexico, CA
Javier Lopez-Quiroz, Executor, Calexico, CA
Patricia Mendez-Leon, Calexico, CA
Richard Parra and Joel Parra, Calexico, CA
Robert Rubio, Calexico, CA
Tony P. Tirado, Calexico, CA
Joe Swain, Cathedral City, CA
General Patton Memorial Museum, Chiriaco Summit, CA
Williams Communications, Chula Vista, CA
William Jongsma, Corona, CA
James George, Corona, CA
Carrie Downey, Horton Knox Carter and Foote (IID), Coronado, CA
Leroy E. Edwards, Trustee, Coronado, CA
Harry R. Gisler, Trustee, et al., c/o James J. Fuchs, Costa Mesa, CA
Andres and Liliana Bustamante, Couvina, CA

APPENDIX A (cont'd)

Organizations, Individuals, and Landowners (cont'd)

Kiyoshi and Shizuko Murakawa, Co-Trustees, Cypress, CA
Carolyn E. Connelly and Barbara A. Leffingwell, c/o Carolyn E. Connelly, Davis, CA
Brad L. Hunter, Kirk B. Hunter, and B.E. Palmer, c/o Mrs. Edith Hunter, Davis Creek, CA
Lester A. and Roseanne Bornt, et al., c/o Lester A. Bornt, Descanso, CA
Larry and Donna Charpied, Desert Center, CA
Richard Conti, Eagle Rock, CA
Charles T. and Frances C. Ciraolo, Co-Trustees, El Cajon, CA
Ben and Margaret L. Abatti, El Centro, CA
Michael A. and Kerri Abatti, El Centro, CA
Andrew and Peggy D. Andreotti, Trustees, El Centro, CA
Larry M. Bratton and Wes Blakely, El Centro, CA
James W. and Susan J. Brock, El Centro, CA
Rigoberto and Ilda E. Cadena, El Centro, CA
Gary D. Cartee, El Centro, CA
Myron and Lyla Corfman, El Centro, CA
Allen L. and Delma L. Cradic, El Centro, CA
Archibald Mark Dessert and Mary Winifred, Trustees, El Centro, CA
Doris L. Dungan, El Centro, CA
Billy J. and Margie C. Eldred, El Centro, CA
Elloramo Farms, c/o Judy Tagg, El Centro, CA
Sergio Estrada, El Centro, CA
Gary Garleb, Dion International Trucks, LLC, El Centro, CA
Aida Gates, El Centro, CA
J.B. Gonzalez and E.B Rodriguez and L.H.B., El Centro, CA
Imperial County Public Works, c/o Bob Gray, El Centro, CA
Felipe and Anne Irigoyen, c/o Felipe Irigoyen, El Centro, CA
Adalberto and Carmen Juarez, El Centro, CA
K & J Investments and Koyoko Sugiura, c/o Kyoko Sugiura, El Centro, CA
KBKJ Holdings, LLC, c/o Mary Borchard, El Centro, CA
Cathy Kennerson, El Centro, CA
K & J Investments, Sugiura Kyoko, El Centro, CA
Hank Kuiper, El Centro, CA
Patricia Limon, El Centro, CA
Jean Marsh, et al., El Centro, CA
Sterling Mayes and Barbara Smith, El Centro, CA
Alan G. McCalmont, El Centro, CA
Maria del Socorro Mejia, El Centro, CA
E.S. Menvielle, E.S. and L.L. Menvielle, El Centro, CA
Joseph J. and Cynthia L. Menvielle, c/o Design Development and Eng, El Centro, CA
Robert F. Menvielle, John P. Menvielle, and Ralph M. Menvielle, El Centro, CA
Sharon Renee Menvielle, c/o Ralph Menvielle, El Centro, CA
The Gas Company, Joe Montenegro, District Operations Manager, El Centro, CA
Montecito Land, El Centro, CA
Joel Ocampo, El Centro, CA
A. Olekhnovitch, Fiore C. and C. Olekhnovitch, Trustees, El Centro, CA
James Piper, El Centro, CA
Joe Daniel and Altagracia C. Ramos, El Centro, CA
Rautbort Enterprises, c/o Mark Rautbort, El Centro, CA
Orville S. and Juanita E. Reed, El Centro, CA

APPENDIX A (cont'd)

Organizations, Individuals, and Landowners (cont'd)

Roy F. and Louise A. Richter, El Centro, CA
E.B. Roberts and Eleanor R. Nance, Trustees, El Centro, CA
Guadalupe and Natividad Saucedo, El Centro, CA
Arnold F. Schoeck, El Centro, CA
Donald Ray and Kathy Lynn Seals, El Centro, CA
Kevin D. and Lisa D. Seals, El Centro, CA
Sam Sharp, El Centro, CA
Barbara J. Smith, El Centro, CA
Richard J. Strobel, El Centro, CA
Jeep Swerdfeger, Imperial Valley Gem and Mineral Society, El Centro, CA
Judy Tagg, 2006 President, Imperial Valley Board of Realtors, El Centro, CA
Tony and Lillian Terribilini, Trustees, El Centro, CA
Thomas Topuzes, El Centro, CA
Lance Unverzagt, El Centro, CA
E.A. Vedder, Trustee of E.A. Vedder Survivor Trust, et al., c/o Eleanor Vedder, El Centro, CA
John J. Vessey and Darla Wyatt, Trustees, El Centro, CA
Charles R. and Olivia G. Waegner, El Centro, CA
Henry S. and Margaret B. Wasson, El Centro, CA
R.J. and A.S. West, and J.L. and L.R. Mayo, El Centro, CA
Monica Appel, Encinitas, CA
Robson Smith, et al., c/o Frances Martin, Escondido, CA
Delbert H. and Alice Valla, Co-Trustees, Escondido, CA
Eugene and Marian Gabrych, Fallbrook, CA
Fred Kruger, Fallbrook, CA
George T. Scott Ranches, c/o Peggy Seay, Fallbrook, CA
Peggy Seay, Fallbrook, CA
Kayian Enterprises, Fresno, CA
Kayian Trust, c/o James Kayian, Fresno, CA
Glenn Santa Cruz, Local 230 Fitters, Gardena, CA
S & A Souza Farms, Inc., c/o Donald S. Souza, Garden Grove, CA
Rolando Berrera and Carl Salinas, Gilroy, CA
A. Jeanne Williams, Boardmanville Trading Post, Glamis, CA
A.C. Marion, Trustee, and J.R. Brimberry, Jr., et al., c/o A.C. Marion, Grenada, CA
J. Knevelbaard and S and C Knevelbaard, Hanford, CA
William A. Claverie and David A. Claverie, et al., Heber, CA
John F. and Marscia Menvielle, Trustees, Heber, CA
Katherine and Roy J. Bianchi, Holtville, CA
Mark K. Bonesteel, Trustee, Holtville, CA
Alan L. and Glen D. Bornt, Trustees, Holtville, CA
Richard R. and Derlene S. Bringle, Holtville, CA
Micaela Chell, Trustee, Holtville, CA
Robert S. and Karmen A. Chell, Holtville, CA
Frank Joseph and Phyllis Mae Claverie, Trustees, Holtville, CA
M.R. and Melissa C. Claverie and M.D. Garewal, Holtville, CA
Michael Denis and Rita Sue Claverie, Trustee, Holtville, CA
Thomas O. Daniels, Jr. and Ann M. Daniels, Trustees, Holtville, CA
P.R. Dhaliwal and Patricia D. Couch, Holtville, CA
Burdette and Judy Lee Freire, Holtville, CA
John O. Grizzle, Trustee, Holtville, CA

APPENDIX A (cont'd)

Organizations, Individuals, and Landowners (cont'd)

Esperanza G. Hartman, Holtville, CA
B.E. Hawk, Trustee, Holtville, CA
Harold Leslie and Louise Hawk, Holtville, CA
Fritz T. and Lena A. Heuberger, Holtville, CA
David Hilfiker and Richard Hilfiker, Holtville, CA
Ellery Claude Holdridge, Holtville, CA
Eugene H. Holdridge, et al., c/o Eugene Holdridge, Holtville, CA
Michel M. and Connie M. Ihidoy, Holtville, CA
Imperial Associates, Inc., Holtville, CA
Norberto and Patricia Irungaray, Holtville, CA
Vaughn and Rosalie C. Krikorian, Holtville, CA
Ronald C. Leimgruber, Holtville, CA
Walter James and Margoria Ann Leimgruber, Holtville, CA
Lillieqvist Ranches, Ltd, c/o Laurene B. Johnson, Holtville, CA
Nicholas and Athena Mainas, Trustees, c/o Mainas Farms, Holtville, CA
Marguerite A. Martin, Holtville, CA
Edward and Patricia McGrew, Holtville, CA
James W. and Edith A. McLaughlin, Trustees, Holtville, CA
Anastasia Miki, Holtville, CA
Frank R. Miranda and Emily Claverie, Holtville, CA
H.G. Morrison, Jr. and J.R. and M.A. Morrison, Holtville, CA
Marie P. Muheim, Trustee, Holtville, CA
Clem A. and Madeline Muller, Holtville, CA
Charles E. and Louise Nilson, Trustees, Holtville, CA
Henry A. and Barbara Nilson, Trustees, Holtville, CA
W.D. Nilson, Trustee, Holtville, CA
Joe L. and Roberta Ann Omlin, Trustees, Holtville, CA
Michael J. and Susan K. Omlin, Holtville, CA
Richard P. Pata, Holtville, CA
Daniel Louis and Cynthia E. Poloni, Holtville, CA
Bill Rapp, Holtville, CA
Maria T. Rombaut, Trustee, c/o Magda Nemteanu, Holtville, CA
Victor A. Rombout, Holtville, CA
Robert W. Rubin, Sr. and Jean R. Rubin, Trustees, c/o Le Brown Gladys Parker, Holtville, CA
Carol Ann Saikhon, LP, c/o Black Dog Farms, Holtville, CA
Diane Saikhon, Trustee, Holtville, CA
Jeffrey S. Saikhon, Trustee, c/o Black Dog Farms, Holtville, CA
Yoshiya and Mary Sanbonmatsu and Bruce T. Sanbonmatsu, Holtville, CA
Clifford H. and Jarene M. Schneider, Holtville, CA
E.M. and D. and S. and C III and D. Schneider, Holtville, CA
David and Donna Schoeneman, Holtville, CA
E.F. and R.O. and C. and M.F. Strahm, c/o Ernest Strahm, Holtville, CA
Ernest F. and Esther L. Strahm, c/o Michael F. Strahm, Holtville, CA
Ernie Strahm and Sons, Inc., Holtville, CA
R.L. and R. Strahm, Holtville, CA
Ralph Strahm, Holtville, CA
W.E. and R.E. and L.F. and R.W. Strahm, c/o Walter Strahm, Holtville, CA
John F. and Jo Ann Taylor, Trustees, Holtville, CA
Steve Terrill, Holtville, CA

APPENDIX A (cont'd)

Organizations, Individuals, and Landowners (cont'd)

Rick Turner, Holtville, CA
Jewel S. Vencill, Trustee, Holtville, CA
The Jack Edward Cornwell Estate, c/o James Carlson, Huntington Beach, CA
The M. Jay Kramer Foundation, c/o Barnard B. Kaplan, Huntington Beach, CA
Robert F. and Sylvia M. Aguirre, Imperial, CA
Juanita Salas, Imperial, CA
Harold D. and Enemirta Treadway, Imperial, CA
Antonio Ventura, Imperial, CA
Coachella Valley Historical Society, Inc., Indio, CA
Crystal V. Deleon, Indio, CA
Sherry Johnson, Indio Chamber of Commerce, Indio, CA
Riverside County Transportation Department, c/o Dan Castillo, Indio, CA
Fay Rawles, Trustee, King City, CA
Jennie Kelly, La Quinta, CA
Valerie Smith, La Quinta Chamber of Commerce, La Quinta, CA
Fort Colin Succ, Trustee, c/o Chester E. Horton, Jr., Laguna Woods, CA
P.E. Hawk, H.S. Hawk, and L.M. Hawk, Trustees, c/o Stan Hawk, Lemoore, CA
Jesse E. and Donna C. Brown, Los Angeles, CA
Margaret M. Chase, Vera H. McCarthy, Los Angeles, CA
Jill Egerman, Southern California Association of Governments, Los Angeles, CA
Charles W. Hokanson, Los Angeles, CA
Sylvia Patsaouras, Manager, Environmental Division, Southern California Association of Governments,
Los Angeles, CA
Doug Spahr, SoCal Gas, Los Angeles, CA
Metropolitan Water District of Southern California, c/o Lynn Winkler P.L.S., Los Angeles, CA
James Reddy, Omya California Inc., Lucerne Valley, CA
Dov Grajcer, Aquafarms, Mecca, CA
Jeff Jeffredo, Mecca, CA
Isabella Burns, Monterey, CA
Rick Gluck, Morongo Valley, CA
Daniel R. Bennett, Norco, CA
Gregory Ouellette, Western Pacific Mining Association, Norco, CA
Robert G. Spangler, Norco, CA
David E. Stapp, Norco, CA
Richard E. Wright, Ricks Sand Buggy Repair and Parts, Norco, CA
Richard E. and Lee Ann Corbaley, Trustees, North Fork, CA
Tracy R. Myers, North Shore, CA
Karen Collins, Imperial Valley College Desert Museum, Southeast Information Center, Ocotillo, CA
Michael W. Cuff, Ocotillo, CA
Edie and James Harmon, Ocotillo, CA
Imperial Valley College Desert Museum and Society, Ocotillo, CA
Maria L. Rivera, Ontario, CA
Kinder Morgan, Energy Partners LP, Orange, CA
California Turtle and Tortoise Club, Palm Desert, CA
Richard A. Daniels, Eagle Mountain Landfill, Palm Desert, CA
Robert Del Gagnon, Palm Desert, CA
Susan E. Hanley, Palm Desert Chamber of Commerce, Palm Desert, CA
David A. Heveron, The Living Desert, Palm Desert, CA
Bonnie J. Jones, Palm Springs, CA

APPENDIX A (cont'd)

Organizations, Individuals, and Landowners (cont'd)

Kenneth Zachik, Palm Springs, CA
Coco Palms Mobile Home Park, Donna Clinton, Palo Verde, CA
Coco Palms Mobile Home Park, Jeanette Banks, Palo Verde, CA
Bill and Lois Coram, Palo Verde, CA
Frank Dokter, Walters Camp, Inc., Palo Verde, CA
Fort Gaston Historical Museum, Palo Verde, CA
Daniel R. Mueller, Mary E. Mueller, Palo Verde, CA
Jack Seiler Farms, c/o Jack Seiler, Palo Verde, CA
V.S. Chase, L.R. Chase, Virginia S. Chase, Laurence R. Chase, Pasadena, CA
Charles Herach Papaz, Trustee, Pasadena, CA
Michelle M. Cassella, District 37 Off Road, Perris, CA
Dan's Feed and Seed, Inc., John R. Harrison, Perris, CA
Lee Mee Farm, Inc., Perris, CA
Orange Empire Railway Museum, Inc., Perris, CA
AT&T Wireless PCS LLC, Rancho Cordova, CA
Grant George, Rancho Cucamonga, CA
Ronald I. Mendez, Paul Perez Mendoza, Thomas and Marsha Frame, Rancho Palos Verdes, CA
Manny Malenez, Redland, CA
Neva Barmakian, Trustee, c/o Plastic Pilings, Inc., Rialto, CA
James Bryant, Riverside Municipal Museum, Riverside, CA
Robert Buster, Riverside County Board of Supervisors, Riverside, CA
Michael J. Connor, Ph.D., Desert Tortoise Preserve Committee, Riverside, CA
Ian Davidson, Riverside, CA
Tony Felix, Riverside, CA
Pioneer Historical Society of Riverside, Riverside, CA
County of Riverside, Dept. of Building Services, Riverside, CA
Riverside Co. Regional Park, Open Space Dist, c/o Department Building Services Real Property Division, Riverside, CA
Historical Resources Management Program, University of California Riverside, History Department, Riverside, CA
University of California Riverside, Department of Anthropology, Eastern Information Center, Riverside, CA
Southern California Edison Company, Case Administration, Rosemead, CA
Country Life Mhprv Asset Partners LP, c/o McKay Florence Investments, Roseville, CA
Jim Bramham, Sacramento, CA
Ralph Cordova, Jr., Remy, Thomas, Moose and Manley, LLP, Sacramento, CA
State of California, Department of Fish and Game, Sacramento, CA
Sabrina Teller, Remy, Thomas, Moose and Manley, LLP, Sacramento, CA
JoAnn Yaeger, Remy, Thomas, Moose and Manley, LLP, Sacramento, CA
Benson Todd, et al., c/o Benson Todd, Salinas, CA
Whole Leaf, LLC, Salinas, CA
Sheri Davis, Inland Empire Film Commission, San Bernardino, CA
Caltrans District 8, c/o Dominic Ehirim, San Bernardino, CA
VARP, Inc., San Bernardino, CA
Michael L. Handy and Cheryl Anne Pember, San Bruno, CA
Harriet and Douglas Allen, Desert Protective Council, Inc., San Diego, CA
Dion Leasing LLC, San Diego, CA
EDAW, Rebecca Apple, San Diego, CA
Nick Ervin, Sierra Club, San Diego Chapter, San Diego, CA

APPENDIX A (cont'd)

Organizations, Individuals, and Landowners (cont'd)

Edie Harmon, Sierra Club of San Diego, San Diego, CA
Carl Joseph Maggio, San Diego, CA
Macey L. McMillin, Jr. and Vonnie L. McMillin, Trustees, c/o Mark E. Doyle, San Diego, CA
Joseph J. and Cynthia L. Menvielle, San Diego, CA
Pacific Bell, San Diego, CA
Pan American Development Co., LLC, San Diego, CA
Elise C. Paul, San Diego, CA
Bill Powers, P.E., U.S. Co-Chair, Border Power Plant Working Group, San Diego, CA
Gary R. Sallis, Local 230 Plumbers & Fitters, San Diego, CA
Caltrans District 11, c/o Robert Snyder, San Diego, CA
Kristin Ellen Tow, Trustee, San Diego, CA
Truck Stop 111 LP, c/o Kevin Moriarty, San Diego, CA
Eric Brian Tuttle, Trustee, et al., c/o Eric Tuttle, San Diego, CA
Terry Weiner, Imperial County Projects and Conservation Director, Desert Protective Council, San Diego, CA
Ross Family Enterprises, San Luis Obispo, CA
CBFar Limited Partnership, c/o Town and Country, Santa Ana, CA
Velma E. Goebel, Trustee, Santa Ana, CA
James Nickerson, TetraTech, Santa Ana, CA
Harold Soens, Santee, CA
Howard Wilshire, Sebastopol, CA
Sky C. Stanfield, Adams, Broadwell, Joseph and Cardozzo, South San Francisco, CA
Daniel D. Hinger, Hinger Electric, Temecula, CA
Case Vanderyk, Tipton, CA
Jon Stone, Torrance, CA
Betty E. Moosekian, Trustee, Turlock, CA
Del Schmidt, Trustee, c/o Schmidt and Associates, Tustin, CA
Camille Waite and Del Schmidt, Trustees, c/o Del Schmidt, Tustin, CA
Ruth E. Fudge, Trustee, Upland, CA
Donald R. and Charlene S. Walker, et al., c/o C. Acosta, Victorville, CA
South Valley Farms, Wasco, CA
Granite Construction Co., Watsonville, CA
John D. Souza, Weaverville, CA
Ileene Anderson, Southern California Regional Botanist, California Native Plant Society, West Hollywood, CA
Billie Ruddell, Colleen Morrell, Ruddell Trust, West Sacramento, CA
H & R Warne Farms, Inc., Westminster, CA
Thomas W. and Miriam Warne, Trustees, et al., Westminster, CA
David L. Harrison, Jr., MWC, Whitewater, CA
Andrew L. and Connie S. Howard, Winterhaven, CA
Lynn and Connie Howard, Pair a Dice, Winterhaven, CA
David B. Smith and Kimberly C. Smith, Yorba Linda, CA

Pete Morton, Ph.D., Resource Economist, The Wilderness Society, Denver, CO
Level 3 Communications, Inc., Tim Donelson, Broomfield, CO
Western Tele-Communications, Inc., Denver, CO
SF Pacific Properties, Inc., c/o Catellus, John Bezzant, Lakewood, CO

Bill Lansinger, Sempra Energy, Washington, DC

APPENDIX A (cont'd)

Organizations, Individuals, and Landowners (cont'd)

Dave Parker, President, American Gas Association, Washington, DC

Peggy Womack, Project Manager, AT&T Corporation, Atlanta, GA

James Nickerson, TetraTech, Logan, IA

J.D. Lormand, Executive Director, Rocky Mountain Pipeline Construction Association, Lafayette, LA

Allen Davis, Jane M. Davis, Roberta Rock, White Ford, MD

Amy Davis, Natural Resource Group, Inc., Minneapolis, MN

Dave Potter, Natural Resource Group, Inc., Minneapolis, MN

J.C. Wight, Trustee, c/o Donald J. Wight, Clancy, MT

Union Pacific Railroad, c/o Mary Hauschild, Omaha, NE

F.M. Campos, MJM DE Campos, and F.M. Campos, Las Vegas, NV

Burrell F. and Marilyn E. Hammond, Howard, OH

John Cassady, North Baja Pipeline, LLC, Portland, OR

Kim L. Marcus, K. Lowell, and Chrystle M. Vincent, c/o Kim L. Marcus, Portland, OR

J. Patrick Tielborg, Pipe Line Contractors Association, Dallas, TX

Brian Jones, Trustee, c/o Sherrie Quam (Bruno), Houston, TX

Trapmar Properties Inc, Attn: Morgan Johnston, Irving, TX

MCI/World Com, Attn: Investigations, Richardson, TX

Arizona and California Railroad Co., c/o Real Estate Dept., San Antonio, TX

Gary G. Ollivier, Management and Training Corp., Centerville, UT

Dick Southerland, Shirley Southerland, Duck Creek Village, UT

Desert Security Farms, Salt Lake City, UT

Corp of Pres Bishop, Church of Jesus Christ LDS, c/o Tax Division, Salt Lake City, UT

J.T. Sessions, C.B. Sessions, M.S. Sessions, c/o F.R. Sessions, Salt Lake City, UT

Dean G. Morris, Springville, UT

Penny Eckert, TetraTech EC, Inc., Bothell, WA

Nancy Ann Altman, Private Canal, South Charleston, WV

APPENDIX B

FACILITY LOCATION MAPS

Non-Internet Public

DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT

Docket Nos. CP06-61-000 and CP01-23-003

Appendix B Facility Location Maps

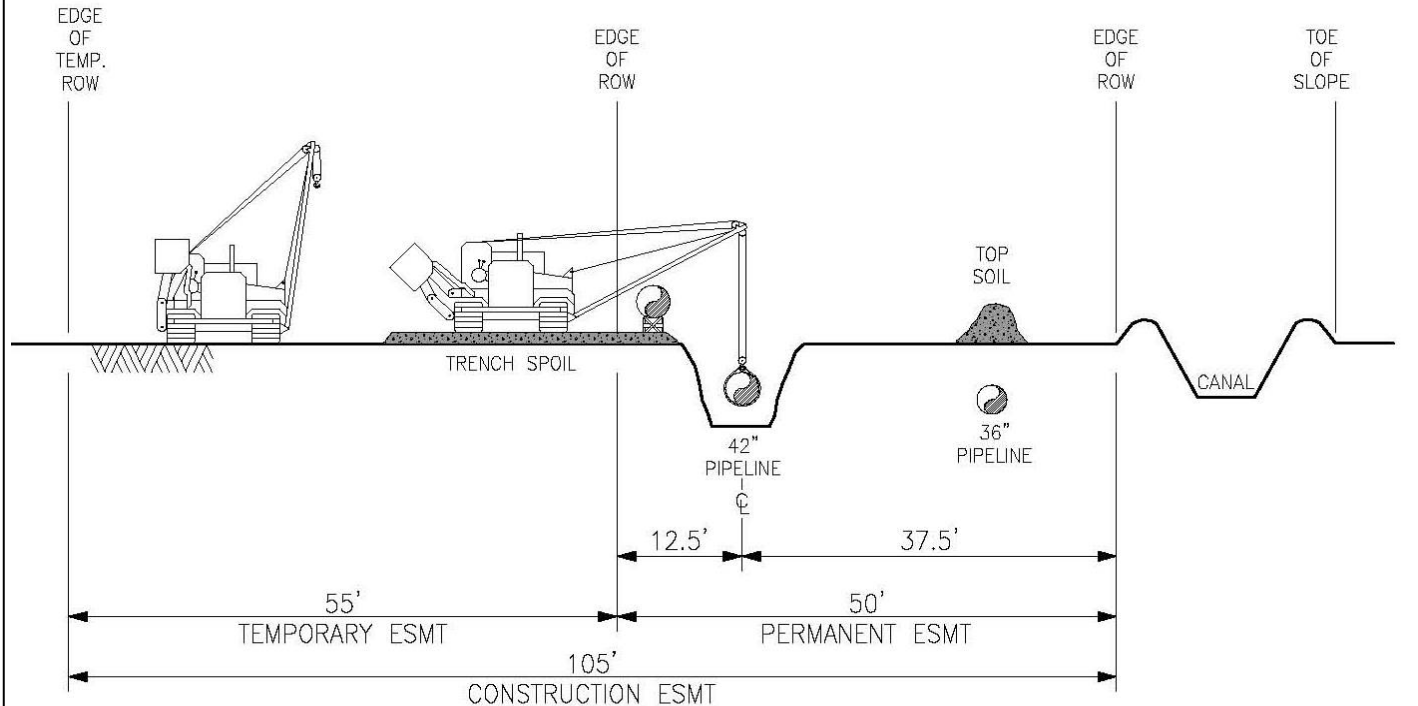
B-Line – Sheets 1 through 29
IID Lateral – Sheets 1 through 19

Public access for this Non-Internet information is available only through the Public Reference Room, or by e-mail at public.referenceroom@ferc.gov.

APPENDIX C

TYPICAL RIGHT-OF-WAY CROSS SECTIONS

Public



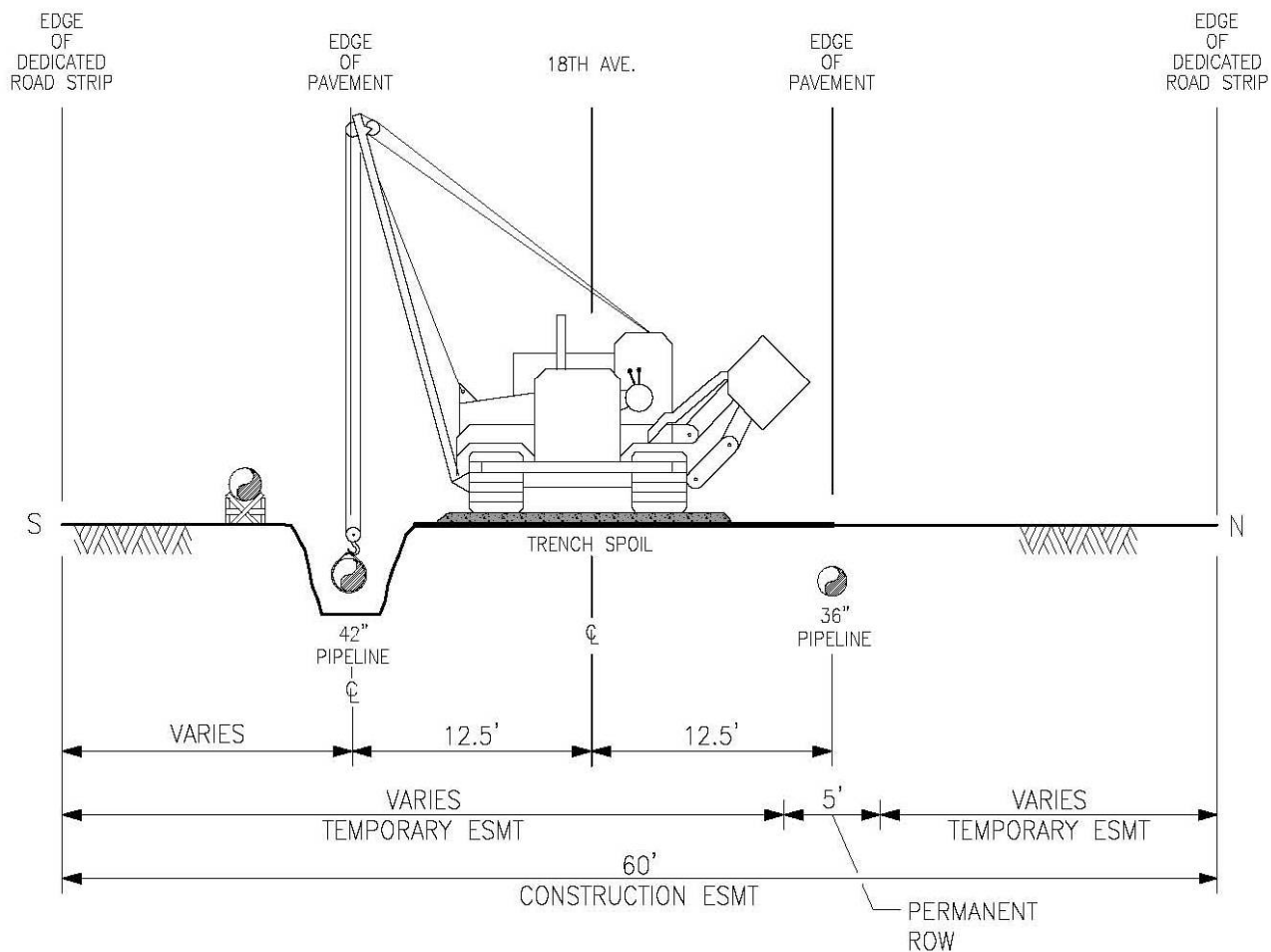
LOOKING SOUTH
M.P. 0.5 TO M.P. 2.3

NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-1
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
B-Line – Adjacent to Canal



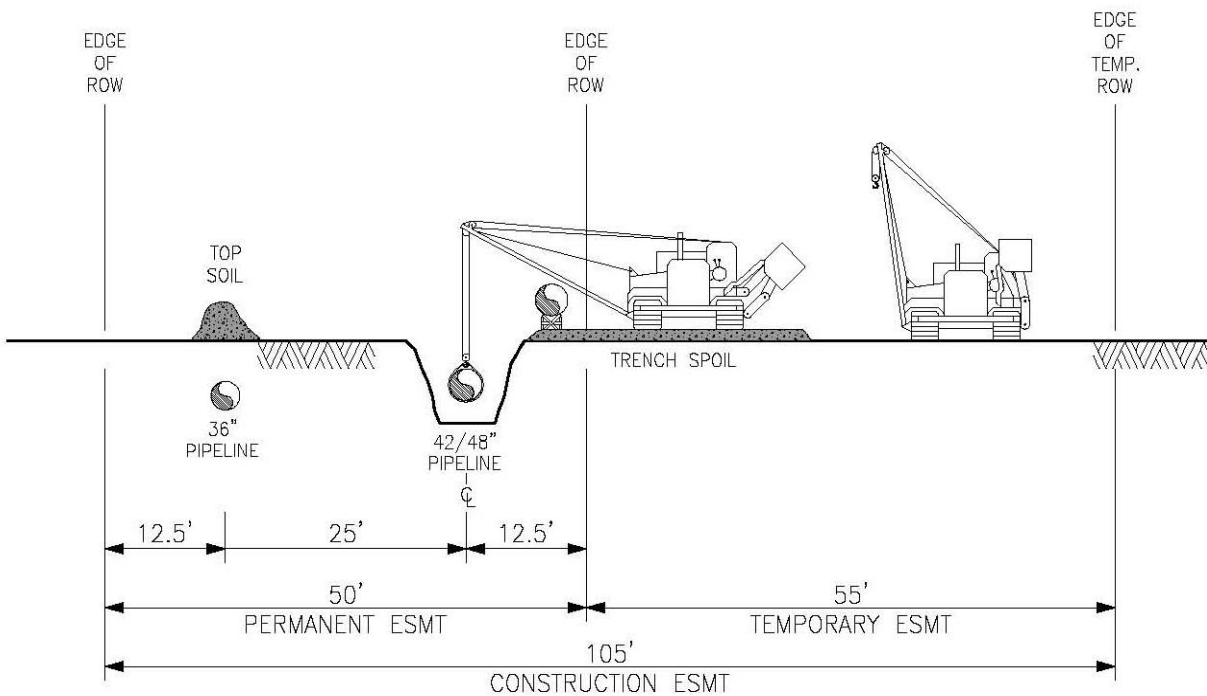
LOOKING WEST
M.P. 2.9 TO M.P. 10.5

NOTE:

NOMINAL 60' CONSTRUCTION RIGHT-OF-WAY TO BE CONFINED TO THE TRAVELED WAY AND SHOULDERS EXCEPT AT ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

Figure C-1
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
B-Line – 18th Avenue

Public



42" - M.P. 2.3 TO M.P. 2.9 (LOOKING WEST)
 42" - M.P. 10.5 TO M.P. 11.7 (LOOKING EAST)
 48" - M.P. 11.7 TO M.P. 12.1 (LOOKING EAST)
 48" - M.P. 22.3 TO M.P. 79.7 (LOOKING SOUTHERLY)

NOTE:

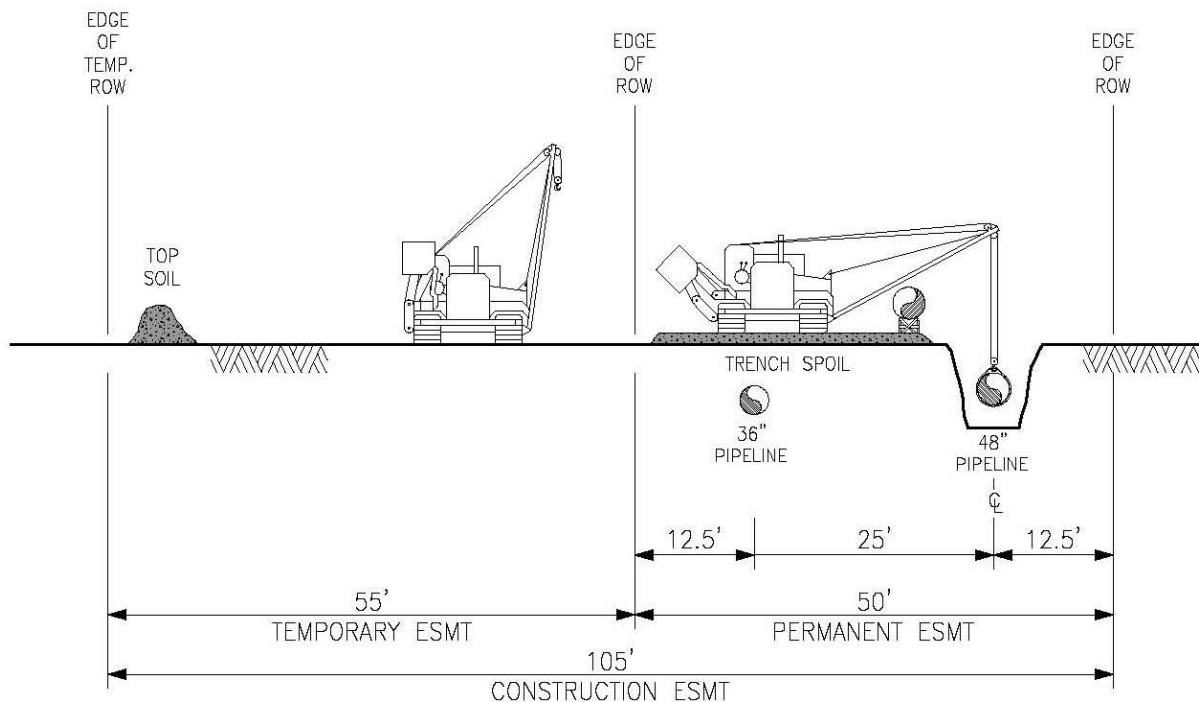
CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

THE CONSTRUCTION RIGHT-OF-WAY IS TO BE NARROWED AT DRY WASH WOODLAND CROSSINGS (SEE RESOURCE REPORT 3).

Figure C-1
North Baja Pipeline Expansion Project
 Typical Right-of-Way Cross Sections
 B-Line – Cross Country Type I

Public



48" - M.P. 12.1 TO M.P. 22.3 (LOOKING SOUTHERLY)

NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

THE CONSTRUCTION RIGHT-OF-WAY IS TO BE NARROWED AT DRY WASH WOODLAND CROSSINGS (SEE RESOURCE REPORT 3).

Figure C-1
North Baja Pipeline Expansion Project
 Typical Right-of-Way Cross Sections
 B-Line – Cross Country Type II

Public

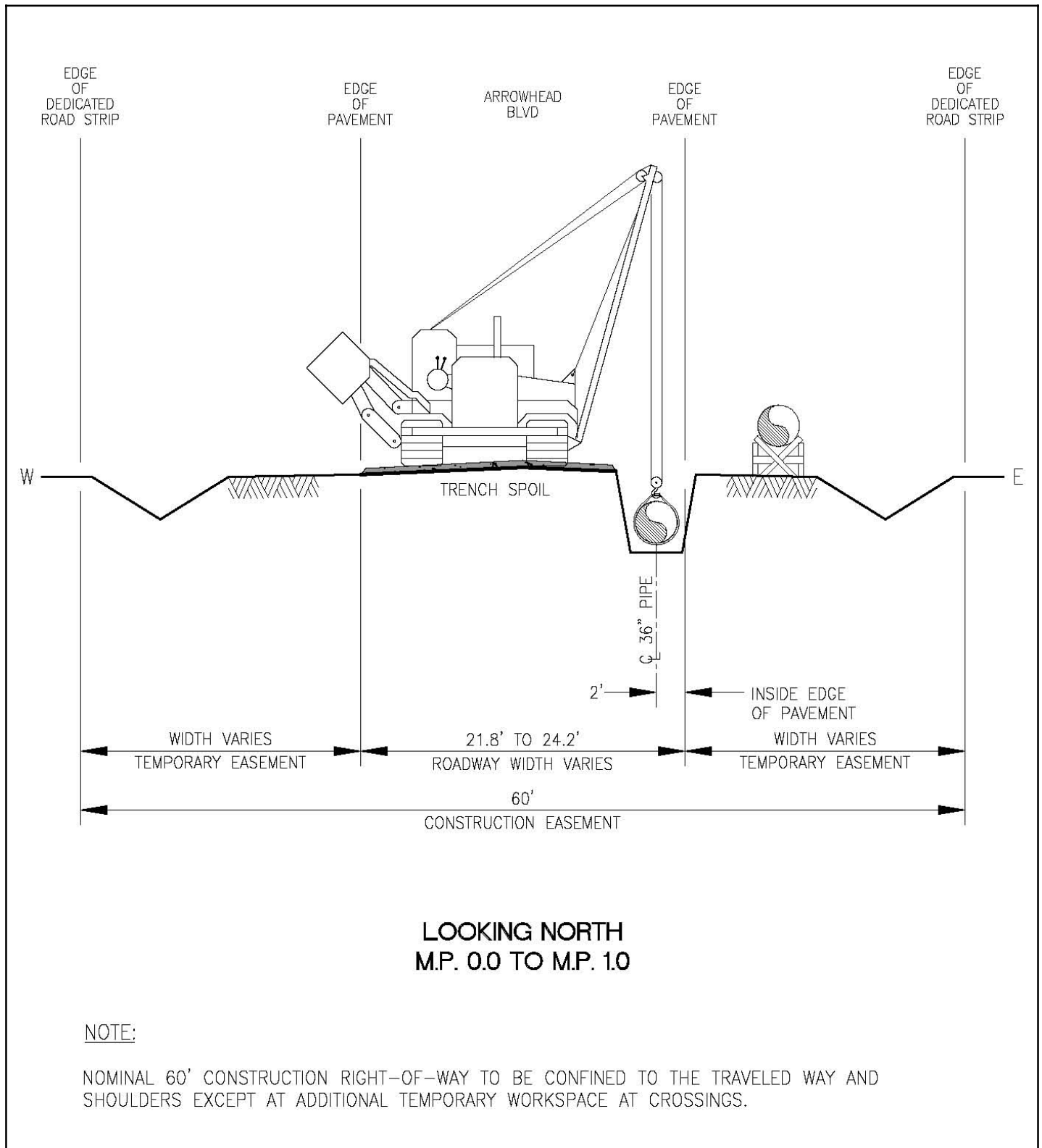
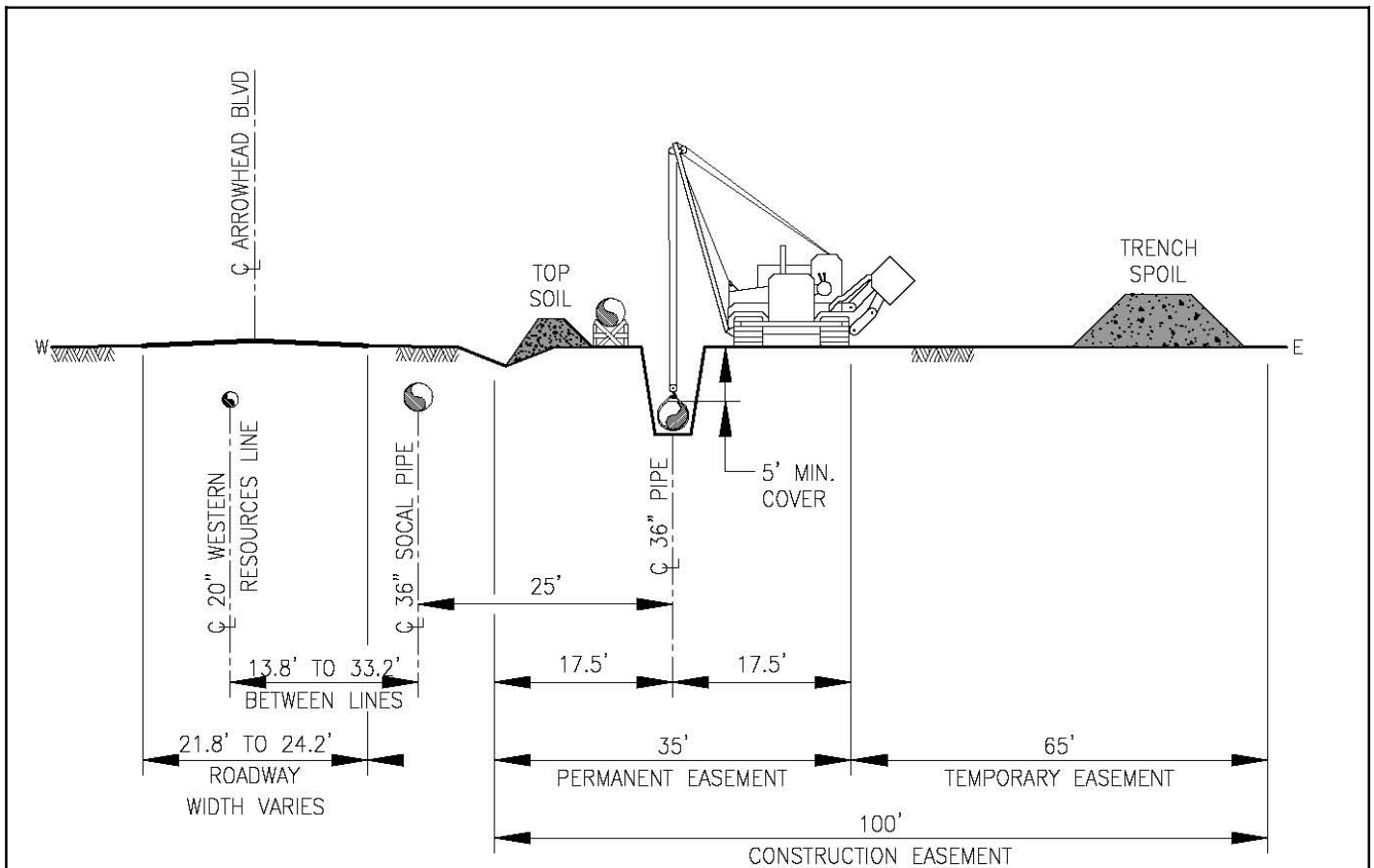


Figure C-2
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
Arrowhead Extension

Public



LOOKING NORTH
M.P. 1.0 TO M.P. 1.5

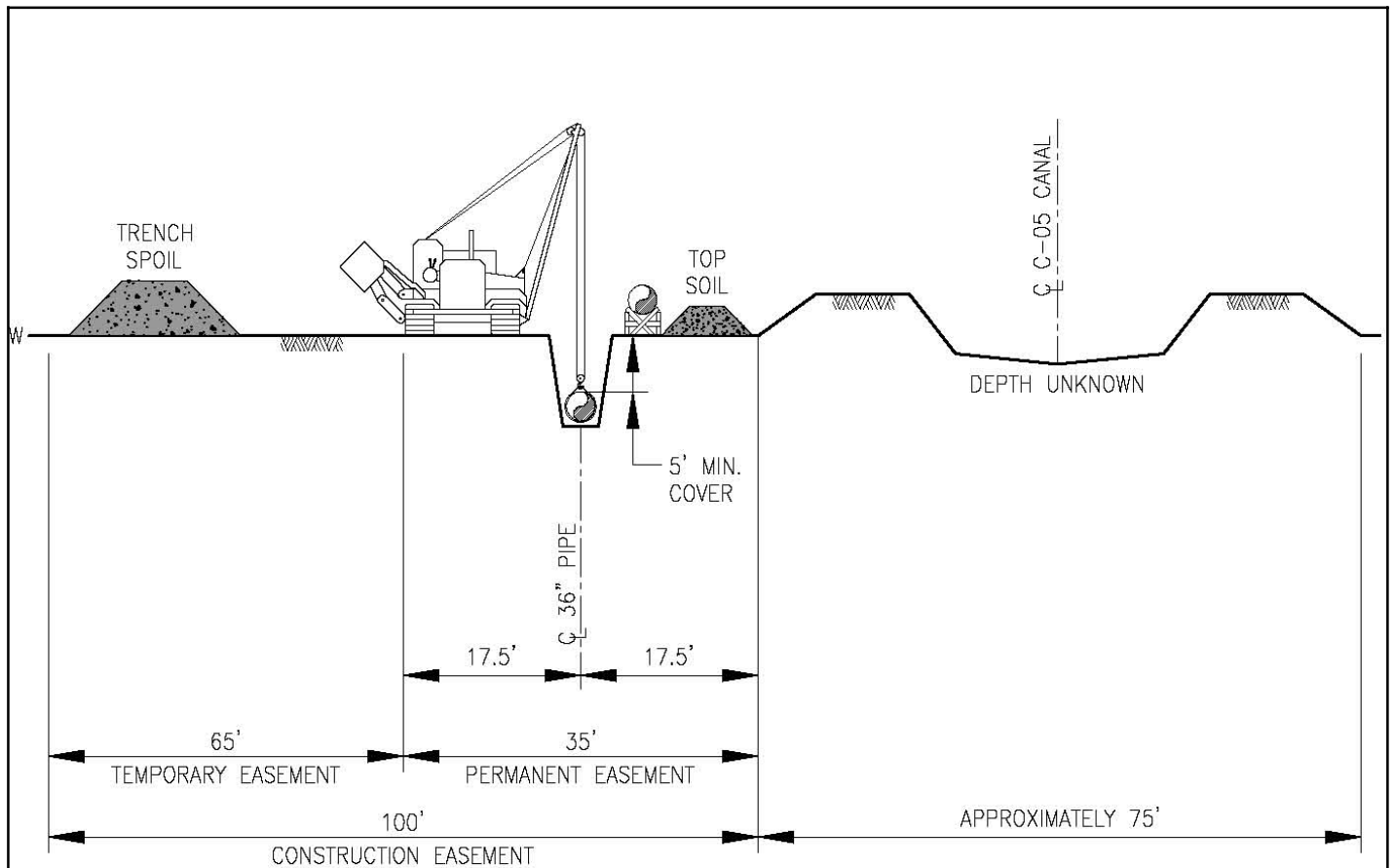
NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-2
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
Arrowhead Extension

Public



LOOKING NORTH
M.P. 1.5 TO M.P. 2.0

NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-2
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
Arrowhead Extension

Public

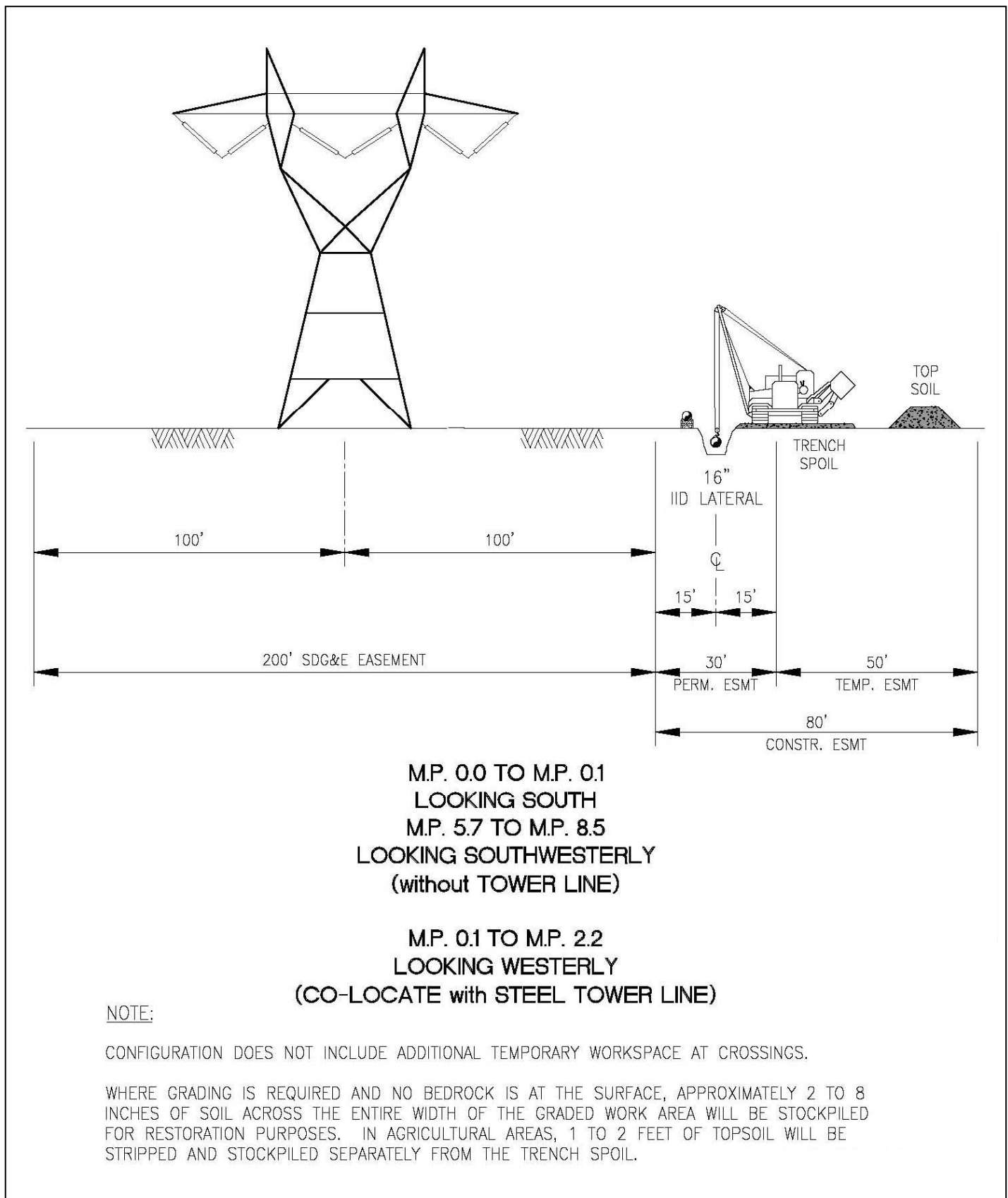
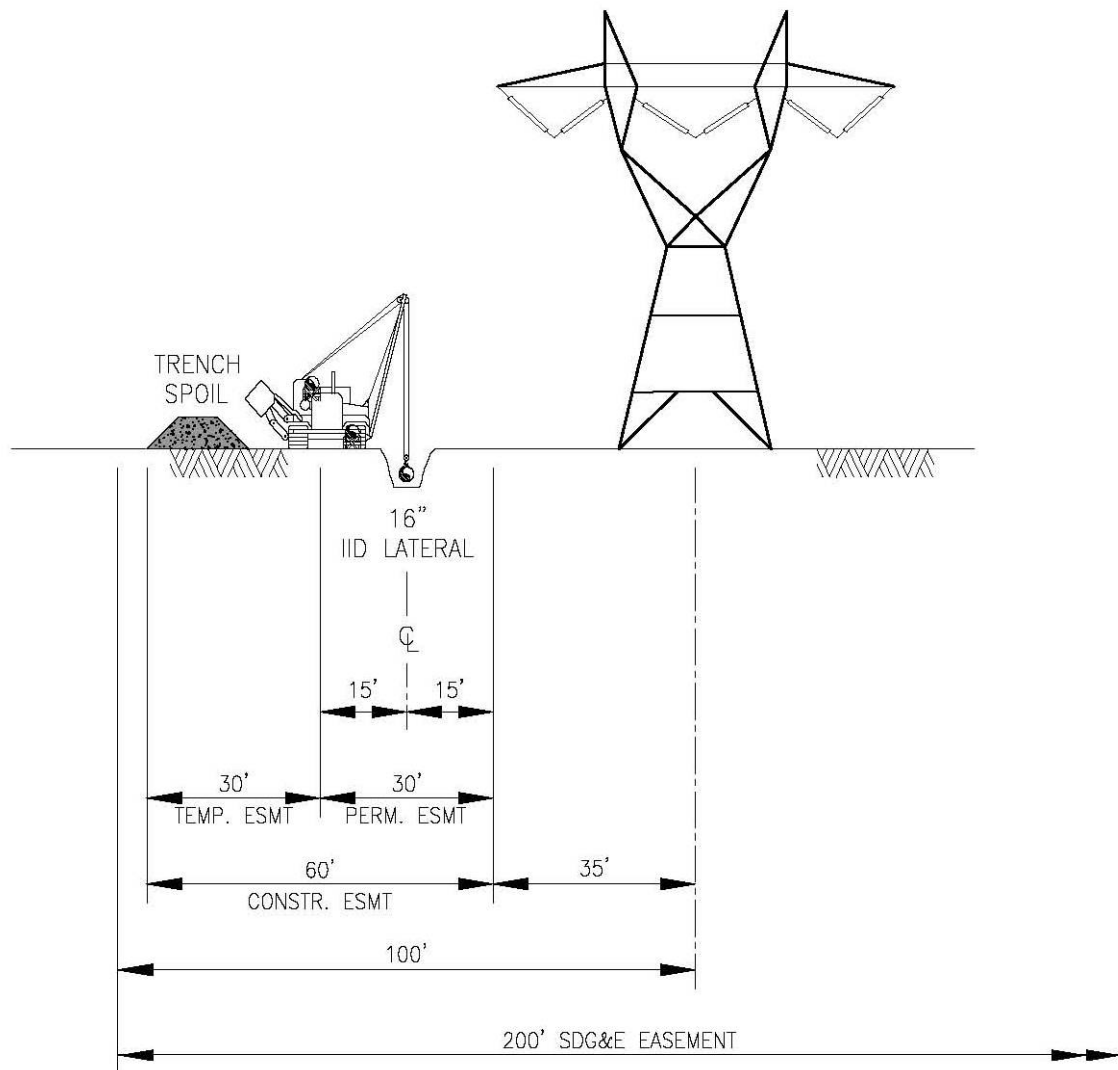


Figure C-3
North Baja Pipeline Expansion Project
 Typical Right-of-Way Cross Sections
 IID Lateral – MPs 0.0 to 8.5

Public



M.P. 4.4 TO M.P. 4.8
LOOKING WESTERLY

M.P. 4.8 TO M.P. 5.1
LOOKING WESTERLY
(TRANSITIONING UNDER POWER LINES)

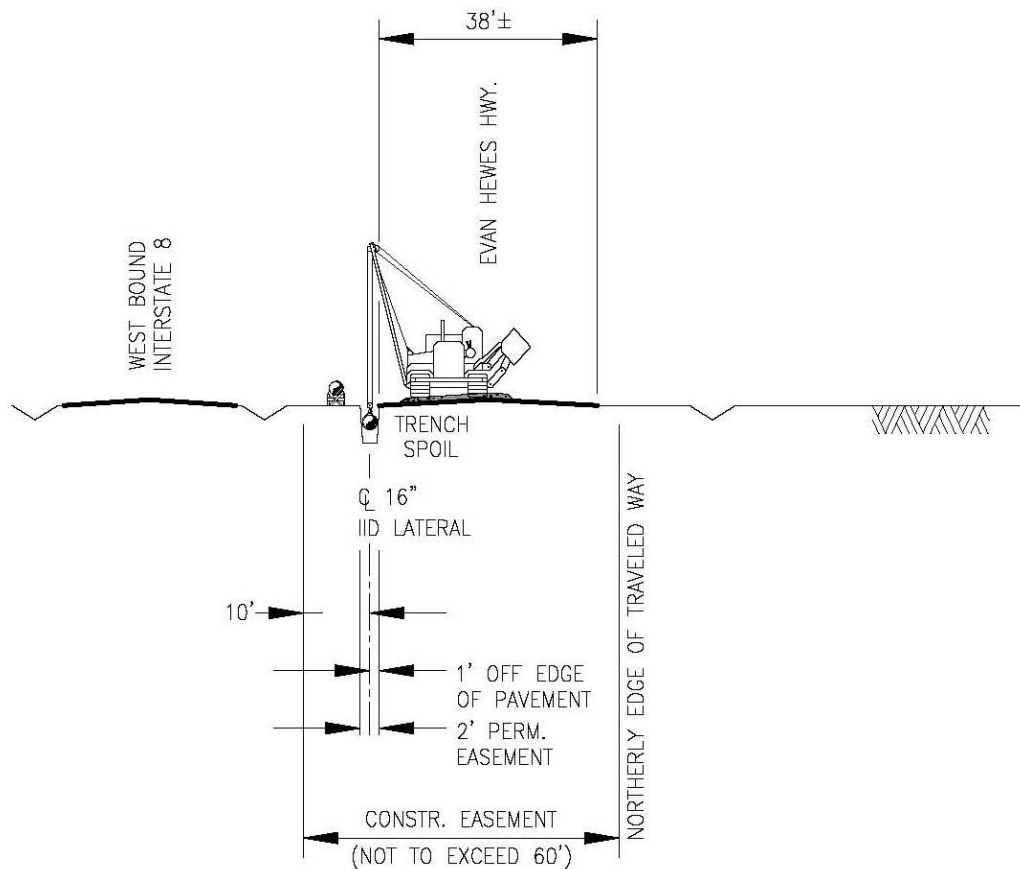
NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-3
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
IID Lateral – MPs 4.4 to 5.1

Public



M.P. 8.5 TO M.P. 13.6
LOOKING WESTERLY

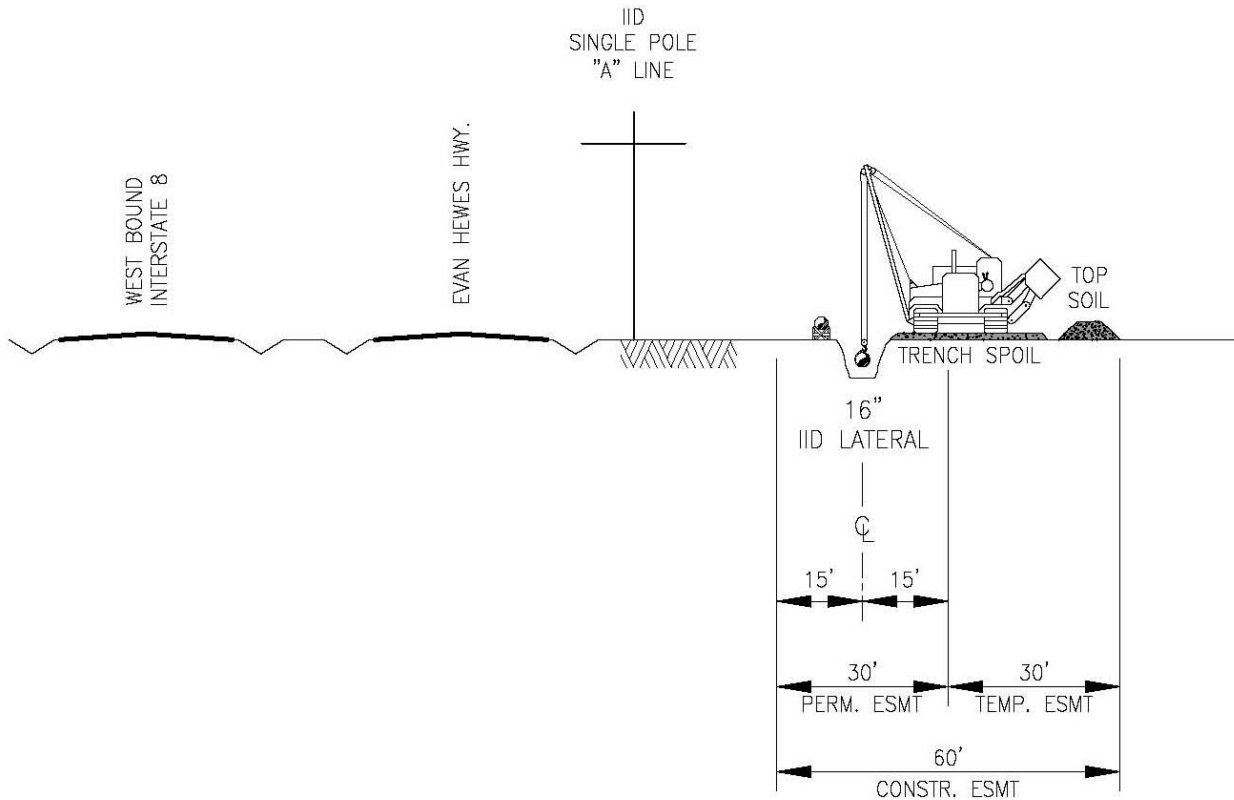
M.P. 26.0 TO M.P. 27.1
LOOKING WESTERLY

NOTE:

NOMINAL 60' CONSTRUCTION RIGHT-OF-WAY TO BE CONFINED TO THE TRAVELED WAY AND SHOULDERS EXCEPT AT ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

Figure C-3
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
IID Lateral – MPs 8.5 to 27.1

Public



CO-LOCATE WITH IID POWER LINES

**M.P. 13.6 TO M.P. 16.2
LOOKING WESTERLY**

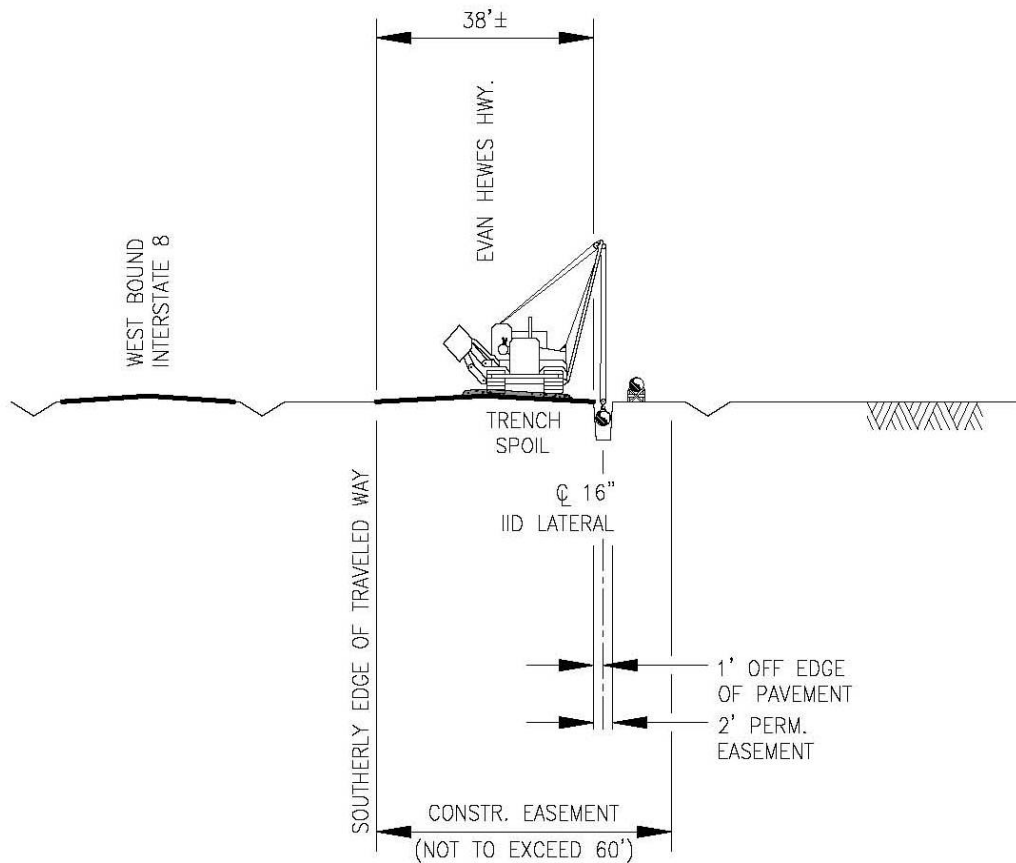
(BROCK RESEARCH CENTER TO HWY. 98 TAKEOFF)

NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-3
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
IID Lateral – MPs 13.6 to 16.2



CO-LOCATE WITH EVAN HEWES HWY.

M.P. 16.2 TO M.P. 26.0
LOOKING WESTERLY

(HWY. 98 TAKEOFF TO EAST HIGHLINE CANAL)

NOTE:

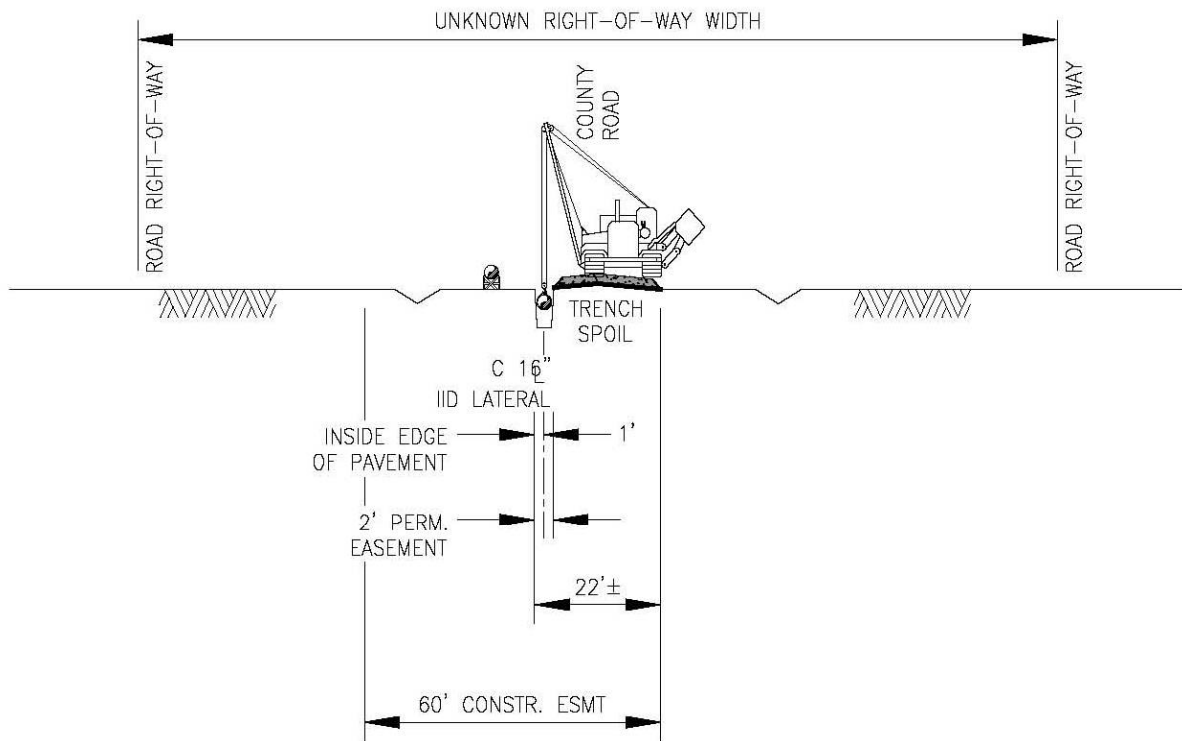
CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-3
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
IID Lateral – MPs 16.2 to 26.0

Filed: Date: 06/08/2007

Public



PIPELINE IN ROAD R.O.W./OFF PAVEMENT.

M.P. 34.9 TO M.P. 35.9
M.P. 39.7 TO M.P. 40.4
LOOKING WEST

M.P. 42.1 TO M.P. 42.9
LOOKING NORTH

M.P. 42.9 TO M.P. 43.4
LOOKING WESTERLY

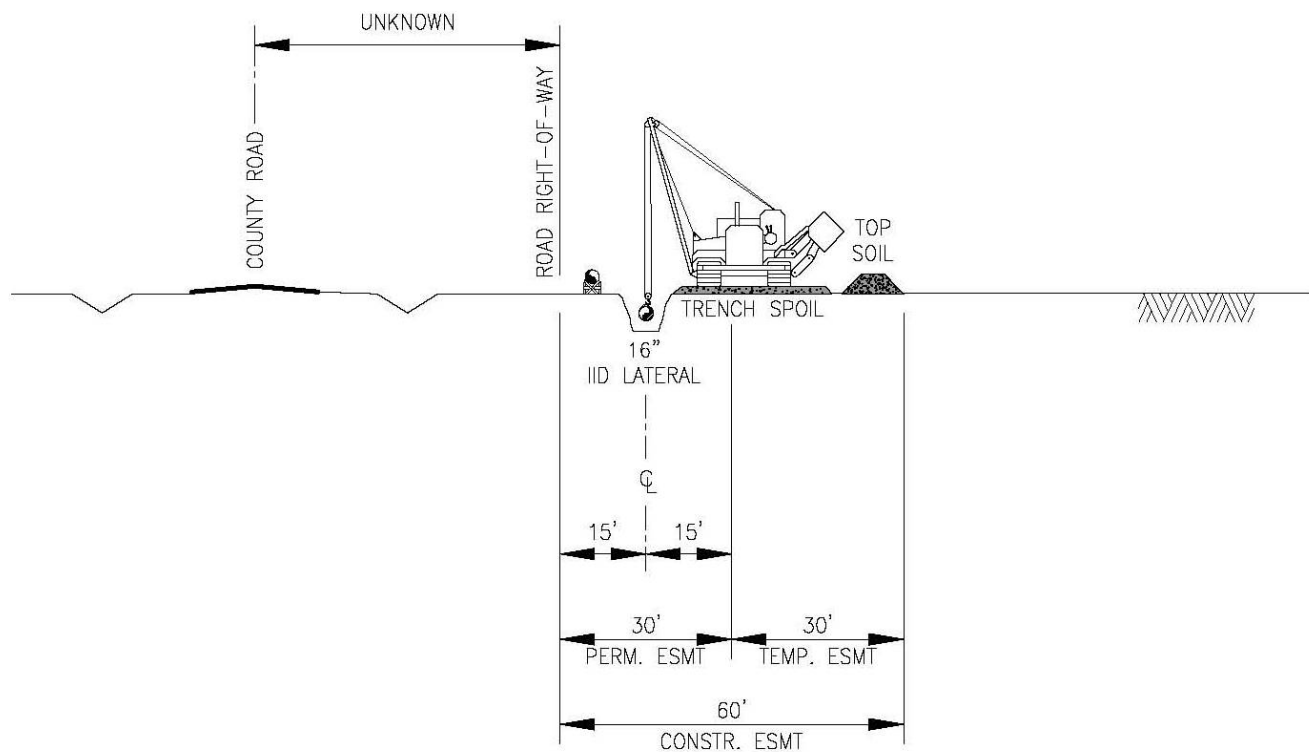
NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-3
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
IID Lateral – MPs 34.9 to 43.4

Public



PIPELINE IN PRIVATE R.O.W.

**M.P. 33.9 TO M.P. 34.5
LOOKING WEST**

**M.P. 38.9 TO M.P. 39.7
LOOKING NORTH**

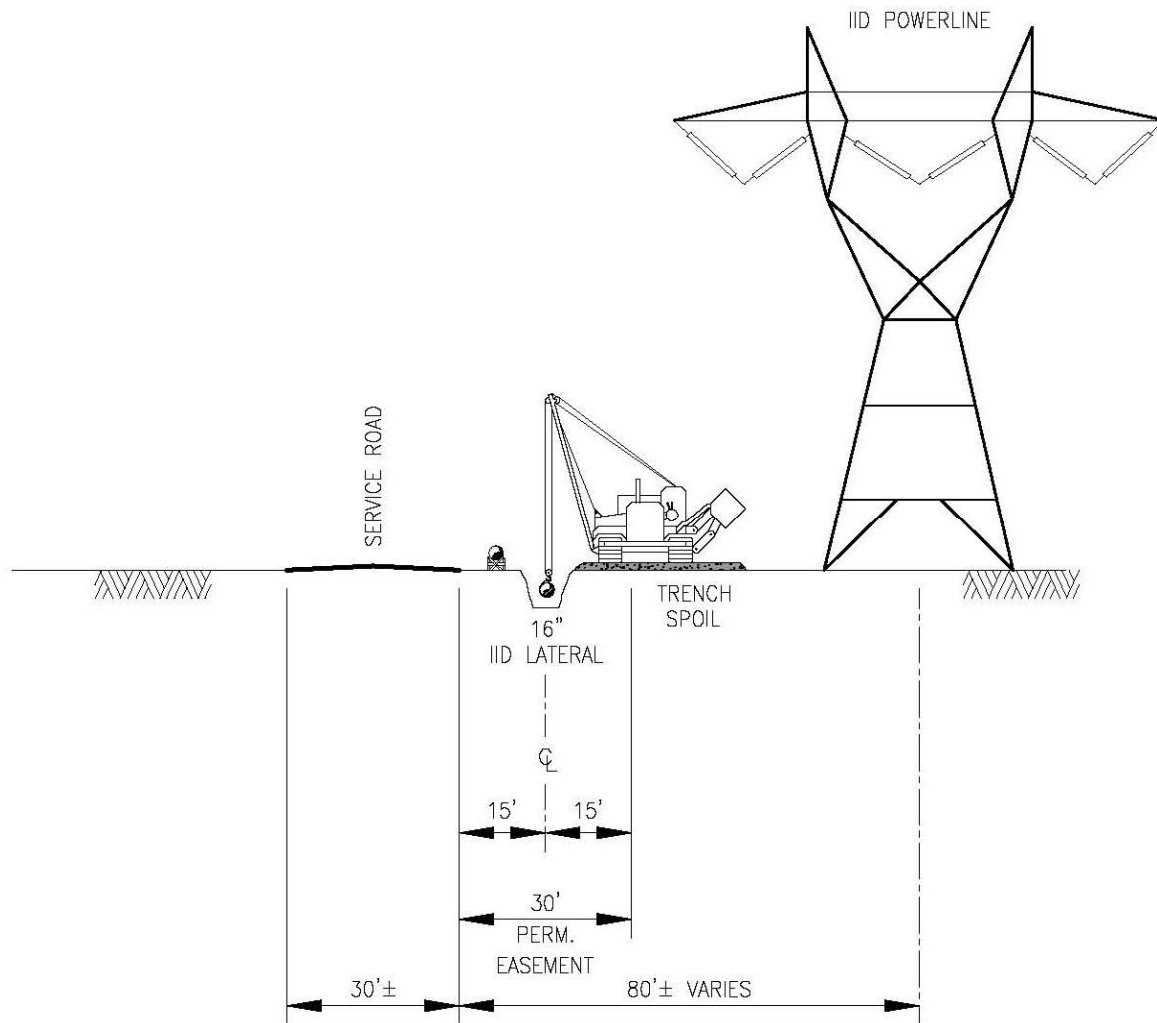
NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-3
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
IID Lateral – MPs 33.9 to 39.7

Public



CO-LOCATE WITH STEEL TOWER POWER LINE AND STREET

M.P. 43.4 TO M.P. 43.6
LOOKING NORTH

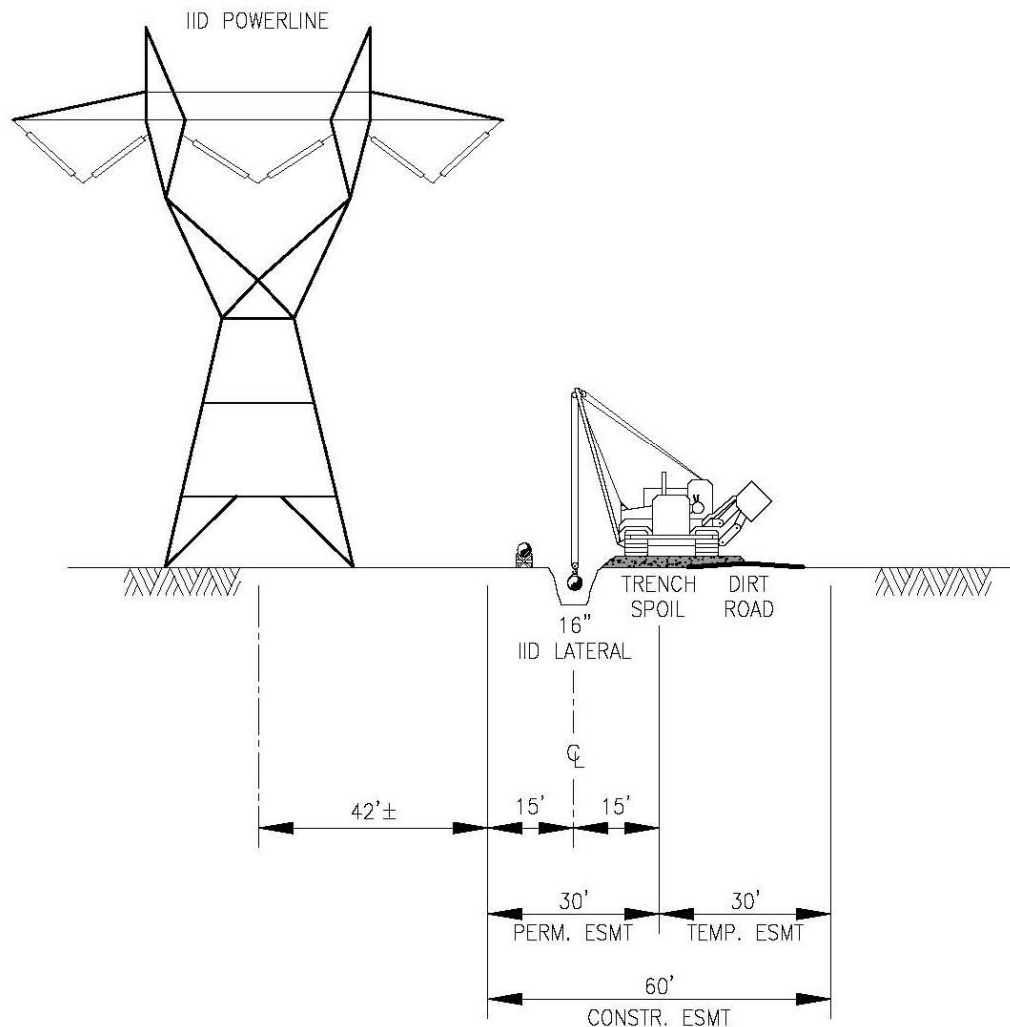
NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-3
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
IID Lateral – MPs 43.4 to 43.6

Public



CO-LOCATE WITH STEEL TOWER POWER LINE AND PROPERTY LINE

M.P. 43.6 TO M.P. 44.1
LOOKING WEST

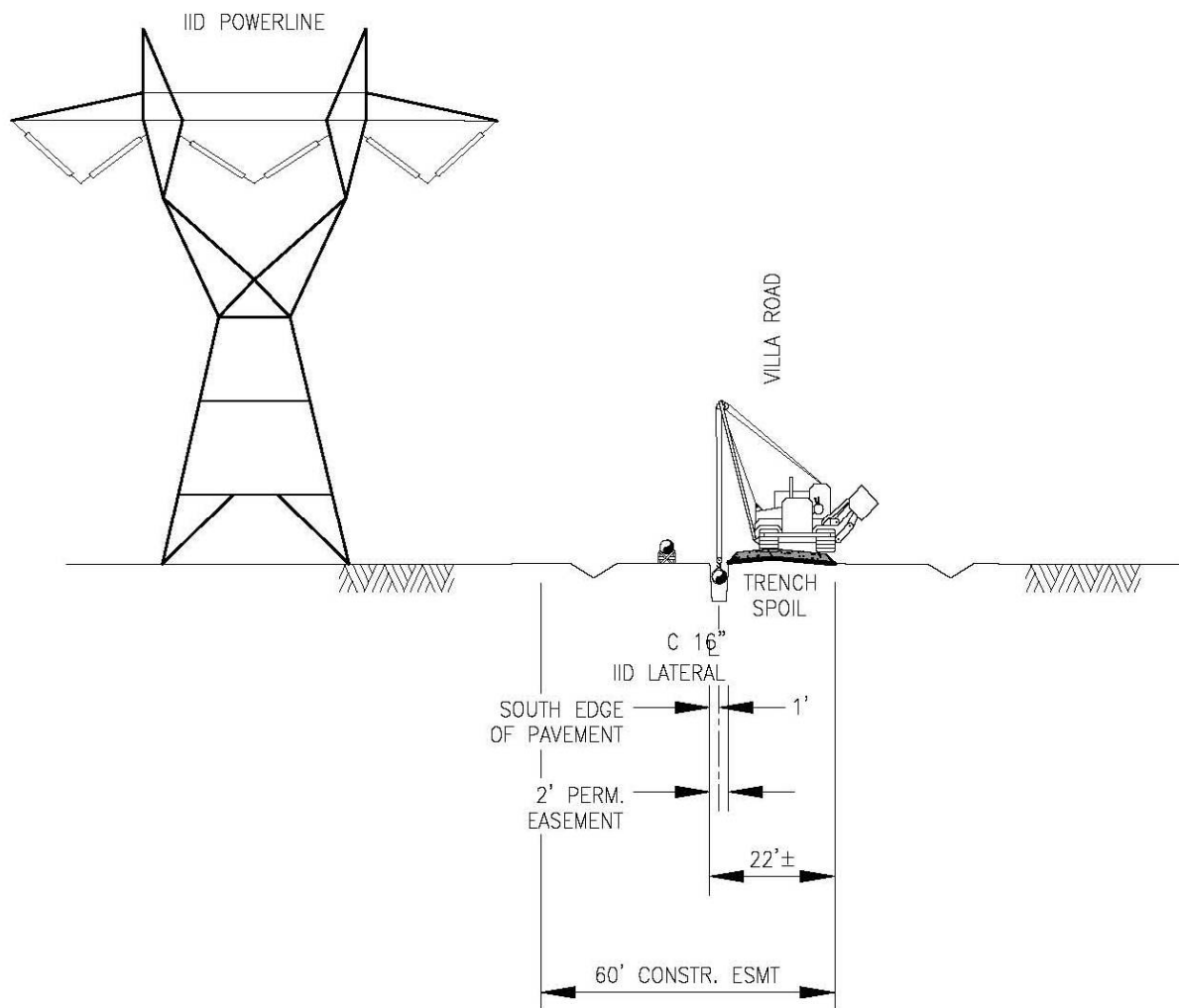
NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-3
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
IID Lateral – MPs 43.6 to 44.1

Public



CO-LOCATE WITH STEEL TOWER POWER LINE AND STREET

M.P. 44.1 TO M.P. 45.6
LOOKING WEST

NOTE:

CONFIGURATION DOES NOT INCLUDE ADDITIONAL TEMPORARY WORKSPACE AT CROSSINGS.

WHERE GRADING IS REQUIRED AND NO BEDROCK IS AT THE SURFACE, APPROXIMATELY 2 TO 8 INCHES OF SOIL ACROSS THE ENTIRE WIDTH OF THE GRADED WORK AREA WILL BE STOCKPILED FOR RESTORATION PURPOSES. IN AGRICULTURAL AREAS, 1 TO 2 FEET OF TOPSOIL WILL BE STRIPPED AND STOCKPILED SEPARATELY FROM THE TRENCH SPOIL.

Figure C-3
North Baja Pipeline Expansion Project
Typical Right-of-Way Cross Sections
IID Lateral – MPs 44.1 to 45.6

APPENDIX D

TEMPORARY EXTRA WORKSPACES AND ACCESS ROADS ASSOCIATED WITH THE NORTH BAJA PIPELINE EXPANSION PROJECT

TABLE D-1

Temporary Extra Workspaces Associated with the North Baja Pipeline Expansion Project

County, State	Milepost	Description	Dimensions (feet)			Acres	Acres of New Disturbance
B-Line							
La Paz, Arizona							
	0.0	Colorado River Pullback - East Side (AZ)	200	x	2,575	11.8	1.5
		Subtotal				11.8	1.5
Riverside, California							
	0.4	Colorado River - West Side (CA)	50	x	241	0.3	0.1
	1.1	East	25	x	400	0.2	0.2
	1.3	East	25	x	800	0.5	0.5
	1.3	D-10-13-42E Canal - East & North	50	x	200	0.2	0.1
	1.3	D-10-13-42E Canal - East & South	50	x	200	0.2	0.1
	1.3	East	25	x	1,590	0.9	0.9
	1.6	East	15	x	260	0.1	0.1
	1.7	D-10-13-45E Canal - East & North	50	x	200	0.2	0.1
	1.7	D-10-13-45E Canal - East & South	50	x	200	0.2	0.1
	1.7	East	15	x	600	0.2	0.2
	1.9	D-10-13-47E Canal - East & North	50	x	200	0.2	0.1
	1.9	D-10-13-47E Canal - East & South	50	x	200	0.2	0.1
	1.9	East	15	x	400	0.1	0.1
	2.2	D-10-13-49E Canal - East & North	50	x	200	0.2	0.1
	2.2	D-10-13-49E Canal - East & South	50	x	200	0.2	0.1
	2.2	East	15	x	200	0.1	0.1
	2.3	D-10-13 (F) Canal - East & South	100	x	200	0.5	0.1
	2.3	D-10-13 (F) Canal - West & North	50	x	200	0.2	0.1
	2.3	D-10-13 (F) Canal - West & South (Triangular)	66	x	317	0.5	0.2
	2.3	West	15	x	1,600	0.6	0.6
	2.7	D-10-11-2N Canal - East & North	50	x	200	0.2	0.1
	2.7	D-10-11-2N Canal - West & North	50	x	200	0.2	0.1
	2.7	North	15	x	900	0.3	0.3
	2.9	D-10 Canal - East & North	75	x	200	0.3	0.1
	3.2	East Side Drain - East & North	75	x	200	0.3	0.1
	3.2	East Side Drain - West & South	75	x	200	0.3	0.1
	3.4	Intake Blvd./Goodman Drain - East & South	75	x	200	0.3	0.1
	3.4	Intake Blvd./Goodman Drain - West & South	75	x	200	0.3	0.1
	3.6	D-Siphon-89 Canal - East & South	75	x	200	0.3	0.1
	3.6	D-Siphon-89 Canal - West & North	75	x	200	0.3	0.1
	3.9	Private Canal (Jones Rd.) - East & South	75	x	200	0.3	0.1
	3.9	Private Canal (Jones Rd.) - West & North	75	x	200	0.3	0.1
	4.4	D-19 Canal/C&D Blvd. - East & North	75	x	200	0.3	0.1
	4.4	D-19 Canal/C&D Blvd. - West & North	65	x	45	0.1	0.0
	4.4	D-19 Canal/C&D Blvd. - West & North	40	x	105	0.1	0.1
	4.4	D-19 Canal/C&D Blvd. - East & South	75	x	200	0.3	0.1
	4.4	D-19 Canal/C&D Blvd. - East & South	20	x	20	0.0	0.0
	4.7	D-19-4N Canal - West & North	75	x	200	0.3	0.1
	4.9	South Broadway - East & North	75	x	200	0.3	0.1
	4.9	South Broadway - West & North	75	x	200	0.3	0.1
	4.9	South Broadway - East & South	75	x	200	0.3	0.1

TABLE D-1 (cont'd)

Temporary Extra Workspaces Associated with the North Baja Pipeline Expansion Project

County, State	Milepost	Description	Dimensions (feet)			Acres	Acres of New Disturbance
	4.9	South Broadway - East & South	30	x	30	0.0	0.0
	5.2	Lovekin Drain - East & South	75	x	150	0.3	0.1
	5.2	Lovekin Drain - West & North	75	x	150	0.3	0.1
	5.4	AZ & CA RR/Lovekin Blvd. - East & North	75	x	150	0.3	0.1
	5.4	AZ & CA RR/Lovekin Blvd. - Center & North	75	x	198	0.3	0.1
	5.4	AZ & CA RR/Lovekin Blvd. - West & South	50	x	120	0.1	0.1
	5.4	AZ & CA RR/Lovekin Blvd. - West & South	10	x	140	0.0	0.0
	5.9	C-Siphon-56 Canal - East & South	75	x	200	0.3	0.1
	5.9	C-Siphon-56 Canal - West & South	75	x	200	0.3	0.1
	6.4	De Frain Blvd. - East & South	75	x	200	0.3	0.1
	6.4	De Frain Blvd. - West & North	75	x	150	0.3	0.1
	6.9	Central Drain - East & North	75	x	200	0.3	0.1
	6.9	Central Drain - West & North	75	x	200	0.3	0.1
	7.4	Arrowhead Blvd. - East & North	75	x	150	0.3	0.1
	7.4	Arrowhead Blvd. - West & South	75	x	150	0.3	0.1
	7.9	C-05 Canal - East & South	200	x	150	0.7	0.1
	7.9	C-05 Canal - West & South	75	x	200	0.3	0.1
	8.2	Private Concrete Culvert - East & South	75	x	200	0.3	0.1
	8.2	Private Concrete Culvert - West & South	75	x	200	0.3	0.1
	8.4	State Hwy. 78 (Neighbors Rd.) - East & South	75	x	200	0.3	0.1
	8.4	State Hwy. 78 (Neighbors Rd.) - West & South	75	x	200	0.3	0.1
	8.9	West Side Drain - East & South	75	x	150	0.3	0.1
	8.9	West Side Drain - West & South	75	x	150	0.3	0.1
	9.5	Stephenson Blvd./C-03 Canal - East & South	100	x	200	0.5	0.1
	9.5	Stephenson Blvd./C-03 Canal - Center & North	50	x	177	0.2	0.1
	9.5	Stephenson Blvd./C-03 Canal - Center & South	100	x	150	0.3	0.1
	9.9	C-03-64N Canal - East & North	75	x	200	0.3	0.1
	9.9	C-03-64N Canal - West & South	75	x	200	0.3	0.1
	10.3	C-03-16-3N Canal - East & North	150	x	100	0.3	0.1
	10.5	Keim Blvd./C-03-16 Canal - West & South	50	x	200	0.2	0.1
	10.7	C-03-16-6S Canal - East & South	50	x	200	0.2	0.1
	10.7	C-03-16-6S Canal - West & South	75	x	200	0.3	0.1
	11.0	C-03-16-1 & C-03-16-8W Canal - East & South	75	x	200	0.3	0.1
	11.0	C-03-16-1 & C-03-16-8W Canal - West & North	200	x	75	0.3	0.0
	11.2	Private Concrete Canal - East & South	75	x	200	0.3	0.1
	11.2	Private Concrete Canal - West & South	50	x	200	0.2	0.1
	11.5	Rannells Drain - East & North	110	x	550	1.4	0.3
	11.5	Rannells Drain - East & South	110	x	550	1.4	0.3
	11.5	Rannells Drain/Private Canal - West & North	110	x	516	1.3	0.3
	11.5	Rannells Drain/Private Canal - West & South	110	x	550	1.4	0.3
	11.6	Rannells Trap Site - East & North	50	x	385	0.4	0.2
	11.6	Rannells Trap Site - South	25	x	730	0.4	0.4
	11.7	Rannells Trap Site - West & North	25	x	255	0.1	0.1
	16.9	Adjacent to T-Line	50	x	400	0.5	0.2
	17.1	Adjacent to T-Line	50	x	200	0.2	0.1
	17.8	Adjacent to T-Line	50	x	200	0.2	0.1
	17.9	Adjacent to T-Line	50	x	200	0.2	0.1
	20.1	Adjacent to T-Line	50	x	500	0.6	0.3

TABLE D-1 (cont'd)

Temporary Extra Workspaces Associated with the North Baja Pipeline Expansion Project							
County, State	Milepost	Description	Dimensions (feet)			Acres	Acres of New Disturbance
	20.2	Adjacent to T-Line	50	x	200	0.2	0.1
	22.5	Adjacent to T-Line	50	x	401	0.5	0.2
	22.5	Adjacent to T-Line	50	x	358	0.4	0.2
		Subtotal				32.2	13.4
Imperial, California							
	24.4	Unnamed Wash - North & West	50	x	100	0.1	0.1
	24.4	Unnamed Wash - South & West	50	x	100	0.1	0.1
	24.8	East and West of centerline	60	x	500	0.7	0.3
	24.9	Helms Wash - North & West	50	x	100	0.1	0.1
	24.9	Helms Wash - South & West	50	x	100	0.1	0.1
	28.1	East	50	x	200	0.2	0.1
	28.1	West	50	x	200	0.2	0.1
	28.2	State Hwy. 78 - North & West	50	x	150	0.2	0.1
	28.2	State Hwy. 78 - North & East	50	x	200	0.2	0.1
	28.2	State Hwy. 78 - South & West	50	x	200	0.2	0.1
	28.2	State Hwy. 78 - South & East	50	x	150	0.2	0.1
	28.4	East of SR 78 & West of Pipeline	50	x	1,400	1.6	0.8
	29.2	East of SR 78 & West of Pipeline	50	x	250	0.3	0.1
	29.3	East of SR 78 & West of Pipeline	50	x	200	0.2	0.1
	31.8A	East of SR 78 & Pipeline	75	x	876	1.5	0.5
	32.0A	East of SR 78 & West of Pipeline	50	x	660	0.8	0.4
	32.6	East of SR 78 & West of Pipeline	50	x	1,100	1.3	0.6
	35.1	South of SR 78	50	x	1,660	1.9	1.0
	35.0	North of SR 78	50	x	200	0.2	0.1
	35.4	South of SR 78	50	x	2,740	3.1	1.6
	35.8	North of SR 78	50	x	200	0.2	0.1
	36.1	North of SR 78	100	x	200	0.5	0.1
	36.3	South of SR 78	100	x	300	0.7	0.2
	36.5	South of SR 78	50	x	600	0.7	0.3
	37.2	North of SR 78	50	x	700	0.8	0.4
	37.2	South of SR 78	50	x	700	0.8	0.4
	37.9	South of SR 78	50	x	3,800	4.4	2.2
	38.6	North of SR 78	100	x	200	0.5	0.1
	39.2	North of SR 78	50	x	2,400	2.8	1.4
	39.7	North of SR 78	50	x	200	0.2	0.1
	39.7	South of SR 78	50	x	200	0.2	0.1
	39.9	North of SR 78	50	x	600	0.7	0.3
	39.9	South of SR 78	50	x	600	0.7	0.3
	40.5	North of SR 78	100	x	200	0.5	0.1
	40.6	North of SR 78	50	x	400	0.5	0.2
	40.6	South of SR 78	50	x	400	0.5	0.2
	41.2	East of SR 78 & West of Pipeline	50	x	400	0.5	0.2
	41.2	East of SR 78 & East of Pipeline	50	x	400	0.5	0.2
	41.4	East of SR 78 & West of Pipeline	50	x	200	0.2	0.1
	41.4	East of SR 78 & East of Pipeline	50	x	200	0.2	0.1
	41.6	SR 78	30	x	120	0.1	0.1
	42.1	East of SR 78 & West of Pipeline	100	x	200	0.5	0.1
	42.2	East of SR 78 & East of Pipeline	95	x	244	0.5	0.1

TABLE D-1 (cont'd)

Temporary Extra Workspaces Associated with the North Baja Pipeline Expansion Project

County, State	Milepost	Description	Dimensions (feet)			Acres	Acres of New Disturbance
	42.3	East of SR 78 & West of Pipeline	50	x	400	0.5	0.2
	42.3	East of SR 78 & East of Pipeline	50	x	400	0.5	0.2
	42.7	East of SR 78 & West of Pipeline	100	x	200	0.5	0.1
	43.3	East of SR 78 & West of Pipeline	100	x	200	0.5	0.1
	43.5	East of SR 78 & West of Pipeline	50	x	200	0.2	0.1
	43.5	East of SR 78 & East of Pipeline	50	x	200	0.2	0.1
	43.6	East of SR 78 & West of Pipeline	50	x	300	0.3	0.2
	43.6	East of SR 78 & East of Pipeline	50	x	300	0.3	0.2
	44.5	East of SR 78 & East of Pipeline	50	x	400	0.5	0.2
	44.5		40	x	530	0.5	0.3
	44.6	East of SR 78 & West of Pipeline	100	x	200	0.5	0.1
	44.9		40	x	110	0.1	0.1
	44.9	East of SR 78 & West of Pipeline	100	x	200	0.5	0.1
	45.0		50	x	640	0.7	0.4
	45.2	East of SR 78 & West of Pipeline	50	x	250	0.3	0.1
	46.3	East of SR 78 & East of Pipeline	50	x	400	0.5	0.2
	46.3	East of SR 78 & West of Pipeline	50	x	400	0.5	0.2
	46.9	East of SR 78 & East of Pipeline	50	x	430	0.5	0.2
	47.1	East of SR 78 & West of Pipeline	50	x	200	0.2	0.1
	47.1	East of SR 78 & East of Pipeline	50	x	200	0.2	0.1
	47.1	East of SR 78 & East of Pipeline	30	x	320	0.2	0.2
	50.2	East of SR 78 & West of Pipeline	50	x	300	0.3	0.2
	50.4	East of SR 78 & West of Pipeline	50	x	500	0.6	0.3
	52.2	East of SR 78 & West of Pipeline	50	x	2,476	2.8	1.4
	53.0	East of SR 78 & West of Pipeline	50	x	500	0.6	0.3
	53.2	East of SR 78 & West of Pipeline	50	x	250	0.3	0.1
	55.0	Ogilby Road (County Rd. S-34) - North & East	50	x	150	0.2	0.1
	55.0	Ogilby Road (County Rd. S-34) - South & East	50	x	41	0.0	0.0
	55.0	Ogilby Road (County Rd. S-34) - South & West	50	x	316	0.4	0.2
	55.6	Ogilby Road (County Rd. S-34)	25	x	1,500	0.9	0.9
	55.6	Ogilby Road (County Rd. S-34)	25	x	1,500	0.9	0.9
	60.3	Ogilby Road and MLV	50	x	200	0.2	0.1
	60.3	Ogilby Road and MLV	50	x	200	0.2	0.1
	61.6	Walker Way Road	50	x	1,300	1.5	0.7
	62.8	Walker Way Road	50	x	9,348	10.7	5.4
	64.6	Walker Way Road	50	x	7,547	8.7	4.3
	66.5	Gold Rock Ranch Rd. - North & West	50	x	150	0.2	0.1
	66.5	Gold Rock Ranch Rd. - South & West	50	x	150	0.2	0.1
	69.7	Ogilby Road (Co. Rd. S-34) at Amer. Girl Wash	50	x	1,000	1.1	0.6
	71.2	Union Pacific Railroad - North & West	50	x	150	0.2	0.1
	71.2	Union Pacific Railroad - South & West	50	x	150	0.2	0.1
	74.5	Ogilby Rd. (County Rd. S-34) - North & West	50	x	66	0.1	0.0
	74.5	Ogilby Rd. (County Rd. S-34) - North & East	50	x	198	0.2	0.1
	74.5	Ogilby Rd. (County Rd. S-34) - South & East	50	x	170	0.2	0.1
	74.5	Ogilby Rd. (County Rd. S-34) - South & West	50	x	137	0.2	0.1
	75.2	Ogilby Meter Station	50	x	550	0.6	0.3
	75.3	Interstate 8 - Center Median	50	x	50	0.1	0.0
	75.3	Interstate 8 - South & West	75	x	200	0.3	0.1

TABLE D-1 (cont'd)

Temporary Extra Workspaces Associated with the North Baja Pipeline Expansion Project							
County, State	Milepost	Description	Dimensions (feet)			Acres	Acres of New Disturbance
	75.3	Interstate 8 - South & West	300	x	300	2.1	0.2
	75.3	Interstate 8 - South & East	50	x	200	0.2	0.1
	76.8	Acc. Rd IMCA-28 at OH Pwr Ln (Triangular)	40	x	75	0.1	0.0
	79.6	All American Canal Pullback - North Side	200	x	2,517	11.6	1.4
	79.8	All American Canal – South Side (USA)	50	x	160	0.2	0.1
		Subtotal				84.2	36.4
		B-Line Total				128.2	51.2
Arrowhead Extension							
	1.0	Northeast Corner Seeley and Arrowhead	100	x	200	0.5	0.5
	1.5	East Side of C-05 Canal Crossing	75	x	250	0.4	0.4
	1.5	West Side of C-05 Canal Crossing	200	x	300	0.5	0.5
	2.0	Southeast Corner 14 th and Arrowhead	75	x	200	0.3	0.3
		Arrowhead Extension Total				1.7	1.7
IID Lateral							
	0.0	IID Lateral Tap	200	x	203	0.9	0.9
	2.0	All-American Canal Pullback East Side	200	x	2,700	12.4	12.4
	2.7	All-American Canal West Side	30	x	240	0.2	0.2
	3.4	State Park Road North	30	x	100	0.1	0.1
	3.4	State Park Road South	30	x	65	0.0	0.0
	4.1	Grays Well Road East	25	x	100	0.1	0.1
	4.1	Grays Well Road West	25	x	100	0.1	0.1
	4.4	Grays Well Road North	25	x	100	0.1	0.1
	4.4	Grays Well Road South	25	x	100	0.1	0.1
	5.5	Grays Well Road North	25	x	100	0.1	0.1
	5.5	Grays Well Road South	25	x	100	0.1	0.1
	5.7	I-8 - South Side	50	x	75	0.1	0.1
	5.8	I-8 - North Side	50	x	90	0.1	0.1
	7.8	All-American Canal Pullback - East Side (Irregular Shape)	156	x	1,900	6.8	6.8
	8.1	All-American Canal - West Side	35	x	150	0.1	0.1
	8.6	Evan Hewes Hwy	50	x	100	0.1	0.1
	12.6	Ditch/Canal, SouthEast	25	x	75	0.0	0.0
	12.6	Ditch/Canal, SouthWest	25	x	75	0.0	0.0
	13.2	Brock Research Cntr Rd. SouthEast	25	x	100	0.1	0.1
	13.2	Brock Research Cntr Rd. SouthWest	25	x	100	0.1	0.1
	13.6	Evan Hewes/Hwy 80 (in R/W)	50	x	100	0.1	0.1
	26.0	Evan Hewes/Hwy 80 (in R/W)	15	x	150	0.1	0.1
	27.2	Between Evan Hewes & I-8	60	x	687	0.9	0.9
	27.3	Between I-8 & Holdridge Rd	60	x	138	0.2	0.2
	27.4	Holdridge Rd. South to Pullback	60	x	442	0.6	0.6
	27.4	East Highline Canal Pullback East Side	150	x	1,100	3.8	3.8
	28.5	Vanderlinden Road - East & South	50	x	250	0.3	0.3
	29.5	Miller Road - East & South	125	x	125	0.4	0.4
	30.5	Enz Road - East & South	75	x	200	0.3	0.3
	31.5	Bonds Corner Road – West & North	75	x	200	0.3	0.3
	32.0	Schali Road - East & North	50	x	200	0.2	0.2

TABLE D-1 (cont'd)

Temporary Extra Workspaces Associated with the North Baja Pipeline Expansion Project							
County, State	Milepost	Description	Dimensions (feet)			Acres	Acres of New Disturbance
	32.0	Schali Road - West & North	50	x	200	0.2	0.2
	32.4	Alamo River - East & North	75	x	200	0.3	0.3
	33.2	Towland Road - East & North	50	x	200	0.2	0.2
	33.2	Towland Road - West & North	50	x	200	0.2	0.2
	33.9	Lateral 12 - East & North	75	x	120	0.2	0.2
	33.9	Lateral 12 - West & North	50	x	200	0.2	0.2
	34.2	Holtville Orchard Road - East & North	50	x	200	0.2	0.2
	34.2	Holtville Orchard Road - West & North	50	x	200	0.2	0.2
	34.5	Ash Main Canal - East & North	50	x	200	0.2	0.2
	34.5	Ash Main Canal - West & North	50	x	200	0.2	0.2
	34.9	Mets Road - East & North	50	x	200	0.2	0.2
	34.9	Mets Road - West & South	50	x	200	0.2	0.2
	35.9	Anderholt Road - East & South	75	x	200	0.3	0.3
	36.4	Ash 39/30A Lateral - West & South	75	x	190	0.3	0.3
	36.9	Barbara Worth Road – East & North	75	x	200	0.3	0.3
	38.0	Meloland Road - West & North	75	x	200	0.3	0.3
	38.2	Gate 151 - East & North	50	x	200	0.2	0.2
	38.2	Gate 151 - West & North	50	x	200	0.2	0.2
	38.4	Central Drain 2A - East & North	75	x	200	0.3	0.3
	38.7	Chick Rd at McGrew - NE corner	100	x	100	0.2	0.2
	38.9	Gate 122A - East & South	50	x	200	0.2	0.2
	38.9	Gate 122A - East & North	50	x	200	0.2	0.2
	39.1	I-8 - West & South	75	x	200	0.3	0.3
	39.1	I-8 - East & South	40	x	200	0.2	0.2
	39.1	I-8, Dealwood Road – West & North	75	x	200	0.3	0.3
	39.1	I-8, Dealwood Road - East & North	40	x	200	0.2	0.2
	39.7	E. Ross Road	50	x	400	0.5	0.5
	39.9	Ash Lat. 15 & Central Drain - East & South	50	x	200	0.2	0.2
	39.9	Ash Lat. 15 & Central Drain - West & South	50	x	200	0.2	0.2
	40.4	Bowker Road - East & South	50	x	200	0.2	0.2
	40.4	Bowker Road - West & South	50	x	200	0.2	0.2
	41.9	Acacia Lateral 6A - East & South	50	x	200	0.2	0.2
	41.9	Acacia Lateral 6A - East & North	50	x	200	0.2	0.2
	42.2	E. Gillett Street - East & South	50	x	200	0.2	0.2
	42.2	E. Gillett Street - West & North	50	x	200	0.2	0.2
	42.5	Acacia Lateral 8 - West & South	75	x	200	0.3	0.3
	42.8	Evan Hewes Hwy & Parker Rd - West & South	75	x	250	0.4	0.4
	42.8	Evan Hewes Hwy & Parker Rd - East & South	50	x	200	0.2	0.2
	42.9	Holton Road	50	x	390	0.4	0.4
	43.3	State Highway 111 - East & North	75	x	200	0.3	0.3
	43.4	Old St Hwy 111 - East side of Pipeline	50	x	90	0.1	0.1
	43.4	Old St Hwy 111 - West side of Pipeline (Triangular)	75	x	160	0.1	0.1
	43.7	Old St Hwy 111 - East side of Pipeline	75	x	200	0.3	0.3
	44.2	Alder Lateral 7 at Cannon Rd - West & North	75	x	200	0.3	0.3
	44.7	Alder Lateral at Cooley Rd - East & North	50	x	200	0.2	0.2
	44.7	Alder Lateral at Cooley Rd - West & South	50	x	200	0.2	0.2
	45.7	N. Dogwood Road	75	x	100	0.2	0.2

TABLE D-1 (cont'd)

Temporary Extra Workspaces Associated with the North Baja Pipeline Expansion Project							
County, State	Milepost	Description	Dimensions (feet)			Acres	Acres of New Disturbance
	45.7	El Centro Terminus	320	x	280	2.1	2.1
		IID Lateral Total				43.1	43.1
		Total Project				173.0	96.0

TABLE D-2

Access Roads for the North Baja Pipeline Expansion Project											
County, State	Milepost	Road Number	Type 1 ^a (miles)	Type 2 ^b (miles)	Type 3 ^c (miles)	Total (miles)	Type 1 (acres)	Type 2 (acres)	Type 3 (acres)	Total Acres ^d	Temporary (T)/ Permanent (P)
B-Line											
La Paz, Arizona											
	0.0	LPAZ-01	0.3			0.3	0.9	0.0	0.0	0.9	T
		LPAZ-02	0.5			0.5	1.3	0.0	0.0	1.3	T
		Subtotal	0.8	0.0	0.0	0.8	2.2	0.0	0.0	2.2	
Riverside, California											
	2.2	RICA-01	0.1			0.1	0.2	0.0	0.0	0.2	T
	11.5	RICA-02	1.3	2.1		3.4	3.4	5.6	0.0	9.0	T
	11.9	RICA-03	2.5	1.2		3.7	6.7	3.1	0.0	9.8	T
	15.6	RICA-04	2.1			2.1	5.6	0.0	0.0	5.6	T
	18.3	RICA-05	3.0			3.0	7.9	0.0	0.0	7.9	T
	22.1	RICA-06	0.4			0.4	1.2	0.0	0.0	1.2	T
		Subtotal	9.4	3.3	0.0	12.6	25.0	8.7	0.0	33.7	
Imperial, California											
	22.1	IMCA-01	1.8			1.8	4.7	0.0	0.0	4.7	T
	26.5	IMCA-02	0.7			0.7	1.8	0.0	0.0	1.8	T
	28.1	IMCA-03	0.1			0.1	0.3	0.0	0.0	0.3	P ^e
	28.2	IMCA-04	0.4			0.4	1.1	0.0	0.0	1.1	T
	29.1A	IMCA 2001	0.2			0.2	0.5	0.0	0.0	0.5	T
	29.6A	IMCA 2002		0.6		0.6	0.0	1.6	0.0	1.6	T
	29.9A	IMCA 2003	0.6			0.6	1.6	0.0	0.0	1.6	T
	30.7A	IMCA 2004		0.1		0.1	0.0	0.3	0.0	0.3	T
	31.0A	IMCA 2005		0.1		0.1	0.0	0.3	0.0	0.3	T
	31.2A	IMCA 2006		0.8		0.8	0.0	2.1	0.0	2.1	T
	32.1A	IMCA 2007		0.3		0.3	0.0	0.8	0.0	0.8	T
	32.1	IMCA 2008	0.2			0.2	0.5	0.0	0.0	0.5	T
	33.2	IMCA-09	0.2			0.2	0.6	0.0	0.0	0.6	T
	35.0	IMCA-10	0.2			0.2	0.4	0.0	0.0	0.4	T
	35.8	IMCA 1002		0.6		0.6	0.0	1.5	0.0	1.5	T
	36.5A	IMCA 1003		0.2		0.2	0.0	0.5	0.0	0.5	T
	36.9A	IMCA 1004		0.1		0.1	0.0	0.3	0.0	0.3	T
	37.1A	IMCA 1005		0.1	0.0	0.1	0.0	0.3	0.0	0.3	T
	37.7A	IMCA 1006		0.1		0.1	0.0	0.3	0.0	0.3	T

TABLE D-2 (cont'd)

Access Roads for the North Baja Pipeline Expansion Project											
County, State	Milepost	Road Number	Type 1 ^a (miles)	Type 2 ^b (miles)	Type 3 ^c (miles)	Total (miles)	Type 1 (acres)	Type 2 (acres)	Type 3 (acres)	Total Acres ^d	Temporary (T)/ Permanent (P)
	38.0A	IMCA 1007		0.1		0.1	0.0	0.3	0.0	0.3	T
	38.2A	IMCA 1008		0.1		0.1	0.0	0.3	0.0	0.3	T
	39.0A	IMCA 1009		0.2		0.2	0.0	0.5	0.0	0.5	T
	39.9A	IMCA 1010		0.1		0.1	0.0	0.3	0.0	0.3	T
	40.2A	IMCA 1011		0.1		0.1	0.0	0.4	0.0	0.4	T
	40.9A	IMCA 1012		0.3		0.3	0.0	0.8	0.0	0.8	T
	41.6	IMCA 1014	0.1			0.1	0.3	0.0	0.0	0.3	P ^f
	41.8A	IMCA 1015		0.1		0.1	0.0	0.3	0.0	0.3	T
	42.5A	IMCA 1016		0.2		0.2	0.0	0.5	0.0	0.5	T
	43.0A	IMCA 1018		0.1		0.1	0.0	0.3	0.0	0.3	T
	43.6A	IMCA 1019		0.1		0.1	0.0	0.3	0.0	0.3	T
	43.9A	IMCA 1021		0.1		0.1	0.0	0.3	0.0	0.3	T
	44.1A	IMCA 1023		0.1		0.1	0.0	0.3	0.0	0.3	T
	44.2A	IMCA 1024		0.1		0.1	0.0	0.3	0.0	0.3	T
	44.5A	IMCA 1025		0.1		0.1	0.0	0.3	0.0	0.3	T
	44.8A	IMCA 1026		0.2		0.2	0.0	0.5	0.0	0.5	T
	45.2A	IMCA 1028		0.1		0.1	0.0	0.3	0.0	0.3	T
	45.5A	IMCA 1029		0.1		0.1	0.0	0.3	0.0	0.3	T
	45.7A	IMCA 1030		0.1		0.1	0.0	0.3	0.0	0.3	T
	45.9A	IMCA 1031		0.1		0.1	0.0	0.3	0.0	0.3	T
	46.2A	IMCA 1033		0.1		0.1	0.0	0.3	0.0	0.3	T
	46.5A	IMCA 1034		0.1		0.1	0.0	0.3	0.0	0.3	T
	46.7A	IMCA 1035		0.1		0.1	0.0	0.3	0.0	0.3	T
	46.9A	IMCA 1036		0.1		0.1	0.0	0.3	0.0	0.3	T
	47.0A	IMCA 1037		0.1		0.1	0.0	0.3	0.0	0.3	T
	47.6A	IMCA 1038		0.1		0.1	0.0	0.3	0.0	0.3	T
	48.0A	IMCA 1039		0.5		0.5	0.0	1.3	0.0	1.3	T
	49.0	IMCA-17	0.2			0.2	0.6	0.0	0.0	0.6	T
	54.4	IMCA-18	0.3	0.2		0.5	0.8	0.5	0.0	1.4	T
	55.0	IMCA-19		0.1		0.1	0.0	0.3	0.0	0.3	T
	60.3	IMCA-20	0.1			0.1	0.3	0.0	0.0	0.3	P ^g
	62.4	IMCA-21	1.1			1.1	3.0	0.0	0.0	3.0	T

TABLE D-2 (cont'd)

Access Roads for the North Baja Pipeline Expansion Project

County, State	Milepost	Road Number	Type 1 ^a (miles)	Type 2 ^b (miles)	Type 3 ^c (miles)	Total (miles)	Type 1 (acres)	Type 2 (acres)	Type 3 (acres)	Total Acres ^d	Temporary (T)/ Permanent (P)
	64.9 & 66.5	IMCA-22	2.4			2.4	6.5	0.0	0.0	6.5	T
	66.5	IMCA-23	0.2			0.2	0.6	0.0	0.0	0.6	T
	68.9	IMCA-24		0.0		0.0	0.0	0.0	0.0	0.0	T
	70.9	IMCA-25	0.0			0.0	0.1	0.0	0.0	0.1	T
	72.9	IMCA-26		0.0		0.0	0.0	0.1	0.0	0.1	T
	75.2	IMCA-27		0.3		0.3	0.0	0.8	0.0	0.8	T/P
	76.8	IMCA-28	3.3			3.3	8.7	0.0	0.0	8.7	T
	79.3	IMCA-29		1.9		1.9	0.0	5.1	0.0	5.1	T
	79.8	IMCA-30	1.7	1.2		2.9	4.5	3.1	0.0	7.6	T
	Subtotal		13.8	10.2	0.0	24.0	36.7	27.2	0.0	64.0	
	B-Line Total		24.0	13.5	0.0	37.4	63.9	35.9	0.0	99.7	
Arrowhead Extension											
	2.1	^h			0.0	0.0	0.0	0.0	0.0	0.0	P
	Arrowhead Extension Total				0.0	0.0	0.0	0.0	0.0	0.0	
IID Lateral											
Imperial, California											
	0.0	IMCA-01			0.0	0.0	0.0	0.0	0.1	0.1	P
	0.2	IMCA-02	0.1			0.1	0.3	0.0	0.0	0.3	T
	5.6	IMCA-04		0.1		0.1	0.0	0.2	0.0	0.2	T
	7.6	IMCA-05	0.1	0.1		0.2	0.3	0.3	0.0	0.6	P
	7.8	IMCA-06		0.2		0.2	0.0	0.6	0.0	0.6	T
	8.0	IMCA-07	0.5			0.5	1.4	0.0	0.0	1.4	P
	8.2	IMCA-08			0.0	0.0	0.0	0.0	0.0	0.0	T
	14.0	IMCA-09			0.0	0.0	0.0	0.0	0.0	0.0	T
	14.5	IMCA-10			0.0	0.0	0.0	0.0	0.0	0.0	T
	15.0	IMCA-11			0.0	0.0	0.0	0.0	0.0	0.0	T
	15.5	IMCA-12			0.0	0.0	0.0	0.0	0.0	0.0	T
	15.9	IMCA-13			0.0	0.0	0.0	0.0	0.0	0.0	T
	16.2	IMCA-14	0.0			0.0	0.0	0.0	0.0	0.0	T
	27.3	IMCA-15	0.1			0.1	0.2	0.0	0.0	0.2	T
	27.4	IMCA-16	0.1			0.1	0.2	0.0	0.0	0.2	T

TABLE D-2 (cont'd)

Access Roads for the North Baja Pipeline Expansion Project										
County, State	Milepost	Road Number	Type 1 ^a (miles)	Type 2 ^b (miles)	Type 3 ^c (miles)	Total (miles)	Type 1 (acres)	Type 2 (acres)	Type 3 (acres)	Temporary (T)/ Permanent (P)
	27.6	IMCA-17	0.2			0.2	0.4	0.0	0.0	T
	27.8	IMCA-18	0.2			0.2	0.6	0.0	0.0	T
	39.2	IMCA-19		0.5		0.5	0.0	1.4	0.0	T
	43.7	IMCA-20		0.5		0.5	0.0	1.3	0.0	T
	44.2	IMCA-21	0.4			0.4	1.1	0.0	0.0	T
	44.2	IMCA-22		0.5		0.5	0.0	1.3	0.0	T
	44.6	IMCA-23	0.5			0.5	1.3	0.0	0.0	T
IID Lateral Total			2.2	1.9	0.1	4.2	5.9	5.1	0.2	11.2
Total Project			26.2	15.4	0.1	41.6	69.8	41.0	0.2	110.9

^a Existing road that needs no improvement.
^b Existing road that needs some improvement or modification.
^c New access road.
^d Access roads are assumed to be 22 feet wide.
^e Existing access road to valve #5.
^f Existing access road to valve #6.
^g Existing access road to valve #7.
^h Proposed 60-foot-long permanent access road to the Blythe-Arrowhead Meter Station.

APPENDIX E

CONSTRUCTION MITIGATION AND RESTORATION PLAN



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix E

Construction Mitigation and Restoration Plan

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Appendix E

Construction Mitigation and Restoration Plan

1.0 INTRODUCTION

This Construction Mitigation and Restoration Plan (CM&R Plan) describes measures to be taken by North Baja Pipeline, LLC (North Baja) to protect natural resources during construction and operation of the North Baja Pipeline Expansion Project (Project). The CM&R Plan consists of three parts:

- Section 2 describes procedures that were used successfully for the A-Line construction mitigation and restoration and will be used again for the Project, including the B-Line and the IID Lateral, to preserve and restore habitat values temporarily impacted by pipeline construction in the desert environment.
- Section 3 proposes modifications to the FERC Upland Erosion Control, Revegetation, and Maintenance Plan, as updated January 2003 (FERC Plan), that are relevant to the Project area and are designed to minimize Project-related construction impacts on soils and minimize erosion.¹
- Section 4 proposes modifications to the FERC's Wetland and Waterbody Construction and Mitigation Procedures, as updated January 2003 (FERC Procedures), that are relevant to the Project area and are designed to minimize Project-related disturbance to waterbodies and wetlands.²

In addition to the CM&R Plan presented here, North Baja is providing the following additional plans directly relevant to construction mitigation and restoration:

- Appendix G – Horizontal Directional Drilling Plan, which contains specific procedures to be used during the horizontal directional drilling of the Colorado River, the All-American Canal (AAC), and the East Highline Canal;
- Appendix F – Spill Prevention, Containment, And Control Plan For Hazardous Materials And Hazardous Wastes (SPCC Plan);
- Appendix P – Off-Highway Vehicle (OHV) Management Plan, which contains site-specific measures for controlling OHV route proliferation attributable to Project construction; and
- Appendix L – Dust Control Plan, which contains measures designed to minimize air pollution or wind erosion from fugitive dust attributable to construction activities.

An updated CM&R Plan will be submitted prior to construction if necessary to incorporate any additional applicable requirements of Federal, State, and local permits.

1 The FERC's Plan can be viewed on the FERC Internet website at <http://www.ferc.gov/industries/gas/enviro/uplndctl.pdf>.

2 The FERC's Procedures can be viewed on the FERC Internet website at <http://www.ferc.gov/industries/gas/enviro/wetland.pdf>.

2.0 DESERT RESTORATION PLAN

North Baja researched desert restoration techniques and produced a desert restoration plan for the original North Baja Pipeline Project. That plan provided the scientific rationale for the restoration approach, which differs from conventional methods due to the extreme aridity of the Project area. It included a literature review on natural vegetation recovery and revegetation parameters. It also provided an in-depth review of the Colorado Desert setting, including detailed descriptions of cover types.

The results of the desert restoration plan for the A-Line have been relatively rapid natural revegetation along most of the pipeline right-of-way, no spread of noxious weeds due to construction or operation of the pipeline, and limited expansion of OHV routes due to pipeline construction. These results have been documented in annual reports, filed with the FERC and other agencies, detailing the surveys conducted for weed spread and revegetation success. Annual evaluations and reports for the weed and revegetation surveys will continue through 2012 as agreed for the original North Baja Pipeline Project.

As part of the A-Line restoration plan, an experimental seeding program was instituted. That program is detailed in Attachment A of the North Baja CM&R Plan used for construction of the A-Line, and has also resulted in annual reports filed with FERC and other agencies. After 3 years of monitoring, the plots show that seeding in the desert is generally ineffective in improving the rate or extent of revegetation. A possible exception is in desert wash woodlands, where a high rate of seeding has shown a somewhat increased number of individual woodland tree species seedlings. Annual evaluations and reports for the experimental seeding Project will continue until construction of the B-line, providing an estimated 7 years of results to inform future restoration efforts in the Colorado Desert.

2.1 NORTH BAJA REVEGETATION AND WEED MONITORING PROGRAM

The October 2004 and March 2005 surveys conducted 26 and 32 months, respectively, after final surface restoration completion showed increased natural regeneration, both in the desert wash woodland habitat and in creosote scrub habitat, compared to off-right-of-way areas (Tetra Tech 2005). Native species of annuals and shrubs have readily recruited onto the right-of-way with each annual species increasing in occurrence within plots with each passing year. The control plots, on the other hand, generally show no increase in occurrence of each species over time.

In October 2004, native shrubs *Larrea tridentata*, *Atriplex canescens*, and *Ambrosia dumosa* were the most common plants and occurred in 30, 14, and 2 percent of the right-of-way plots, respectively. These same shrubs occurred in 23, 2, and 12 percent of the plots in March 2005. *Encelia farinosa*, a native shrub, was present in 4 percent of the plots in 2004 and increased to 14 percent in 2005. One species of tree, *Psoralea spinosa*, (smoke tree) was found within a right-of-way plot in October 2004, although other tree recruitment was noted on the right-of-way but outside of plot locations. In March 2005, both *Psoralea spinosa* and *Cercidium floridum* (blue palo verde) seedlings were found in the plots and again tree recruitment was evident along the right-of-way outside of plot locations. Tree and shrub recruitment within the right-of-way was noticeably greater within desert wash habitat compared to creosote scrub habitat.

Based on the first 3 years of survey, the right-of-way appears to be revegetating successfully, not only with annuals in season, but also with the perennial shrubs and trees that will eventually become the dominant vegetation. Revegetation success has been high for annuals this year, but also for perennials. The very harsh Colorado desert climate will probably continue to restrict cover and growth of all species.

Noxious weed species have not spread outside areas containing weeds prior to construction. From a qualitative perspective, *Brassica tournefortii* was generally present in equal numbers in disturbed right-of-way areas and in adjacent, less-disturbed desert pavement areas; however, no *B. tournefortii* was observed within any sample plots during October 2004, which is due to its spring flowering followed by summer and fall die off. *Brassica tournefortii* was present in 33 percent of the plots in March 2005, although its distribution was patchy and not concentrated in any particular areas. The right-of-way is also experiencing minor recruitment of *Tamarix ramosissima*, although this weed species has constantly remained below 9 percent abundance among all sample plots since post-construction monitoring and is present only in areas of prior tamarisk infestation.

The use of the sheepsfoot to create mini-catchment areas appears to encourage the sprouting of annuals in most areas, especially when the mini-catchments are located in low-lying or wash areas; however, many plots lacking topographical relief or located in desert pavement do not show a clear difference between regeneration inside and outside of the mini-catchments.

Annuals typically dominate numerically and by percent cover, especially during the prolific bloom observed in March 2005, which is attributed to extremely high precipitation. Many seedling native shrubs have also recruited and are steadily increasing in percent cover. It should also be noted that in areas with desert pavement there was noticeably more recruitment of annuals within the right-of-way compared to intact desert pavement sites located off the right-of-way. In addition, off-right-of-way areas appeared to follow the same pattern of higher shrub recruitment in wash areas than in creosote bush scrub and desert pavement habitats. Last, although not quantified, shrub recruitment within the right-of-way, but outside sample plot areas was generally higher than off-right-of-way areas, indicating that native shrub seedlings recruit more readily to recently impacted areas.

2.2 RESTORATION GOALS

Typical of arid habitats, the natural revegetation processes in the Colorado Desert are relatively protracted. Impacts on the landscape take long periods to restore to their original forms. In addition to the intrinsic value of the desert landscape, the Colorado Desert supports a number of special-status plants and animals. The goals of this plan will be to:

- Avoid impacts where practical;
- Where impacts are unavoidable, minimize impacts; and
- Focus on site preparation to facilitate natural processes of revegetation.

North Baja proposes to continue its adaptive management approach that incorporates many different “tools” that may be used on a site-specific basis. These tools include:

- Emphasize final site preparation to encourage natural revegetation;

- Avoid (i.e., preserve), where practical, mature native trees;
- Stipulate a maximum construction corridor width;
- Reserve topsoil and plant materials from the right-of-way before grading, and respread over the right-of-way after construction is complete;
- Grubbing and crushing vegetation where possible along the construction corridor, rather than blading;
- Salvaging large woody debris to later be spread on the restored corridor to serve a dual purpose: blocking OHV access to the pipeline corridor and serve as a mulch and source of shade to nurse plant germination and growth;
- Imprint the restored right-of-way to provide indentations to catch seed and water;
- Implement best management practices to protect the soil;
- Apply restoration methods that have been shown to work in the desert environment;
- Prevent the construction- or operation-related spread of noxious weeds or other undesirable species;
- Apply methods to discourage unauthorized OHV use of the pipeline right-of-way, including construction of berms, placement of natural materials, and transplanting of cactus and ocotillo; and
- Avoid removing desert trees where practical by reducing the width of the right-of-way.

2.3 PLAN IMPLEMENTATION

2.3.1 *Preconstruction Phase*

2.3.1.1 *Identification of Native Tree Areas*

Mature, native trees are particularly valuable and important in desert ecosystems. Target native plants include the tree forms of the following species: desert willow, cat's claw acacia, Palo Verde, desert ironwood, mesquite, smoke tree, and ocotillo. A field survey was conducted in October 2001 to identify areas of native tree concentrations where reducing right-of-way width would preserve significant quantities of trees. Subsequent surveys in 2005 of the IID Lateral revealed no desert washes and no microphyll woodlands on this route. Therefore, the microphyll woodland area identification conducted for the A-Line is the only needed guide to locations where B-Line right-of-way width reductions will occur.

Areas that can be reasonably preserved from impact are those designated as the passing lanes. While work can proceed on the pipeline without the use of the passing lanes, it is much slower and more expensive and is not feasible for extended distances. Topsoil will have to be hauled off the right-of-way and stored, along with the woody vegetative debris, then returned to the area and respread. Spoil from the trenching operation will be spread along the working area, then replaced in the trench after the padding operation is complete.

During in-field surveys of the proposed neck-down areas, it was determined that measuring a percent crown cover for the passing lane along the entire route provided an accurate description of trees lost (or

preserved) in the area and the relative value of the multi-stemmed desert wash woodland species. Given that desert vegetation is sparse at best, North Baja determined that where at least 20 percent crown cover was found in the proposed 30-foot-wide area, construction corridor width should be limited. Table E-1 shows the location and extent of the areas where the right-of-way width was planned for reduction or “necking down” for the A-Line. In several locations, neck-down areas were modified in the field by variances approved by the agencies prior to construction. In these areas, the A-Line was restricted to 50-foot width. For B-Line construction, right-of-way width will be reduced 25 feet from the standard 105 feet to 80 feet in the same locations that were necked down during A-Line construction.

Table E-1: Locations Where the Proposed Construction Right-of-Way Will be Reduced to Minimize Tree Clearing				
Starting Milepost	Length (feet)	Crown Cover (%)	A-Line Acres Disturbed	B-Line Additional Acres Disturbed
B-Line — 105 feet to 80 feet				
16.9	345	25	0.4	0.2
17.9	270	31	0.3	0.2
20.0	700	30	0.8	0.5
22.3	480	20	0.6	0.3
22.5	250	43	0.3	0.2
22.6	1,000	33	1.1	0.7
22.8	180	42	0.2	0.1
23.3	340	50	0.4	0.2
23.4	250	63	0.3	0.2
23.5	590	41	0.7	0.4
25.8	850	35	1.0	0.6
34.5	860	25	1.0	0.6
45.1	500	48	0.6	0.3
51.1	1,800	30	2.1	1.2
51.7	1,100	30	1.3	0.8
64.5	500	31	0.6	0.3
Total	10,015		11.7	6.8

Without right-of-way reduction, the acreage of desert wash woodland represented in these areas equals 24.1 acres. The proposed narrowing would preserve 5.6 acres and leave 18.5 acres still impacted. The remaining acres of desert wash woodland are in areas so scattered and with so few trees that the impact of right-of-way reduction would be small compared to the significant increase in cost. The right-of-way width reduction in these areas would preserve the densest, and therefore most productive, areas of desert wash woodland within the originally proposed footprint of the pipeline construction.

2.3.1.2 Construction Work Area Restrictions

Measures will be taken to minimize permanent and temporary construction disturbances to facilitate subsequent restoration. Construction will stay within designated construction work areas.

Designated Construction Zone – Project-related vehicle traffic, construction activity, and equipment storage will be restricted to established roads, designated access roads, the working strip, storage areas,

staging and parking areas, and other designated Project areas. This restriction includes the placement of portable toilet facilities.

Staking – The outside boundaries of the construction corridor will be staked prior to construction with approximately 24-inch-tall flagged or painted stakes at a maximum interval of 300 feet.

Storage, Laydown, and Spoil Disposal Areas – To minimize permanent and temporary construction disturbances, storage facilities will be located at sites that have non-native cover or have been previously disturbed. Parking, storage, and other areas will be marked by flagged lath stakes about 24 inches above ground and placed in line of sight with a maximum spacing of 300 feet.

2.3.1.3 OHV Route Proliferation Limitation

Please see Appendix P, OHV Management Plan for details of the OHV route management plan.

2.3.1.4 Salvage Cactus, Ocotillo, and Other Woody Vegetation

Immediately prior to ground-disturbing activities at designated crossing areas defined in Appendix P, identified specimens of the larger species of cactus (primarily *Opuntia*), ocotillo (*Fouquieria splendens*), and other woody vegetation will be salvaged from the nearby right-of-way, stored, and then replanted after pipeline installation. These specimens will be used for OHV route control.

2.3.2 Construction Phase – Clearing

2.3.2.1 Non-Native Cover Types

For tamarisk scrub (MPs 29-33, B-Line only), restoration objectives during the initial ground clearance and right-of-way preparation will be:

Prevent Spread of Noxious Weeds – Soil and plant materials from non-native areas will be disposed of in non-native areas only. That is, no disposal or transfer of excess spoils or cleared-and-grubbed plant materials into native cover type areas will be allowed. All equipment will be washed and inspected prior to use on the right-of-way, including in tamarisk areas. See section on washing equipment in Native Habitat Areas, below.

Disposal methods for tamarisk removed during the clearing of portions of large monotypic tamarisk stands include hauling or burning on site. If burning is the selected measure, North Baja will apply for the appropriate burning permits. If hauling is selected, loads will be covered to prevent windborne dispersal of propagules. After the removal of all tamarisk from the right-of-way, no further equipment or truck washing will be needed or utilized.

Trucks and equipment used to remove tamarisk will be washed prior to their use elsewhere on the right-of-way. All washing will be conducted at commercial truck washes in nearby communities, and trucks and equipment will be inspected prior to use elsewhere on the right-of-way.

Restore Hydrology – Where hydrologic features are present, the original surface hydrology will be restored (see Section 4).

2.3.2.2 Native Cover Types

For the three native cover types, restoration objectives during the initial ground clearance and right-of-way preparation are:

Prevent Spread of Noxious Weeds – Disposal of soil and plant materials from non-native areas will not be allowed in native areas. That is, no disposal or transfer for excess spoils or plant materials from non-native areas will be allowed into native cover type areas.

The construction right-of-way is surveyed annually for plants listed as invasive exotics by the State of California, as well as other species on the BLM National List of Invasive Weed Species of Concern, as a right-of-way grant condition for the A-Line. This survey has shown no spread of weeds since construction of the A-Line. Based on weed surveys conducted for the A-Line and follow-up surveys conducted annually thereafter, the only infested area is the tamarisk infestation from MPs 29 through 33 on the B-Line. While other non-native species are present on the right-of-way, including African mustard and *Schismus*, they are ubiquitous in the wider desert area, including but not limited to the present right-of-way and the proposed construction area, and equipment washing will not impact their distribution. Weed control will, therefore, focus only on tamarisk.

Once the construction corridor has been cleared and graded, vehicles can travel the right-of-way through non-native areas without significant risk of spreading noxious plant material.

Non-native tamarisk trees will be removed from the right-of-way in native areas to discourage colonization of the right-of-way after construction. If possible, removal should occur prior to the set of seeds to reduce the risk of dispersal. Tamarisk small enough to be pulled out by hand will be removed when found. Larger specimens will be mechanically removed during Project construction. All identified tamarisk will be removed by the end of Project construction. Tamarisk will be disposed of in a manner that prevents the spread of seed. The preferred methods of disposal of tamarisk found in relatively isolated locations include hauling off or burning on site. Methods for each area will be specified in the Plan of Development (POD). Where burning is the selected measure, North Baja will apply for the appropriate burning permits. If hauling is selected, loads will be covered to prevent windborne dispersal of propagules.

Weed Wash Stations: No temporary weed wash stations were employed during construction of the A-Line. No temporary weed wash stations are proposed for the construction of the Project. However, weed control continues to be an important concern for North Baja, and the following weed-control measures will apply.

All construction equipment must be washed prior to entering the construction area for the first time for any part of the Project to prevent the spread of invasive weeds from other areas. The initial washing will be conducted at commercial truck washes in nearby communities, including Blythe, El Centro, or Yuma, and use of clean equipment will be a contractual condition for the construction contractor and all subcontractors. The Environmental Inspector will ensure that all trucks and equipment that will be utilized on an unpaved portion of the construction right-of-way have been washed prior to first use, and that there is no dirt or plant material clinging to the wheels, tracks, or understructure of any truck or equipment.

Preserve Native Trees – Impacts on native trees concentrations will be minimized in the areas specified in Table E-1, above, by limiting the construction right-of-way width to 80 feet.

Restrict Area of Disturbance – The width of the right-of-way will be restricted to minimize impacts on native areas. The standard right-of-way width will be 105 feet. In constrained areas with steep slopes, the width may be widened to accommodate equipment for limited stretches. Conversely, in specified areas, above, the right-of-way width will be restricted to 80 feet for limited stretches to avoid trees. Only the working strip, public roads, or approved routes of travel will be used. Off-road traffic outside designated areas will be prohibited to protect adjacent native habitat. All Project vehicles will turn around only within approved work areas or on designated access roads.

Preservation of the Seed Bank – The upper two to eight inches of topsoil from the portions of the right-of-way requiring grading will be removed first (see also Section 3.4.2, below). Topsoil will be stockpiled separately from the spoil pile. Topsoil will be temporarily stockpiled in windrows, which will be flagged to clearly identify them. These stockpiles of topsoil will be carefully segregated from the subsoil. Topsoil will be stockpiled under normal circumstances from 2 to 4 weeks, but not longer than 4 months.

The topsoil will be evenly respread over the graded area during cleanup. Reserving and resspreading topsoil is designed to conserve the seed bank, aiding in natural revegetation. Imprinting will be used to provide micro-catchment areas for water retention and seed germination. Imprinting may be accomplished through the use of a “sheep’s-foot” roller or other methods.

Encourage Regeneration of Woody Plants – Areas that must be scraped or graded will be restricted to that necessary to create a safe working area for construction. Naturally level areas, for example, may require no grading. In areas requiring no grading, grubbing of the right-of-way in native habitat areas will leave the underground roots of woody plants intact. That is, the grubbing will skim the surface of the ground to crush or slice off the aboveground portions of vegetation, leaving the root crowns intact. This will allow for rapid regeneration of woody plant species.

Native plant material that has been grubbed from the right-of-way will be respread on the right-of-way after pipeline installation, providing a mulch to trap seeds, shade seedlings, and conserve water for the revegetation of the right-of-way. In areas where topsoil is removed, the plant material will be respread with the topsoil.

Restore Hydrology – Where hydrologic features are present, the original surface hydrology will be restored. See Section 4, below.

Prevent Impacts on Migratory Birds – North Baja plans to conduct construction in native habitats outside the breeding season for migratory birds. If construction activities are necessary during bird breeding season, vegetation that could provide nesting substrate will be removed from the right-of-way before breeding season, thus eliminating the possibility that birds could nest on the right-of-way. Qualified biologists will conduct pre-construction surveys to confirm the absence of nesting birds before construction begins.

If, in spite of vegetation removal, nesting birds are found on the construction right-of-way, the nest will not be removed until fledging has occurred or unless authorized after consultation with USFWS, CDFG, and, if the nest is located on Federal lands, the Federal land management agency.

2.3.3 Construction Phase – Cleanup

Once the pipeline has been installed and the pipeline trench backfilled, the right-of-way will be recontoured to approximate original contours. Recontouring to natural lines and grade will be accomplished without disruption to adjacent undisturbed habitat.

After topsoil and native plant material have been respread over the graded areas at the completion of construction, these areas will be imprinted with a sheep's-foot or similar device. The indentations created by the imprinter catch seed and water, aiding in the natural revegetation of the site. Native plant material that had been removed from the right-of-way will provide a mulch to trap seeds, shade seedlings, and conserve water for the revegetation of the right-of-way.

2.4 POSTCONSTRUCTION

Postconstruction monitoring and maintenance of the pipeline right-of-way will be according to the overall Project plan (see Sections 2.5 and 3.7, below). Of particular relevance will be monitoring of erosion and repairs to maintain the integrity of the line.

2.5 SURVEY, MONITORING, AND REPORTING

Surveys will be conducted for non-native invasive plant species after construction is complete. They will be compared to the preconstruction survey conducted to determine locations of weed infestations attributable to this Project, including the B-Line, Arrowhead Extension, and IID Lateral. North Baja will be responsible for weed survey and control two times a year for the first 2 years, then once a year thereafter as part of its routine maintenance and operation of the pipeline. The first survey after construction will be conducted after rainfall and will consist of walking the entire line, looking for new weed infestations. Thereafter, surveys may be conducted aerially with spot ground checks in areas of infestations. Weed control will be done at the same time as the survey, since tamarisk, the most likely invader, can be most efficiently controlled by hand-pulling, bagging, and disposing of in approved sites.

The entire line will also be monitored for success of restoration of desert vegetation in addition to the routine monitoring specified in Section 3.7, below. Postconstruction monitoring will be conducted annually in areas of desert vegetation disturbed by construction through 2012. Results of the monitoring will be provided in full reports to the FERC, BLM, CSLC, BOR, FWS, and CDFG as originally agreed for the A-Line construction.

If, after 5 years of monitoring where rainfalls have been at least average for the area, revegetation of the construction work area in native desert habitats is determined to be unsuccessful, North Baja will consult with FERC, BLM, CSLC, BOR, FWS, and CDFG and develop a remedial restoration plan for desert revegetation. The remedial plan will be based upon assessments of the extent of the failure, the reasons for the failure, and conditions on the right-of-way, such as whether a viable seed source still exists in the soil. It is very unlikely that a remedial plan would include irrigation, which is impracticable in most settings along the pipeline. Options may include selective re-scarification of the surface, with or without supplemental seeding, or allowing more time for natural regeneration to occur. For each year that rainfall amounts have been less than 80 percent of average after 1 drought year subsequent to construction, an

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additional year shall be granted beyond the initial 5 years for native vegetation to establish before North Baja would be obliged to examine remedial measures.

3.0 UPLAND EROSION AND SEDIMENT CONTROL (FERC UPLAND EROSION CONTROL, REVEGETATION, AND MAINTENANCE PLAN, MODIFIED)

3.1 APPLICABILITY (FERC PLAN SECTION I., MODIFIED)

As outlined below, North Baja is proposing modifications to the FERC Plan. This section will apply to all nonwetland areas of the Project. Wetland and waterbody systems are addressed in Section 4.

Deviations that involve measures different from those contained in this section of the CM&R Plan will only be permitted as certificated by the Commission or by written approval of the Director of the Office of Energy Projects (OEP), or his/her designee, unless specifically required in writing by another Federal, State, or Native American land management agency for the portion of the Project on its land. North Baja will file other agency requirements with the Secretary of the Commission (Secretary) before construction.

3.2 SUPERVISION AND INSPECTION

3.2.1 Environmental Inspection (FERC Plan Section II.A., Modified)

1. At least two Environmental Inspectors are required for each construction spread during active construction or restoration. The number and experience of Environmental Inspectors assigned to each construction spread should be appropriate for the length of the construction spread and the number/significance of resources affected.
2. Environmental Inspectors shall have peer status with all other activity inspectors.
3. Environmental Inspectors shall have the authority to stop activities that violate the environmental conditions of the FERC Certificate, State and Federal environmental permit conditions or landowner requirements and to order corrective action.

3.2.2 Responsibilities of Environmental Inspectors (FERC Plan Section II.B., Modified)

At a minimum, the Environmental Inspector(s) shall be responsible for:

1. Ensuring compliance with the requirements of this CM&R Plan, the environmental conditions of the FERC Certificate authorization, the mitigation measures proposed by North Baja in its application submitted to FERC, other environmental permits and approvals, and environmental requirements in landowner easement agreements;
2. Identifying, documenting, and overseeing corrective actions, as necessary to bring an activity back into compliance;

3. Verifying that the limits of authorized construction work areas and locations of access roads are properly marked before clearing;
4. Verifying the location of signs and highly visible flagging marking the boundaries of sensitive resource areas, waterbodies, wetlands, or areas with special requirements along the construction work area;
5. Identifying erosion/sediment control and soil stabilization needs in all areas;
6. Locating dewatering structures and slope breakers to ensure they will not direct water into known cultural resources sites or locations of sensitive species;
7. Verifying that trench dewatering activities do not result in the deposition of sand, silt, and/or sediment near the point of discharge into a wetland or waterbody or cause scouring as a result of excessive water volumes and/or pump velocities. If such deposition or scouring is occurring, the dewatering activity shall be stopped and the design of the discharge shall be changed to prevent recurrence of the relevant problem;
8. Testing subsoil and topsoil in agricultural and residential areas to measure compaction and determine the need for corrective action;
9. Advising the Chief Inspector when conditions (such as wet weather) make it advisable to restrict construction activities in agricultural areas;
10. Ensuring restoration of contours and topsoil;
11. Verifying that the soils imported for agricultural or residential use have been certified as free of noxious weeds and soil pests;
12. Determining the need for and ensuring that temporary erosion controls are properly installed as necessary to prevent sediment flow into Rannells Drain and the two unnamed canals along the Arrowhead Extension and/or as required by regulatory agencies;
13. Inspecting and ensuring the maintenance of temporary erosion control measures at Rannells Drain and the two unnamed canals along the Arrowhead Extension at least:
 - a. on a daily basis in areas of active construction or equipment operation;
 - b. on a weekly basis in areas with no construction or equipment operation; and
 - c. within 24 hours of each 0.5 inch of rainfall;
14. Ensuring the repair of all ineffective temporary erosion control measures at Rannells Drain and the two unnamed canals along the Arrowhead Extension within 24 hours of identification;
15. Keeping records of compliance with the environmental conditions of the FERC Certificate, and the mitigation measures proposed by North Baja in the application submitted to the FERC and other Federal and State environmental permits during active construction and restoration; and

16. Identifying areas that should be given special attention to ensure stabilization and restoration after the construction phase. Implementation of this program may be transferred to the company's operating section upon completion of construction and restoration activities.

3.3 PRECONSTRUCTION PLANNING

North Baja will complete the following before construction:

3.3.1 Construction Work Areas (FERC Plan Section III.A., Modified)

North Baja will identify all construction work areas (e.g. construction rights-of-way, extra workspace areas, pipe storage and contractor yards, borrow and disposal areas, access roads, etc.) that are needed for safe construction. North Baja has ensured that appropriate cultural resources and biological surveys were conducted and that the extent of those surveys was sufficient to accommodate possible future need for activities outside the certificated work areas.

3.3.2 Drain Tile and Irrigation Systems (FERC Plan Section III.B., Modified)

1. Attempt to locate existing irrigation systems.
2. Develop procedures for maintaining irrigation systems during construction, and repairing irrigation systems after construction.

3.3.3 Grazing Deferment (FERC Plan Section III.C., Modified)

There are no grazing areas that would require grazing deferments along the Project. Therefore, this section does not apply.

3.3.4 Road Crossings and Access Points (FERC Plan Section III.D.)

North Baja has planned for safe and accessible conditions at all roadway crossings and access points during construction and restoration.

3.3.5 Disposal Planning (FERC Plan Section III.E.)

North Baja has determined methods and locations for the disposal of brush and excess rock. Off-site disposal in other than commercially operated disposal locations is subject to compliance with all applicable survey, landowner permission, and mitigation requirements.

3.3.6 Agency Coordination (FERC Plan Section III.F., Modified)

North Baja will coordinate with the appropriate local, State, and Federal agencies as outlined in this section and in the Certificate.

1. Obtain written recommendations from the local soil conservation authorities or land management agencies regarding permanent erosion control. North Baja has completed consultation on desert restoration techniques and incorporates the results in Section 2, above. Incorporate all agreed-upon recommendations into the CM&R Plan, and on alignment sheets, if required (FERC Plan Section III.F.1., modified).
2. Develop specific procedures in coordination with the appropriate agency to prevent the introduction or spread of noxious weeds and soil pests resulting from construction and restoration activities. At a minimum, North Baja will wash all equipment transferred from Arizona to California at the washing station in Ehrenberg to ensure that equipment arriving on site in California is clean and will wash down clearing and grading equipment before moving equipment from non-native into native vegetation areas as outlined in Section 2 of this CM&R Plan (FERC Plan Section III.F.2., modified).

3.3.7 Stormwater Pollution Prevention Plan (FERC Plan Section III.G., Modified)

North Baja will make available on each construction spread the Stormwater Pollution Prevention Plans (SWPPPs) that would be prepared in accordance with the requirements of the Arizona Department of Environmental Quality, Division of Water Quality and the California Regional Water Quality Control Board, Colorado River Basin Region.

3.4 INSTALLATION

3.4.1 Approved Areas of Disturbance (FERC Plan Section IV.A.)

1. Project-related ground disturbance shall be limited to the construction right-of-way, extra workspace areas, pipe storage yards, borrow and disposal areas, access roads, and other areas approved in the certificate. Any Project-related ground-disturbing activities outside these certificated areas, except those needed to comply with the Plan and Procedures (e.g., slope breakers, energy-dissipating devices, dewatering structures, drain tile system repairs) will require prior Director approval. All construction or restoration activities outside of the certificated areas are subject to all applicable survey and mitigation requirements.
2. The construction right-of-way width shall not exceed that described in North Baja's FERC application unless otherwise modified by a certificate condition. However, in limited non-wetland areas, this construction right-of-way width may be expanded by up to 25 feet without Director approval to accommodate full construction right-of-way topsoil segregation and to ensure safe construction where topographic conditions, such as side-slopes, require it. Twenty-five feet of extra construction right-of-way width may also be used in limited, non-wetland or non-forested areas for truck turnaround where no reasonable alternative access exists.

Project use of these additional limited areas is subject to landowner approval and compliance with all applicable survey and mitigation requirements. When such additional areas are used, each one

would be identified and the need explained in the weekly or biweekly construction reports to the FERC. The following material would be included in the reports:

- a. the location of each additional area by station number and reference to a previously filed alignment sheet, or updated alignment sheets showing the additional areas;
- b. identification of where the Commission's records contain evidence that the additional areas were previously surveyed; and
- c. a statement that landowner approval has been obtained and is available in Project files.

Prior written approval of the Director is required when the certificated construction right-of-way width would be expanded by more than 25 feet.

3.4.2 Topsoil Segregation (FERC Plan Section IV.B., Modified)

1. Unless the landowner or land management agency specifically approves otherwise, prevent the mixing of topsoil with subsoil by stripping topsoil from either the full work area or from the trench and subsoil storage area (ditch plus spoil side method) in:
 - native desert habitats (based on desert restoration techniques found in Section 2 of this CM&R Plan);
 - annually cultivated or rotated agricultural lands and pastures;
 - hayfields;
 - residential areas; and
 - other areas at the landowner's or land managing agency's request (FERC Plan Section IV.B.1, modified).
2. In residential areas topsoil replacement (i.e., importation of topsoil) is an acceptable alternative to topsoil segregation. (FERC Plan Section IV.B.2).
3. In agricultural fields, to maintain the integrity of the temporarily displaced topsoil horizon (depth to be determined before construction), topsoil will be stripped to its actual depth up to 2 feet and stockpiled at the edge of the right-of-way so that it can be replaced, as nearly as possible, in the topsoil's original position within the soil profile.
4. Where topsoil segregation is required, maintain separation of salvaged topsoil and subsoil throughout all construction activities.
5. Segregated topsoil may not be used for padding the pipe or backfilling the trench (FERC Plan Section IV.B.5).

3.4.3 Drain Tiles (FERC Plan Section IV.C., Modified)

This section does not apply because the Project does not cross land with drain tiles.

3.4.4 Irrigation (FERC Plan Section IV.D.)

Maintain water flow in crop irrigation systems, unless shutoff is coordinated with affected parties.

3.4.5 Road Crossings and Access Points (FERC Plan Section IV.E., Modified)

Maintain safe conditions at all road crossings in accordance with the road crossing. North Baja will not use crushed stone access pads in residential or active agricultural areas, so Part 2 does not apply.

3.4.6 Temporary Erosion Control (FERC Plan Section IV.F., Modified)

North Baja does not propose to install temporary erosion controls. This is because of the level topography along most of the route and the stony soil where slopes are somewhat steeper along portions of the B-Line route east of Highway 78. In the Project area, rainfall amounts average less than 5 inches annually, but rain often occurs in intense cloudbursts that result in flash flooding, which in turn renders typical erosion controls (silt fence, hay bales, etc.) ineffective. Therefore, Part 1, regarding temporary slope breakers; Part 2, regarding sediment barriers; and Part 3, regarding mulch do not apply to this Project.

3.5 RESTORATION

3.5.1 Cleanup (FERC Plan Section V.A., Modified)

1. Commence cleanup operations immediately following backfill operations. Complete final grading, topsoil replacement, and installation of permanent erosion control structures within 20 days after backfilling the trench (10 days in residential areas). Weather compliance limitations are not applicable in this climate; therefore, part of this Part 1 does not apply.
2. Section 2 is not applicable because temporary erosion controls are not needed.
3. Rock excavated from the trench may be used to backfill the trench only to the top of the existing bedrock profile. Rock that is not returned to the trench should be considered construction debris, unless approved for use as mulch or for some other use on the construction work areas by the landowner or land managing agency.
4. Remove excess rock from at least the top 12 inches of soil in all actively cultivated or rotated cropland and pastures, hayfields, and residential areas, as well as other areas at the landowner's request. The size, density, and distribution of rock on the construction work area should be similar to adjacent areas not disturbed by construction. The landowner may approve other provisions in writing.
5. Grade the construction right-of-way to restore pre-construction contours.
6. Remove construction debris from all construction work areas unless the landowner or land managing agency approves otherwise, and the debris left behind will be in compliance with all applicable laws and regulations.

7. Section 7 does not apply because temporary erosion control measures are not applicable.

3.5.2 Permanent Erosion Control Devices (FERC Plan Section V.B.)

1. Trench Breakers

- a. Trench breakers are intended to slow the flow of subsurface water along the trench. Trench breakers may be constructed of materials such as sand bags or polyurethane foam. Do not use topsoil in trench breakers.
- b. An engineer or similarly qualified professional shall determine the need for and spacing of trench breakers. Otherwise, trench breakers shall be installed at the same spacing as and upslope of permanent slope breakers.
- c. In agricultural fields and residential areas where slope breakers are not typically required, install trench breakers at the same spacing as if permanent slope breakers were required.
- d. At a minimum, install a trench breaker at the base of slopes greater than 5 percent where the base of the slope is less than 50 feet from a waterbody or wetland and where needed to avoid draining a waterbody or wetland.

2. Permanent Slope Breakers

- a. Permanent slope breakers are intended to reduce runoff velocity, divert water off the construction right-of-way, and prevent sediment deposition into sensitive resources. Permanent slope breakers may be constructed of materials such as soil, sand bags, or some functional equivalent.
- b. Construct and maintain permanent slope breakers in all areas, except cultivated areas and lawns, using spacing recommendations obtained from the local soil conservation authority or land managing agency.

In the absence of written recommendations, use the following spacing unless closer spacing is necessary to avoid excessive erosion on the construction right-of-way:

Slope (%)	Spacing (ft.)
5 – 15	300
>15 – 30	200
>30	100

- c. Construct slope breakers to divert surface flow to a stable area without causing water to pool or erode behind the breaker. In the absence of a stable area, construct appropriate energy-dissipating devices at the end of the breaker.
- d. Slope breakers may extend slightly (about 4 feet) beyond the edge of the construction right-of-way to effectively drain water off the disturbed area. Where slope breakers extend beyond

the edge of the construction right-of-way, they are subject to compliance with all applicable survey requirements.

3.5.3 Soil Compaction Mitigation (FERC Plan Section V.C., Modified)

1. Test topsoil and subsoil for compaction at regular intervals in agricultural and residential areas disturbed by construction activities. Conduct tests on the same soil type under similar moisture conditions in undisturbed areas to identify approximate preconstruction conditions. Use penetrometers or other appropriate devices to conduct tests.

Sampling Procedure: Compaction sampling will be carried out by staff along the right-of-way at 1-mile intervals in fine-textured soils where compaction may be a concern. At least three measurements inside the right-of-way and three measurements outside the right-of-way will be taken. Measurements will be taken in line perpendicular to the centerline. Three test points will be taken along the travel corridor on the working side of the right-of-way. This is a heavily traveled area immediately adjacent to the centerline trench and is the most likely candidate for severe compaction. One point will be sampled over the approximate center of the travel corridor and two other points 5 feet in either direction. Three test points will be taken at 5 feet, 10 feet, and 15 feet outside of the right-of-way limits on the working side of the right-of-way. Penetrometer readings will be taken at a depth of 3 inches, 6 inches, and 9 inches (where soil conditions allow).

If severe compaction exists along the right-of-way (see below, *Penetration Parameters*), additional testing will be conducted at 0.1-mile intervals in either direction following the above-described methods until the area where compaction is severe has been defined.

Penetration Parameters: Penetration resistance of soils ranges from 0 pounds per square inch (PSI) to 725 PSI. Plant roots can no longer penetrate the soil mass at densities above 725 PSI. Undisturbed resistance values for native soils range from 0 to 100 PSI for sandy or organic topsoils to 300 to 500 PSI for clayey subsoil. In comparing affected to unaffected sites, an increase in penetration resistance of 300 PSI, equivalent to over one-level increase in resistance category, is a reasonable gauge of compaction. Use of cone penetrometers may be impossible in extremely rocky or gravelly desert soils. If the equipment cannot easily be used to a depth of at least 3 inches because of obstruction from rocks, gravel, or plant roots, the assumption will be that there is sufficient coarse material in the soil to ameliorate compaction and that further testing or soil manipulation is not required.

2. Plow severely compacted agricultural areas with a paraplow or other deep tillage implement. In areas where topsoil has been segregated, plow the subsoil before replacing the segregated topsoil. Alternatively, make arrangements with the landowner to plant and plow under a "green manure" crop, such as alfalfa, to decrease soil bulk density and improve soil structure. If subsequent construction and cleanup activities result in further compaction, conduct additional tilling.
3. Perform appropriate soil compaction mitigation in severely compacted residential areas.

4. Compaction is normally a concern during pipeline construction. However, based on the soils analysis conducted by North Baja (see Resource Report 7) there is little potential for compaction in the coarse-textured soils of the desert areas. Construction of the A-Line did not result in any compaction problems in native desert habitats, and revegetation progress has been very good. Soils that are poorly, somewhat poorly, or very poorly drained have compaction potential, depending on soil texture. A query of the State Soil Geographic (STATSGO) database determined that for this pipeline route, including the IID Lateral, there are **no** soils in these categories. Therefore, based on the STATSGO information, there is little potential for soil compaction.

Soil compaction testing will not be conducted in desert habitats where compaction did not occur during the construction of the A-Line. Testing completed for the A-Line indicated no areas of compaction in native desert habitats. No additional testing is needed in the same soil types and in the same areas. Soil testing will be conducted in fine-textured soils along the IID Lateral in native desert habitats. Note that no such soils have been shown to exist in the STATSGO database, and no compaction potential has been identified for these areas. However, if fine-textured soil is encountered, as identified by the Environmental Inspector or the BLM, compaction testing will be conducted, using the compaction testing procedure identified in section 1. above.

Soil Treatment: Reservation of topsoil and imprinting practices will be relied upon except in cases of severe soil compaction caused by Project activities. Soil ripping will be applied when average penetrometer readings of compacted soils on the pipeline corridor are ≥ 300 PSI more than soils unaffected by compaction. Ripping will be carried out with an implement that has as small a space between tines that can be effectively passed through the soil. Depth of ripping will be 6 to 9 inches, or as specified by inspectors. Rocks and root masses may preclude ripping in some areas.

3.5.4 Revegetation (FERC Plan Section V.D., Modified)

1. Restoration methods for desert habitats are specified in Section 2, above. Where applicable in residential areas, North Baja will restore all turf, ornamental shrubs, and specialized landscaping in accordance with the landowner's request, or compensate the landowner. Restoration work must be performed by personnel familiar with local horticultural and turf establishment practices.
2. North Baja will not use soil modifiers or seeding; therefore Parts 2 and 3 do not apply.

3.6 OFF-ROAD VEHICLE CONTROL (FERC PLAN SECTION VI., MODIFIED)

Where requested, North Baja will offer to install and maintain measures to discourage unauthorized vehicle access to the right-of-way. These may include signs or other barriers along the right-of-way. See also Section 2, above, and Appendix P, OHV Management Plan.

3.7 POST-CONSTRUCTION ACTIVITIES

3.7.1 *Monitoring and Maintenance (FERC Plan Section VII.A., Modified)*

1. Conduct follow-up inspections of all disturbed areas after the first and second growing seasons to determine the success of restoration.
2. North Baja has specified special restoration measures for desert habitats. See Section 2, above. Therefore, Part 2 of the FERC Plan Section VII.A. is modified, Part 4 is not applicable, and Part 6 is modified to recognize that full control of OHV use in the desert is not feasible. Restoration shall be considered successful in agricultural areas if crop yields are similar to adjacent undisturbed portions of the same field. Continue revegetation efforts in agricultural areas until revegetation is successful.
3. Monitor and correct problems with drainage and irrigation systems resulting from pipeline construction in active agricultural areas until restoration is successful.
4. (Not applicable—modified by Section 2, above).
5. To facilitate periodic corrosion and leak surveys, a corridor not exceeding 10 feet in width centered on the pipeline may be maintained annually.
6. In native desert habitats, restoration shall be considered successful if the right-of-way is similar in species composition to adjacent undisturbed lands.

Post-construction monitoring would be conducted annually in areas of native desert habitats disturbed by construction through 2012. Results of the monitoring will be provided in full reports to the FERC, BLM, CSLC, BOR, FWS, and CDFG. If, after 5 years of monitoring where rainfalls have been at least average for the area, revegetation of the construction work area in native desert habitats is determined to be unsuccessful, North Baja will consult with FERC, BLM, CSLC, BOR, FWS, and CDFG and develop a remedial restoration plan for desert revegetation. The remedial plan will be based upon assessments of the extent of the failure, the reasons for the failure, and conditions on the right-of-way, such as whether a viable seed source still exists in the soil. It is very unlikely that a remedial plan would include irrigation, which is impracticable in most settings along the pipeline. Options may include selective re-scarification of the surface, with or without supplemental seeding, or allowing more time for natural regeneration to occur. For each year that rainfall amounts have been less than 80 percent of average after 1 drought year subsequent to construction, an additional year shall be granted beyond the initial 5 years for native vegetation to establish before North Baja would be obliged to examine remedial measures.

7. Efforts to discourage unauthorized off-road vehicle use, in cooperation with the landowner, shall continue throughout the life of the Project. Maintain signs, gates, and vehicle trails as necessary.

3.7.2 Reporting (*FERC Plan Section VII.B., Modified*)

1. Part 1 of Section VII.B. is not applicable because no soil modifiers or seeding is necessary or proposed for the Project.
2. North Baja shall file with the FERC and the CSLC quarterly activity reports documenting problems, including those identified by the landowner, and corrective actions taken for at least 2 years following construction.

4.0 WETLANDS AND WATERBODIES

4.1 APPLICABILITY (FERC PROCEDURES SECTION I., MODIFIED)

- A. The intent of these Procedures is to minimize the extent and duration of Project-related disturbance of wetlands and waterbodies. North Baja has specified measures considered unnecessary, technically infeasible, or unsuitable due to local conditions, and has described any alternatives herein.

Once a Project is certificated, further changes can be approved. Any such changes from the measures in these Procedures (or the Applicant's approved CM&R Plan) will be approved by the Director of the Office of Energy Projects (Director), upon the Applicant's written request, if the Director agrees that an alternative measure:

1. provides equal or better environmental protection;
2. is necessary because a portion of these Procedures is infeasible or unworkable based on Project-specific conditions; or
3. is specifically required in writing by another Federal, State, or Native American land management agency for the portion of the Project on its land or under its jurisdiction.

Project-related impacts on non-wetland areas are addressed in the staff's Upland Erosion Control, Revegetation, and Maintenance Plan (Plan).

B. Definitions

1. "Waterbody" includes any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes:
 - a. "minor waterbody" includes all waterbodies less than or equal to 10 feet wide at the water's edge at the time of crossing;
 - b. "intermediate waterbody" includes all waterbodies greater than 10 feet wide but less than or equal to 100 feet wide at the water's edge at the time of crossing;
 - c. "major waterbody" includes all waterbodies greater than 100 feet wide at the water's edge at the time of crossing.
2. "Wetland" includes any area that is not in actively cultivated or rotated cropland and that satisfies the requirements of the current Federal methodology for identifying and delineating wetlands.

4.2 PRECONSTRUCTION FILING (FERC PROCEDURES SECTION II, MODIFIED)

- A. North Baja shall file with the Secretary before construction the hydrostatic testing information and an updated wetland delineation report, if needed. North Baja will not use underwater blasting on the Project. Trenching will be used in a waterbody only to cross Rannells Drain, which is covered in Section 4.5.2, Paragraph 4, of this CM&R Plan.
- B. North Baja shall file the following site-specific construction plans with the FERC for review and written approval by the Director of OEP before construction.
 - 1. Part 1 does not apply because as no extra workspaces are planned within 50 feet of a waterbody.
 - 2. Part 2 does not apply because there are no major waterway crossings except as covered in 4, below.
 - 3. Part 3 does not apply because the construction right-of-way in the only wetlands crossed by trenching is covered in Section 4.6, below.
 - 4. Horizontal directional drill plans for “crossing” the Colorado River, the AAC, and the East Highline Canal.

4.3 ENVIRONMENTAL INSPECTORS (FERC PROCEDURES SECTION III, MODIFIED)

- A. At least two Environmental Inspectors having knowledge of the wetland and waterbody conditions in the Project area are required for each construction spread. The number and experience of Environmental Inspectors assigned to each construction spread should be appropriate for the length of the construction spread and the number/significance of resources affected.
- B. The Environmental Inspector's responsibilities are outlined in Section 3.2.2, above.

4.4 PRECONSTRUCTION PLANNING

4.4.1 Stormwater Pollution Prevention Plan (FERC Procedures Section IV.A., Modified)

- A. A copy of the SWPPPs that would be prepared in accordance with the requirements of the Arizona Department of Environmental Quality, Division of Water Quality and the California Regional Water Quality Control Board, Colorado River Basin Region must be available in the field on each construction spread. The SWPPPs shall contain Spill Prevention and Response Procedures that meet the requirements of applicable agencies.

1. North Baja and its contractors will structure their operations in a manner that reduces the risk of spills or the accidental exposure of fuels or hazardous materials to waterbodies or wetlands.
 - a. all employees handling fuels and other hazardous materials are properly trained;
 - b. all equipment is in good operating order and inspected on a regular basis;
 - c. fuel trucks transporting fuel to on-site equipment travel only on approved access roads;
 - d. all equipment is parked overnight and/or fueled at least 100 feet from a waterbody or in an upland area, at least 100 feet from a wetland boundary, and at least 200 feet from any private, municipal or community water well. These activities can occur closer only if the Environmental Inspector finds, in advance, no reasonable alternative and the Project sponsor and its contractors have taken appropriate steps (including secondary containment structures) to prevent spills and provide for prompt cleanup in the event of a spill;
 - e. hazardous materials, including chemicals, fuels, and lubricating oils, are not stored within 200 feet of a wetland, 200 feet from private wells, and 400 feet from municipal water supply wells, unless the location is designated for such use by an appropriate governmental authority. This applies to storage of these materials and does not apply to normal operation or use of equipment in these areas; and
 - f. concrete coating activities are not performed within 100 feet of a wetland or waterbody boundary, unless the location is an existing industrial site designated for such use.
 2. North Baja and its contractors will structure their operations in a manner that provides for the prompt and effective cleanup of spills of fuel and other hazardous materials. North Baja will:
 - a. ensure that each construction crew (including cleanup crews) has on hand sufficient supplies of absorbent and barrier materials to allow the rapid containment and recovery of spilled materials and knows the procedure for reporting spills;
 - b. ensure that each construction crew has on hand sufficient tools and material to stop leaks;
 - c. know the contact names and telephone numbers for all local, State, and Federal agencies (including, if necessary, the U. S. Coast Guard and the National Response Center) that must be notified of a spill; and
 - d. follow the requirements of those agencies in cleaning up the spill, in excavating and disposing of soils or other materials contaminated by a spill, and in collecting and disposing of waste generated during spill cleanup.
- B. North Baja shall coordinate with the appropriate local, State, and Federal agencies.

4.5 WATERBODY CROSSINGS

4.5.1 Notification Procedures and Permits (FERC Procedures Section V.A., Modified)

1. North Baja will apply to the U.S. Army Corps of Engineers (COE) for the appropriate wetland and waterbody permits required for the proposed construction activities.
2. Part 2 does not apply because there are no potable surface water supply intakes within 3 miles downstream of the proposed crossing.
3. North Baja will apply for State-issued waterbody crossing permits and obtain a Section 401 Water Quality Certification.

4. Notify appropriate State authorities at least 48 hours before trenching within the waterbody, or as specified in State permits.

4.5.2 Installation (FERC Procedures Section V.B., Modified)

1. Time windows for construction do not apply, since fisheries are not affected. North Baja will cross the Colorado River, the AAC (three crossings) and the East Highline Canal using the horizontal directional drill method, and no instream work will occur. The other waterbodies crossed by the proposed Project (with the exception of Rannells Drain) are canals, drainage ditches, or streams (Alamo River) that will be crossed within county or private roads using existing culverts and road fill or bored beneath the canal structure. Rannells Drain, which is not a classified fishery, will be the only waterbody crossed using the open-cut method.
2. Extra Work Areas
 - a. Locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from water's edge, except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land.
 - b. North Baja will file with the Secretary for review and written approval by the Director, a site-specific construction plan for each extra work area with a less than 50 foot setback from the water's edge, (except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land) and a site-specific explanation of the conditions that will not permit a 50-foot setback.
 - c. Limit clearing of vegetation between extra work areas and the edge of the waterbody to the certificated construction right-of-way.
 - d. Limit the size of extra work areas to the minimum needed to construct the waterbody crossing.
3. General Crossing Procedures
 - a. Comply with the Section 404 permit and Section 401 Water Quality Certification in addition to terms and conditions of other applicable permits.
 - b. Construct crossings as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions permit.
 - c. If the pipeline parallels a waterbody, attempt to maintain at least 15 feet of undisturbed vegetation between the waterbody (and any adjacent wetland) and the construction right-of-way.
 - d. Part d does not apply because the waterways crossed do not meander or have multiple channels.
 - e. Maintain adequate flow rates to protect aquatic life, and prevent the interruption of existing downstream uses.

- f. Waterbody buffers (extra work area setbacks, refueling restrictions, etc.) must be clearly marked in the field with signs and/or highly visible flagging until construction-related ground disturbing activities are complete.
- 4. Spoil Pile Placement and Control
 - a. All spoil must be placed in the construction right-of-way at least 10 feet from the water's edge or in additional extra work areas.
 - b. Use sediment barriers to prevent the flow of spoil into any waterbody.
- 5. Part 5 does not apply because no equipment bridges are proposed for the Project.
- 6. Part 6 does not apply because no dry-ditch crossing methods are proposed for the Project.
- 7. Part 7 does not apply because no minor waterbody crossings are proposed for the Project.
- 8. Crossings of Intermediate Waterbodies (applies only to the open-cut crossing of Rannells Drain)
 - a. Attempt to complete trenching and backfill work within the waterbody (not including bank grading) within 72 hours, unless site-specific conditions make completion within 72 hours infeasible.
 - b. Limit use of equipment operating in the waterbody to that needed to construct the crossing.
- 9. Part 9 does not apply because no major waterbody crossings are proposed for the Project.
- 10. Temporary Erosion and Sediment Control (applies only to Rannells Drain Crossing)

North Baja will install sediment barriers immediately after disturbance of Rannells Drain or the adjacent upland. Sediment barriers must be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete. Temporary erosion and sediment control measures are addressed in more detail in the Plan; however, the following specific measures must be implemented at stream crossings:

- a. install sediment barriers across the entire construction right-of-way at all waterbody crossings, where necessary to prevent the flow of sediments into the waterbody. In the travel lane, these may consist of removable sediment barriers or driveable berms. Removable sediment barriers can be removed during the construction day, but must be re-installed after construction has stopped for the day and/or when heavy precipitation is imminent;
- b. where waterbodies are adjacent to the construction right-of-way, install sediment barriers along the edge of the construction right-of-way as necessary to contain spoil and sediment within the construction right-of-way; and

- c. use trench plugs at all waterbody crossings, as necessary, to prevent diversion of water into upland portions of the pipeline trench and to keep any accumulated trench water out of the waterbody.

11. Trench Dewatering.

Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in heavily silt-laden water flowing into any waterbody. Remove the dewatering structures as soon as possible after the completion of dewatering activities.

4.5.3 Restoration (FERC Procedures Section V.C., Modified)

1. Part 1 does not apply because there are no cold-water fisheries crossed by the Project.
2. For open-cut crossings, stabilize waterbody banks and install temporary sediment barriers within 24 hours of completing instream construction activities. There are no dry-ditch crossings for the Project.
3. Return all waterbody banks to preconstruction contours or to a stable angle of repose as approved by the Environmental Inspector.
4. Part 4 does not apply because riprap will not be used on the Project.
5. Part 5 does not apply because riprap will not be used on the Project.
6. Part 6 does not apply because the Project will not disturb any riparian areas.
7. Part 7 is covered in Section 3.5.2, above, and will apply to Rannell's Drain crossing only.
8. Part 8 does not apply because there are no perennial or intermittent streams crossed by the Project.

4.5.4 Post-Construction Maintenance (FERC Procedures Section V.D., Modified)

1. Vegetation maintenance adjacent to waterbodies or in dry washes will be limited to that needed to facilitate periodic pipeline corrosion/leak surveys. This part is modified to reflect that the Project does not impact any riparian areas and includes dry wash crossings not covered in the Procedures.
2. No herbicides or pesticides will be used in or within 100 feet of a waterbody except as specified by the appropriate land management or State agency.

4.6 WETLAND CROSSINGS (FERC PROCEDURES SECTION VI, MODIFIED)

4.6.1 General (FERC Procedures Section VI.A., Modified)

1. North Baja has completed wetland delineations along the North Baja Project route. Eighteen wetlands were identified with a total crossing length of 14,493 feet. Construction impact on six of the wetlands will be avoided by the directional drills of the Colorado River (two wetlands), the AAC (two wetlands), and the East Highline Canal (two wetlands). Of the remaining twelve wetlands, three will be avoided by building in the roadway (IID Lateral at the Alamo River, Acacia Lateral Canal, and Alder Lateral Canal). The other nine wetlands, all sodic seasonal wetlands with non-native tamarisk as the dominant vegetation, will be trenched, for a total crossing length of 13,660 feet.
2. North Baja routed its pipeline to avoid wetlands to the maximum extent possible. Where the B-Line crosses wetlands, it does so only 25 feet from the existing A-Line.
3. The B-Line width through the sodic seasonal wetlands in the wetlands covered by the FERC Procedures will be 105 feet. The degraded nature of the wetland and the extensive and rapidly invading presence of tamarisk does not warrant right-of-way narrowing in this area. Following post-construction of the A-line, representative vegetative sampling plot locations were established to monitor the revegetation of impacted areas. These surveys were conducted twice per year for the first 2 years and continue to be conducted annually. North Baja has filed annual reports with FERC, CSLC, BLM, and CDFG as agreed in the CM&R Plan for the A-Line construction. These reports document revegetation of native and nonnative species. Representative plot locations established within these monotypic tamarisk wetlands have shown rapid re-establishment of tamarisk with a range of cover between 5 to 40 percent, and limited species diversity of shrubs. Colonization of these wetlands consists almost entirely of tamarisk with several individuals of salt bush (*Atriplex lentiformes*). These wetland areas contain very high concentrations of salts, which precludes colonization of most native vegetation, with the exception of salt bush and iodine bush.
4. Wetland boundaries and buffers will be clearly marked in the field until construction-related ground-disturbing activities are complete.
5. Part 5 does not apply because no water crossing is located within a wetland.
6. Part 6 does not apply because no aboveground facilities will be located in wetlands.

4.6.2 Installation (FERC Plan Section VI.B., Modified)

1. Extra Work Areas and Access Roads

- a. North Baja will locate all extra work areas (such as staging areas and additional spoil storage areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of actively cultivated or rotated cropland or other disturbed land. Exceptions are listed in Table E-2, below.
- b. Table E-2, below, lists needed extra workspaces in wetlands and includes a brief explanation of the need for each workspace. North Baja does not believe additional drawings are needed.

Table E-2 Extra Workspaces Needed in Wetlands						
Approximate Milepost	County, State	Wetland Identifier	Need for EWS	Orientation to ROW	Disturbance Acres	
					Total	New
Arrowhead Extension						
No Wetlands						
B-Line						
28.2	Imperial, CA	N68-WE-29	Horizontal Bore, Hwy 78	East	0.1	0.0
28.3	Imperial, CA	N69-WE-29	Horizontal Bore, Hwy 78	East	0.2	0.0
28.5	Imperial, CA	N70-WE-29	Offset EWS to avoid powerline	West	0.5	0.5
31.9	Imperial, CA	CWE-5	Offset EWS to avoid steep sideslopes and powerline	East	1.5	0.0
32.1	Imperial, CA	CWE-5	Offset EWS to avoid steep sideslopes and powerline	West	0.3	0.3
IID Lateral						
27.5	Imperial, CA	East Highline Canal – East	Set up area for HDD Pullback	South	0.1	0.1
			Total Acres		2.7	0.9

- c. North Baja will limit clearing of vegetation between extra work areas and the edge of the wetland to the certificated construction right-of-way.
- d. The construction right-of-way may be used for access when the wetland soil is firm enough to avoid rutting or the construction right-of-way has been appropriately stabilized to avoid rutting (e.g., with timber riprap, prefabricated equipment mats, or terra mats). In wetlands that cannot be appropriately stabilized, all construction equipment other than that needed to install the wetland crossing shall use access roads located in upland areas. Where access roads in upland areas do not provide reasonable access, limit all other construction equipment to one pass through the wetland using the construction right-of-way.
- e. The only access road that crosses a wetland is an existing access road.

2. Crossing Procedures

- a. Comply with the Section 404 permit and Section 401 Water Quality Certification in addition to terms and conditions of other applicable permits.

- b. Assemble the pipeline in an upland area unless the wetland is dry enough to adequately support skids and pipe.
 - c. Use "push-pull" or "float" techniques to place the pipe in the trench where water and other site conditions allow.
 - d. Minimize the length of time that topsoil is segregated and the trench is open.
 - e. Limit construction equipment operating in wetland areas to that needed to clear the right-of-way, separate and stockpile topsoil, dig the trench, fabricate and install the pipeline, backfill the trench, and restore the right-of-way.
 - f. Cut vegetation just above ground level, leaving existing root systems in place, and remove it from the wetland for disposal if the wetland is dominated by native species.
 - g. All tamarisk trees and shrubs will be removed, including stumps and root systems, and either burned or disposed using covered dump trucks to approved public facilities.
 - h. Segregate the top 1 foot of topsoil from the area disturbed by trenching except in areas where standing water or saturated soils are present. After backfilling is complete, restore the segregated topsoil to its original location.
 - i. Do not use rock, soil imported from outside the wetland, tree stumps, or brush riprap to stabilize the right-of-way.
 - j. If standing water or saturated soils are present, use low-ground-weight construction equipment, or operate normal equipment on timber riprap, prefabricated equipment mats or terra mats.
 - k. Part k does not apply because timbers will not be used on the Project.
 - l. Part l does not apply because timbers will not be used on the Project.
 - m. Remove all Project-related material used to support equipment on the construction right-of-way upon completion of construction.
3. Temporary Sediment Control
- Wetland crossings on the Project are constructed in flat terrain. No sediment controls are needed and Part 3 does not apply.
4. Trench Dewatering
- a. Dewater the trench (either on or off the construction right-of-way) in a manner that does not cause erosion and does not result in heavily silt-laden water flowing into any wetland. Adhere to all applicable permits, including water quality sampling and monitoring as required. Remove the dewatering structures as soon as possible after the completion of dewatering activities.

4.6.3 Restoration (FERC Plan Section VI.C., Modified)

1. Where the pipeline trench may drain a wetland, construct trench breakers and/or seal the trench bottom as necessary to maintain the original wetland hydrology.
2. Wetland crossings on the Project are constructed in flat terrain. No trench breakers, slope breakers or sediment barriers are needed and Part 2 does not apply.
3. Do not use fertilizer, lime, or mulch unless required in writing by the appropriate land management or State agency.
4. Since the only wetlands that are crossed by trenching are sodic seasonal wetlands with monotypic tamarisk vegetation within and adjacent to the existing and proposed right-of-way, North Baja does not propose any restoration beyond that specified in Section 2, above. During construction of the A-Line, the manager of the Cibola NWR requested that sheepsfooting not be used, and North Baja is not proposing to use sheepsfooting in these wetlands after B-Line construction. Therefore, parts 4, 5, and 6 do not apply. No temporary sediment barriers are necessary or proposed; therefore, Part 7 does not apply.

4.6.4 Post-Construction Maintenance (FERC Plan Section VI.D., Modified)

1. Do not conduct vegetation maintenance over the full width of the permanent right-of-way in wetlands. However, to facilitate periodic pipeline corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide may be maintained in a herbaceous state. In addition, trees within 15 feet of the pipeline that are greater than 15 feet in height may be selectively cut and removed from the right-of-way.
2. Do not use herbicides or pesticides in or within 100 feet of a wetland, except as allowed by the appropriate land management agency or State agency.
3. Monitoring and success criteria are specified in Section 2, above. Therefore, parts 3 and 4 do not apply.

4.7 HYDROSTATIC TESTING

4.7.1 Notification Procedures and Permits (FERC Plan Section VII.A.)

1. Apply for State-issued withdrawal permits, as required.
2. Apply for National Pollutant Discharge Elimination System (NPDES) or State-issued discharge permits, as required.
3. Notify appropriate State agencies of intent to use specific sources at least 48 hours before testing activities unless they waive this requirement in writing.

4.7.2 General (FERC Plan Section VII.B.)

1. North Baja will perform 100 percent radiographic inspection of all pipeline section welds or hydrotest the pipeline sections, before installation under waterbodies or wetlands.
2. If pumps used for hydrostatic testing are within 100 feet of any waterbody or wetlands, address the operation and refueling of these pumps in the SPCC Plan.
3. North Baja will file with the Secretary before construction a list identifying the location of all waterbodies proposed for use as a hydrostatic test water source or discharge location.

4.7.3 Intake Source and Rate (FERC Plan Section VII.C.)

1. Screen the intake hose to prevent entrainment of fish.
2. North Baja will not use State-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate Federal, State, and/or local permitting agencies grant written permission.
3. Maintain adequate flow rates to protect aquatic life, provide for all waterbody uses, and provide for downstream withdrawals of water by existing users.
4. Hydrostatic test manifolds will be located outside wetlands and riparian areas to the maximum extent practicable.

4.7.4 Discharge Location, Method, and Rate (FERC Plan Section VII.D., Modified)

1. Regulate discharge rate, use energy dissipation device(s), and install sediment barriers, as necessary, to prevent erosion, streambed scour, suspension of sediments, or excessive streamflow. Adhere to all applicable permits, including water quality sampling and monitoring as required.
2. Do not discharge into State-designated exceptional value waters, waterbodies which provide habitat for federally listed threatened or endangered species, or waterbodies designated as public water supplies, unless appropriate Federal, State, and local permitting agencies grant written permission.

APPENDIX F

SPILL PREVENTION, CONTAINMENT, AND CONTROL PLAN FOR HAZARDOUS MATERIALS AND WASTES



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix F

Spill Prevention, Containment, and Control Plan for Hazardous Materials and Wastes

Prepared by



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February 2006

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Attachment C	Contractor's Emergency Response Plan Form
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Attachment E	Table 1 - Waste Cross-Reference Table 2 - Waste Quick Reference Guide and Waste Designations for Hazardous Wastes, Universal Wastes, Special Wastes, and Recyclable Hazardous Materials including Used Oil

Appendix F

Spill Prevention, Containment, and Control Plan for Hazardous Materials and Wastes

1.0 INTRODUCTION

1.1 PURPOSE OF THE SPILL PREVENTION, CONTAINMENT AND CONTROL PLAN

This Spill Prevention, Containment and Control (SPCC) Plan¹ has been developed as a good management practice to provide guidelines for hazardous materials (including oil) and hazardous waste management, to prevent releases to the environment, and to plan actions to take in the event of a release.

This SPCC Plan applies to planning and construction through initial operation of the North Baja Expansion Project, including the Arrowhead Extension and IID Lateral. Activities of North Baja Pipeline staff and its Contractors are subject to the requirements of this SPCC Plan. This SPCC Plan will be followed in the event of a release of oil, hazardous material or waste to the environment.

1.2 NORTH BAJA EXPANSION PROJECT DESCRIPTION

The North Baja Pipeline Expansion Project (Project) will construct a new natural gas pipeline to connect with the Gasoducto Bajanorte Pipeline at the U.S.-Mexico border and to the existing North Baja facilities and the El Paso Natural Gas system in Ehrenberg, Arizona. In addition, new connections will be made with the Southern California Gas Company (SoCalGas) system near Blythe, California, and with the Imperial Irrigation District's (IID) El Centro Generating Station in El Centro, California. The proposed Project will be constructed in phases, with the first phase planned for construction in 2007, the IID Lateral for 2008, and the final phase of the North Baja Expansion in 2009, pending completion of upstream liquefied natural gas (LNG) terminal facilities.

¹ This SPCC Plan has been developed to meet the intent of FERC requirements for spill prevention, containment and control plans; oil spill prevention control and countermeasure provisions of 40 CFR 112; the environmental emergency preparedness and prevention provisions of 40 CFR Subparts C and D for hazardous waste management; Arizona Administrative Code, Title 18, Chapter 8 and Title 22 of California Code of Regulations on hazardous waste management; and, California Business Plan requirements for hazardous materials management.

The Project includes three elements: the B-Line, which includes interconnection facilities in Ehrenberg, Arizona, as well as a 79.8-mile, 42- and 48-inch diameter pipeline between Blythe and the Mexican border; the Arrowhead Extension, which includes a meter station and a 2.1-mile, 36-inch diameter pipeline extending from the proposed B-Line at milepost 7.4 to SoCalGas' existing Blythe Compressor Station; and the Imperial Irrigation District Lateral (IID Lateral), a 46-mile, 16-inch diameter pipeline between the B-Line and IID's El Centro Generating Station.

1.3 RESPONSIBILITIES UNDER THIS SPCC PLAN

1.3.1 North Baja Pipeline Expansion Project Representatives

The Chief Inspector (CI) will evaluate and approve each construction contractor's (Contractor) submittal under this SPCC Plan. The Project Environmental Inspector (EI) will oversee implementation of this SPCC Plan and of the Contractor's plans and submittals incorporated by reference. The EI will conduct regular inspections of Contractor activities and identify any issues that may require correction. The EI has the authority to stop construction to correct issues, if necessary.

North Baja Pipeline Expansion Project Representatives

Function	Name	Location	Telephone No.
North Baja Pipeline Expansion Project Manager (PM):			
Chief Inspector (CI):			
Environmental Inspector (EI):			
Emergency Response Coordinator: Primary			
Emergency Response Coordinator: Secondary			
Emergency Response Contractors: (Company/Responsibility)			
Spill Response:			
Transportation Services:			
Site Remediation:			

1.3.2 Contractor Responsibilities

The Contractor will prepare plans and submittals under this SPCC Plan that will include activities of Contractor and its Subcontractors. Contractor will ensure that such documents are maintained current and complete, and that this SPCC Plan is fully implemented.

APPENDIX F**Primary Contractor Representatives**

	Name	Location	Telephone No.
Contractor:			
On-Site Foreman:			
Emergency Response Coordinator: Primary			
Emergency Response Coordinator: Secondary			
Environmental Contact:			
Safety Representative:			

Subcontractor Representatives

	Name	Location	Telephone No.
Subcontractor:			
On-Site Foreman:			
Emergency Response Coordinator: Primary			
Emergency Response Coordinator: Secondary			
Environmental Contact:			
Safety Representative:			
Scope of Subcontract:			

Subcontractor Representatives

	Name	Location	Telephone No.
Contractor:			
On-Site Foreman:			
Emergency Response Coordinator: Primary			
Emergency Response Coordinator: Secondary			
Environmental Contact:			
Safety Representative:			
Scope of Subcontract:			

Subcontractor Representatives

	Name	Location	Telephone No.
Contractor:			
On-Site Foreman:			
Emergency Response Coordinator: Primary			
Emergency Response Coordinator: Secondary			
Environmental Contact:			
Safety Representative:			
Scope of Subcontract:			

Responsibilities identified as “Contractor” in subsequent sections of this SPCC Plan apply to each Contractor and Subcontractor.

2.0 SPILL PREVENTION PRACTICES

2.1 SITE SELECTION

Site selection for Project staging areas where hazardous materials and hazardous wastes may be present have considered and avoided environmentally sensitive areas. These sites are located at least 100 feet from water bodies and 200 feet from any private, municipal or community water well. Hazardous materials and wastes may not be stored, handled or used in an area that has not been approved for that purpose by the CI.

2.2 HAZARDOUS MATERIALS AND WASTE MANAGEMENT

Each Contractor is required to develop a site-specific Contractor's Hazardous Materials and Waste Management Plan (Attachment A) that identifies the hazardous materials that the Contractor will use and the wastes that the Contractor may generate during Project activities. This includes MSDSs or waste designation information, quantities, locations of storage and use, container or tank used, secondary containment, and inspection procedures.

2.2.1 Hazardous Materials

No new hazardous material may enter the job site without an amendment to the Contractor's Hazardous Materials and Waste Management Plan and without the express approval of the EI.

Usable hazardous materials will be removed by Contractor for its future use upon completion of work on-site.

2.2.2 Wastes

Each waste generated will be evaluated for appropriate waste designation and appropriate disposal.

2.2.2.1 Rights-of-Way and Sites Owned or Leased by the North Baja Pipeline Expansion Project

Wastes generated at the right-of-way and at sites owned or leased by North Baja that have potential of being hazardous waste will be returned to the approved staging point, whereupon the EI will be notified. As necessary, Contractor will sample wastes and request assistance of the EI in waste management.

The Project EI is responsible for designation of hazardous waste, universal waste, special waste or recyclable hazardous materials in accordance with North Baja's guidelines (Attachment E) and State-specific requirements (22 California Code of Regulations and Title 18, Chapter 8 of Arizona Administrative Code).

Regulated wastes will be placed into North Baja-approved containers, maintained in good condition, maintained closed and appropriately labeled. Containers will be in an approved area and EI will be notified of the waste activity. North Baja Representatives will arrange for appropriate disposal of regulated wastes.

2.2.2.2 Contractor Leased Facility

Contractor is responsible for disposal of non-hazardous waste generated as a result of on-site activities where the staging point is the Contractor's leased facility.

Contractor will manage used oil and antifreeze generated by its equipment maintenance activities as required by Federal and State regulations.

Contractor is responsible for appropriate waste designation, management of wastes and appropriate disposal for wastes generated at Contractor's Leased Facility.

2.2.2.3 Domestic Sewage

Domestic sewage will be handled by means of portable self-contained toilets during constructions that are stationed at central locations and reasonable distances throughout the work area.

2.2.2.4 Waste Disposal On-Site Prohibited

In no case will any waste material be disposed of at the job site, right-of-way location, or adjacent property.

2.3 SPILL PREVENTION

The Contractor will store, handle, and transfer fluids used during construction so as to prevent the release of spill of oil or other hazardous materials. Materials that are likely to be used in construction equipment include gasoline, diesel fuel, hydraulic fluid, and lubricating oils.

2.3.1 Tank and Container Specifications

Specifications for tanks and containers must meet generally approved standards (including but not limited to supplier's recommendations and specifications of the U.S. Department of Transportation (DOT) and California Highway Patrol (CHP)). In meeting these standards, tanks

and containers must continuously be of integrity and condition to be acceptable for storage and transportation.

2.3.2 Dispensing and Transfer

Dispensing and transfer of hazardous materials and wastes must occur in accordance with nationally recognized standards. This includes bonding or grounding during transfer of flammable liquids. Contractor will inspect transfer of hazardous materials and waste.

Transfer of liquids and refueling will occur only at approved locations that are at least 100 feet away from any wetlands or surface waters, and 200 feet from any private, municipal or community water well, with certain exceptions noted below (see Section 2.3.4, Setback Exceptions).

Crew must have adequate spill response equipment available at the dispensing or transfer location.

Repair/overhaul of equipment will not occur at the right-of-way or temporary work space except for emergency type repair of short duration. Any liquids will be collected in suitable containers and appropriately disposed of.

When materials are transferred from a storage tank or container to a vehicle, the Contractor will:

- operate during daylight hours or where lighting is adequate to illuminate the area;
- monitor the transfer operations at all times;
- refuel at least 100 feet from wetlands or surface waters and at least 200 feet from potable water supplies, with certain exceptions noted below,
- keep sufficient spill control materials on site; and
- in the event of a spill, implement the spill response procedures.

2.3.3 Materials Storage

When materials are stored in a fuel storage tank, the Contractor will:

- locate the tank at least 200 feet from wetlands, 200 feet from private wells, and 400 feet from municipal water supply wells, with certain exceptions noted below (see Section 2.3.4, Setback Exceptions);
- install a temporary earthen berm around the tank and line it with plastic to provide containment;
- inspect the tank, berm and liner daily;
- correct any conditions that could result in a spill, leak, or compromise the integrity of the secondary containment;
- plug or close all tank openings when not in use;

- remove any precipitation from the bermed area with a pump (Note: inspect precipitation for an oil sheen and, if sheen is present, collect the liquid for disposal.)
- keep sufficient spill control materials on site.

When materials are stored in a container, the Contractor will:

- store containers at least 100 feet from wetlands with certain exceptions noted below (see Section 2.3.4, Setback Exceptions);
- use small containers which are in good condition (maximum capacity 55 gallons);
- protect the containers from the elements and physical damage;
- replace any leaking or damaged containers;
- close containers when not in use; and
- keep sufficient spill control materials on site.

2.3.4 Setback Exceptions

The dispensing and transfer (e.g., refueling) setbacks identified above may not be practical for certain construction activities in certain locations. Exceptions may only be allowed for:

- areas such as rugged terrain or steep slopes where movement of equipment to refueling stations would cause excessive disturbances to the surface of the right-of-way;
- construction sites where moving equipment to refueling stations is impractical or where there is a natural barrier from the waterbody or wetland (e.g., road or railroad);
- locations where the waterbody or wetland is located adjacent to a road crossing from which the equipment can be serviced; and
- refueling and fuel storage for immobile equipment (including but not limited to bending and boring machines, air compressors, hydrotest fill pumps).
- All exceptions to the required setbacks must be approved by the environmental inspector.

In these situations, the Contractor shall exercise extreme caution during fueling and lubrication of equipment and all other oil and hazardous materials transfers.

2.3.5 Equipment for Safe Tank Operation

Tanks will be equipped with all standard safety equipment required for the specification packaging and its use.

2.3.6 Separation of Incompatible Materials

Incompatible materials will be stored in areas separated in accordance with nationally recognized standards. Incompatible materials will not be consecutively placed into a container or tank. In addition, sources of ignition will be prohibited in hazardous materials and wastes' areas.

2.3.7 Labeling, Marking and Placarding

Each cylinder, container and tank will be appropriately identified with contents as per OSHA requirements (see samples in Attachment B). Containers and tanks used for transport of hazardous materials and wastes will be marked and labeled in accordance with U.S. DOT requirements (e.g., Proper Shipping Name, UN/NA Number, Hazard Class labels or placards). In addition, tanks will be labeled in accordance with National Fire Protection Association (NFPA), where required by the local jurisdiction.

Approved areas for hazardous materials and waste will be secured against unauthorized entry and vandalism.

2.4 SECONDARY CONTAINMENT

2.4.1 Approved Secondary Containment

Approved secondary containment will be provided for each tank and each container with a capacity of 5 gallons or more.

2.4.2 Minimum Standards for Secondary Containment

Minimum standards for secondary containment are as follows:

2.4.2.1 Containers

Secondary containment for containers with 5 or more gallons capacity may include: a temporary containment area with temporary earthen berms and contiguous 10 mil polyethylene containment; or it may consist of a portable containment system constructed of PVC or other suitable material.

Secondary containment volume will be at least 110 percent of the aggregate volume of hazardous materials and wastes stored.

2.4.2.2 Tanks

Secondary containment for tanks will be provided that includes tank and the dispensing area.

Secondary containment volume will be 110 percent of the volume of the largest tank of hazardous materials and wastes stored. Tanks should be elevated a minimum of 2 feet above grade.

2.4.2.3 Contractor's Secondary Containment

Secondary containment provided by the Contractor must meet these minimum standards and must be implemented as proposed in the Contractor's Hazardous Materials and Waste Management Plan.

2.5 REGULAR INSPECTIONS

Contractor will conduct regular inspections at locations where hazardous materials and wastes are stored, handled and dispensed. Inspections will follow site-specific procedures in the approved Contractor's Hazardous Materials and Waste Management Plan. Inspections to include availability of emergency response equipment.

The source of any container or tank leak will be stopped immediately and residual wastes will be aggregated, designated and properly disposed of. Any leaking container will be immediately overpacked.

All vehicles (e.g., trucks, side-booms, dozers, etc.) shall be:

- inspected daily for leaks or signs of deterioration which could result in a leak;
- repaired when defective tanks, hoses, fittings, etc. are found; and
- parked at least 100 feet from waterbodies or wetlands, with certain exceptions noted above (see Setback Exceptions, Section 2.3.4).

The EI will provide oversight to Contractor's activities on hazardous materials and waste management.

3.0 EMERGENCY PREPAREDNESS

Each Contractor is required to develop a Contractor's Emergency Response Plan (ER Plan, Attachment C) for environmental emergency preparedness and response. The Plan is appropriate for the hazardous materials and wastes used and generated. The initial ER Plan will be approved by the CI. This ER Plan will be maintained current: subsequent revisions may be approved by the EI.

Contractor will maintain adequate resources, including:

- Emergency response coordinators;
- Fire-fighting equipment (such as portable fire extinguishers);
- Spill control and cleanup equipment (absorbent materials such as pads, pillows, booms and socks, non-sparking shovels, etc.);
- Appropriate personal protective equipment; and,
- Contractor's ER Plan.

3.1 EMERGENCY RESPONDERS

Contractor will designate personnel responsible for incident or emergency response, in the event of a release to the environment. Contractor will ensure that emergency responders identified will have appropriate training in environmental emergency or incident preparedness, prevention and response. Contractor's emergency contact information will be maintained current.

In addition, North Baja will designate primary and secondary emergency response coordinators. North Baja emergency response coordinators will have the authority to commit necessary resources to respond to environmental releases and to conduct cleanup.

3.2 EMERGENCY RESPONSE EQUIPMENT

3.2.1 Contractor's Spill Containment and Cleanup Resources

3.2.1.1 On-site Equipment

Contractor will have available, adequate spill containment and cleanup resources that are appropriate to their activities and to the hazardous materials and wastes handled. Minimum standards are identified on Attachment C. The following additional materials will be available at a central location on each construction spread:

- Boom(s)

- Cleanup rags
- 55-gallon DOT-approved containers
- Replacement parts and equipment for repair of tanks, hoses, nozzles, etc.
- Fire extinguisher, Type: B, C
- Two bags of chemical sorbent material (i.e. kitty litter)
- Three 17" x 17" chemical pillows
- Four 48" x 3" chemical socks
- Twenty 18" x 18" x 3/8" sorbent pads
- Twenty 30-gallon 6-mil polyethylene bags
- Two 30-gallon polyethylene open-head drums
- Ten pair polypropylene gloves
- Two, each type, waste labels
- Two 8' x 10' polyethylene tarps
- One cooler
- One quart jar
- One trowel
- Twenty hay bales

Contractor will be prepared to clean up, characterize and dispose of spill debris. North Baja will have additional contractors available for associated emergency spill response, transportation, remediation and disposal activities.

3.2.1.2 Vehicle Response Equipment

The Contractor will maintain a supply of spill materials as follows:

- Any vehicle used to transport lubricants and fuel will be equipped with:
 - One 20-pound fire extinguisher (Type: B, C)
 - 50 pounds of oil absorbent (e.g., Speedy Dry or equivalent)
 - Ten 48" x 3" oil socks
 - Five 17" x 17" oil pillows
 - Two 10' x 4" oil booms
 - Twenty 24" x 24" x 3/8" oil absorbent pads
 - Twenty 30-gallon 6-mil polyethylene bags
 - One roll of 10-mil plastic sheeting
 - Two shovels
 - Ten pair of polypropylene gloves
 - One 55-gallon (or equivalent capacity) DOT-approved container
 - Two, each type, waste label

- All foremen's vehicles and heavy equipment will be equipped with:
 - Absorbent pads
 - Heavy duty plastic bags
 - One shovel

3.2.2 Maintaining Emergency Response Equipment

Contractor will inspect emergency response equipment weekly to ensure that all equipment identified in the Contractor's ER Plan is available in quantities and locations identified. After response to an incident or emergency release, any equipment used will be replaced or decontaminated and returned to inventory.

4.0 INCIDENT OR EMERGENCY RESPONSE

4.1 ENVIRONMENTAL RELEASE NOTIFICATION

Contractor will notify the North Baja Emergency Response Coordinator on call of each spill. There will be immediate notification in the event of a release of one pound or more of any hazardous material or any amount of hazardous waste.

If agency notification is required, North Baja Representatives will notify the PM and appropriate agencies in accordance with North Baja Policies.

4.2 ENVIRONMENTAL RELEASE RESPONSE ACTIONS

In the event contaminated groundwater or contaminated soils are encountered as evidenced by refuse and/or other debris in the pipeline trench, discoloration, odor, or other signs along the pipeline route, the area will be inspected prior to any further construction activity. Field observations will be conducted to determine the nature of the contamination. The Contractor's Emergency Response Coordinator will provide details available on the spill, including the material or waste involved, its quantity and location to the North Baja Emergency Response Coordinator.

The North Baja Emergency Response Coordinator will verify the nature of the material released, its source and amount, the aerial extent of the release and will determine whether an incident or an emergency release has occurred. The North Baja Emergency Response Coordinator will assess potential hazards to human health and the environment. Appropriate agencies, including the CRWQCB, Colorado River Basin, Region 7, and the Riverside and Imperial Counties Departments of Health would be contacted to determine how the contaminated medium should be handled.

4.2.1 Incident Response

If the environmental release is an incident that can be handled with available resources, Contractor may be requested to perform the following, under direction of the North Baja Emergency Response Coordinator:

- Stop the source of release. This may mean plugging a container or tank, turning off a valve, etc.
- Contain the spill. Use approved container. Or create a lined, covered containment area.

- Collect spilled materials. Block off drains. Create/expand containment areas using available means. Use appropriate neutralizers, sorbents, pigs and pads. Create barriers to protect sensitive areas.
- Remove all contaminated soil or other material.
- Contain contaminated material and temporarily store in a secured area.
- Perform any necessary sampling of waste material.
- Conduct preliminary clean-up of the site.

4.2.2 Emergency Response

The Emergency Response Coordinator will act as Incident Commander, overseeing emergency release response actions taken.

If additional resources are needed, the North Baja Emergency Response Coordinator will retain emergency response contractors and/or request assistance of local emergency responders (including fire, police, HAZMAT teams, ambulance or hospitals and highway patrol) and will coordinate all emergency response activities. As necessary, the North Baja Emergency Response Coordinator will signal evacuation of site personnel.

Where site cleanup is necessary, North Baja Emergency Response Coordinator will coordinate cleanup actions with appropriate agency representatives. North Baja Representatives will provide guidance on appropriate waste management and disposal.

The Governor's Office of Emergency Services, California State Warning Center (916-845-8911) (Warning Center) serves as the coordinator of spill response in the State of California. The Warning Center determines the severity of spills and contacts the appropriate agency. Local emergency response contact—some of which are listed below—also are provided in the event that a spill involves injuries or fire. The Resource Center also maintains an up-to-date list of approved disposal facilities to accept spill-related contaminated and clean-up materials. Likewise, the Emergency Response Duty Office of the Arizona Department of Environmental Quality (602-771-2330) provides assistance regarding the proper handling and disposal methods consistent with State and Federal regulations, as well as a database containing approved disposal facilities.

Provided in the table below is a list of State and local agencies that will be contacted in the event of a hazardous materials spill. The names of the individuals will be identified prior to construction to ensure that the list is up-to-date. This information will be incorporated into the SPCC Plan for Hazardous Materials and Wastes.

APPENDIX F**State Spill/Release Response Contacts**

Contact Name	Agency	Location (City/State)	Telephone Number
<i>Arizona</i>			
	La Paz County Sheriff	City of Parker, AZ	(928) 669-6141
	Yuma County Sheriff (District 2, Westside)	Yuma, AZ	(928) 782-3192
	City of Yuma Police Department Main Dispatch	Yuma, AZ	(928) 783-4421
	Yuma Regional Medical Center Main Number	Yuma, AZ	(928) 344-2000

APPENDIX F**State Spill/Release Response Contacts**

Contact Name	Agency	Location (City/State)	Telephone Number
California			
	Riverside County Sheriff Blythe Station	Blythe, CA	(760) 921-7900
	Riverside County Highway Patrol	Blythe, CA	(760) 922-6141
	Blythe Fire Department	Blythe, CA	(760) 922-6116
	Blythe Ambulance Service	Blythe, CA	(760) 922-8460
	Palo Verde Hospital	Blythe, CA	(760) 922-4115
	Riverside County Emergency Response	Blythe, CA	(760) 921-7861
	Riverside County Office of Emergency Services (8 AM – 5 PM)	Riverside, CA	(951) 955-4700
	Imperial County Office of Emergency Services	Imperial, CA	(760) 355-1191
	Imperial County Police Department	Imperial, CA	(760) 355-4327
	Imperial County Sheriff	El Centro, CA	(760) 339-6311
	Colorado River Basin Regional Water Quality Control Board	Palm Desert, CA	(760) 346-7491

5.0 TRAINING

A pre-construction meeting will be held between Contractor and North Baja Representatives to review responsibilities and requirements that include waste minimization, hazardous materials and waste management, emergency preparedness and prevention, incident and emergency response identification and response planning and coordination. Furthermore, all EIs and CIs will receive a copy of the SPCC Plan prior to construction.

During construction, the EI will conduct spill refresher briefings with the construction crews that will include the following:

- Precautionary measures to prevent spills;
- Potential sources of spills, such as equipment failure, malfunction, or leaks;
- Standard operating procedures in case of a spill;
- Applicable notification procedures;
- Equipment, materials and supplies available for a cleanup of a spill; and
- List of known spill events.

Prior to reporting to the job site, each person must be trained on the contents and on the implementation of this SPCC Plan. This training may be integrated into North Baja's Environmental Training Program.

6.0 REFERENCES

Nationally recognized standards may include but are not limited to NFPA, Uniform Fire Code (UFC), U.S. DOT and CHP, and state-specific requirements of Arizona Administrative Code and California Code of Regulations.

ATTACHMENTS

ATTACHMENT A

**CONTRACTOR'S HAZARDOUS MATERIALS
AND WASTE MANAGEMENT PLAN FORMS
PARTS I AND II**

**CONTRACTOR'S HAZARDOUS MATERIALS AND WASTE MANAGEMENT PLAN:
PART I
HAZARDOUS MATERIALS MANAGEMENT**

File 5.11

[illegible]

CONTRACTOR'S HAZARDOUS MATERIALS AND WASTE MANAGEMENT PLAN:

PART II

HAZARDOUS, UNIVERSAL AND SPECIAL WASTE and RECYCLABLE HAZARDOUS MATERIALS MANAGEMENT

File 5.11

[illegible]

ATTACHMENT B

LABELS FOR WASTE CONTAINERS

Including:

“Materials Identification Label” (all containers)

“Recyclable Material/Waste” Container Label

**Hazardous Waste "Workplace Accumulation
Container" Label**

“Used Oil” Container Label

“MATERIALS IDENTIFICATION LABEL” (all containers)

<i>North Baja Expansion Project</i>		
MATERIALS IDENTIFICATION LABEL		
North Baja Expansion Project:	Description:	
	Facility/Location:	
	Chief Inspector:	
	Environmental Inspector:	
	NBX Project Number/Account:	
Contractor:	Contractor Name:	
	Environmental Contact Name:	
	Telephone No.:	
Process:		
Materials Description:	Quantity:	____pounds ____gallons
	Container Location:	
Container Type (drum, tank, etc.):	Date of Accumulation:	
Container Number:	Sample Number:	
Status of Material: (if sampling and analysis are required)	Sample Date:	
	Analytical Laboratory:	
	Analysis Date:	
	Report Date:	
	Analytical Results:	

“RECYCLABLE MATERIAL/WASTE” CONTAINER LABEL

<i>North Baja Expansion Project</i>	
<i>RECYCLABLE MATERIAL/WASTE LABEL</i>	
Facility Name:	_____
Address:	_____
State/Zip:	_____
Contact:	_____
Type:	<input type="checkbox"/> USED OIL
	UNIVERSAL WASTE:
	<input type="checkbox"/> Universal Waste – Batteries
	<input type="checkbox"/> Universal Waste – Lamps
	<input type="checkbox"/> Universal Waste – Mercury Thermostats
	<input type="checkbox"/> SPECIAL WASTE
	<input type="checkbox"/> RECYCLABLE MATERIAL
Description:	_____
Accumulation Date:	_____
DOT Proper Shipping Name:	_____

UN/NA Number:	_____

HAZARDOUS WASTE "WORKPLACE ACCUMULATION CONTAINER" LABEL

WORKPLACE ACCUMULATION CONTAINER		
Proper D.O.T Shipping Name: _____	HAZARDOUS WASTE	Composition: _____
UN /NA# _____	STATE AND FEDERAL LAW	Physical State of Waste: Solid _____ Liquid _____
Generator: _____	PROHIBITS IMPROPER DISPOSAL.	Hazardous Properties: <input type="checkbox"/> Toxic
Facility: _____	IF FOUND, CONTACT THE NEAREST	<input type="checkbox"/> Flammable <input type="checkbox"/> Corrosive
Address: _____	POLICE OR PUBLIC SAFETY	<input type="checkbox"/> Reactivity <input type="checkbox"/> Other _____
Phone: _____ City: _____	AUTHORITY, THE	EPA Waste No. _____
State: _____ Zip: _____	U.S. ENVIRONMENTAL PROTECTION	CA Waste No. _____
EPA ID No: _____	AGENCY OR THE CALIFORNIA	Date Placed in Hazardous
Workplace Accumulation	DEPARTMENT OF TOXIC	Waste Storage Area: _____
Start Date: _____	SUBSTANCES CONTROL	Manifest Document Number: _____
	HANDLE WITH CARE!	

“USED OIL” CONTAINER LABEL



ATTACHMENT C

Contractor's Emergency Response Plan Form

CONTRACTOR'S EMERGENCY RESPONSE PLAN

File 5.11

NBX SPCC/Emergency Response Plan Reviewed: (Y/N)				
Emergency Response Coordinator				
Name	Title	Telephone (Office/Job Site)	Address	
Primary				
Secondary				
Incident/Emergency Response Equipment				
Emergency Response Equipment	Type	Capability	Quantity	Location
Fire Fighting	Fire Extinguishers	Type: B, C?		Jobsite Crew Staging Area
Incident Response Kit	Chemical sorbent material (e.g., kitty litter)	Chemical Spill Response	2 bags	Project Staging Area
	17" x 17" chemical pillows	"	3	"
	48" x 3" chemical socks	"	4	"
	Sorbent pads 18" x 18" x 3/8"	"	20	"
	6 mil polyethylene bags	"	20, 30-gal.	"
	Polyethylene open-head drum	"	2, 30-gal.	"
	Polypropylene gloves	"	10 pair	"
	Waste Labels	"	2 Each	"
	8' x 10' Polyethylene Tarp	"	2	"
Release Response Kit	48"x3" oil socks	Fuel/Oil Spill Response	10	Each Fuel/Oil Truck
	17" x 17" oil pillows	"	5	"
	10' x 4" oil boom	"	2	"
	24" x 24" x 3/8" oil mats	"	20	"
	6 mil polyethylene bags	"	20, 30-gal.	"
	Polypropylene Gloves	"	10 pair	"
	Propylene open-head drum	"	1, 55-gallon	"
	Waste Labels	"	2 Each	"
Sample Kit	Cooler, Quart Jars, Trowel	Sampling of solids	1	Project Staging Area
Spill Containment	8' x 10' Polyethylene Tarp	Contain Spill Debris	2	Project Staging Area
	Hay Bales	"	20	"

Evacuation Procedures

Distribution:	Original:	Informational Copies:
	Chief Inspector/NBX File	NBX Environmental Inspector: _____
		Safety-Training: _____
		Others: _____

Revision Date (by Contractor):	
--------------------------------	--

ATTACHMENT D

SITE MAPS

Site Maps will be provided at the time of construction.

ATTACHMENT E

Table 1

Waste Cross-Reference

Use “Waste Cross-Reference” Table in conjunction with Exhibit 5, Table 2 for the proper identification, designation, labeling, and management of Hazardous Wastes, Universal Wastes, Special Wastes and Recyclable Hazardous Materials.

Table 2

Waste Quick Reference Guide and Waste Designations for Hazardous Wastes, Universal Wastes, Special Wastes, and Recyclable Hazardous Materials including Used Oil

Note for Sites Located Within the State of California.

Where a California Waste Code is indicated in Column 5, the waste must be managed (i.e., use of hazardous waste label, California Uniform Hazardous Waste Manifest, etc.) as a hazardous waste at the point of generation.

TABLE 1
WASTE CROSS-REFERENCE

WASTE GENERATED:	CROSS-REFERENCE TO Table 2 : WASTE QUICK REFERENCE GUIDE:	COMMENT OR DESIGNATION, IF NOT REGULATED:
Acid, Muriatic or Hydrochloric Acid (used at 1 part of 0.4% hydrochloric acid to 20 parts water)		At dilutions with water > 10 times: Non-Regulated Waste.
Adhesives/Sealants		Non-Regulated Waste if completely used. Otherwise, contact EC staff.
Aerosol Spray Cans/Containers	Aerosol Cans.	
AFFF	Aqueous Film Forming Foam by 3M Co.	
Alkaline Batteries	Batteries, Alkaline.	
Ambitrol	Glycol, Propylene.	
Antifreeze	Glycol, Ethylene. Glycol, Propylene.	
Asbestos	Asbestos.	
Automatic Fire Fighting Foam	Aqueous Film Forming Foam by 3M Co.	
Automatic Transmission Fluid	Used Oil.	
Automotive Antifreeze	Glycol, Ethylene. Glycol, Propylene.	
Automotive Batteries	Batteries, Lead Acid: Destined for Recycling. Batteries, NiCad, Electric Storage Type, Gel Cell.	
Automotive Filters	Filters Containing Fuel. Oily Solids, Motor Vehicle Filters, Not Hot- Drained and Punctured.	
Automotive Lubricating Oil	Used Oil.	
Batteries, Alkaline	Batteries, Alkaline.	
Batteries, Debris	Batteries, Debris From Corrosive Batteries.	
Batteries, Dry-Cell	Batteries: <i>refer to constituents.</i>	
Batteries, Gel Cell	Batteries, Lead Acid: Destined for Recycling. Batteries, NiCad, Electric Storage Type, Gel Cell.	
Batteries, Lead Acid	Batteries, Lead Acid: Destined for Recycling.	
Batteries, Lithium	Batteries, Lithium.	
Batteries, Mercury	Batteries, Mercury.	
Batteries, Nickel Cadmium (NiCad)	Batteries, NiCad, Household Type. Batteries, NiCad, Electric Storage Type, Gel Cell.	
Batteries, Potassium Hydroxide	Batteries, Alkaline.	
Batteries, Wet-Cell	Batteries, Lead Acid: Destined for Recycling.	
Brake Fluid (Automotive)	Used Oil.	
Brake Pads, Containing Asbestos	Asbestos.	
Brake Pads, Not Containing Asbestos		Non-Regulated Waste.
Carburetor Cleaner	Solvent, Safety-Kleen Immersion Cleaner #699 (Carburetor Cleaner).	Others may also be Hazardous Waste.
Chemical Cleaners	Solvent, Fyre Wash and Water. Oil With Water and Sediment.	ZOC 27 Wash water is Non- Regulated Waste.
Chemical Toilet Wastes		Handled by Contractor.
Chips (From Painted Materials)	Paint Chips and Debris: <i>segregated by lead content.</i>	
Coatings, Oil-Based	Paint, Oil-Based.	
Communications Batteries	Batteries, Lead Acid: Destined for Recycling. Batteries, NiCad, Electric Storage Type, Gel Cell.	
Construction Materials (Cement, Wood, Metal, Glass, and Rubber)	<i>Refer also to specific regulated wastes listed.</i>	Non-Regulated Waste.

TABLE 1
WASTE CROSS-REFERENCE

WASTE GENERATED:	CROSS-REFERENCE TO Table 2 : WASTE QUICK REFERENCE GUIDE:	COMMENT OR DESIGNATION, IF NOT REGULATED:
Corrosion Inhibitors	Glycol, Propylene.	
Crankcase Oil	Used Oil.	
Degreasers	Solvent, Safety-Kleen Immersion Cleaner #699 (Carburetor Cleaner). Solvent With Flash Point of > 141° F. Solvent With Flash Point of <= 141° F. Solvent Aerosols.	
Demolition Wastes (Earth, Rock, Concrete, Asphalt, Plastics, Wood, Sheet Rock)	Asbestos.	Other Demolition Wastes: Non- Regulated Waste.
Diesel Filters (Motor Vehicle or Fuel Tank)	Filters Containing Fuel.	
Diesel Fuel	Fuel, Diesel.	
Diesel Fuel Contaminated Solid Waste	Fuel, Diesel, Contaminated Solid Waste. <i>Refer also to Filters Containing Fuel.</i>	
Drums, Empty	Empty Drums, Containing < 1" of Material or Waste.	
Dry Cell Batteries	Batteries: <i>refer to constituents.</i>	
Electrosol	Solvent Aerosols.	
Elemental Mercury	Mercury, Liquid, and Mercury Devices, Including Thermometers and Switches.	
Empty Containers	Aerosol Cans. Pesticide Aerosols. Solvent Aerosols.	Other Empty Containers are Non- Regulated Waste.
Empty Drums	Empty Drums, Containing < 1" of Material or Waste.	
Empty Paint Cans	<i>Refer to Aerosol Cans.</i>	Other Empty Containers are Non- Regulated Waste.
Empty Pesticide and Herbicide Containers	<i>Refer to Pesticide, Aerosols.</i>	Not Regulated if completely used, including rinsate. Larger quantities are applied and managed by licensed contractors.
Epoxy (Components)		Non-Regulated Waste if completely used. Otherwise, contact EC staff.
Equipment Oil Filters	Oily Solids, Equipment Oil Filters, With Textile Filter. <i>Refer also to Filters Containing Fuel.</i>	
Ethylene Glycol	Glycol, Ethylene.	
Film, X-Ray		May be recycled as a Hazardous Material.
Filters Containing Fuel	Filters Containing Fuel.	
Filters Containing Oil	Oily Solids, Motor Vehicle Filters, Not Hot- Drained and Punctured.	
Fluorescent Tubes (Containing Mercury)	Mercury Lighting Waste: <i>refer to state where waste is generated.</i>	
Food and Beverage Containers and Scraps		Non-Regulated Waste.
Fuel Filters (Motor Vehicle or Fuel Tank)	Filters Containing Fuel. <i>Refer also to Oily Solids, Equipment Oil Filters, With Textile Filter.</i>	
Fuel With Water	Fuel, Diesel. Fuel, Gasoline. Fuel, Kerosene.	
Fuel, Diesel	Fuel, Diesel.	

TABLE 1
WASTE CROSS-REFERENCE

WASTE GENERATED:	CROSS-REFERENCE TO Table 2 : WASTE QUICK REFERENCE GUIDE:	COMMENT OR DESIGNATION, IF NOT REGULATED:
Fuel, Diesel, Contaminated Solid Waste.	Fuel, Diesel, Contaminated Solid Waste. <i>Refer also to Filters Containing Fuel.</i>	Small quantities with < 200 ppm diesel are not regulated if no water bodies impacted.
Fuel, Gasoline	Fuel, Gasoline.	
Fuel, Gasoline, Contaminated Solid Waste.	Fuel, Gasoline, Contaminated Solid Waste. <i>Refer also to Filters Containing Fuel.</i>	Small quantities with < 100 ppm gasoline are not regulated if no water bodies impacted.
Fuel, Kerosene	Fuel, Kerosene.	
Gas Generator Oil	Used Oil.	
Gaskets (Cork or Rubber, Unsaturated)		Non-Regulated Waste.
Gasoline	Fuel, Gasoline.	
Gasoline Contaminated Solid Waste	Fuel, Gasoline, Contaminated Solid Waste. <i>Refer also to Filters Containing Fuel.</i>	
Gasoline Filters (Motor Vehicle or Fuel Tank)	Filters Containing Fuel.	
Gear Oil	Used Oil.	
Gel Cell Batteries	Batteries, Lead Acid: Destined for Recycling. Batteries, NiCad, Electric Storage Type, Gel Cell.	
Glycol, Ethylene	Glycol, Ethylene.	
Glycol, Propylene	Glycol, Propylene.	
Grease Gun Cartridge (Empty)		Non-Regulated Waste.
Herbicides and Growth Suppressants	<i>Refer to Pesticide, Aerosols.</i>	Larger quantities are applied and managed by licensed contractors.
Hydraulic Fluid	Used Oil.	
Hydrochloric Acid (used at 1 part of 0.4% hydrochloric acid to 20 parts water)		At dilutions with water > 10 times: Non-Regulated Waste.
Immersion Cleaner	Solvent, Safety-Kleen Immersion Cleaner #699 (Carburetor Cleaner).	
Insecticides	<i>Refer to Pesticide, Aerosols.</i>	
Isopropyl Alcohol		When diluted for de-icing, Non-Regulated Waste.
Kerosene	Fuel, Kerosene.	
Lacquer Thinner	Paint Thinner (Naphtha).	
Lamps (Containing Mercury)	Mercury Lighting Waste: <i>refer to state where waste is generated.</i>	
Lead Acid Batteries	Batteries, Lead Acid: Destined for Recycling.	
Light Ballasts (PCB-Contaminated)	Polychlorinated Biphenyls (PCBs): Light Ballasts With PCBs.	Fluorescent light ballasts manufactured before 1979 or which are not labeled "No PCBs" are suspect.
Lithium Batteries	Batteries, Lithium.	
Lubricating Oil	Used Oil.	
Mercury Batteries	Batteries, Mercury.	
Mercury Debris (With >= 0.2 ppm Mercury)	Mercury Debris.	
Mercury, Elemental or Liquid	Mercury, Liquid, and Mercury Devices, Including Thermometers, Barometers, Manometers, Thermowells and Switches.	
Mercury Lamps	Mercury Lighting Waste: <i>refer to state where waste is generated.</i>	
Mercury Lighting Waste	Mercury Lighting Waste: <i>refer to state where waste is generated.</i>	

TABLE 1
WASTE CROSS-REFERENCE

WASTE GENERATED:	CROSS-REFERENCE TO Table 2 : WASTE QUICK REFERENCE GUIDE:	COMMENT OR DESIGNATION, IF NOT REGULATED:
Mercury Switches	Mercury, Liquid, and Mercury Devices, Including Thermometers, Barometers, Manometers, Thermowells and Switches.	
Mercury Thermostats	Mercury Thermostats.	
Methanol	Methanol.	
Microwave Station Batteries	Batteries, Lead Acid: Destined for Recycling. Batteries, NiCad, Electric Storage Type, Gel Cell.	
Motor Oil	Used Oil.	
Motor Vehicle Filters Containing Gasoline	Filters Containing Fuel.	
Motor Vehicle Filters Containing Oil	Oily Solids, Motor Vehicle Filters, Not Hot- Drained and Punctured.	
Muriatic Acid (used at 1 part of 0.4% hydrochloric acid to 20 parts water)		At dilutions with water > 10 times: Non-Regulated Waste.
NiCad Batteries	Batteries, NiCad, Household Type. Batteries, NiCad, Electric Storage Type, Gel Cell.	
Non-Saturated Oily Rags and Absorbents	<i>Refer to Shop Rags—Oily, Laundered.</i>	
Odorant Rags and Debris	Odorant Rags and Debris.	
Odorants	Odorant Liquids.	
Office Products	<i>Refer to Toner and Cartridges below.</i>	Office products other than toner and cartridges are Non- Regulated Wastes.
Oil Filters (Equipment)	Oily Solids, Equipment Oil Filters, With Textile Filter.	
Oil Filters (Metal, Drained)		Recyclable Waste
Oil Filters, (Metal, Not Drained)	Oily Solids, Motor Vehicle Filters, Not Hot- Drained and Punctured.	
Oil Sorbents (Saturated)	Oily Pigs and Pads.	
Oil With Water	Oil With Water and Sediment.	
Oil-Based Paints	Paint, Oil-Based.	
Oil-Saturated Soil and Gravel	Oily Solids: Gravel, Soil.	
Oily Parts Without Free-Standing Oil		Non-Regulated Waste, Possibly Recyclable.
Oily Pigs and Pads	Oily Pigs and Pads.	
Oily Rags (Laundered)	Shop Rags—Oily, Laundered.	
Oily Rags (Saturated)	Oily Pigs and Pads.	
Oily Sludge	Oily Sludge.	
Oily Solids	Oily Pigs and Pads. Oily Sludge. Oily Solids, Equipment Oil Filters, With Textile Filter. Oily Solids: Gravel, Soil. Oily Solids, Motor Vehicle Filters, Not Hot- Drained and Punctured. Shop Rags—Oily, Laundered.	
Oily Solids, Equipment Oil Filters	Oily Solids, Equipment Oil Filters, With Textile Filter.	
Oily Solids, Motor Vehicle Filters, Not Hot- Drained and Punctured	Oily Solids, Motor Vehicle Filters, Not Hot- Drained and Punctured.	
Paint and Coatings, Oil-Based	Paint, Oil-Based. <i>Refer also to Aerosol Cans.</i>	
Paint Chips	Paint Chips and Debris: <i>segregated by lead content.</i>	

TABLE 1
WASTE CROSS-REFERENCE

WASTE GENERATED:	CROSS-REFERENCE TO Table 2 : WASTE QUICK REFERENCE GUIDE:	COMMENT OR DESIGNATION, IF NOT REGULATED:
Paint Containers (With Paint Remaining)	Paint, Oil-Based. Paint, Water-Based. Refer also to Aerosol Cans.	Not regulated if completely used. Otherwise, contact EC staff.
Paint Stripper, Corrosive (e.g., Peel Away 1, ST-1)	Paint Stripper, Corrosive.	
Paint Thinner	Paint Thinner (Naphtha).	
Paint, Oil-Based	Paint, Oil-Based.	
Paint, Water-Based	Paint, Water-Based. Paint, Water-Based (Corrosive). Refer also to Aerosol Cans.	
Paper Products (Packing, Boxes, Paper, etc.)		Recyclable Non-Regulated Waste.
PCB-Contaminated Wastes	Polychlorinated Biphenyls (PCBs): Scrubber Oil With 1-50 ppm PCBs. Polychlorinated Biphenyls (PCBs): Light Ballasts With PCBs.	
Penetone 19 With Water	Oil With Water and Sediment.	Diluted 9 parts water to 1 part Penetone 19, used as a turbine wash.
Pesticides	Aerosol Cans, Flammable and Non-flammable.	Larger quantities are applied and managed by licensed contractors.
Petroleum Oil	Used Oil.	
Photo Developing Waste		Handled by Contractor.
Pipeline Liquids	Used Oil.	
Pipeline Sludge, Non-Oily		Non-Regulated Waste.
Pipeline Sludge, Oily	Oily Sludge.	
Polychlorinated Biphenyls (PCBs): Scrubber Oil With 1-50 ppm PCBs	Polychlorinated Biphenyls (PCBs): Scrubber Oil With 1-50 ppm PCBs.	
Polychlorinated Biphenyls (PCBs): Light Ballasts With PCBs.	Polychlorinated Biphenyls (PCBs): Light Ballasts With PCBs.	Fluorescent light ballasts manufactured before 1979 or which are not labeled "No PCBs" are suspect.
Propylene Glycol	Glycol, Propylene.	
Rags, Oily	Oily Pigs and Pads. Shop Rags—Oily, Laundered.	
Rags, Solvent	Shop Rags—Solvent, Laundered.	
Rubbish (Paper, Cloth, Tin, Cardboard, Glass)		Non-Regulated Waste.
Rust Inhibitors	Paints, Oil-Based.	
Sand Blasting Waste	Refer to Paint Chips and Debris: <i>segregated by lead content.</i>	Sand Blasting Media, as purchased, is Non-Hazardous. Material blasted may be hazardous.
Scrap Metal (Shavings, Pipe, Parts, Welding Rods, Tools Without Standing Petroleum Liquids)		Non-Regulated if Recycled.
Scrubber Oil	Used Oil.	
Scrubber Oil With 1-50 ppm PCBs	Polychlorinated Biphenyls (PCBs): Scrubber Oil With 1-50 ppm PCBs.	
Separator Sludge	Oily Sludge.	
Shop Rags—Oily, Laundered	Shop Rags—Oily, Laundered.	
Shop Rags—Solvent, Laundered	Shop Rags—Solvent, Laundered.	

TABLE 1
WASTE CROSS-REFERENCE

WASTE GENERATED:	CROSS-REFERENCE TO Table 2 : WASTE QUICK REFERENCE GUIDE:	COMMENT OR DESIGNATION, IF NOT REGULATED:
Solvent Aerosols (e.g., Electrosol)	Aerosol Cans, Flammable and Non-flammable.	
Solvent Containing Naphtha	Solvent, Safety-Kleen Immersion Cleaner #699 (Carburetor Cleaner). Solvent With Flash Point of $\leq 141^{\circ}$ F. Solvent With Flash Point of $> 141^{\circ}$ F. Paint Thinner (Naphtha).	
Solvent, Fyre Wash and Water	Solvent, Fyre Wash and Water.	
Solvent, Safety-Kleen Immersion Cleaner #699 (Carburetor Cleaner)	Solvent, Safety-Kleen Immersion Cleaner #699 (Carburetor Cleaner).	
Solvent, Safety-Kleen Parts Washer	Solvent With Flash Point of $> 141^{\circ}$ F: <i>for 150 Solvent.</i> Solvent With Flash Point of $\leq 141^{\circ}$ F: <i>for 105 Solvent.</i>	
Solvents	Solvent, Safety-Kleen Immersion Cleaner #699 (Carburetor Cleaner). Solvent With Flash Point of $\leq 141^{\circ}$ F. Solvent With Flash Point of $> 141^{\circ}$ F. Solvent, Fyre Wash and Water. Paint Thinner (Naphtha)	
Spill Cleanup Debris	Oily Solids. Mercury Debris. Fuel, Diesel, Contaminated Solid Waste. Fuel, Gasoline, Contaminated Solid Waste.	
Stripper, Paint (e.g., Peel Away)	Paint Stripper (Corrosive).	
Surplus Chemicals		Non-Regulated Waste if completely used: Use/Reuse wherever possible.
Thermostats Containing Mercury	Mercury Thermostats.	
Thinner, Paint	Paint Thinner (Naphtha).	
Tires		Non-Regulated Waste.
Toner and Cartridges		Cartridges and Toner are returned to Vendor. Toner not returned to Vendor is hazardous waste.
Transmission Fluid	Used Oil.	
Turbine Lube Oil	Used Oil.	
Used Oil With Water	Oil With Water and Sediment	
Wash Water (With Petroleum Solvents)	Solvent, Fyre Wash and Water. <i>Refer to Oil With Water, and Sediment.</i>	
Wash Water (Without Petroleum Solvents)	<i>Refer to Oil With Water, and Sediment.</i>	ZOC 27 Wash water is Non-Regulated Waste.
Water-Based Paint	Paint, Water-Based. Paint, Water-Based (Corrosive).	
Weed Killer	Pesticide, Aerosols.	Larger quantities are applied and managed by licensed contractors.
Welding Rods		Non-Regulated Waste.
Wet Cell Batteries	Batteries, Lead Acid: Destined for Recycling. Batteries, NiCad, Electric Storage Type, Gel Cell.	
X-Ray Film		May be recycled as a Hazardous Material.

Table 2
Waste Quick Reference Guide

1. Waste Stream: Hazardous Materials or Waste Generated	2. Designation <i>Note 1</i>	3. Characteristic	4. EPA Waste Code (RCRA Waste)	5. State Waste Code (State Reference)	6. Waste Label	7. Waste Profile No. (TSD Ref.) <i>Note 2</i>	8. Proper Shipping Name <i>Note 3</i>	9. DOT Hazard Class/ Division	10. UN/NA Number	11. Packing Group <i>Note 4</i>	12. DOT Spec. Container <i>Note 5</i>	13. Label Indicating DOT Hazard Class	14. ERG No. <i>Note 6</i>	15. RQ, lbs. <i>Note 3</i> (total weight of: (1) listed constituent at/above concentration indicated; (2) of waste)
Aerosol Cans, Flammable and Non-Flammable	Hazardous Waste	I	D001	343 (CA)	Hazardous Waste	220715 (R)	Waste Aerosols, Flammable	2.1	UN1950	-	1A2/X or 1H2/Y	Flammable Gas	ERG #126	RQ = 100 lbs. of waste.
Aqueous Film Forming Foam by 3M Co. (3% AFFF With Water)	Special	-	-	343 (CA)	Recyclable Material/ Waste	219320 (R)	California Regulated Hazardous Waste Only (Water, 2-(2- Butoxyethoxy) Ethanol, Non-RCRA, Non-DOT)	-	-	-	1A1/X or 1A1/Y	-	-	-
Asbestos	Special	T (CA)	-	151 (CA)	Recyclable Material/ Waste, Special and Asbestos	340068 (R) (Non-Friable)	Asbestos	9	NA2212	III	1A2/X or 1H2/X or 6 mil Plastic	Class 9	ERG #171	RQ = 1 lb. of friable asbestos with a concentration of 20 ppm or greater.
Batteries, Alkaline, Containing Potassium Hydroxide: Household Type	Universal Waste	-	-	-	Recyclable Material/ Waste	335054 (R)	Batteries, Dry, Containing Potassium Hydroxide Solid. <i>Note 7</i> EXEMPT: 40 CFR 273, Universal Waste—Batteries	8	UN3028	III	1A2/X or 1H2/Y	Corrosive	ERG #154	RQ = 1,000 lbs. of potassium hydroxide with a concentration of 2% or greater.
Batteries, Debris From Corrosive Batteries	Special	-	-	181 (CA)	Recyclable Material/ Waste	-	Corrosive Solids, N.O.S. (contains [acid/alkaline] batteries)	8	UN1759	III	1A2/X or 1H2/Y	Corrosive	ERG #154	-
Batteries, Lead Acid: Destined for Recycling.	Recyclable Hazardous Material	-	-	-	Recyclable Material/ Waste	335049 (R)	Batteries, Wet, Filled With Acid <i>Note 7</i> EXEMPT: 40 CFR 266, Recycled lead acid batteries	8	UN2794	III	1H2/Y or 11G/Y	Corrosive	ERG #154	RQ = 1,000 lbs. of sulfuric acid with a concentration of 2% or greater; RQ = 10 lbs. of lead with a concentration of 200 ppm or greater.
Batteries, Lithium: Household Type	Universal Waste	-	-	-	Recyclable Material/ Waste	335056 (R)	Lithium Battery <i>Note 7</i> EXEMPT: 40 CFR 273, Universal Waste—Batteries	9	UN3090	II	1A2/X or 1H2/Y	Class 9	ERG #138	-
Batteries, Mercury: Household Type	Universal Waste	-	-	-	Recyclable Material/ Waste	335051 (R)	Batteries, Dry, Containing Potassium Hydroxide Solid. <i>Note 7</i> EXEMPT: 40 CFR 273, Universal Waste—Batteries	8	UN3028	III	1A2/X or 1H2/Y	Corrosive	ERG #154	RQ = 1 lb. of mercury, with a concentration of 20 ppm or greater.

Table 2
Waste Quick Reference Guide

1. Waste Stream: Hazardous Materials or Waste Generated	2. Designation <i>Note 1</i>	3. Characteristic	4. EPA Waste Code (RCRA Waste)	5. State Waste Code (State Reference)	6. Waste Label	7. Waste Profile No. (TSD Ref.) <i>Note 2</i>	8. Proper Shipping Name <i>Note 3</i>	9. DOT Hazard Class/ Division	10. UN/NA Number	11. Packing Group <i>Note 4</i>	12. DOT Spec. Container <i>Note 5</i>	13. Label Indicating DOT Hazard Class	14. ERG No. <i>Note 6</i>	15. RQ, lbs. <i>Note 3</i> (total weight of: (1) listed constituent at/above concentration indicated; (2) of waste)
Batteries, Nickel Cadmium: Electric Storage Type, Gel Cell	Universal Waste	-	-	-	Recyclable Material/ Waste	335053 (R)	Batteries, Wet, Non- Spillable <i>Note 7</i> EXEMPT: 40 CFR 273, Universal Waste—Batteries	8	UN2800	III	1H2/Y or 11G/Y	Corrosive	ERG #154	RQ = 100 lbs. of nickel with a concentration of 2,000 PPM or greater; RQ = 10 lbs. of cadmium with a concentration of 200 ppm or greater.
Batteries, Nickel Cadmium: Household Type	Universal Waste	-	-	-	Recyclable Material/ Waste	335052 (R)	Universal Waste—Batteries, EXEMPT: 40 CFR 273 (Non-DOT, Nickel, Cadmium)	-	-	-	1A2/X or 1H2/Y	-	-	RQ = 100 lbs. of nickel with a concentration of 2,000 PPM or greater; RQ = 10 lbs. of cadmium with a concentration of 200 ppm or greater.
Empty Drums: Containing < 1" of Material or Waste, Destined For TSD Facility for Recycling	Special	T (CA)	-	512 (CA)	Empty; Recyclable Materials/ Waste	219316 (R) (Non-RCRA and Non-DOT residues)	California Regulated Hazardous Waste Only (Empty Drums, Non- RCRA, Non-DOT) Refer to Waste Management On-Site, subsection 6 of this Manual	-	-	-	-	-	-	-
Empty Drums: Containing < 1" of Material or Waste, Destined For Recycling/Disposal	Recyclable Hazardous Material or Special	-	-	-	Empty; Recyclable Materials/ Waste	-	Varies with each drum. Refer to Waste Management On-Site, subsection 6 of this Manual.	Varies	Varies	Varies	Varies	Varies	Varies	-
Filters Containing Fuel	Hazardous Waste	I, T	D001 D018	352 (CA)	Hazardous Waste	-	Waste Solids Containing Flammable Liquid, N.O.S. (Contains Gasoline or Diesel)	4.1	UN3175	II	1A2/X	Flammable Solid	ERG #133	RQ = 100 lbs. of waste. <i>Note 8.</i>
Fuel, Diesel	Special	T (CA)	-	343 (CA)	Recyclable Material/ Waste	-	Combustible Liquid, N.O.S. (Diesel Fuel) <i>Note 7</i> California Regulated Hazardous Waste Only	Combustible Liquid	NA1993	III	1A1/X or 1A1/Y	None	ERG #128	Reportable: <i>Note</i> 8.
Fuel, Diesel, Contaminated Solid Waste	Special	T (CA)	-	352 (CA)	Recyclable Material/ Waste	340551 (R)	California Regulated Hazardous Waste Only (Solids Containing Diesel, Non-RCRA, Non-DOT)	-	-	-	1A2/X	-	-	Reportable: <i>Note</i> 8.

Table 2
Waste Quick Reference Guide

1. Waste Stream: Hazardous Materials or Waste Generated	2. Designation <i>Note 1</i>	3. Characteristic	4. EPA Waste Code (RCRA Waste)	5. State Waste Code (State Reference)	6. Waste Label	7. Waste Profile No. (TSD Ref.) <i>Note 2</i>	8. Proper Shipping Name <i>Note 3</i>	9. DOT Hazard Class/ Division	10. UN/NA Number	11. Packing Group <i>Note 4</i>	12. DOT Spec. Container <i>Note 5</i>	13. Label Indicating DOT Hazard Class	14. ERG No. <i>Note 6</i>	15. RQ, lbs. <i>Note 3</i> (total weight of: (1) listed constituent at/above concentration indicated; (2) of waste)
Fuel, Gasoline	Hazardous Waste	I, T	D001 D018	343 (CA)	Hazardous Waste	-	Waste Gasoline	3	UN1203	II	1A1/X or 1A1/Y	Flammable Liquid	ERG #128	RQ = 10 lbs. of benzene at a concentration of 200 ppm or greater. <i>Note 8.</i>
Fuel, Gasoline, Contaminated Solid Waste	Hazardous Waste	T	D018	352 (CA)	Hazardous Waste	340581 (R)	Hazardous Waste, Solid, N.O.S. (Contains Gasoline, Benzene)	9	NA3077	III	1A2/X	Class 9	ERG #171	RQ = 100 lbs. of benzene at a concentration of 200 ppm or greater. <i>Note 8</i>
Fuel, Kerosene	Hazardous Waste	I	D001	-	Hazardous Waste	-	Waste Kerosene	3	UN1223	III	1A1/X or 1A1/Y	Flammable Liquid	ERG #128	RQ = 100 lbs. of waste. <i>Note 8</i>
Glycol, Ethylene, Recycled	Special	T (CA)	-	343 (CA)	Recyclable Material/ Waste	220712 (R) 147833A-00 (P)	California Regulated Hazardous Waste Only (Ethylene Glycol and Water, Non-RCRA, Non-DOT)	-	-	-	1A1/X or 1A1/Y	-	-	-
Glycol, Propylene	Special	T (CA)	-	343 (CA)	Recyclable Material/ Waste	321411 (R) 147833B-00 (P)	California Regulated Hazardous Waste Only (Propylene Glycol, Non- RCRA, Non-DOT)	-	-	-	1A1/X or 1A1/Y	-	-	-
Mercury Debris (With Mercury >= 0.2 ppm)	Hazardous Waste	T	D009	725 (CA)	Hazardous Waste	-	Hazardous Waste, Solid, N.O.S. (Contains Mercury)	9	NA3077	III	1A2/X	Class 9	ERG #171	RQ = 1 lb. of mercury with a concentration of 20 ppm or greater.
Mercury Lighting Waste (Originating in Oregon)	Oregon Universal Waste	-	-	-	Recyclable Material/ Waste	335055 (R)	Oregon Universal Waste—Mercury- Containing Lamps, EXEMPT: 40 CFR 273, Non-DOT [Fluorescent Light Tubes/High Intensity Lamps]	-	-	-	1A2/X or 4M or Original Box	-	-	RQ = 1 lb. of mercury with a concentration of 20 ppm or greater.
Mercury Lighting Waste (With Mercury >= 0.2 ppm) (Originating in Idaho)	Hazardous Waste	T	D008 D009	181 (CA)	Hazardous Waste	335050 (R)	Hazardous Waste, Solid, N.O.S. (Contains Mercury) <i>Note 7</i> Fluorescent Light Tubes/High Intensity Lamps	9	NA3077	III	1A2/X or 4M or Original Box	Class 9	ERG #171	RQ = 1 lb. of mercury with a concentration of 20 ppm or greater.
Mercury Lighting Waste (With Mercury >= 0.2 ppm) (Originating in Washington and Destined for Recycling)	Washington Special	-	-	181 (CA)	Recyclable Material/ Waste	306664 (R)	Fluorescent Light Tubes/High Intensity Lamps, Ref. DOE Memo 1/30/95 (Non-DOT)	-	-	-	1A2/X or 4M or Original Box	-	-	RQ = 1 lb. of mercury with a concentration of 20 ppm or greater.

Table 2
Waste Quick Reference Guide

1. Waste Stream: Hazardous Materials or Waste Generated	2. Designation Note 1	3. Characteristic	4. EPA Waste Code (RCRA Waste)	5. State Waste Code (State Reference)	6. Waste Label	7. Waste Profile No. (TSD Ref.) Note 2	8. Proper Shipping Name Note 3	9. DOT Hazard Class/ Division	10. UN/NA Number	11. Packing Group Note 4	12. DOT Spec. Container Note 5	13. Label Indicating DOT Hazard Class	14. ERG No. Note 6	15. RQ, lbs. Note 3 (total weight of: (1) listed constituent at/above concentration indicated; (2) of waste)
Mercury Thermostats	Universal Waste	-	-	725 (CA)	Recyclable Material/ Waste	-	California Regulated Hazardous Waste Only (Non-DOT) Note 7 Universal Waste—Mercury Thermostats, EXEMPT: 40 CFR 273	-	-	-	1A2/X or	-	-	RQ = 1 lb. of mercury with a concentration of 20 ppm or greater.
Mercury, Liquid (1 pound or more of mercury) and Mercury Devices, Including Thermometers, Barometers, Manometers, Thermowells and Switches	Hazardous Waste	T	D009 and possibly U151	725 (CA)	Hazardous Waste	-	<u>Quantity Dependent: At greater than or equal to 1 pound of mercury, use:</u> Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Mercury)	9	UN3082	III	1A1/X or 1A1/Y	Class 9	ERG #171	RQ = 1 lb. of mercury with a concentration of 20 ppm or greater.
Mercury, Liquid (less than 1 pound of mercury) and Mercury Devices, Including Thermometers, Barometers, Manometers, Thermowells and Switches	Hazardous Waste	T	D009 and possibly U151	725 (CA)	Hazardous Waste	213191 (R)	<u>Quantity Dependent: At less than 1 pound of mercury, use:</u> Hazardous Waste, Liquid, N.O.S. (Contains Mercury (Metallic))	9	NA3082	III	1A1/X or 1A1/Y	Class 9	ERG #171	-
Methanol	Hazardous Waste	I, T (CA)	D001 and F003 or U154	343 (CA)	Hazardous Waste	340061 (R)	Waste Methanol	3	UN1230	II	1A1/X or 1A1/Y	Flammable Liquid; Poison	ERG #131	RQ = 5,000 pounds of methanol with a concentration of greater than or equal to 10%.
Odorant Liquid	Hazardous Waste	I, T (CA)	D001	343 (CA)	Hazardous Waste	314416 (R) 1-40% water	Waste Mercaptan Mixtures, Liquid, Flammable, Toxic, N.O.S. (Contains T- Butyl Mercaptan)	3	UN1228	III	1A1/X or 1A1/Y; 1A2/X (Labpack)	Flammable Liquid; Keep Away From Food	ERG #131	RQ = 100 lbs. of waste.
Odorant Rags and Debris	Special	T (CA)	-	352 (CA)	Recyclable Material/ Waste	219313 (R)	California Regulated Hazardous Waste Only (Rags/Debris, T-Butyl Mercaptan, Non-RCRA, Non-DOT)	-	-	-	1A2/X or 1H2/Y	-	-	-
Oil With Water and Sediment	Special	T (CA)	-	223 (CA)	Recyclable Material/ Waste	219314 (R)	California Regulated Hazardous Waste Only (Oil, Sediment, Non- RCRA, Non-DOT)	-	-	-	1A1/X or 1A1/Y	-	-	Reportable: Note 8.
Oily Pigs and Pads	Special	T (CA)	-	223 (CA)	Recyclable Material/ Waste	220708 (R) 5- 25% Oil, 65- 85% Sorbents	California Regulated Hazardous Waste Only (Sorbents, Oil, Non- RCRA, Non-DOT)	-	-	-	1A2/X	-	-	Reportable: Note 8.

Table 2
Waste Quick Reference Guide

1. Waste Stream: Hazardous Materials or Waste Generated	2. Designation <i>Note 1</i>	3. Characteristic	4. EPA Waste Code (RCRA Waste)	5. State Waste Code (State Reference)	6. Waste Label	7. Waste Profile No. (TSD Ref.) <i>Note 2</i>	8. Proper Shipping Name <i>Note 3</i>	9. DOT Hazard Class/ Division	10. UN/NA Number	11. Packing Group <i>Note 4</i>	12. DOT Spec. Container <i>Note 5</i>	13. Label Indicating DOT Hazard Class	14. ERG No. <i>Note 6</i>	15. RQ, lbs. <i>Note 3</i> (total weight of: (1) listed constituent at/above concentration indicated; (2) of waste)
Oily Sludge (e.g., Separator Sludge)	Special	T (CA)	-	223 (CA)	Recyclable Material/ Waste	219315 (R)	California Regulated Hazardous Waste Only (Oil, Sludge, Non-RCRA, Non-DOT)	-	-	-	1A2/X	-	-	Reportable: Note 8.
Oily Solids, Equipment Oil Filters With Textile Filter	Special	T (CA)	-	223 (CA)	Recyclable Material/ Waste	220709 (R)	California Regulated Hazardous Waste Only (Oil, Equipment Textile Filters, Non-RCRA, Non-DOT)	-	-	-	1A2/X	-	-	Reportable: Note 8.
Oily Solids: Gravel, Soil	Special	T (CA)	-	223 (CA)	Recyclable Material/ Waste	220708 (R) 5- 25% Oil and 5- 15% Gravel/ Debris	California Regulated Hazardous Waste Only (Solids., Oil, Non- RCRA, Non-DOT)	-	-	-	1A2/X	-	-	Reportable: Note 8.
Oily Solids, Motor Vehicle Filters, Not Hot-Drained and Punctured	Special	T (CA)	-	223 (CA)	Recyclable Material/ Waste	219322 (R)	California Regulated Hazardous Waste Only (Filters, Oil, Non- RCRA, Non-DOT)	-	-	-	1A2/X	-	-	Reportable: Note 8.
Paint Chips and Debris With Lead: < 5 ppm Lead	Special	T (CA)	-	181 (CA)	Recyclable Material/ Waste	321117 (R)	California Regulated Hazardous Waste Only (Paint Chips, Debris, Non-RCRA, Non-DOT)	-	-	-	1A2/X	-	-	-
Paint Chips and Debris With Lead: >= 5 ppm lead	Hazardous Waste	T	D008	181 (CA)	Hazardous Waste	311008 (R)	Hazardous Waste, Solid, N.O.S. (Contains Lead)	9	NA3077	III	1A2/X	Class 9	ERG #171	RQ = 10 lbs. of lead with a concentration of 200 ppm or greater.
Paint Stripper, Corrosive (e.g., Peel Away 1, ST-1)	Special <i>Note 9</i>	-	-	181 (CA)	Recyclable Material/ Waste	311383 (R)	Paint Related Material <i>Note 7</i> Corrosive Stripper—Contains Sodium Hydroxide	8	UN3066	III	1A2/X	Corrosive	ERG #153	RQ = 1,000 lbs. Of sodium hydroxide with a concentration of 2% or greater.
Paint Thinner (Naphtha)	Hazardous Waste <i>Note 9</i>	I, T (CA)	D001	213 (CA)	Hazardous Waste	220703 (R)	Waste Paint Related Material <i>Note 7</i> (Contains Naphtha)	3	UN1263	III	1A1/X or 1A1/Y; 1A2/X (Labpack)	Flammable Liquid	ERG #127	RQ = 100 lbs. of waste. <i>Note 8.</i>
Paint, Oil-Based (Flammable)	Hazardous Waste <i>Note 9</i>	I, T (CA)	D001	343 (CA)	Hazardous Waste	339532 (R)	Waste Paint Related Material <i>Note 7</i> Oil-Based Paints	3	UN1263	III	1A1/X or 1A1/Y; 1A2/X (Labpack)	Flammable Liquid	ERG #127	RQ = 100 lbs. of waste.
Paint, Water-Based	Special <i>Note 9</i>	T (CA)	-	352 (CA)	Recyclable Material/ Waste	340059 (R)	California Regulated Hazardous Waste Only (Paint, Water-Based, Non-RCRA, Non-DOT)	-	-	-	1A2/X	-	-	-
Paint, Water-Based (Corrosive)	Hazardous Waste	C	D002		Hazardous Waste	-	Waste Paint Related Waste Material <i>Note 7</i> Corrosive Paints	8	UN3066	II	1A1/X or 1A1/Y; 1A2/X (Lab pack)	Corrosive	ERG #153	RQ = 100 lbs. of waste.

Table 2
Waste Quick Reference Guide

1. Waste Stream: Hazardous Materials or Waste Generated	2. Designation Note 1	3. Characteristic	4. EPA Waste Code (RCRA Waste)	5. State Waste Code (State Reference)	6. Waste Label	7. Waste Profile No. (TSD Ref.) Note 2	8. Proper Shipping Name Note 3	9. DOT Hazard Class/ Division	10. UN/NA Number	11. Packing Group Note 4	12. DOT Spec. Container Note 5	13. Label Indicating DOT Hazard Class	14. ERG No. Note 6	15. RQ, lbs. Note 3 (total weight of: (1) listed constituent at/above concentration indicated; (2) of waste)
Polychlorinated Biphenyls (PCBs): Light Ballasts With PCBs (Non-Leaking Ballasts)	Special	T (CA)	-	731 (CA)	Recyclable Material/ Waste, PCB	340641 (R)	RQ, Polychlorinated Biphenyls Note 7 California Regulated Hazardous Waste Only	9	UN2315	II	1A2/X	Class 9	ERG #171	RQ = 1 lb. of PCBs with a concentration of 20 ppm or greater.
Polychlorinated Biphenyls (PCBs): Light Ballasts With PCBs (Leaking Ballasts)	Special	T (CA)	-	731 (CA)	Recyclable Material/ Waste, PCB	6874 (Salesco)	RQ, Polychlorinated Biphenyls Note 7 California Regulated Hazardous Waste Only	9	UN2315	II	1A2/X	Class 9	ERG #171	RQ = 1 lb. of PCBs with a concentration of 20 ppm or greater.
Polychlorinated Biphenyls (PCBs): Scrubber Oil With PCBs	Special	T (CA)	-	343 (CA)	Recyclable Material/ Waste	-	California Regulated Hazardous Waste Only (Polychlorinated Biphenyls)	-	-	-	1A1/X or 1A1/Y	-	-	RQ = 1 lb. of PCBs with a concentration of 20 ppm or greater.
Shop Rags—Oily, Laundered, Generated in Oregon	Special	-	-	-	Recyclable Material/ Waste	-	Dirty Rags Destined for Laundering: Oily Rags (Non-RCRA, Non-DOT)	-	-	-	1A2/X	-	-	-
Shop Rags—Solvent, Laundered, Generated in Oregon (Ignitable Solvents Such As Petroleum Naphtha)	Special	-	-	-	Recyclable Material/ Waste	-	Solids Containing Flammable Liquid, N.O.S. (Contains ____) Note 7 Dirty Rags Destined for Laundering: Solvent Rags.	4.1	UN3175	II	1A2/X	Flammable Solid	ERG #133	-
Solvent, Fyre Wash and Water	Special Note 9	T (CA)	-	343 (CA)	Recyclable Material/ Waste	220705 (R)	California Regulated Hazardous Waste Only (Water and Naphtha, Non-RCRA, Non-DOT)	-	-	-	1A1/X or 1A1/Y	-	-	-
Solvent, Safety-Kleen Immersion Cleaner #699 (Carburetor Cleaner)	Hazardous Waste	T	D006 D008 D018 D027 D039 D040		Hazardous Waste	SK-3	Waste Compounds, Cleaning Liquid, N. O. S. (Contains Monoethanolamine)	8	NA1760	III	Safety-Kleen handles	Corrosive	ERG #154	RQ of lead, cadmium, benzene = 10 lbs. with a concentration of 200 ppm or greater RQ of trichloroethylene, 1,4-dichlorobenzene and tetrachloroethylene = 100 lbs. with a concentration of 2,000 ppm or greater.

Table 2
Waste Quick Reference Guide

1. Waste Stream: Hazardous Materials or Waste Generated	2. Designation <i>Note 1</i>	3. Characteristic	4. EPA Waste Code (RCRA Waste)	5. State Waste Code (State Reference)	6. Waste Label	7. Waste Profile No. (TSD Ref.) <i>Note 2</i>	8. Proper Shipping Name <i>Note 3</i>	9. DOT Hazard Class/ Division	10. UN/NA Number	11. Packing Group <i>Note 4</i>	12. DOT Spec. Container <i>Note 5</i>	13. Label Indicating DOT Hazard Class	14. ERG No. <i>Note 6</i>	15. RQ, lbs. <i>Note 3</i> (total weight of: (1) listed constituent at/above concentration indicated; (2) of waste)
Solvent, With Flash Point of <= 141° F. (e.g., Petroleum Naphtha: Safety-Kleen 105° F. Flash Point)	Hazardous Waste <i>Note 9</i>	I, T (CA)	D001 (Others Will Apply to Safety- Kleen)	343 (CA) WP02 (WA)	Hazardous Waste	340062 (R) SK-1	Waste Petroleum Distillates, N.O.S. (Contains Petroleum Naphtha)	3	UN1268	III	1A1/X or 1A1/Y; (Safety- Kleen may handle)	Flammable Liquid	ERG #128	RQ = 100 lbs. of waste. <i>Note 8.</i>
Solvent, With Flash Point of > 141° F. (e.g., Petroleum Naphtha: Safety-Kleen 150° F. Flash Point)	Special (if no other waste codes are applicable) <i>Note 9</i>	T (CA)	- <i>Note 9</i>	213 (CA)	Recyclable Material/ Waste	340657 (R) SK-3021735	Combustible Liquid, N.O.S. (Contains Petroleum Naphtha) <i>Note 7</i> California Regulated Hazardous Waste Only	Combustible Liquid	NA1993	III	1A1/X or 1A1/Y; 1A2/X (Labpack); Safety-Kleen may handle.	-	ERG #128	Reportable: <i>Note 8.</i>
Solvent, With Flash Point of > 141° F. (e.g., Petroleum Naphtha: Safety-Kleen 150° F. Flash Point, contaminated with trichloroethylene)	Hazardous Waste	T	D040		Hazardous Waste	SK-3021734 (Redmond MB)	Waste Combustible Liquid, N.O.S. (Contains Petroleum Naphtha, trichloroethylene)	Combustible Liquid	NA1993	III	1A1/X or 1A1/Y; 1A2/X Safety-Kleen handles.	-	ERG #128	Reportable: <i>Note 8.</i>
Used Oil	Used Oil	T (CA)	-	221 (CA)	Used Oil or Recyclable Material/ Waste <i>Note 7</i>	100074-02 (P)	Used Oil (Non-DOT)	-	-	-	1A1/X or 1A1/Y	-	-	Reportable: <i>Note 8.</i>

APPENDIX G

HORIZONTAL DIRECTIONAL DRILL PLAN



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix G

Horizontal Directional Drill Plan

Prepared by



TETRA TECH EC, INC.

1940 E. Deere Ave. Suite 200
Santa Ana, CA 92705

February 2006

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Appendix G

Horizontal Directional Drill Plan

1.0 INTRODUCTION

North Baja Pipeline, LLC (North Baja), will construct the North Baja Pipeline Expansion Project (Project), a new natural gas pipeline from the U.S.-Mexico border to the existing North Baja facilities and the El Paso Natural Gas system in Ehrenberg, Arizona. The Project includes three elements: the B-Line, which includes interconnection facilities in Ehrenberg, Arizona, as well as a 79.8-mile, 42- and 48-inch-diameter pipeline between Blythe and the Mexican border; the Arrowhead Extension, which includes a meter station and a 2.1-mile, 36-inch-diameter pipeline extending from the proposed B-Line at milepost 7.4 to Southern California Gas Company's existing Blythe Compressor Station; and the Imperial Irrigation District (IID) Lateral, a 45.7-mile, 16-inch-diameter pipeline between North Baja's mainline and the IID El Centro Generating Station. The Project will be constructed in phases, with the first phase planned for construction in 2007, the IID Lateral for 2008, and the final phase of the Project in 2009, pending completion of upstream liquefied natural gas (LNG) terminal facilities.

This directional drill contingency plan provides specific procedures and steps to contain inadvertent releases of drilling mud (also referred to as frac-outs) for waterbodies that are crossed using horizontal directional drilling (HDD) techniques. As part of its North Baja Pipeline Expansion Project, North Baja proposes to directionally drill the Colorado River and the All-American Canal on the B-Line, and on the IID Lateral, North Baja proposes to directionally drill two crossings of the All-American Canal and a crossing of the East Highline Canal. While waterway crossings vary substantially in installation depth, current profile data indicate a minimum depth of cover of 60 feet for the Colorado River crossing, 30 feet for the All-American Canal crossings, and 30 feet for the East Highline Canal crossing. Pipe used for the directionally drilled crossings on the B-Line will be 48 inches in diameter for the All-American Canal and 42 inches for the Colorado River. Pipe used for the directionally drilled crossings of the IID Lateral will be 16 inches in diameter.

2.0 HORIZONTAL DIRECTIONAL DRILLING PROCESS

Installation of a pipeline by HDD is generally accomplished in three stages. The first stage consists of directionally drilling a small-diameter pilot hole along a pre-determined path. The second stage enlarges this pilot hole to a diameter that will accommodate the pipeline. Numerous “reaming” passes will be necessary with each pass enlarging the diameter of the pilot hole incrementally. The third stage involves pulling the pipeline through the enlarged hole.

During the drilling of the pilot hole, directional control is achieved by using a non-rotating drill string with an asymmetrical leading edge. The asymmetry of the leading edge creates a steering bias, which allows the operator to control the direction of the drill bit. The actual path of the pilot hole is monitored during drilling by taking periodic readings of the inclination and azimuth. These readings are used to calculate the horizontal and vertical coordinates along the pilot holes relative to the initial entry point on the surface.

Once the pilot hole is complete, it is enlarged using reaming tools that are often custom-made for a particular diameter pipe or type of soil. The reamers are typically attached to the drill string at the exit point and are rotated and drawn to the drilling rig, thus enlarging the pilot hole with each pass. Pipe installation is accomplished by attaching a prefabricated pull section behind a reaming assembly at the exit point and pulling the entire assembly back to the drilling rig. When the pipe is in place beneath the river, tie-in welds on the river/stream banks complete the crossing.

Ideally, horizontal directional drilling involves no disturbance to the bed or banks of a stream. However, it is possible that geologic irregularities could be encountered during drilling, and drilling could fail. This plan describes the potential for failure of horizontal directional drilling, the contingency methods that would be implemented in the event of inadvertent release of drilling fluids to water or land, and drill hole abandonment procedures.

The feasibility of the horizontal directional drill method primarily depends on the local geologic setting, as well as site topography and other surface features. For example, horizontal directional drilling may not be feasible in areas of glacial till or outwash interspersed with boulders and cobbles, highly fractured bedrock, or non-cohesive coarse sands and gravels. These formations increase the likelihood that drilling could fail due to refusal of the drill bit, continuous loss of drilling fluid through fractures or weak areas in the ground, or collapse of the bore hole in non-cohesive, unstable substrate. Steep terrain immediately adjacent to the crossing location or other surface features can also render the HDD method impossible or increase the risk of failure.

Fortunately, surface characteristics at the proposed Project drill sites are generally favorable for HDD. North Baja previously obtained soil borings from each side of the Colorado River and All-American Canal crossings on the B-Line and successfully completed HDDs at both locations in

2002. This work indicates that conditions are favorable for horizontal directional drilling. Geotechnical investigations for the IID Lateral crossings will be conducted in the spring of 2006.

While the borings can provide a general basis for determining feasibility, they cannot predict all problems that could occur. Even the previous successful drills on the original North Baja Pipeline Project cannot be used to predict with absolute certainty the results for an adjacent drill.

3.0 MONITORING PROCEDURES

The Environmental Inspector(s) and construction personnel will continuously monitor operations during drilling activities. Monitoring activities will include:

- Visual inspection along the drill path, including monitoring the waterbody for evidence of a release.
- Continuous examination of drilling fluid pressures and returns flows.

4.0 NOTIFICATION PROCEDURES

If in the course of an inspection an inadvertent release is discovered, steps will be taken by construction personnel to contain the release as described in Section 5.0, Corrective Action and Cleanup. Notification procedures of North Baja construction management personnel and regulatory agencies are detailed in this section.

If monitoring indicates an in-stream release, the Environmental Inspector(s) will immediately notify North Baja's construction management personnel. North Baja will notify the appropriate Federal and State agencies as soon as possible by telephone and/or facsimile of an in-stream release event, detailing the nature of the release and corrective actions being taken. The notified agencies will determine whether additional measures need to be implemented. If it is determined that the release can not be remedied without causing additional environmental impact, North Baja will request agency approval to continue the drilling operations.

If a release occurs that may migrate downstream and affect water quality, downstream water users will be contacted by North Baja. The contacts and telephone numbers of downstream users will be assembled prior to commencement of construction, and maintained on site.

5.0 CORRECTIVE ACTION AND CLEANUP

By monitoring drilling operations continuously, North Baja intends to correct problems before they occur. In addition, containment equipment including earth-moving equipment, portable pumps, hand tools, sand, hay bales, silt fence, lumber, and a suction dredge will be readily available at the drill site. If a release does occur, the following measures will be implemented to stop or minimize the release and to clean it up:

- The drilling contractor will decide what modifications to make to the drilling technique or composition of drilling fluid (e.g., thickening of fluid by increasing bentonite content) to reduce or stop minor losses of drilling fluid.
- If a minor bore path void is encountered during drilling, making a slight change in the direction of the bore path may avoid loss of circulation.
- If the bore head becomes lodged resulting in loss of drilling pressure, the borehole may be sized by moving the bore head back and forth to dislodge the stuck materials.
- If necessary, drilling operations will be reduced to assess the extent of the release and to implement other possible corrective actions.
- If public health and safety are threatened, drilling fluid circulation pumps will be turned off. This measure will be taken as a last resort because it increases the potential for drill hole collapse resulting from loss of down-hole pressure.
- If a land release is detected, the drilling crew will take immediate corrective action to contain the release and to prevent migration off site.
- The contractor will construct pits and berms around the borehole entry point to contain inadvertent releases onto the ground.
- Any drilling mud released into the pits will be pumped by contractor personnel into a mud-processing unit for recycling of drilling fluid and separation of cuttings.
- Additional berms will be constructed around the bore pit as directed by the Environmental Inspector(s) to prevent release materials from flowing into the waterbody.
- If the amount of an on-land release does not allow practical collection, the affected area will be diluted with fresh water and allowed to dry. Steps will be taken (such as berm, silt fence, and/or hay bale installation) to prevent silt-laden water from flowing into the waterbody.
- If hand tools cannot contain a small on-land release, small collection sumps (less than 5 cubic yards) may be constructed to pump the released material into the mud processing system.
- Contractor HDD crews will immediately implement non-mechanized measures to contain the spread of drilling fluids, including the installation of hay bales or silt fence.

- Sump pumps or vac trucks will be used to remove and dispose of any drilling fluids.
- Time permitting; HDD crews will await the arrival of CDFG representatives before proceeding with mechanized measures to contain the spread of drilling fluids. This could include construction of a containment berm.
- Any activities outside the approved right-of-way or extra workspace will be surveyed by a qualified biologist.

6.0 ABANDONMENT

If corrective actions do not prevent or control releases from occurring into the waterbody, North Baja may opt to re-drill the hole along a different alignment or suspend the Project altogether. In either case, the following procedures will be implemented to abandon the drill hole.

- The method for sealing the abandoned drill hole is to pump thickened drilling fluid into the hole as the drill assembly is extracted, and using cement grout to make a cap.
- Closer to the surface of the hole(s) (within approximately 10 feet of the surface), a soil cap will be installed by filling with soil extracted during construction of the pit and berms.
- The bore hole entry location will be graded by the contractor to its original grade and condition after the drill hole has been abandoned.

7.0 SITE-SPECIFIC PLANS

After contracting with an HDD contractor and prior to initiating HDD operations, North Baja will prepare a site-specific HDD Drilling Plan for The Colorado River and each canal HDD crossing. The plan will be similar to the plan prepared for the A-Line in 2002. The Plan will be submitted to the CDFG and will address:

A. HDD Operations Description:

1. Construction drawing
2. Depth of bore, assessment of streambed and frac-out risk
3. Type and size of boring equipment to be used (e.g., mini, mid, or maxi)
4. Estimated time to complete bore
5. List of lubricants and muds to be used (MSDS sheets okay)
6. Name of contractor and cell phone numbers of construction supervisor and monitor

Project Coordinator

Construction Supervisor

Crew Monitor

B. Frac-Out Prevention and Cleanup Plans Will Include:

1. Name(s) of environmental and biological monitor(s)
2. Site-specific monitoring conditions (e.g., preconstruction surveys for sensitive species)
3. Monitoring protocols, including biological monitoring and frac-out monitoring (North Baja will have Biological Monitors on-site during HDD activities.)

Frac-Out Monitoring

General Monitoring

4. Containment and cleanup plan (include staging location of vacuum trucks and equipment, equipment list, necessary hose lengths, special measures needed for steep topography, etc.)

Planning and Set Up

Operation

Spill Protocol

APPENDIX H

TRAFFIC MANAGEMENT PLANS



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix H-1 Traffic Management Plan for 18th Avenue

Prepared by



2087 E. 71st St.
Tulsa, OK 74136

February 2006

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LIST OF EXHIBITS

Exhibit A 18th Avenue Pipeline Route General Vicinity Map

Exhibit B 18th Avenue Construction Plan Vicinity Map

Exhibit C 18th Avenue Traffic Plan Location Map (sheets 1-3)

LIST OF ATTACHMENTS

Attachment A Typical Traffic Control Measures

Appendix H-1

Traffic Management Plan for 18th Avenue

1.0 INTRODUCTION

North Baja Pipeline, LLC (North Baja), will construct the North Baja Pipeline Expansion Project (Project), a new natural gas pipeline from the U.S.-Mexico border to the existing North Baja facilities and the El Paso Natural Gas System in Ehrenberg, Arizona. The Project includes three elements: the B-Line, which includes interconnection facilities in Ehrenberg, Arizona, as well as a 79.8 -mile, 42- and 48-inch-diameter pipeline between Blythe and the Mexican border; the Arrowhead Extension, which includes a meter station and a 2.1-mile, 36-inch-diameter pipeline extending from the proposed B-Line at milepost (MP) 7.4 to Southern California Gas Company's existing Blythe Compressor Station; and the Imperial Irrigation District (IID) Lateral, a 45.7-mile, 16-inch-diameter pipeline between North Baja's mainline and the IID El Centro Generating Station. The Project will be constructed in phases, with the first phase planned for construction in 2007, the IID Lateral for 2008, and the final phase of the Project in 2009, pending completion of upstream liquefied natural gas (LNG) terminal facilities.

In 2002, North Baja constructed the 36-inch/30-inch A-Line of which the 36-inch segment generally is installed in the north edge of 18th Avenue. Between MPs 2.3 and 10.4 of the B-Line, the pipeline will be placed generally within the south edge of 18th Avenue, as shown on the Pipeline Route General Vicinity Map, Exhibit A. This document describes North Baja's Traffic Management Plan to be employed during construction of the 42-inch B-Line along the south side of 18th Avenue.

2.0 ROUTE DESCRIPTION – 18TH AVENUE AND VICINITY

On the west side of the Colorado River, the pipeline will turn south through fallow and/or irrigated agricultural land for about 1.8 miles (MP 0.5 to MP 2.3), and will be installed adjacent to the existing 36-inch North Baja A-Line which is adjacent to the east side of the D-10-13 Canal levee road to the 18th Avenue extension.

Exhibit B shows the general location of the pipeline route in relation to 18th Avenue and shows the orientation of the detailed maps that comprise Exhibit C.

At the intersection of the D-10-13 Canal and the 18th Avenue extension, the 42-inch-diameter pipeline will turn west and will be installed within the 18th Avenue extension (a dirt road) using a 120-foot-wide right-of-way, consisting of North Baja's existing 50-foot-wide right-of-way, and 70 feet of new temporary workspace, for about 0.6 mile. At the D-10 Canal, 18th Avenue becomes paved and remains paved for about 7.6 miles to the intersection of Keim Boulevard. Throughout this segment, the pipeline will be installed within the road shoulder or within the paved roadway. Except for extra work spaces at selected locations, construction will be confined to the 60-foot-wide designated county road right-of-way, which consists of the paved road and adjacent road shoulder. Adjacent land uses along 18th Avenue are agricultural and low density residential and business uses. The pipeline route crosses eight irrigation canals, five drains, nine delivery ditches, nine roads, and one railroad. Occupants of twenty-four residences and two businesses use 18th Avenue for access. Farmers tilling the ground adjacent to 18th Avenue also require ingress and egress at points along the road. Homes and buildings will be located between 20 and 250 feet of the edge of the construction work area. The existing mainline valve lot along 18th Avenue near Lovekin Road will be expanded to add a second valve for the B-Line at MP 5.5.

3.0 TRAFFIC MANAGEMENT APPROACH

North Baja has consulted with the Riverside County Department of Public Works. Riverside County requires that construction measures comply with California Department of Transportation (CalTrans) Traffic Manual. North Baja's plan requires that the contractor comply with all relevant elements of the CalTrans Traffic Manual, Chapter 5, Traffic Controls. Key traffic control elements in the manual address:

- Temporary traffic control;
- Pedestrian, bicycle, and worker considerations;
- Hand signaling control;
- Types of traffic control devices; and
- Types of temporary traffic control zone activities.

Section 3.1 describes the construction considerations along 18th Avenue. Section 3.2 addresses the traffic management approach. Exhibit C is a series of 1 inch = 2,000 feet maps showing the location of the route in relation to 18th Avenue, canals, drains, railroad, and cross streets. It shows the location of construction segments and individual residences and businesses. Attachment A shows typical traffic control measures contained in the CalTrans Traffic Manual that will be implemented by the contractor.

North Baja will submit detailed construction drawings for approval by Riverside County Public Works Department as part of obtaining an Encroachment Permit.

3.1 18TH AVENUE CONSTRUCTION CONSIDERATIONS

The following summarizes the construction considerations for 18th Avenue:

Location in Relation to 18th Avenue – Construction in the paved segment of 18th Avenue will be accomplished using urban construction techniques. To minimize disruption to residences and facilitate construction across roadways, canals and drains, North Baja will locate the pipe approximately 13.0 feet south of the centerline of the pavement. North Baja proposes to confine the construction work area to the County road right-of-way with additional extra work space located along the road at major crossings such as cross streets, railroads, canals, and ditches. Certain crossings such as the operating canals, the Arizona-California Railroad, State Highway 78, and three county roads will be installed by conventional boring. All other crossings are proposed to be open cut aside from the drains whose substantial depth allows for the pipeline to be installed across the top.

Preconstruction Planning – Before construction in 18th Avenue, North Baja will obtain an amended franchise agreement and an encroachment permit from the County of Riverside Transportation Department. Design and construction methods will conform to Riverside County

requirements. Preconstruction activities will include preliminary examination of the work areas and identification of the exact location of subsurface utilities, either through visual inspection or by digging potholes at intervals along the pipeline trench. If potholing identifies a conflict between existing utilities and the pipeline centerline, then the pipeline or utility will be horizontally and/or vertically realigned to eliminate the conflict.

North Baja will contact each owner and/or tenant of the properties abutting the road to explain the construction process and identify any special conditions or concerns that need to be incorporated into the construction plans. In addition, these adjacent residents and businesses will be notified by hand-distributed flyers 2 weeks before construction.

Timing –To minimize the duration of inconvenience to residences, North Baja proposes to close sections of road where construction is active and reroute non-local traffic around these areas (while maintaining access for residents). Construction will advance along the road at an estimated 500 feet per day; however to expedite completion and thereby minimize the duration of any inconvenience to residents, construction may be active at numerous locations along 18th Avenue at any given time. Excluding repaving, direct construction impacts at any given location are estimated to last about 2 to 3 weeks.

Construction Crews –The initial plan following contractor mobilization is to have a specialized crew solely designated to the 18th Avenue work. This crew will be a self-sufficient “mini spread” experienced with work in congested areas and will have two major components. The first component being the individuals associated with the installation of the major crossings and the second component will be responsible for the installation of the pipeline sections in between the crossings. Both components of this crew will make every effort to keep unavoidable road closures or restricted access to a minimum and coordinate those closures with residences and businesses.

Safety Considerations and Access – Although 18th Avenue is not a heavily traveled roadway, there are 26 residences and businesses along the proposed route. North Baja will apply specific traffic management measures in cooperation with the County of Riverside Transportation Department. These include:

- The pipeline will be installed with a minimum of 36 inches of cover and with a minimum of 12 inches of separation from other utilities or obstructions. A minimum of 2 feet will be maintained under canals and 5 feet over drains.
- Intersections will be bored or trenched and steel plated if construction doesn't occur on consecutive days.
- Adjacent residents and businesses will be notified by hand-distributed flyers 2 weeks before construction. The flyers will include the dates of construction, the work hours, traffic detours, and contact numbers for North Baja and the contractor. Emergency response agencies will also be notified of the work schedule.
- The Underground Service Alert will be notified at least 48 hours before beginning work.

- Flagging personnel will be provided to route traffic around construction equipment and obstructions.
- Work will be scheduled during daylight hours unless alternative schedules are authorized.
- Access will be maintained to all residences or businesses except during actual trenching operations. Steel plates will be available to maintain access to driveways during periods when the trench is open.
- Non-local traffic will be detoured around construction activities.
- One lane of restricted traffic movement will be maintained through the construction area as it progresses down 18th Avenue. This will allow residences and businesses reasonable access during the construction activities.
- Where unrestricted traffic is impractical, North Baja proposes that its contractor will maintain at least one direction, either east or west, for exit of local traffic and access for any emergency traffic that may occur.
- At non-work times the work area will be secured and patrolled to minimize safety hazards associated with open trenches, heavy equipment and other construction operations.
- Open trenches will be covered or cordoned off during non-working hours. The length of open trench may vary with individual circumstances and interferences that may occur along the corridor.

Trenching and Boring – The trench depth for the portions of the pipeline between the bored crossings is expected to be 6 to 7 feet to accommodate the 42-inch pipe and maintain 36-inch of cover in accordance with USDOT Pipeline Safety Regulations. Trench depth will also be contingent on the type of soils and the quantity of ground water encountered. Spoil material from the trench will be stockpiled and spread on the work side of the right-of-way or hauled to an approved stockpile location. Because the pipeline installation is in the road corridor, no topsoil segregation is planned. Any pavement or rock materials removed during the installation of the pipeline will be hauled away to an approved landfill or other suitable location. Sheet piling and dewatering techniques such as well-pointing will be utilized, as needed, in order to ensure a safe and stable trench and bore entrance or exit holes. Pipeline trench borehole dewatering will be kept to a minimum, as is practical. North Baja will dewater to nearby canals and drains in accordance with PVID requirements.

Pipe Installation – Pipe installation into the trench will preferably be done in sections as long as practical, with the pipe sections being welded up alongside the ditch. In tight work areas, the contractor may elect to “double joint” pipe lengths into 80-foot sections at an offsite location and transport the pipe joints to the area. In addition, longer sections may be welded up at staging areas located near 18th Avenue for use in very narrow workspace zones. One pipe installation method that will be used in numerous areas along 18th Avenue is the stovepipe method. This method allows for the pipe to be welded up in the trench, one pipe joint at a time, and sequentially backfilled following coating operations. This method keeps the length of open trench to a minimum and allows for better access management.

As the pipe installation progresses, tie-ins will be done in the ditch at convenient locations to facilitate welding. Most tie-ins will occur on either side of crossings and at sites where installation methodology changes from one approach to another, *i.e.*, stovepipe to traditional pipe-lay. At these locations the ditch will be widened sufficiently to allow welders access and afford them the space necessary to complete the welds.

Backfilling and Testing – Following pipe installation and the coating of the welds, the ditch will be backfilled with the spoil material removed that meets North Baja's pipeline padding specifications, and compacted to the requirements of the County of Riverside Transportation Department. New pavement will be installed where existing pavement is removed for ditching, and the area will be opened back to normal traffic. However, during hydrostatic testing the area again will be limited to traffic of necessity as a safety precaution. North Baja proposes to test the pipeline during a time of least disruption to the local residences and businesses. A minimum 8-hour hydrostatic test period is required by North Baja.

Noise and Dust – Noise will be reduced by maintaining equipment in good operating condition, equipped with proper noise control accessories including mufflers and or sound attenuation enclosures. Noise will be monitored for equipment that may run for extended periods of time such as pumps, compressors and generators. Work will be scheduled during daylight hours unless alternative schedules are authorized. Dust will be suppressed by the use of water trucks and regular spraying.

Restoration – Following a successful test, the entire area will be cleaned up and restored to its original condition. Residential areas disturbed during construction will have all fencing, lawns and plant materials replaced to a standard equal to the preconstruction conditions. Pavement removed or damaged during construction will be replaced initially with temporary material, and later re-paved, during restoration, to the requirements of the County of Riverside Transportation Department.

3.2 TRAFFIC MANAGEMENT APPROACH

To effectively outline the traffic management issues associated with the pipe installation on 18th Avenue, the plan has been broken into segments. The plan is subject to revision as the design of the pipeline is finalized and input is received from the pipeline contractor. The segments are as follows:

- Segment 1 – MP 2.92 to MP 3.42
- Segment 2 – MP 3.43 to MP 4.00
- Segment 3 – MP 4.01 to MP 5.00
- Segment 4 – MP 5.01 to MP 6.00
- Segment 5 – MP 6.01 to MP 7.00
- Segment 6 – MP 7.01 to MP 8.00
- Segment 7 – MP 8.01 to MP 9.00

Segment 8 – MP 9.01 to MP 10.00

Segment 9 – MP 10.01 to MP 10.50

Segment 1 – MP 2.92 to MP 3.42

For Segment 1 and all other segments along 18th Avenue, construction equipment and personnel will utilize the eastbound lane for pipe installation. For all of Segment 1, the westbound lane will serve as access for emergency vehicles and local residents only. One-lane traffic control along Segment 1 will be accomplished by the use of adequate warning, delineation and channelization techniques. Such techniques include proper pavement marking, and/or signs or use of other traffic control devices that are effective under varying conditions of light and weather. These devices include but are not limited to cones, barricades, portable delineators, flexible post type channelizers, drums, and barricades. The quantity and type of devices will be appropriate to assure the driver and pedestrian have positive guidance before approaching and while passing through the traffic control zone. Flagging personnel will be employed when all other methods of traffic control are inadequate to warn and direct drivers.

Near the end of Segment 1, at approximately MP 3.40, is the proposed open-cut crossing of Intake Boulevard. While the roadway is being open-cut for the installation of the pipeline, southbound traffic on Intake Boulevard will be detoured west on Seeley Avenue (16th Avenue), which parallels 18th Avenue 1 mile to the north. Northbound traffic will be detoured west on 22nd Avenue, which parallels 18th Avenue approximately 2 miles to the south. Motorists will use C & D Boulevard, 1 mile west of Intake Boulevard, for northbound and southbound traffic flow during the detour. The detour will be posted clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Intake Boulevard.

These temporary traffic control zones will be carefully monitored under varying conditions of traffic volume, light and weather to ensure that traffic control measures are operating effectively and that all devices are clearly visible, clean and in good repair.

Segment 2 – MP 3.43 to MP 4.00

From approximately MPs 3.43 to 3.95, of Segment 2, implementation of diversions will be required. Diversions are needed when traffic is directed onto a temporary roadway or alignment placed in or next to the roadway. These will be required where traffic is routed onto the road shoulder of 18th Avenue to maintain access for local residents and emergency vehicles. Diversions are accomplished by the use of adequate warning, delineation and channelization techniques, as noted above, in addition to the requirements for effective detours as outlined in Segment 1.

For the remaining .05 mile of this segment the westbound lane of 18th Avenue will be used for access and necessitate the use of proper pavement marking, signs and or use of other traffic control devices, consistent with one-lane traffic control, that are effective under varying conditions of light and weather. Modification of these traffic control measures or working conditions may be required to expedite traffic movement and to promote worker safety.

Segment 3 – MP 4.01 to MP 5.00

For Segment 3, beginning at MPs 4.01 to 4.23, the effective use of diversions will be required to allow restricted traffic to use the road shoulder along 18th Avenue for access. From MPs 4.23 to 5.00, local residents and emergency vehicles will utilize the westbound lane for ingress and egress. The traffic control measures for both of these scenarios will be implemented as outlined in Segments 1 and 2. Near the mid-point of this segment, MP 4.41 constitutes the approach to the crossing of C&D Boulevard. The proximity of the road to a canal requires the road to be conventionally bored. The boring of the road negates the need to detour traffic but control devices, such as signage and barriers around the bore pits, will be implemented to maintain safe traffic flow.

Towards the end of this segment, near MP 4.93, is the proposed open-cut crossing on South Broadway Road. While the roadway is being open-cut for the installation of the pipeline, southbound traffic on South Broadway will be detoured east or west on Seeley Avenue. Traffic detoured east will use C&D Boulevard for north and south traffic flow and motorists detoured west will utilize Lovekin Boulevard. South Broadway terminates at 18th Avenue, thus relieving the need for detour measures to handle northbound traffic flow.

Segment 4 – MP 5.01 to MP 6.00

For Segment 4, beginning at MPs 5.01 to 6.00, the effective use of diversions will be required to allow restricted traffic to use the road shoulder along 18th Avenue for access. Near the mid-section of this segment, MP 5.42 constitutes the approach to the crossing of Lovekin Boulevard. The proximity of the road to a canal requires the road to be conventionally bored. The boring of the road does not require that traffic be detoured but control devices, such as signage and barriers around the bore pits, will be implemented to maintain safe traffic flow. Following the road crossing is a 1,250-foot-long section, ending at MPs 5.66, that runs north of the proposed contractor's staging area. Again, the use of diversions will be required to facilitate the use of the road shoulder for restricted vehicular access. The contractor may elect to install this portion of the 18th Avenue construction last to maintain access to the staging area during installation of all other segments.

A mainline valve for the 42-inch pipeline will be constructed adjacent to the existing mainline valve on the south side of 18th Avenue within this same 1,250-foot section.

Segment 5 – MP 6.01 to MP 7.00

Segment 5 will require the use of diversion traffic control measures to utilize the road shoulder from MPs 6.01 to 7.00 except for two small 300-foot sections, one near MP 6.10 and one near

MP 6.38, where the westbound lane will be used for access. Pertinent to this segment, near MP 6.46, is the proposed open-cut crossing of DeFrain Boulevard. While the roadway is being open-cut for the installation of the pipeline, southbound traffic on DeFrain Boulevard will be detoured east or west on Seeley Avenue and northbound traffic will be detoured east or west on 22nd Avenue. Motorists detoured east will utilize Lovekin Boulevard and motorist detoured west will use Arrowhead Boulevard, located 1 mile west of DeFrain Boulevard, for northbound and southbound traffic flow. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along DeFrain Boulevard.

Segment 6 – MP 7.01 to MP 8.00

MPs 7.01 to 7.99 will require diversion traffic control measures to utilize the road shoulder for restricted vehicular access. Diversion devices include those required for the closing of a single roadway lane and those measures required to detour traffic. The final 500-foot of this segment will use the westbound lane to provide access for local residents and emergency vehicles.

MP 7.44 is the approach to the open cut crossing of Arrowhead Boulevard. While the roadway is being open-cut for the installation of the pipeline, southbound traffic on Arrowhead Boulevard will be detoured east or west on Seeley Avenue and northbound traffic east or west on 22nd Avenue. Motorists detoured east will utilize DeFrain Boulevard and motorist detoured west will use Neighbors Boulevard (State Route 78), located 1 mile west of Arrowhead Boulevard, for northbound and southbound traffic flow. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Arrowhead Boulevard.

Segment 7 – MP 8.01 to MP 9.00

From MP 8.01 to MP 8.45 westbound lane will serve as access for local residents and emergency vehicles. When using one lane for traffic control, adequate warning, delineation and channelization techniques will be necessary. Such techniques include proper pavement marking, signs or use of other traffic control devices that are affected under varying conditions of light and weather. The quantity and type of devices will be appropriate to ensure that the driver and pedestrian have positive guidance before approaching and while passing through the traffic control zone. Flagging personnel will be employed when all other methods of traffic control are inadequate to warn and direct drivers.

MP 8.45 represents the proposed conventional bore of State Route 78 (Neighbors Boulevard) crossing. The boring of the road negates the need to detour traffic, but control devices, such as

signage and barriers around the bore pits, will be implemented to maintain safe traffic flow. From the west side of the highway crossing to the terminus of this segment, diversion traffic control measures will be implemented. As with all segments of construction along 18th Avenue, traffic control zones will be carefully monitored under varying conditions of traffic volume, light and weather to ensure that traffic control measures are operating effectively and that all devices are clearly visible, clean and in good repair. Modification of traffic controls or working conditions may be required to expedite traffic movement and to promote worker safety.

Segment 8 – MP 9.01 TO MP 10.00

For the entire length of Segment 8, the westbound lane will be needed to provide restricted access for local residents and emergency vehicles. One-lane traffic control along Segment 8 will be accomplished by the use of adequate warning, delineation and channelization techniques. Such techniques include, proper pavement marking, signs or use of other traffic control devices that are effective under varying conditions of light and weather. The quantity and type of devices will be appropriate to assure the driver and pedestrian have positive guidance before approaching and while passing through the traffic control zone. Flagging personnel will be employed when all other methods of traffic control are inadequate to warn and direct drivers.

Approximately halfway through this section, at MP 9.46, is the proposed open-cut crossing of Stephenson Boulevard. While the roadway is being open-cut for the installation of the pipeline, southbound traffic on Stephenson Boulevard will be detoured east on Seeley Avenue and northbound traffic east on 22nd Avenue. Motorists detoured east will then utilize Neighbors Boulevard (State Route 78), located 1 mile east of Stephenson Boulevard, for northbound and southbound traffic flow. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Stephenson Boulevard.

Segment 9 – MP 10.01 TO MP 10.50

Diversion traffic control measures are needed to allow for limited traffic flow along the south shoulder of 18th Avenue between MPs 10.01 to 10.42. From MP 10.42 to the end of the segment near MP 10.50 the westbound lane will be utilized for access. As with all other construction segments along 18th Avenue, the traffic control requirements for these two scenarios remain the same. MP 10.47 within this segment constitutes the proposed conventional road bore of Keim Boulevard. The boring of the road relieves the need to detour traffic but control devices, such as signage and barriers around the bore pits, will be implemented to maintain safe traffic flow.

EXHIBITS

EXHIBIT A

18TH AVENUE PIPELINE ROUTE GENERAL VICINITY MAP

Non-Internet Public

DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR
THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
Docket Nos. CP06-61-000 and CP01-23-003

EXHIBIT A

18TH AVENUE PIPELINE ROUTE GENERAL VICINITY MAP

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EXHIBIT B

18TH AVENUE CONSTRUCTION PLAN VICINITY MAP

Non-Internet Public

DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR
THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
Docket Nos. CP06-61-000 and CP01-23-003

EXHIBIT B

18TH AVENUE CONSTRUCTION PLAN VICINITY MAP

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EXHIBIT C

18TH AVENUE TRAFFIC PLAN LOCATION MAP

Non-Internet Public

DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR
THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
Docket Nos. CP06-61-000 and CP01-23-003

EXHIBIT C

18TH AVENUE TRAFFIC PLAN LOCATION MAP

Sheet 1

Page H-1-17

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Docket Nos. CP06-61-000 and CP01-23-003

EXHIBIT C

18TH AVENUE TRAFFIC PLAN LOCATION MAP

Sheet 2

Page H-1-18

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Docket Nos. CP06-61-000 and CP01-23-003

EXHIBIT C

18TH AVENUE TRAFFIC PLAN LOCATION MAP

Sheet 3

Page H-1-19

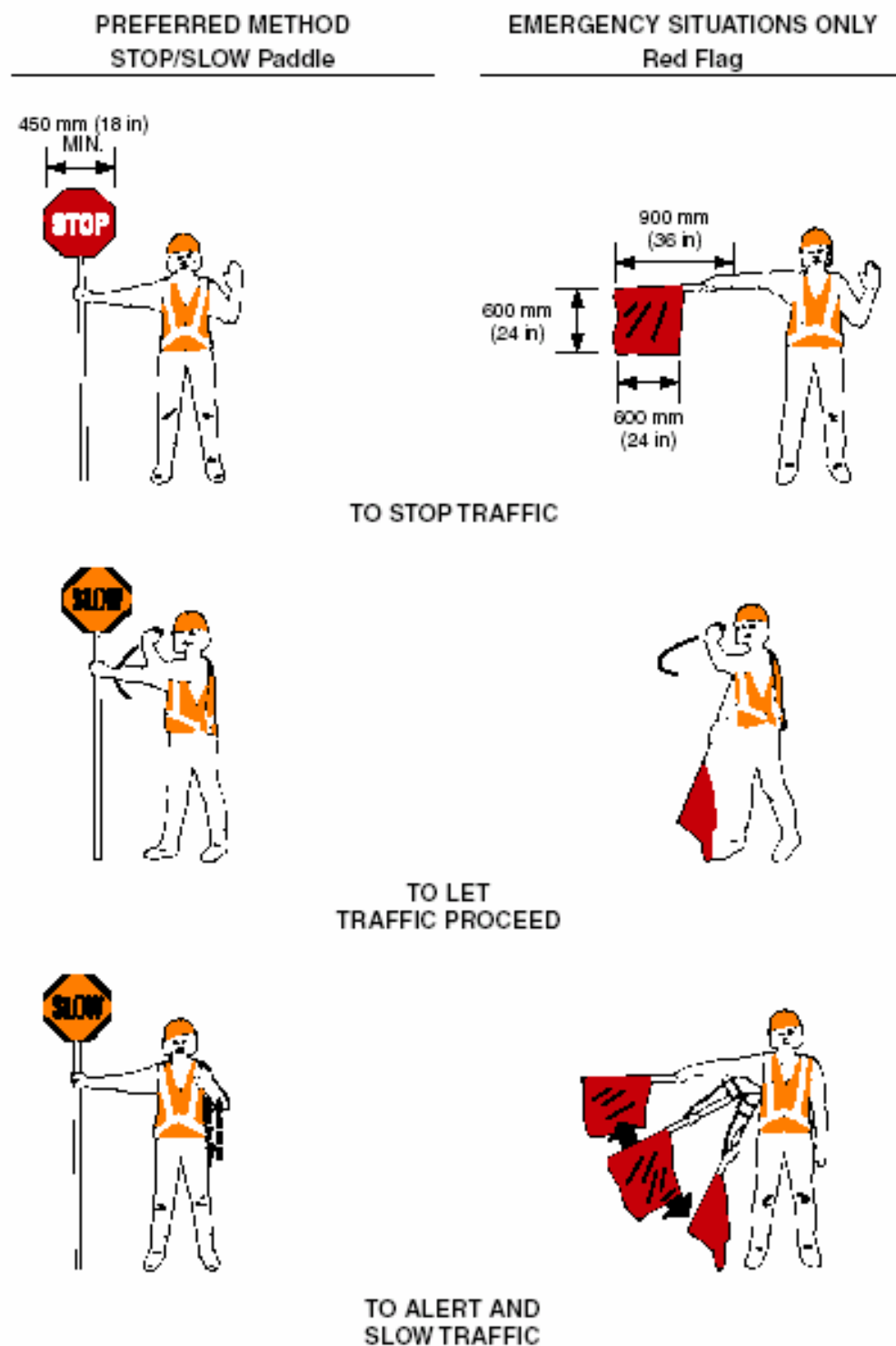
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ATTACHMENT A

TYPICAL TRAFFIC CONTROL MEASURES

Public

Figure 6E-1. Use of Hand-Signaling Devices by Flaggers



Public

Table 6C-1. Suggested Advance Warning Sign Spacing

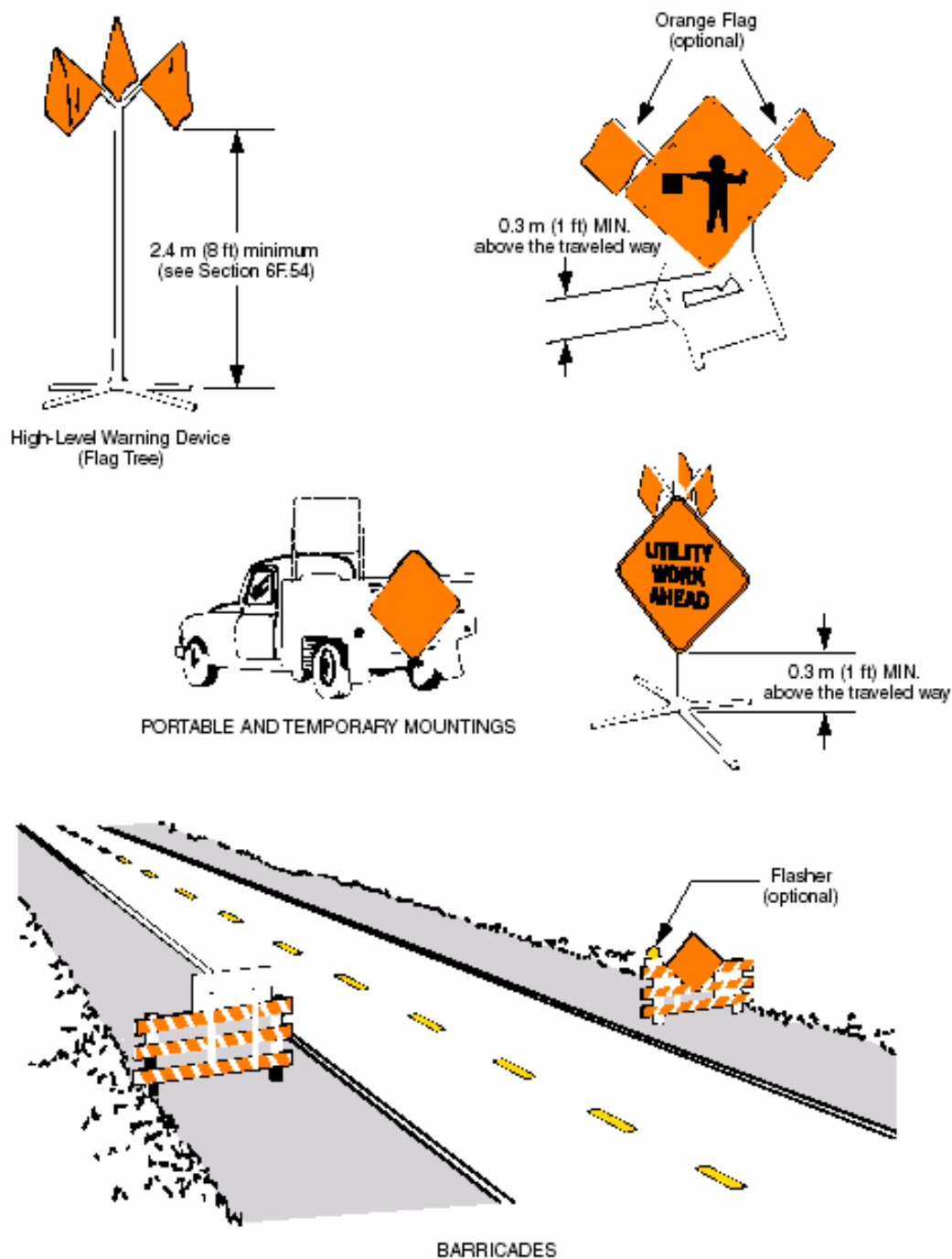
Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	30 (100)	30 (100)	30 (100)
Urban (high speed)*	100 (350)	100 (350)	100 (350)
Rural	150 (500)	150 (500)	150 (500)
Expressway / Freeway	300 (1,000)	450 (1,500)	800 (2,640)

* Speed category to be determined by highway agency

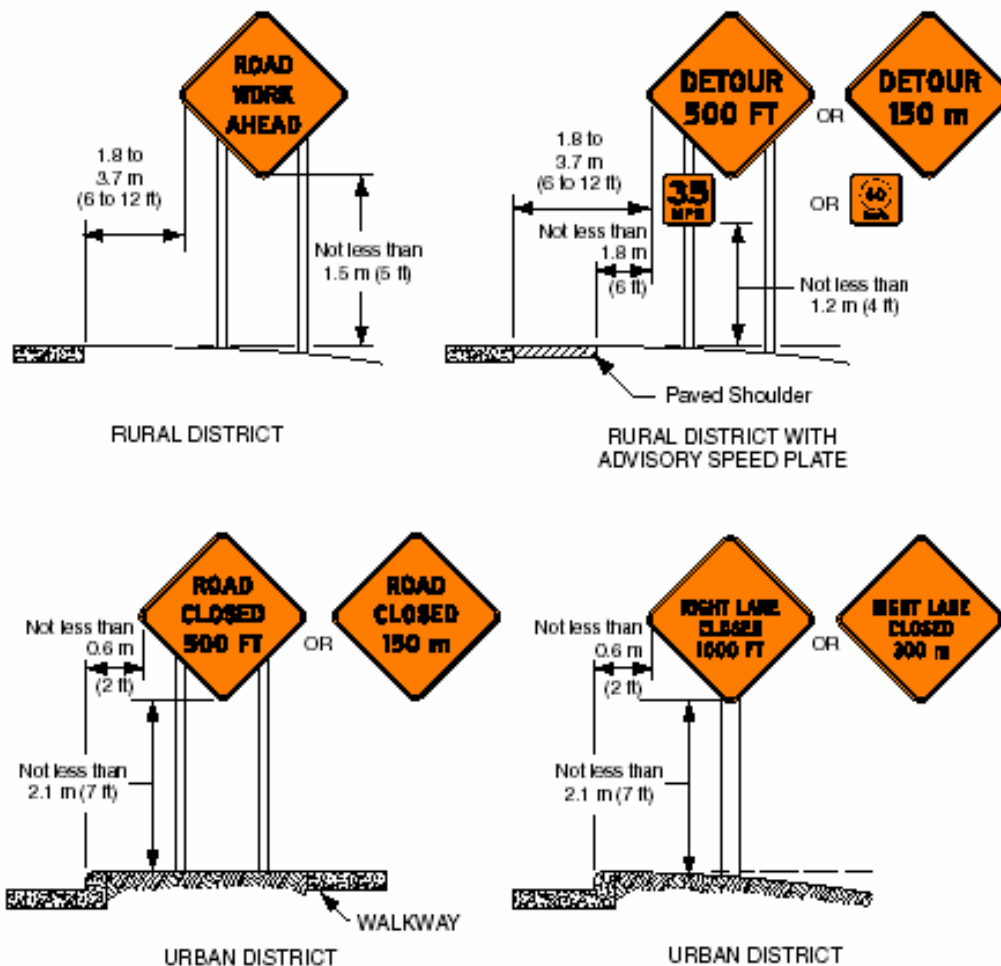
** Distances are shown in meters (feet). The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The third sign is the first one in a three-sign series encountered by a driver approaching a TTC zone.)

Public

Figure 6F-2. Methods of Mounting Signs Other Than on Posts

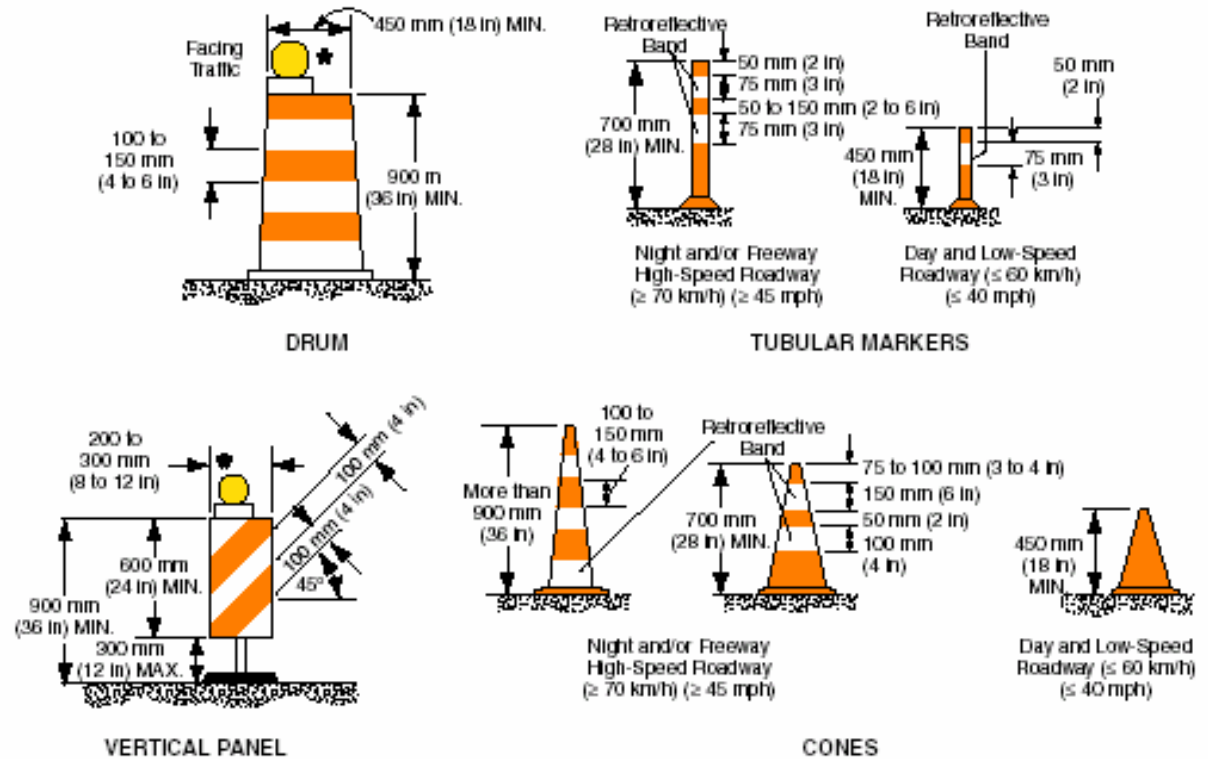


Public

Figure 6F-1. Height and Lateral Location of Signs—Typical Installations

Public

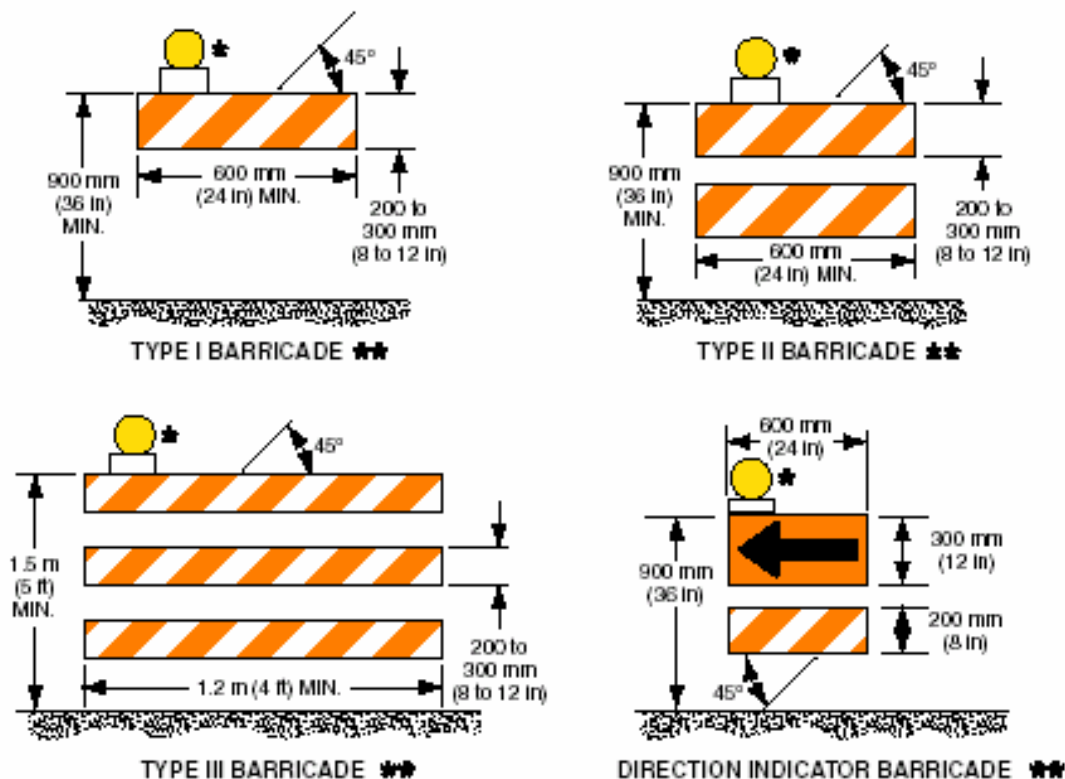
Figure 6F-7. Channelizing Devices (Sheet 1 of 2)



* Warning lights (optional)

Note: If drums, cones, or tubular markers are used to channelize pedestrians, they shall be located such that there are no gaps between the bases of the devices, in order to create a continuous bottom, and the height of each individual drum, cone, or tubular marker shall be no less than 900 mm (36 in) to be detectable to users of long canes.

Public

Figure 6F-7. Channelizing Devices (Sheet 2 of 2)

* Warning lights (optional)

** Rail stripe widths shall be 150 mm (6 in), except that 100 mm (4 in) wide stripes may be used if rail lengths are less than 900 mm (36 in). The sides of barricades facing traffic shall have retroreflective rail faces.

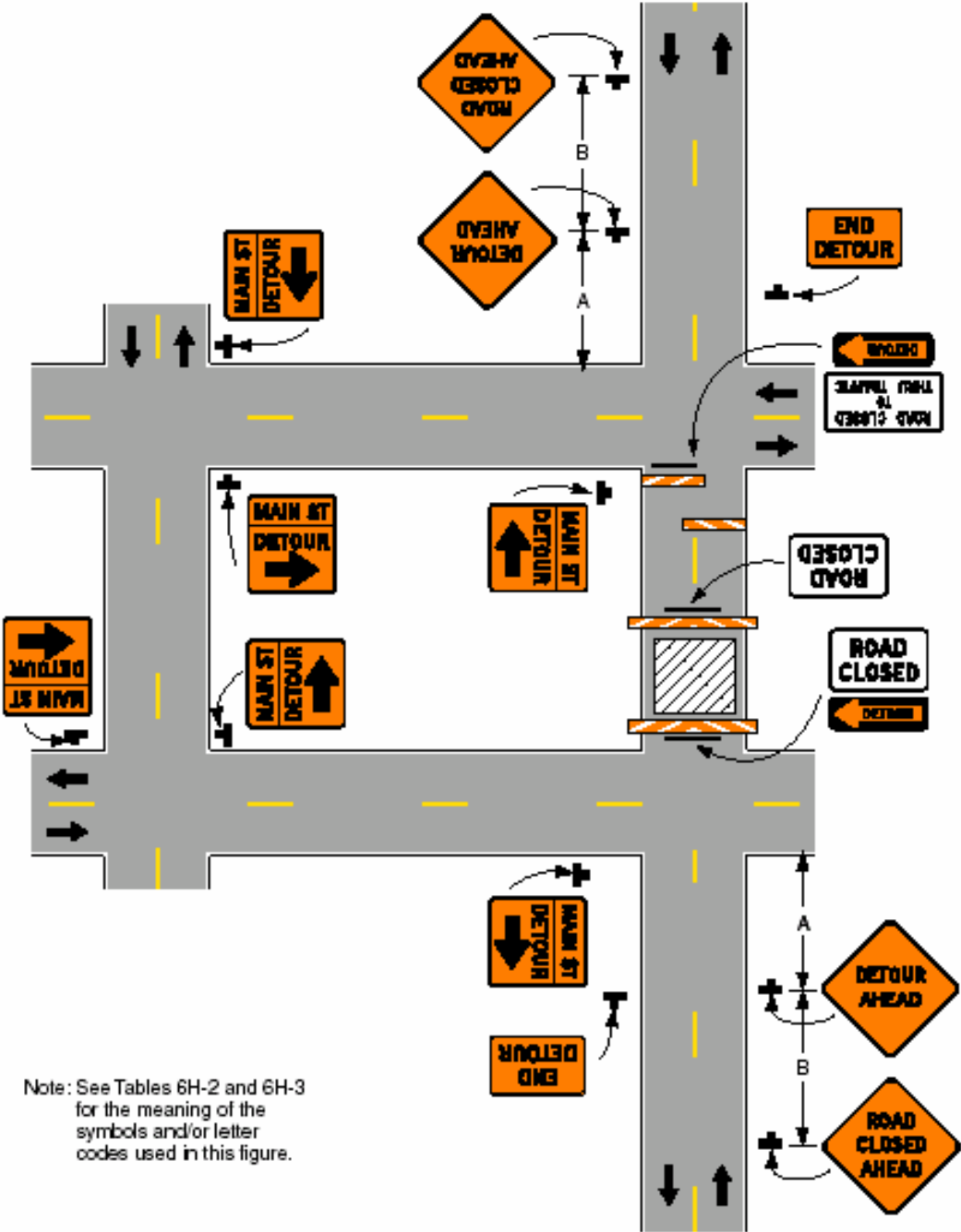
Note: If barricades are used to channelize pedestrians, there shall be continuous detectable bottom and top rails with no gaps between individual barricades to be detectable to users of long canes. The bottom of the bottom rail shall be no higher than 150 mm (6 in) above the ground surface. The top of the top rail shall be no lower than 900 mm (36 in) above the ground surface.

Public

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Figure 6H-20. Detour for Closed Street (TA-20)



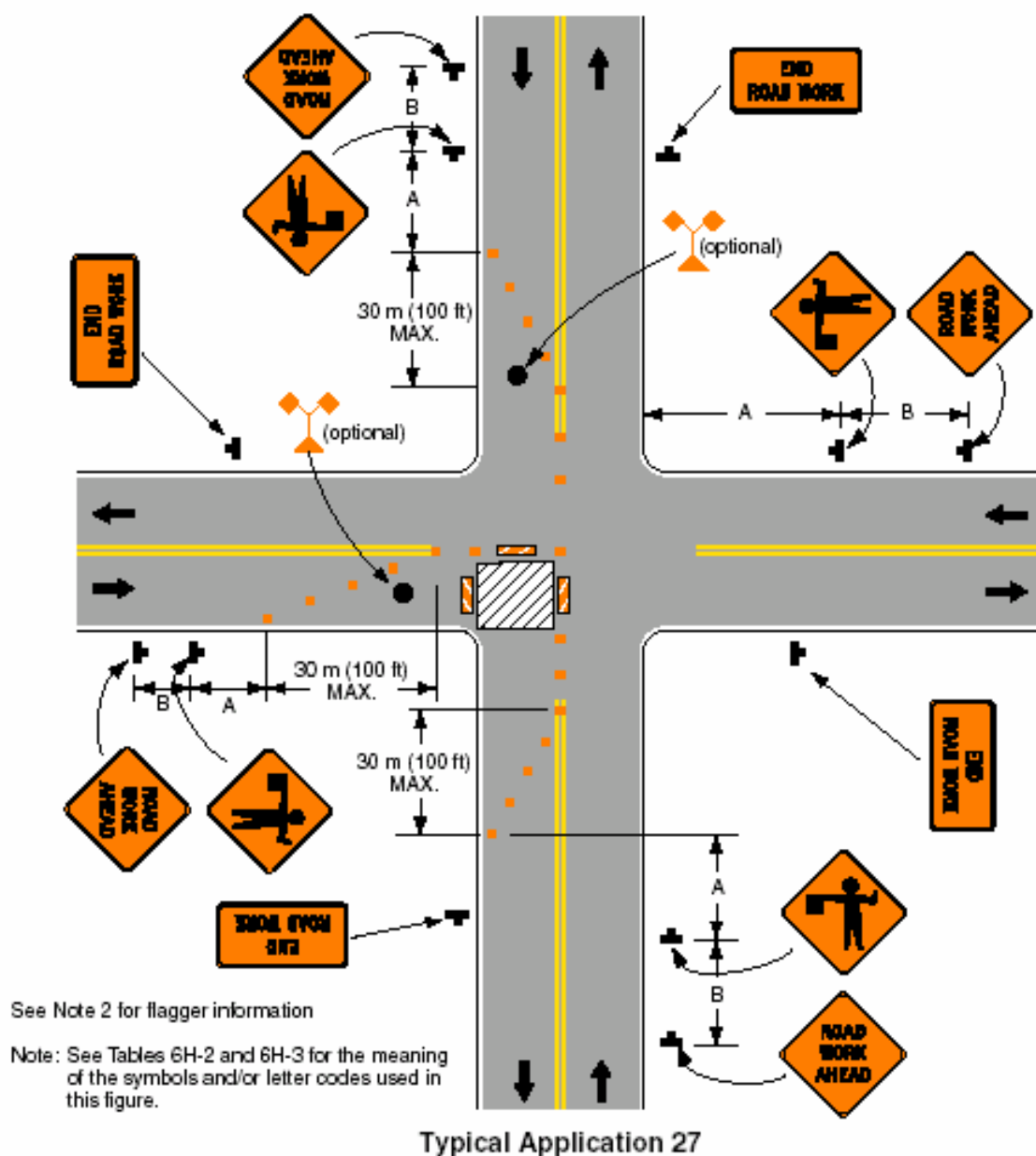
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Figure 6H-27. Closure at Side of Intersection (TA-27)

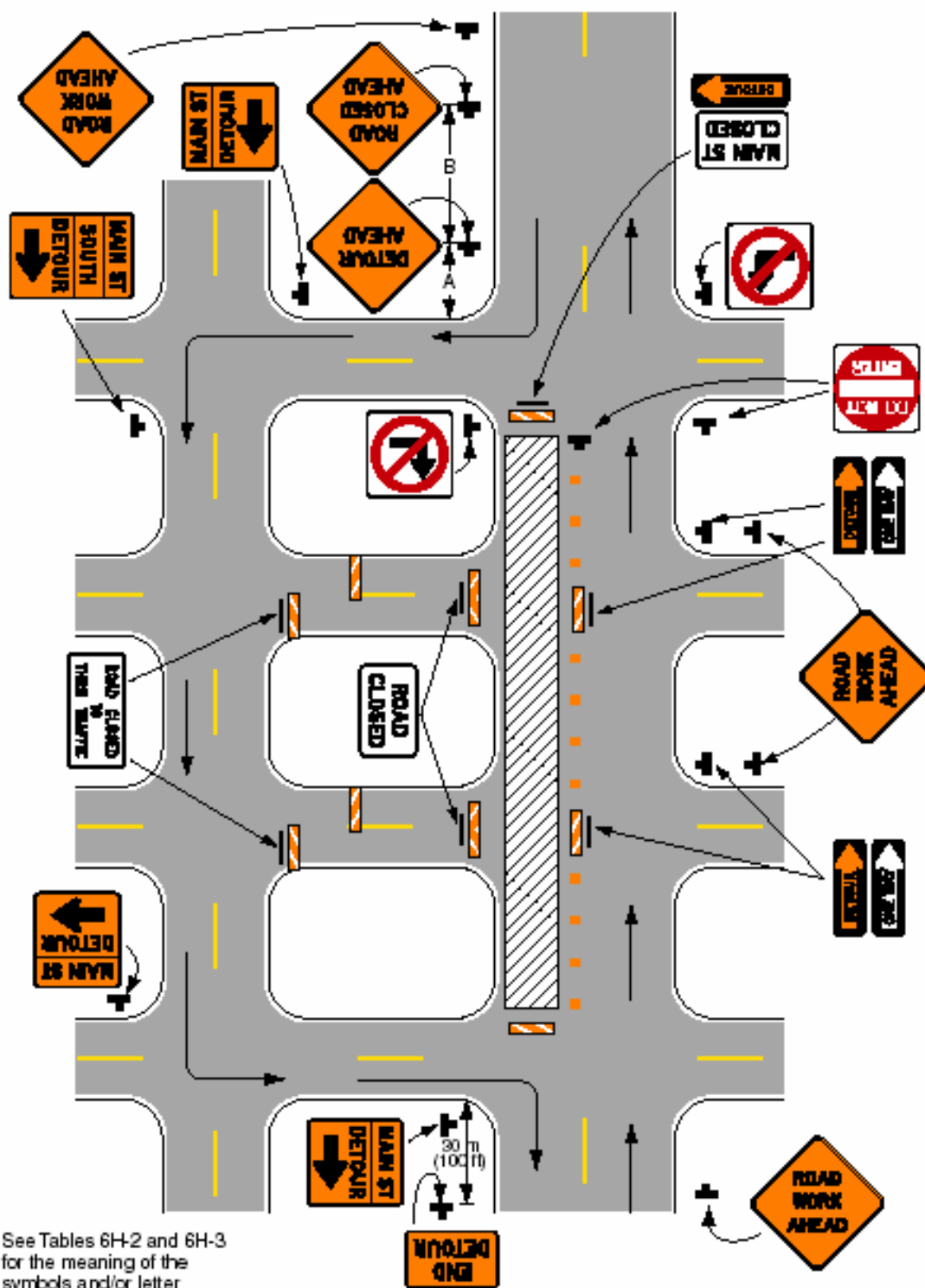


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Figure 6H-19. Detour for One Travel Direction (TA-19)

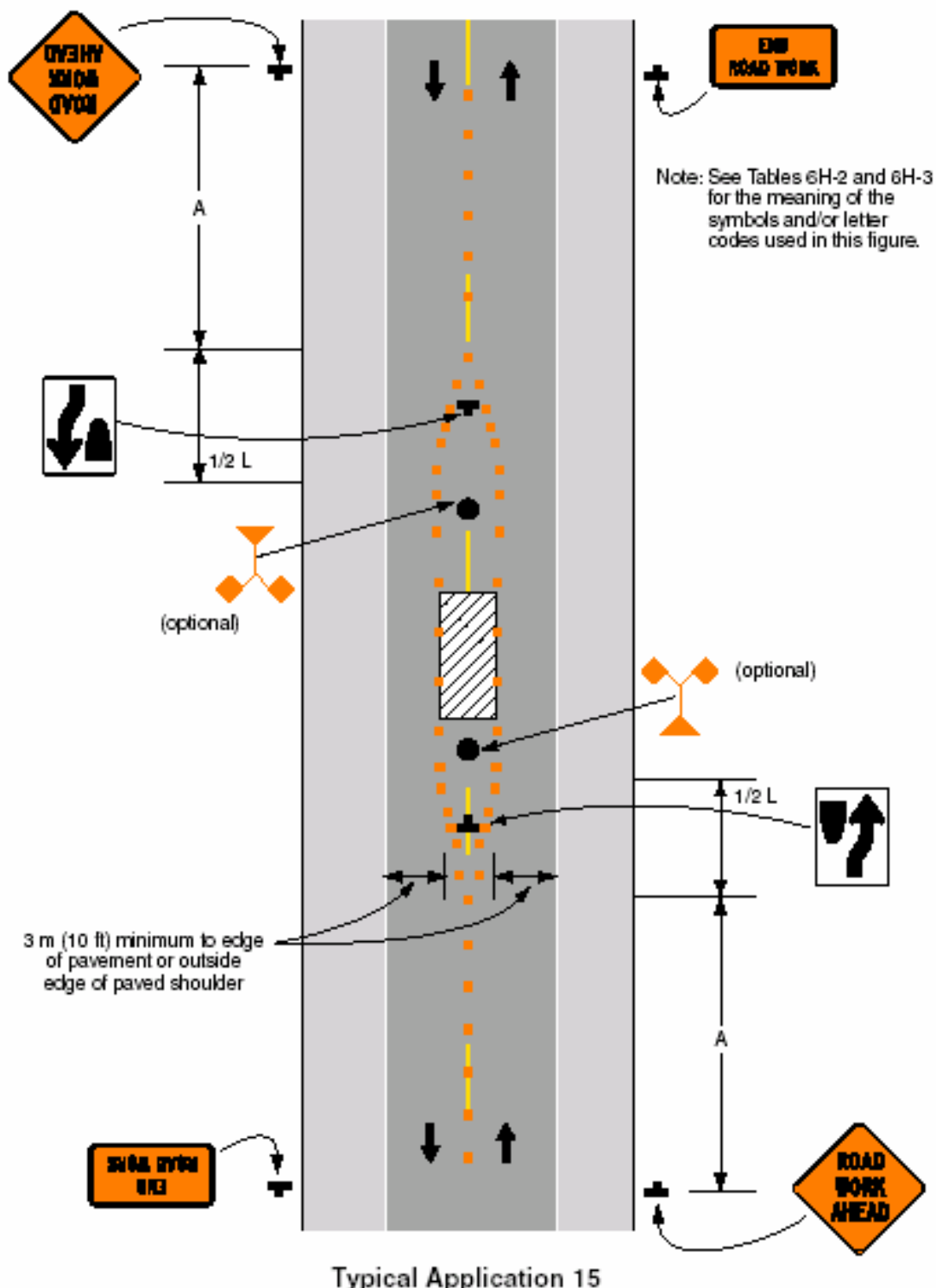


Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

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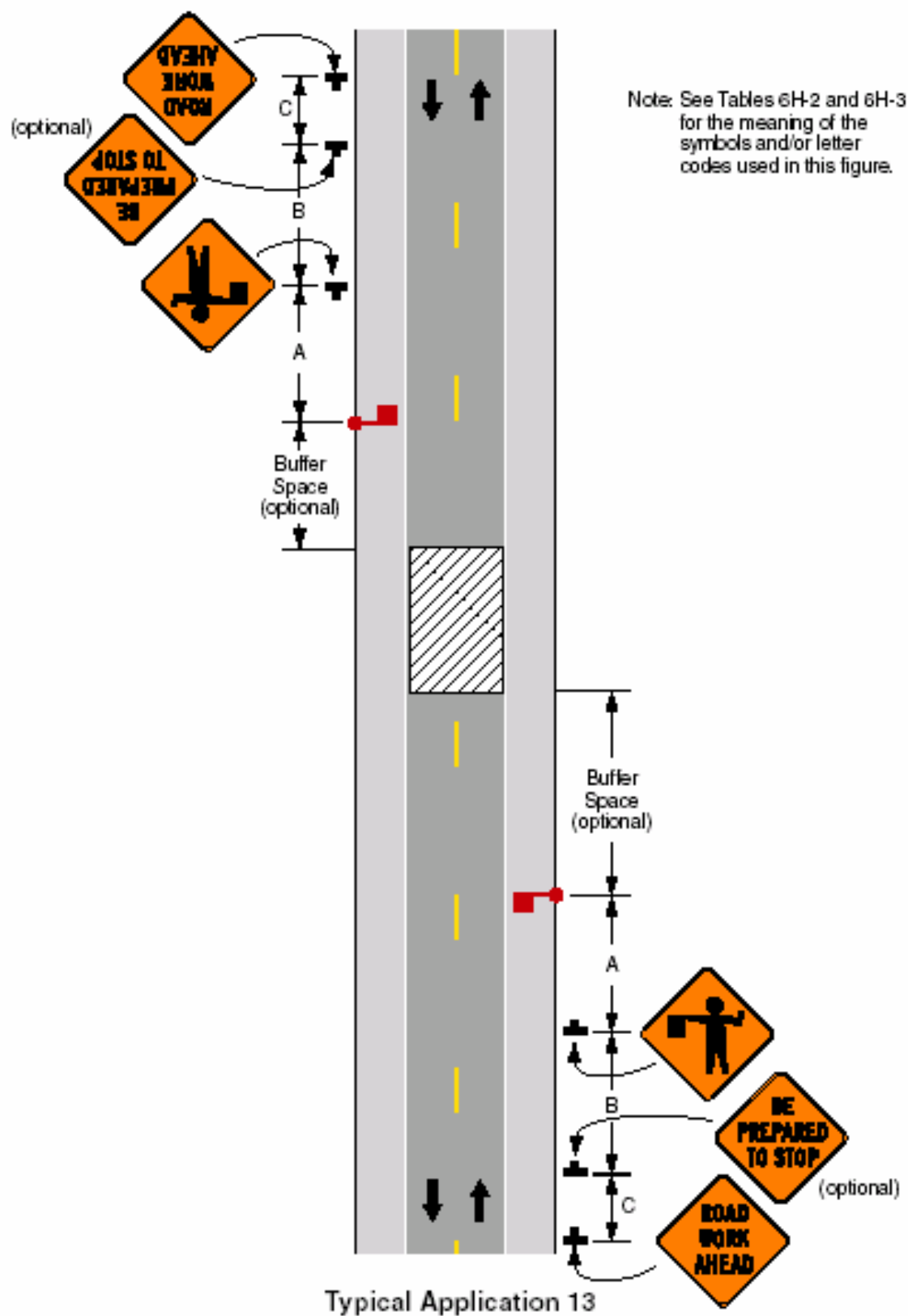
Public

Figure 6H-15. Work in Center of Road with Low Traffic Volumes (TA-15)



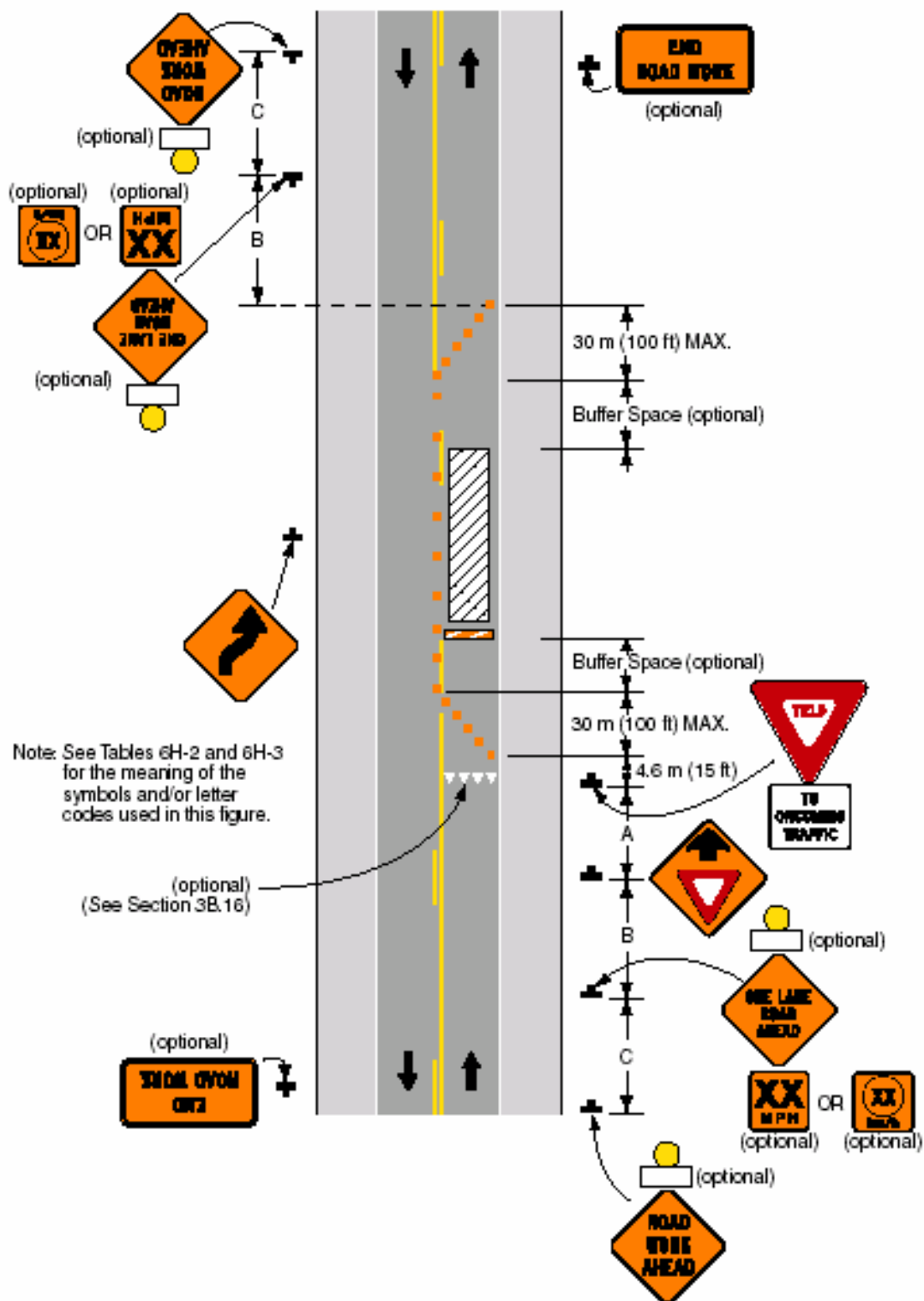
Public

Figure 6H-13. Temporary Road Closure (TA-13)



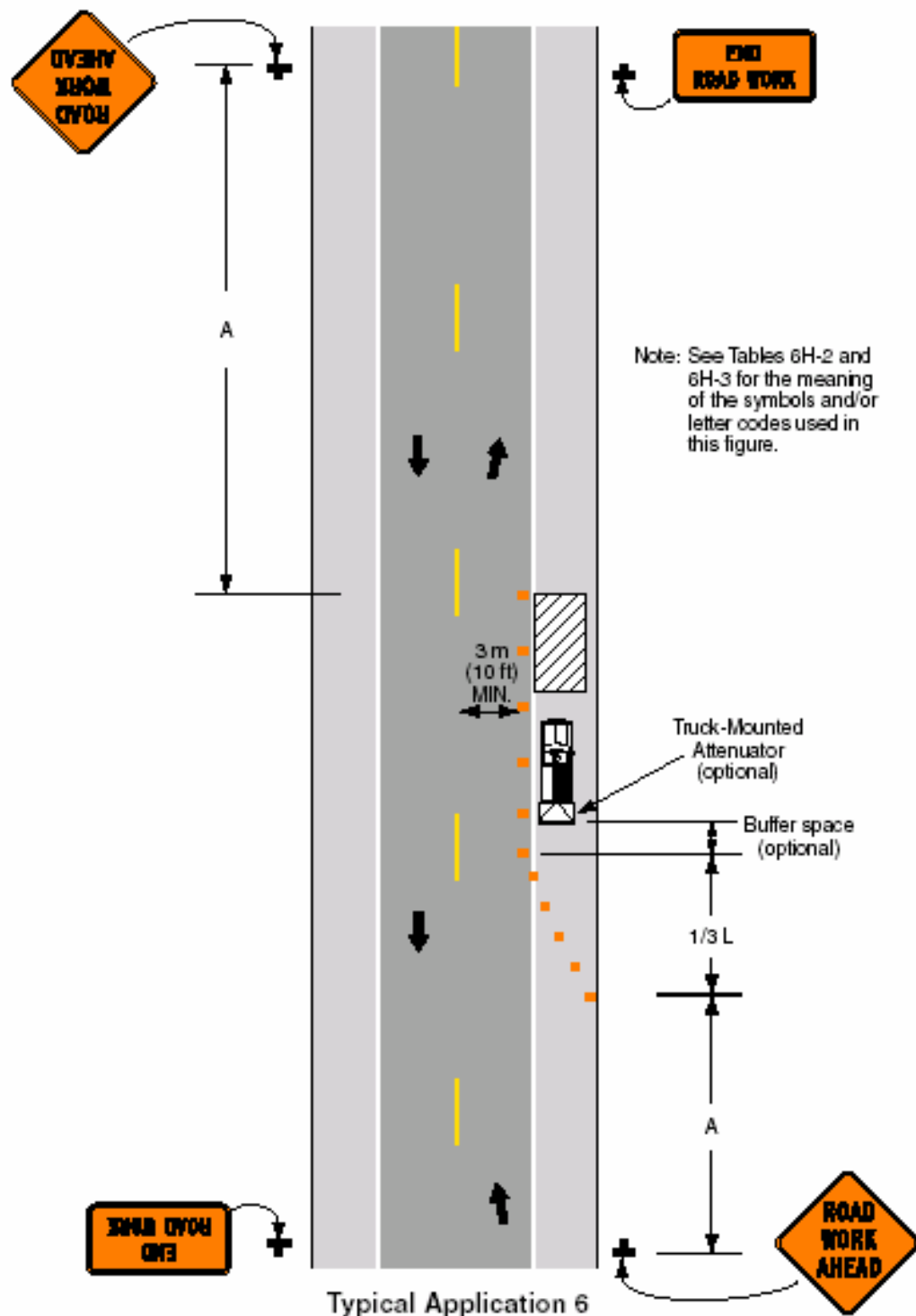
Public

Figure 6H-11. Lane Closure on Two-Lane Road with Low Traffic Volumes



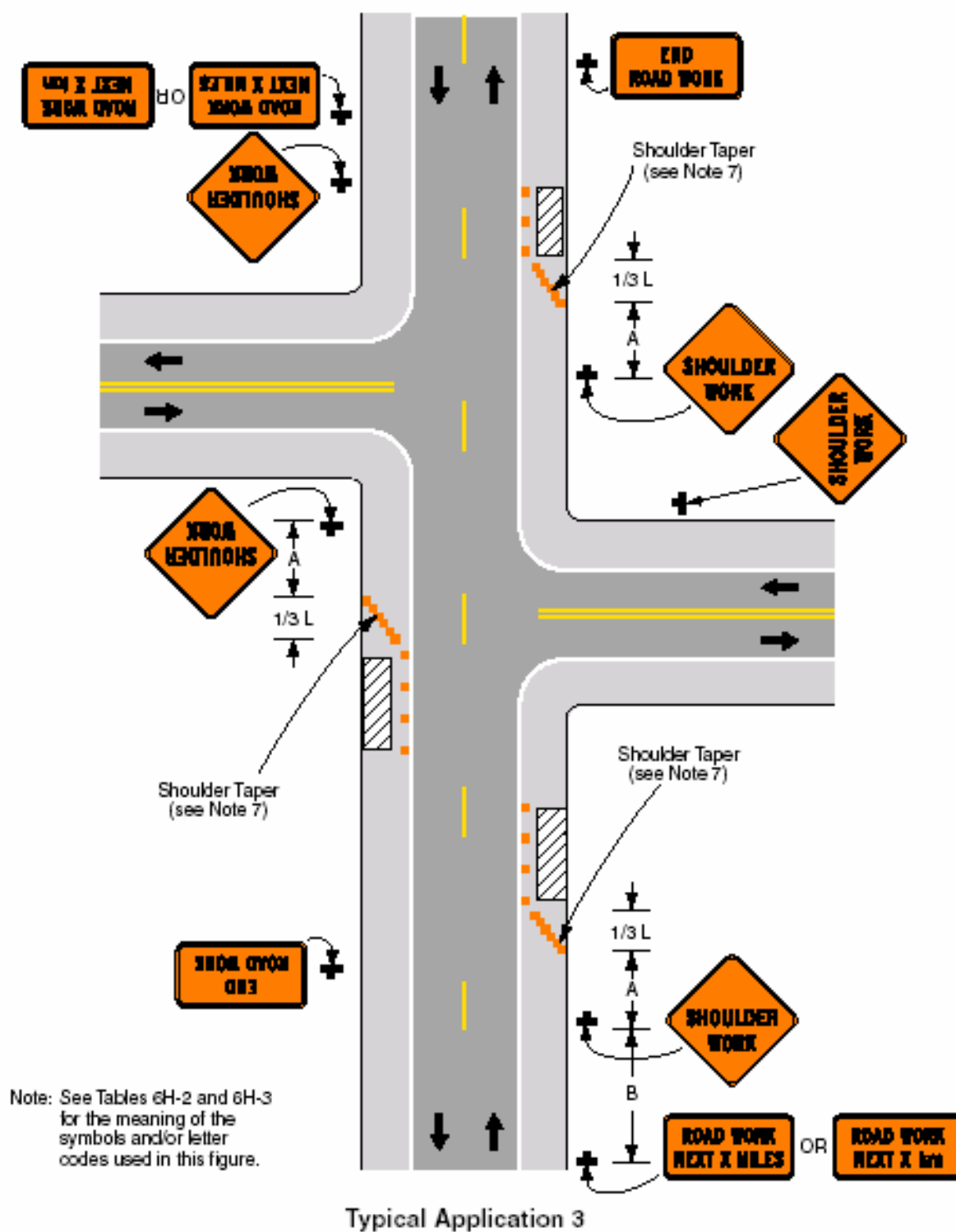
Public

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)

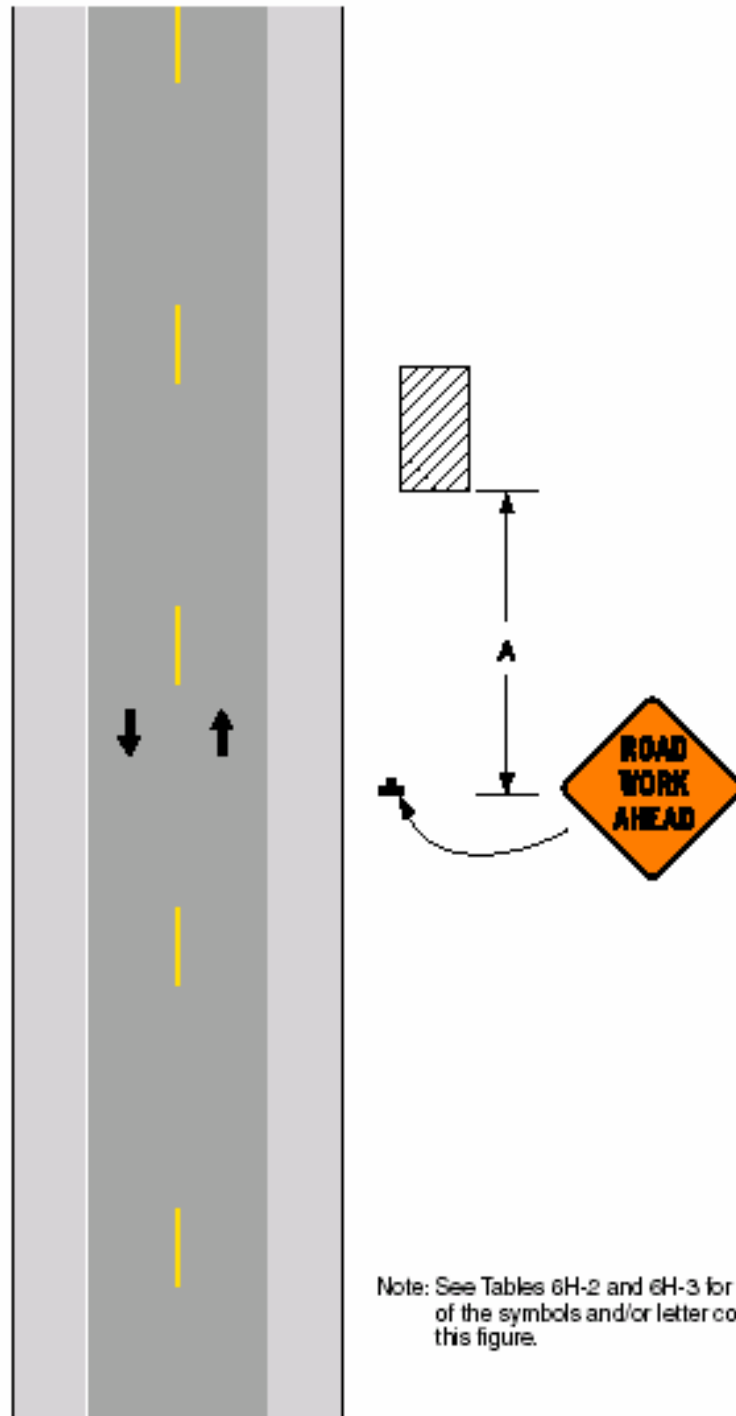


Public

Figure 6H-3. Work on Shoulders (TA-3)



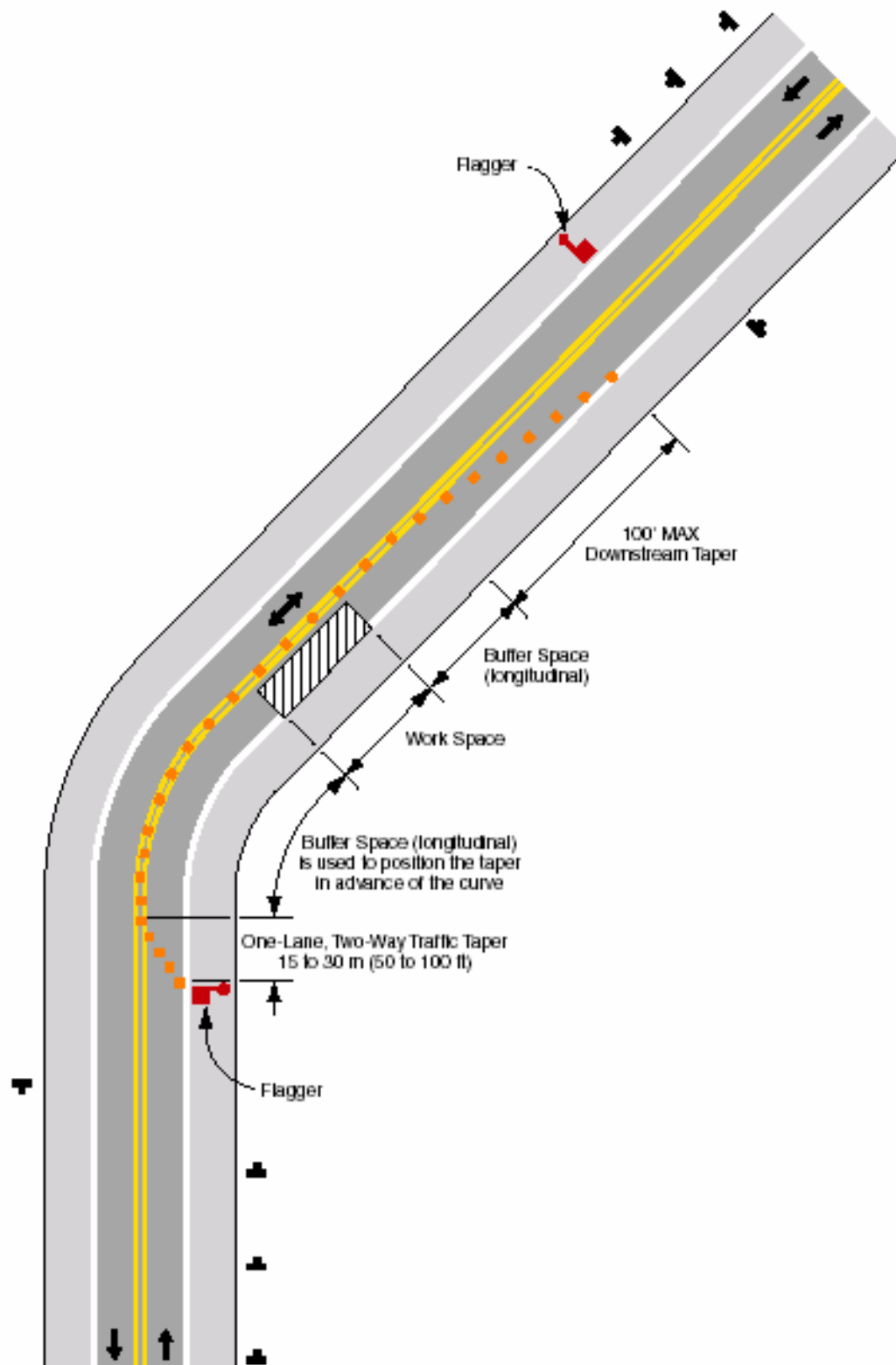
Public

Figure 6H-1. Work Beyond the Shoulder (TA-1)

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 1

Public

Figure 6C-3. Example of a One-Lane, Two-Way Traffic Taper



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix H-2

Traffic Management Plan for Imperial County Roads

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Appendix H-2

Traffic Management Plan for Imperial County Roads

1.0 INTRODUCTION

North Baja Pipeline, LLC (North Baja), will construct the North Baja Pipeline Expansion Project (Project), a new natural gas pipeline from the U.S.-Mexico border to the existing North Baja facilities and the El Paso Natural Gas System in Ehrenberg, Arizona. The Project includes three elements: the B-Line, which includes interconnection facilities in Ehrenberg, Arizona, as well as a 79.8-mile, 42- and 48-inch-diameter pipeline between Blythe and the Mexican border; the Arrowhead Extension, which includes a meter station and a 2.1-mile, 36-inch-diameter pipeline extending from the proposed B-Line at milepost (MP) 7.4 to Southern California Gas Company's existing Blythe Compressor Station; and the Imperial Irrigation District (IID) Lateral, a 45.7-mile, 16-inch-diameter pipeline between North Baja's mainline and the IID El Centro Generating Station. The Project will be constructed in phases, with the first phase planned for construction in 2007, the IID Lateral for 2008, and the final phase of the Project in 2009, pending completion of upstream liquefied natural gas (LNG) terminal facilities.

2.0 ROUTE DESCRIPTION – IID LATERAL PIPELINE

The 16-inch Imperial Irrigation District (IID) Lateral Pipeline extends from the Ogilby area of southeastern California, west of Yuma, Arizona, westward to El Centro, California. The IID Lateral will be installed 1 foot outside the roadway along the Evan Hewes Highway from MP 8.5 to MP 27.1 where it then enters the El Centro Valley. In the Valley, the lateral line will generally be installed in streets from MP 27.7 to the terminus of the line at MP 45.7. While the only residential area in the first 27 miles is located at MP 8.9, residences and some businesses are located sporadically as the pipeline passes through the Valley.

3.0 TRAFFIC MANAGEMENT APPROACH

North Baja will consult with the Imperial County Public Works. It is likely that Imperial County will require that construction measures comply with California Department of Transportation (CalTrans) Traffic Manual. North Baja's plan requires that the contractor comply with all relevant elements of the CalTrans Traffic Manual, Chapter 5, Traffic Controls. Key traffic control elements in the manual address:

- Temporary traffic control;
- Pedestrian, bicycle, and worker considerations;
- Hand signaling control;
- Types of traffic control devices; and
- Types of temporary traffic control zone activities.

Section 3.1 describes the construction considerations along the pipeline route. Section 3.2 addresses the traffic management approach. Attachment A shows typical traffic control measures contained in CalTrans Traffic Manual that will be implemented by the contractor.

North Baja will submit detailed construction drawings for approval by Imperial County Public Works Department as part of obtaining an Encroachment Permit.

3.1 IID LATERAL CONSTRUCTION CONSIDERATIONS

The following summarizes the construction considerations for the IID Lateral Line:

Location in Relation to Imperial County Roads and Streets – Construction adjacent to and in areas of Imperial County roads and streets will be accomplished using urban construction techniques. To minimize disruption to residences and facilitate construction across roadways, canals and drains, North Baja will locate the pipe 1 foot outside the edge of pavement along Evan Hewes Highway and in the edge of the pavement in the valley. North Baja proposes to confine the construction work area to the permanent easement now occupied by Imperial County roads and streets with additional extra work space located along the road at major crossings such as cross streets, railroads, canals, and ditches. Certain crossings such as the operating canals, state highways, interstate highways, and many of the county roads and streets will be installed by conventional boring. All other crossings are proposed to be open cut aside from the drains whose substantial depth allows for the pipeline to be installed across the top.

Preconstruction Planning - Before construction in Imperial County, North Baja will obtain an encroachment permit from the Imperial Public Works Department. Design and construction methods will conform to Imperial County requirements. Preconstruction activities will include preliminary examination of the work areas and identification of the exact location of subsurface

utilities, either through visual inspection or by digging potholes at intervals along the pipeline trench. If potholing identifies a conflict between existing utilities and the pipeline centerline, then the pipeline or utility will be horizontally and/or vertically realigned to eliminate the conflict.

North Baja will contact each owner and/or tenant of the properties abutting the road to explain the construction process and identify any special conditions or concerns that need to be incorporated into the construction plans. In addition, these adjacent residents and businesses will be notified by hand-distributed flyers 2 weeks before construction.

Timing – To minimize the duration of inconvenience to residences, North Baja proposes to close off one half to 1 mile-long sections of road and reroute traffic around these areas (while maintaining access for residents). No more than 2 miles of work area will be active at any one time and construction will advance along the road at an estimated 0.5 mile per day. Excluding any repaving which may be required, direct construction impacts at any given location are estimated to last no more than 2 to 3 weeks.

Construction Crews – The construction crew will be a self-sufficient spread and will have two major components. The first component being the personnel and equipment associated with the installation of the major crossings and the second component will be responsible for the installation of the pipeline sections in between the crossings. Both components of this pipeline spread will make every effort to keep unavoidable road closures or restricted access to a minimum and coordinate those closures with the impacted residences and businesses.

Safety Considerations and Access – Although Imperial County roadways are not a heavily traveled roadway, there are 34 residences and 5 businesses along the proposed route. North Baja will apply specific traffic management measures in cooperation with the Imperial County Department of Public Works. These include:

- The pipeline will be installed with a minimum of 36 inches of cover and with a minimum of 12 inches of separation from other utilities or obstructions. Clearance over and under drains and canals will be as agreed with Imperial Irrigation District.
- Intersections will be bored or trenched and steel plated if construction doesn't occur on consecutive days.
- Adjacent residents and businesses will be notified by hand-distributed flyers 2 weeks before construction. The flyers will include the dates of construction, the work hours, traffic detours, and contact numbers for North Baja and the contractor. Emergency response agencies will also be notified of the work schedule.
- The Underground Service Alert will be notified at least 48 hours before beginning work.
- Flagging personnel will be provided to route traffic around construction equipment and obstructions.
- Work will be scheduled during daylight hours unless alternative schedules are authorized.

- Access will be maintained to all residences or businesses except during actual trenching operations. Steel plates will be available to maintain access to driveways during periods when the trench is open.
- Non-local traffic will be detoured around construction activities.
- One lane of restricted traffic movement will be maintained through the construction area as it progresses down roadways. This will allow residences and businesses reasonable access during the construction activities.
- Where unrestricted traffic is impractical, North Baja proposes that its contractor will maintain at least one direction, either east or west, for exit of local traffic and access for any emergency traffic that may occur.
- At non-work times the work area will be secured and patrolled to minimize safety hazards associated with open trenches, heavy equipment, and other construction operations.
- Open trenches will be covered or cordoned off during non-working hours. The length of open trench may vary with individual circumstances and interferences that may occur along the corridor.

Trenching and Boring – The trench depth for the portions of the pipeline between the bored crossings is expected to be 6 to 7 feet to accommodate the 16-inch pipe and maintain 36-inch of cover in accordance with USDOT Pipeline Safety Regulations. Trench depth will also be contingent on the type of soils and the quantity of ground water encountered. Spoil material from the trench will be stockpiled and spread on the work side of the right-of-way or hauled to an approved stockpile location. Because the pipeline installation is in the road corridor, no topsoil segregation is planned. Any pavement or rock materials removed during the installation of the pipeline will be hauled away to an approved landfill or other suitable location. Sheet piling and dewatering techniques such as well-pointing will be utilized, as needed, in order to ensure a safe and stable trench and bore entrance or exit holes. Pipeline trench borehole dewatering will be kept to a minimum, as is practical. North Baja will dewater to nearby canals and drains in accordance with Regional Water Quality Control Board water quality standards.

Pipe Installation – Pipe installation into the trench will be performed in sections as long as practical, with the pipe sections being welded up alongside the ditch. In tight work areas, the contractor may elect to “double joint” pipe lengths into 80 to 120-foot sections at an offsite location and transport the pipe joints to the area. In addition, longer sections may be welded up at staging areas located nearby for use in very narrow workspace zones.

As the pipe installation progresses, tie-ins will be performed in the ditch at convenient locations to facilitate welding. Most tie-ins will occur on either side of crossings and at sites where installation methodology changes from one approach to another, *i.e.*, stovepipe to traditional pipe-lay. At these locations the ditch will be widened sufficiently to allow welders access and afford them the space necessary to complete the welds.

Backfilling and Testing – Following pipe installation and the coating of the welds, the ditch will be backfilled with the spoil material removed that meets North Baja’s pipeline padding specifications, and compacted to the requirements of the Imperial County Public Works

Department. New pavement will be installed where existing pavement is removed for ditching, and the area will be opened back to normal traffic. However, during hydrostatic testing the area again will be limited to traffic of necessity as a safety precaution. North Baja proposes to test the pipeline during a time of least disruption to the local residences and businesses. A minimum 8-hour hydrostatic test period is required by North Baja.

Noise and Dust – Noise will be reduced by maintaining equipment in good operating condition, equipped with proper noise control accessories including mufflers and or sound attenuation enclosures. Noise will be monitored for equipment that may run for extended periods of time such as pumps, compressors, and generators. Work will be scheduled during daylight hours unless alternative schedules are authorized. Dust will be suppressed by the use of water trucks and regular spraying.

Restoration – Following a successful test, the entire area will be cleaned up and restored to its original condition. Residential areas disturbed during construction will have all fencing, lawns, and plant materials replaced to a standard equal to the preconstruction conditions. Pavement removed or damaged during construction will be replaced initially with temporary material, and later re-paved, during restoration, to the requirements of the Imperial County Public Works Department.

3.2 TRAFFIC MANAGEMENT APPROACH

To effectively outline the traffic management issues associated with the pipe installation in the Imperial County roads and streets, the plan has been broken into segments. The plan is subject to revision as the design of the pipeline is finalized and input is received from Imperial County and the pipeline contractor. The segments are as follows:

Segment 1 – MP 8.5 to MP 27.1

Segment 2 – MP 27.7 to MP 38.7

Segment 3 – MP 38.7 to MP 38.9

Segment 4 – MP 39.7 to MP 41.4

Segment 5 – MP 41.4 to MP 42.9

Segment 6 – MP 42.9 to MP 43.4

Segment 7 – MP 44.7 to MP 45.7

Segment 1 – MP 8.5 to MP 27.1 (Evan Hewes Highway)

For Segment 1, construction equipment and personnel will utilize the eastbound lane of Evan Hewes Highway for pipe installation 1 foot outside the edge of pavement, from MP 8.8 to MP

13.7 and from MP 26.0 to MP 27.1. For this portion of Segment 1, the westbound lane will serve as access for emergency vehicles and local residents only. From MP 16.0 to MP 26.0, the westbound lane will be utilized for pipe installation 1 foot outside the edge of pavement and the eastbound lane will serve as access for emergency vehicles and local residents only. One lane traffic control along Segment 1 will be accomplished by the use of adequate warning, delineation and channelization techniques. Such techniques include proper pavement marking and signs, or use of other traffic control devices that are effective under varying conditions of light and weather. These devices include but are not limited to cones, barricades, portable delineators, flexible post type channelizers, drums, and barricades. The quantity and type of devices will be appropriate to assure the driver and pedestrian have positive guidance before approaching and while passing through the traffic control zone. Flagging personnel will be employed when all other methods of traffic control are inadequate to warn and direct drivers.

At approximately MP 8.8, is the proposed open cut crossing of Evan Hewes Highway where the pipeline passes from the north side of Evan Hewes Highway to the south side. While the roadway is being open cut for the installation of the pipeline, a steel plate will be used to bridge the pipe ditch because there are no adjacent roads to divert traffic.

Near MP 13.1, the pipeline will cross Brock Research Center Road which is essentially an exit from Interstate 8 with an overpass but no roadway to the north. Because of its proximity to the interstate, North Baja is proposing to bore Brock Research Center Road resulting in minimal impact to traffic. The boring of this road negates the need to detour traffic but control devices, such as signage and barriers around the bore pits, will be implemented to maintain safe traffic flow. The estimated duration of the bored crossing is two days, one day for bore pit excavation and one day for pipe installation. Should these days not be consecutive adequate traffic control devices will be provided around the bore pits to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Evan Hewes Highway.

Near MP 13.7 is the open cut crossing of Evan Hewes Highway where the pipeline crosses back to the north side of the highway. While the roadway is being open cut for the installation of the pipeline, a steel plate will be used to bridge the pipe ditch as there are no adjacent roads to divert traffic.

Near MP 26.0 is the open cut crossing of Evan Hewes Highway where the pipeline crosses back to the south side of the highway. While the roadway is being open cut for the installation of the pipeline, a steel plate will be used to bridge the pipe ditch because there are no adjacent roads to divert traffic.

These temporary traffic control zones will be carefully monitored under varying conditions of traffic volume, light, and weather to ensure that traffic control measures are operating effectively and that all devices are clearly visible, clean and in good repair. However, it is expected that traffic will be sparse as construction is proposed for the summer months when there is significantly less traffic in the area.

Segment 2 – MP 27.7 to MP 38.7 (Hunt Road)

For Segment 2, the westbound lane of Hunt Road will be used for pipe installation from MP 27.6 to M.P 33.9, MP 34.5 to MP 34.9, and from MP 35.9 to MP 38.7. For these three portions of Segment 2, the eastbound lane will serve as access for emergency vehicles and local residents only. From MP 34.9 to MP 35.9, the eastbound lane of Hunt Road will be used for pipe installation and the westbound lane will serve as access for emergency vehicles and local residents only. One-lane traffic control along Segment 2 will be accomplished by the use of adequate warning, delineation and channelization techniques. Such techniques include proper pavement marking and signs or use of other traffic control devices that are effective under varying conditions of light and weather. These devices include but are not limited to cones, barricades, portable delineators, flexible post type channelizers, drums and barricades. The quantity and type of devices will be appropriate to assure the driver and pedestrian have positive guidance before approaching and while passing through the traffic control zone. Flagging personnel will be employed when all other methods of traffic control are inadequate to warn and direct drivers.

Near MP 28.5, the pipeline will cross Vanderlinden Road, a proposed open-cut crossing. While the roadway is being open-cut, northbound traffic will be detoured 1 mile west on Chell Road to Miller Road and southbound traffic will be detoured 3 miles west on Interstate 8 to Bonds Corner Road. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Vanderlinden Road.

The next crossing in this segment is Miller Road located near MP 29.5. Miller Road is also designated as County Highway S33 and is a proposed bored crossing resulting in minimal impact to traffic. The boring of this road negates the need to detour traffic but control devices, such as signage and barriers around the bore pits, will be implemented to maintain safe traffic flow. The estimated duration of the bored crossing is two days, one day for bore pit excavation and one day for pipe installation. Should these days not be consecutive adequate traffic control devices will be provided around the bore pits to permit safe traffic flow.

Near MP 30.5, the pipeline will cross Enz Road, a proposed open-cut crossing. While the roadway is being open-cut, both north and southbound traffic will be detoured 1 mile east on Chell Road to Miller Road. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Enz Road.

The next crossing in this segment is Bonds Corner Road located near MP 31.5. Bonds Corner Road is a proposed bored crossing resulting in minimal impact to traffic. The boring of this road negates the need to detour traffic but control devices, such as signage and barriers around the bore pits, will be implemented to maintain safe traffic flow. The estimated duration of the bored crossing is two days, one day for bore pit excavation and one day for pipe installation. Should these days not be consecutive adequate traffic control devices will be provided around the bore pits to permit safe traffic flow.

Near MP 32.0, the pipeline will cross Schali Road, a proposed open cut crossing. The roadway north of the crossing dead-ends at the south right-of-way fence of Interstate 8 Highway and has no residences or businesses and is used primarily by farm equipment to access the adjoining fields; therefore, it will not be necessary to detour traffic. However, steel plating will be used to bridge the pipe ditch during the installation of this road crossing for emergency vehicles and farm equipment. While the roadway is being open cut, northbound traffic south of the road crossing will be diverted 1 mile east on Connelly Road to Bonds Corner Road. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Schali Road.

Near MP 33.2, the pipeline will cross Towland Road, a proposed open cut crossing. While the roadway is being open cut, southbound traffic will be detoured 1 mile west on Edwards Road to Holtville Orchard Road while northbound traffic will be diverted 1 mile west on E. McCabe Road to Holtville Orchard Road. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Towland Road.

The next crossing in this segment is State Route 7 located near MP 34.2. State Route 7 is also known as Holtville Orchard Road (formerly County Highway S32) and is a proposed bored crossing resulting in minimal impact to traffic. The boring of this road negates the need to detour traffic but control devices, such as signage and barriers around the bore pits, will be implemented to maintain safe traffic flow. The estimated duration of the bored crossing is two days, one day for bore pit excavation and one day for pipe installation. Should these days not be consecutive adequate traffic control devices will be provided around the bore pits to permit safe traffic flow.

Near MP 34.9, the pipeline will cross Mets Road, a proposed open cut crossing. While the roadway is being open cut, southbound traffic will be detoured 1 mile east on Ross Road to Anderholt Road and northbound traffic will be diverted 1 mile west to Anderholt Road on Hilfiker Road. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two

days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Mets Road.

Near MP 35.9, the pipeline will cross Anderholt Road, a proposed open-cut crossing. While the roadway is being open-cut, southbound traffic will be detoured 1 mile east on Ross Road to Mets Road and northbound traffic will be diverted 1 mile east to Mets Road on Hilfiker Road. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Anderholt Road.

Near MP 36.9, the pipeline will cross Barbara Worth Road, a proposed open-cut crossing. While the roadway is being open-cut, southbound traffic will be detoured 1 mile east on Ross Road to Anderholt Road while northbound traffic will be diverted 1 mile east to Anderholt Road on Hilfiker Road. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Barbara Worth Road.

Near MP 37.9, the pipeline will cross Meloland Road, a proposed open-cut crossing. While the roadway is being open-cut, southbound traffic will be detoured 1.5 miles west on E. Ross Road to Bowker Road while northbound traffic will be diverted 1 mile west to Bowker Road on McCabe Road. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Meloland Road.

These temporary traffic control zones will be carefully monitored under varying conditions of traffic volume, light and weather to ensure that traffic control measures are operating effectively and that all devices are clearly visible, clean and in good repair.

Segment 3 – MP 38.7 to MP 38.9 (McGrew Road and Interstate 8)

McGrew Road is a private road which is used primarily for farm equipment to access the adjoining fields. However, for Segment 3, construction equipment and personnel will utilize the northbound lane of McGrew Road for pipe installation. For all of Segment 3, the southbound lane will serve as access for emergency vehicles and farm equipment. One lane traffic control

along Segment 3 will be accomplished by the use of adequate warning, delineation and channelization techniques. Such techniques include proper pavement marking, signs or use of other traffic control devices that are effective under varying conditions of light and weather. These devices include but are not limited to cones, barricades, portable delineators, flexible post type channelizers, drums and barricades. The quantity and type of devices will be appropriate to assure the driver and pedestrian have positive guidance before approaching and while passing through the traffic control zone. Flagging personnel will be employed when all other methods of traffic control are inadequate to warn and direct drivers. Modification of these traffic control measures or working conditions may be required to expedite traffic movement and to promote worker safety.

At approximately MP 39.1 is the proposed bored crossing of Interstate 8 resulting in minimal impact to traffic. The estimated duration of the bored crossing is four days, one day for bore pit excavation and three days for pipe installation.

Segment 4 – MP 39.7 to MP 41.4 (E. Ross Road)

For Segment 4, the eastbound lane of E. Ross Road will be used for pipe installation from MP 39.7 to MP 40.4 where the westbound lane will serve as access for emergency vehicles and local residents only. At MP 40.4 the pipeline crosses Bowker Road, while at the same location, E. Ross Road deviates slightly to the south. This facilitates the bored crossing of both roads with the same bore.

The Bowker Road/E. Ross Road combination crossing is a proposed bored crossing resulting in minimal impact to traffic. The boring of this road negates the need to detour traffic but control devices, such as signage and barriers around the bore pits, will be implemented to maintain safe traffic flow. The estimated duration of the bored crossing is two days, one day for bore pit excavation and one day for pipe installation. Should these days not be consecutive, adequate traffic control devices will be provided around the bore pits to permit safe traffic flow.

At MP 40.4, after the Bowker/E. Ross Roads crossing, the westbound lane of E. Ross Road will be used for pipe installation and the eastbound lane will serve as access for emergency vehicles and local residents only.

One-lane traffic control along Segment 4 will be accomplished by the use of adequate warning, delineation and channelization techniques. Such techniques include proper pavement marking and signs or use of other traffic control devices that are effective under varying conditions of light and weather. These devices include but are not limited to cones, barricades, portable delineators, flexible post type channelizers, drums and barricades. The quantity and type of devices will be appropriate to assure the driver and pedestrian have positive guidance before approaching and while passing through the traffic control zone. Flagging personnel will be employed when all other methods of traffic control are inadequate to warn and direct drivers.

Segment 5 – MP 41.4 to MP 42.9 (Parker Road)

For Segment 5, construction equipment and personnel will utilize the northbound lane of Parker Road for pipe installation from MP 41.4 to MP 42.2. For this part of Segment 7, the southbound lane will serve as access for emergency vehicles and local residents only. After the pipeline crosses East Gillett Street, the pipe will be installed in the west edge of the southbound lane of Parker Road from MP 42.2 to MP 42.8 and will utilize the southbound lane of Parker Road for pipe installation. For this part of Segment 7 the northbound lane will serve as access for emergency vehicles and local residents only. One-lane traffic control along Segment 5 will be accomplished by the use of adequate warning, delineation and channelization techniques. Such techniques include, proper pavement marking, signs or use of other traffic control devices that are effective under varying conditions of light and weather. These devices include but are not limited to cones, barricades, portable delineators, flexible post type channelizers, drums and barricades. The quantity and type of devices will be appropriate to assure the driver and pedestrian have positive guidance before approaching and while passing through the traffic control zone. Flagging personnel will be employed when all other methods of traffic control are inadequate to warn and direct drivers. Modification of these traffic control measures or working conditions may be required to expedite traffic movement and to promote worker safety.

Pertinent to this segment is the opencut crossing of East Hamilton Avenue at MP 41.7. East Hamilton Avenue is a gravel road which dead-ends into State Route 111 and has no residences or businesses; therefore, it will not be necessary to detour traffic. However, steel plating will be used to bridge the pipe ditch during the installation of this road crossing. Further along this segment near MP 42.2 is the opencut crossing of East Gillett, a gravel road, which also has no residences or businesses; therefore, it will not be necessary to detour traffic. Steel plating will be used to bridge the pipe ditch during the installation of this road crossing.

At the end of this segment, near MP 42.9, is the proposed road bore of Evan Hewes Highway. This crossing technique results in minimal impact to traffic. The boring of this road negates the need to detour traffic but control devices, such as signage and barriers around the bore pits, will be implemented to maintain safe traffic flow. The estimated duration of the bored crossing is three days, one day for bore pit excavation and two days for pipe installation. Should these days not be consecutive adequate traffic control devices will be provided around the bore pits to permit safe traffic flow.

Segment 6 – MP 42.9 to MP 43.4 (Holton Road and State Route 111)

For Segment 6, the eastbound lane of Holton Road will be used for pipe installation. For all of Segment 6, the westbound lane will serve as access for emergency vehicles and local residents only. One-lane traffic control along Segment 6 will be accomplished by the use of adequate warning, delineation and channelization techniques. However, there is virtually no traffic on most of this segment of Holton Road as the road dead-ends into State Route 111 and a large vacant lot and an automobile junk yard constitute over 90 percent of the adjacent land use. Such techniques include proper pavement marking and signs or use of other traffic control devices that are effective under varying conditions of light and weather. These devices include

but are not limited to cones, barricades, portable delineators, flexible post type channelizers, drums and barricades. The quantity and type of devices will be appropriate to assure the driver and pedestrian have positive guidance before approaching and while passing through the traffic control zone. Flagging personnel will be employed when all other methods of traffic control are inadequate to warn and direct drivers.

At approximately MP 43.4 is the proposed bored crossing of State Route 111, resulting in minimal impact to traffic. The estimated duration of the bored crossing is four days, one day for bore pit excavation and three days for pipe installation.

Segment 7 – MP 44.7 to MP 45.7 (E. Villa Road)

For Segment 7, the eastbound lane of E. Villa Road will be used for pipe installation. For all of Segment 7, the westbound lane will serve as access for emergency vehicles and local residents only. One-lane traffic control along Segment 7 will be accomplished by the use of adequate warning, delineation and channelization techniques. Such techniques include proper pavement marking and signs or use of other traffic control devices that are effective under varying conditions of light and weather. These devices include but are not limited to cones, barricades, portable delineators, flexible post type channelizers, drums and barricades. The quantity and type of devices will be appropriate to assure the driver and pedestrian have positive guidance before approaching and while passing through the traffic control zone. Flagging personnel will be employed when all other methods of traffic control are inadequate to warn and direct drivers.

Near MP 44.7 is the proposed opencut crossing of Cooley Road, a lightly traveled gravel road. While the roadway is being opencut, southbound traffic will be diverted 1 mile to the east on Cruickshank Road to old State Route 111 and northbound traffic will be diverted 1 mile east on Evan Hewes Highway to old State Route 111. The detour will be signed clearly over the entire length so that motorists can easily determine how to return to the original roadway. The estimated duration of the detour is two days, one day for pipe installation and one day for road restoration. Should these days not be consecutive, plating or other adequate materials will be provided over the pipeline trench to permit safe traffic flow. Access for local residents and emergency vehicles will be maintained at all times along Cooley Road.

The final road crossing for this lateral is located near MP 45.6. The named road is Dogwood Road, designated as County Highway S31, and is a proposed bored crossing, which will result in minimal impact to traffic. The boring of this road negates the need to detour traffic but control devices, such as signage and barriers around the bore pits, will be implemented to maintain safe traffic flow. The estimated duration of the bored crossing is two days, one day for bore pit excavation and one day for pipe installation.

EXHIBITS

EXHIBIT A

IID LATERAL PIPELINE ROUTE GENERAL VICINITY MAP

Non-Internet Public

DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR
THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
Docket Nos. CP06-61-000 and CP01-23-003

EXHIBIT A

IID LATERAL PIPELINE ROUTE GENERAL VICINITY MAP

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EXHIBIT B

IID LATERAL CONSTRUCTION PLAN VICINITY MAP

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THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
Docket Nos. CP06-61-000 and CP01-23-003

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Sheet 1

Page H-2-18

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Sheet 2

Page H-2-19

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Sheet 3

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Sheet 4

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Sheet 5

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EXHIBIT B

IID LATERAL CONSTRUCTION PLAN VICINITY MAP

Sheet 6

Page H-2-23

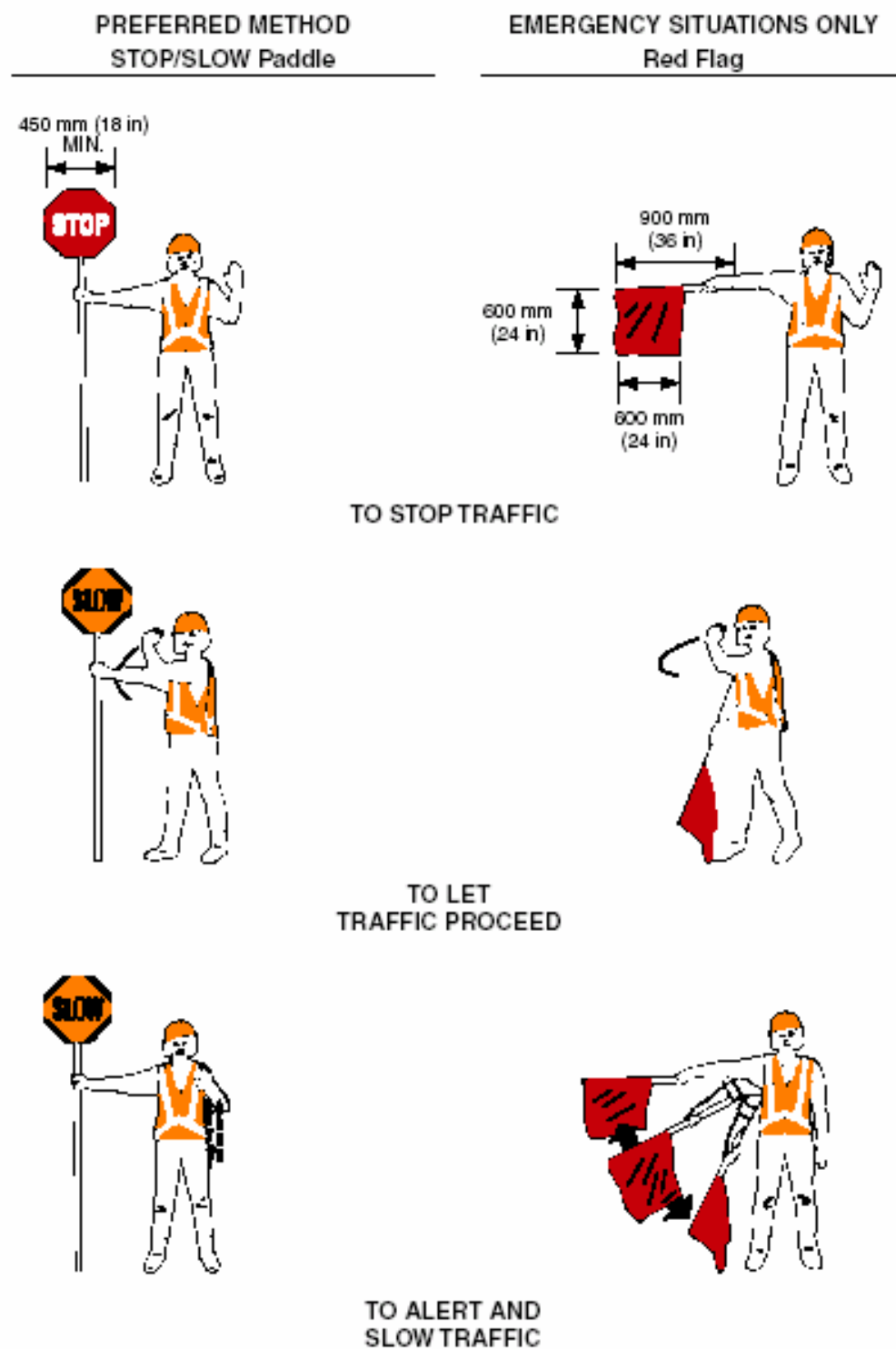
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ATTACHMENT A

TYPICAL TRAFFIC CONTROL MEASURES

Public

Figure 6E-1. Use of Hand-Signaling Devices by Flaggers



Public

Table 6C-1. Suggested Advance Warning Sign Spacing

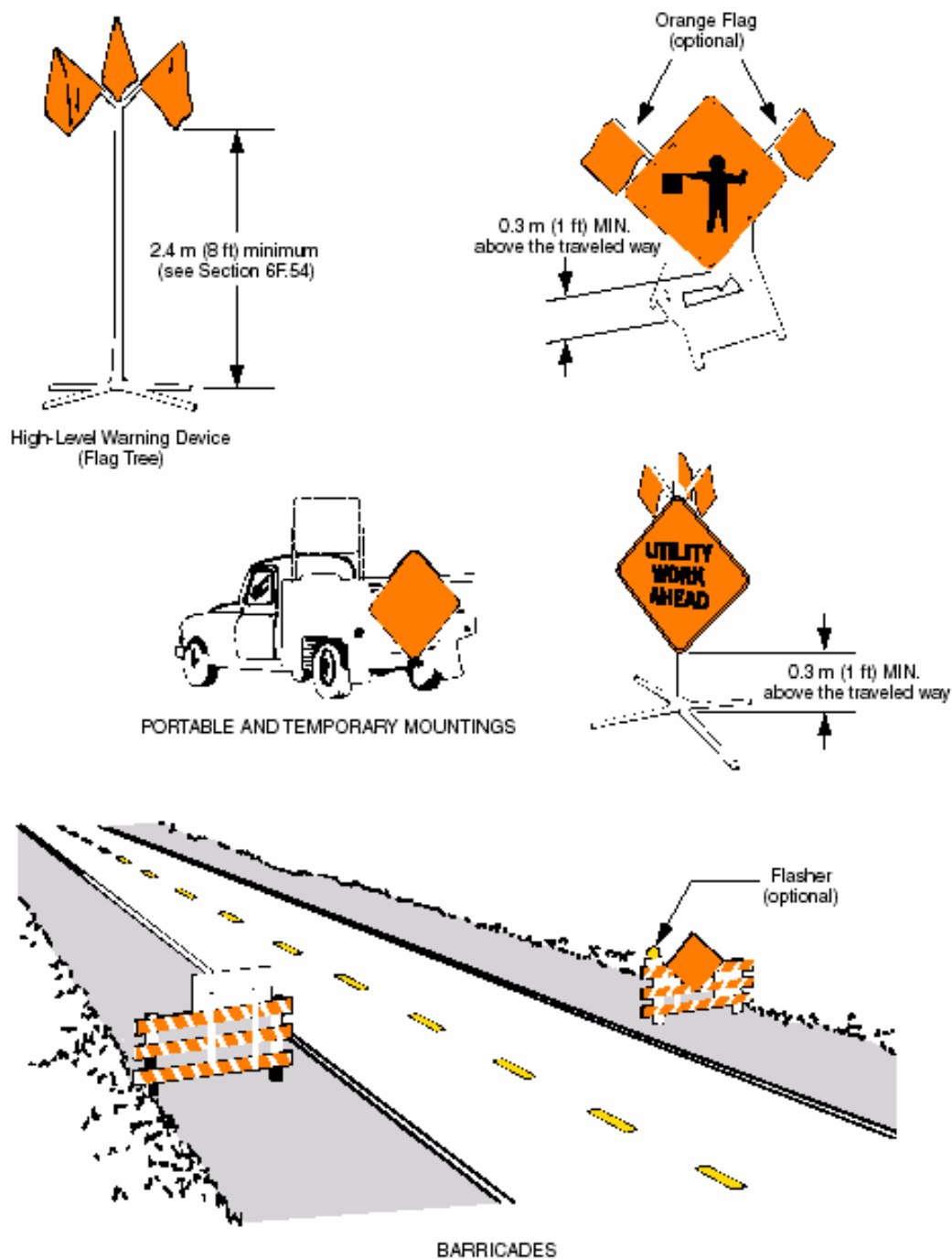
Road Type	Distance Between Signs**		
	A	B	C
Urban (low speed)*	30 (100)	30 (100)	30 (100)
Urban (high speed)*	100 (350)	100 (350)	100 (350)
Rural	150 (500)	150 (500)	150 (500)
Expressway / Freeway	300 (1,000)	450 (1,500)	800 (2,640)

* Speed category to be determined by highway agency

** Distances are shown in meters (feet). The column headings A, B, and C are the dimensions shown in Figures 6H-1 through 6H-46. The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The third sign is the first one in a three-sign series encountered by a driver approaching a TTC zone.)

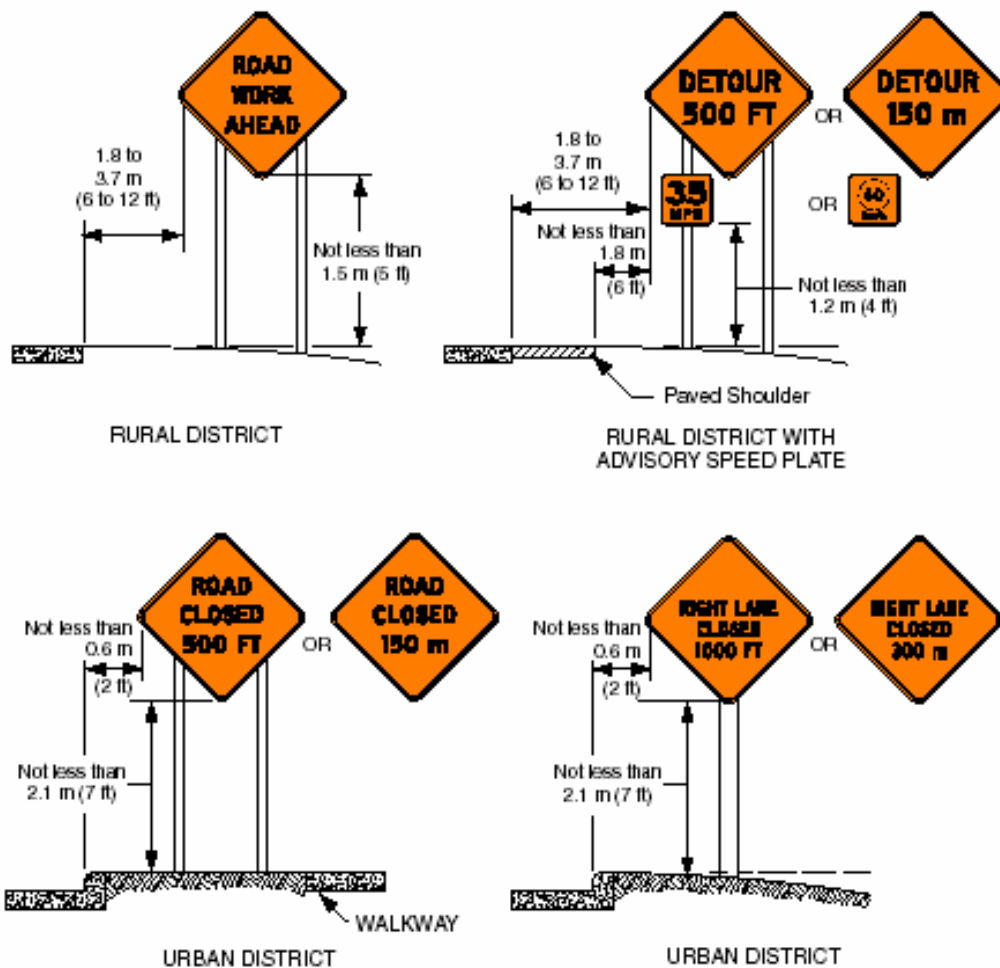
Public

Figure 6F-2. Methods of Mounting Signs Other Than on Posts



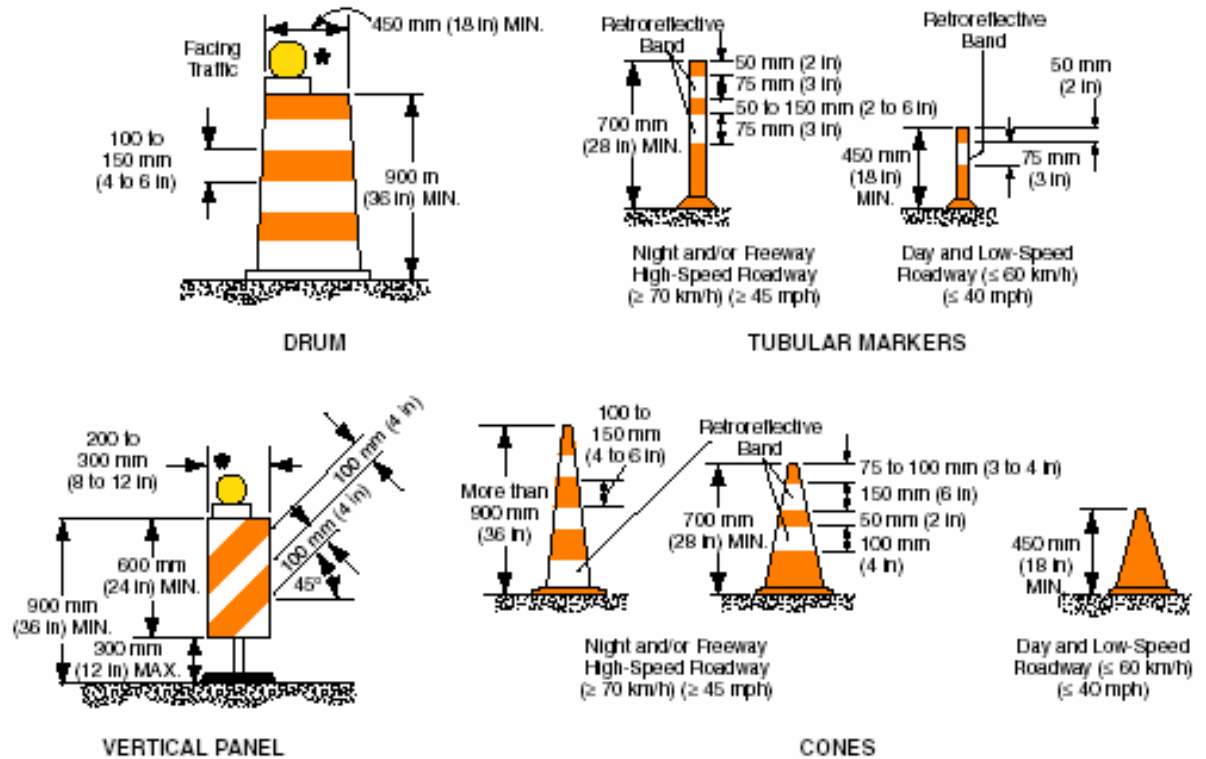
Public

Figure 6F-1. Height and Lateral Location of Signs—Typical Installations



Public

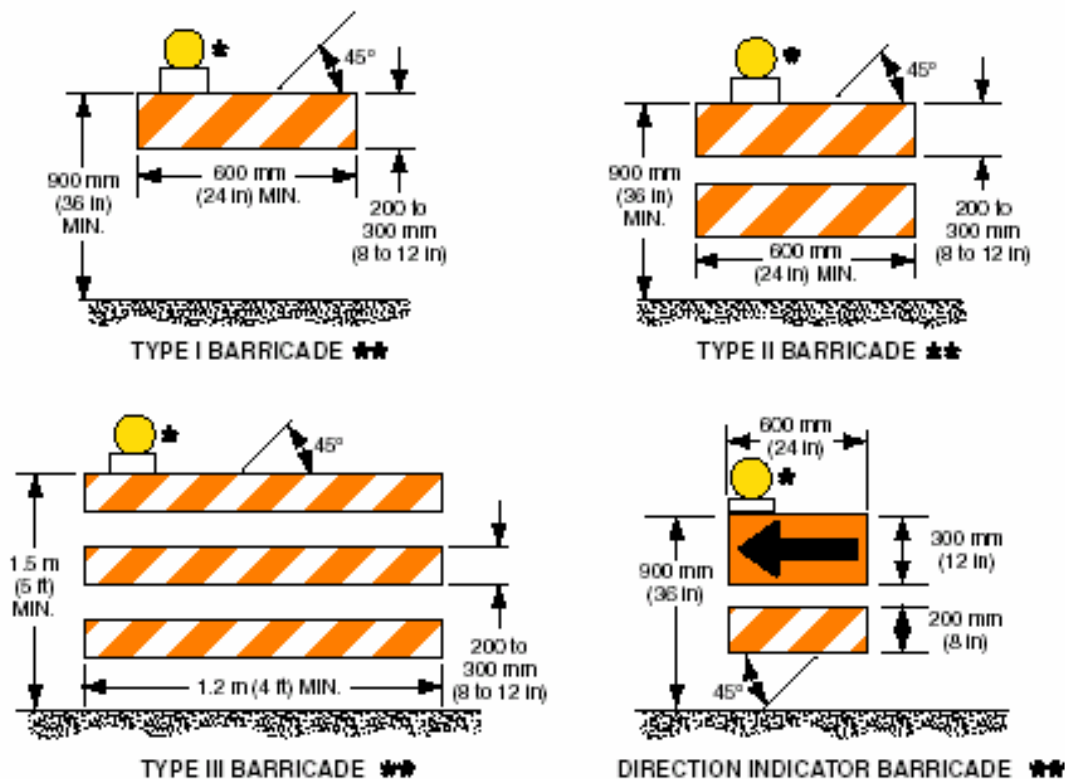
Figure 6F-7. Channelizing Devices (Sheet 1 of 2)



* Warning lights (optional)

Note: If drums, cones, or tubular markers are used to channelize pedestrians, they shall be located such that there are no gaps between the bases of the devices, in order to create a continuous bottom, and the height of each individual drum, cone, or tubular marker shall be no less than 900 mm (36 in) to be detectable to users of long canes.

Public

Figure 6F-7. Channelizing Devices (Sheet 2 of 2)

* Warning lights (optional)

** Rail stripe widths shall be 150 mm (6 in), except that 100 mm (4 in) wide stripes may be used if rail lengths are less than 900 mm (36 in). The sides of barricades facing traffic shall have retroreflective rail faces.

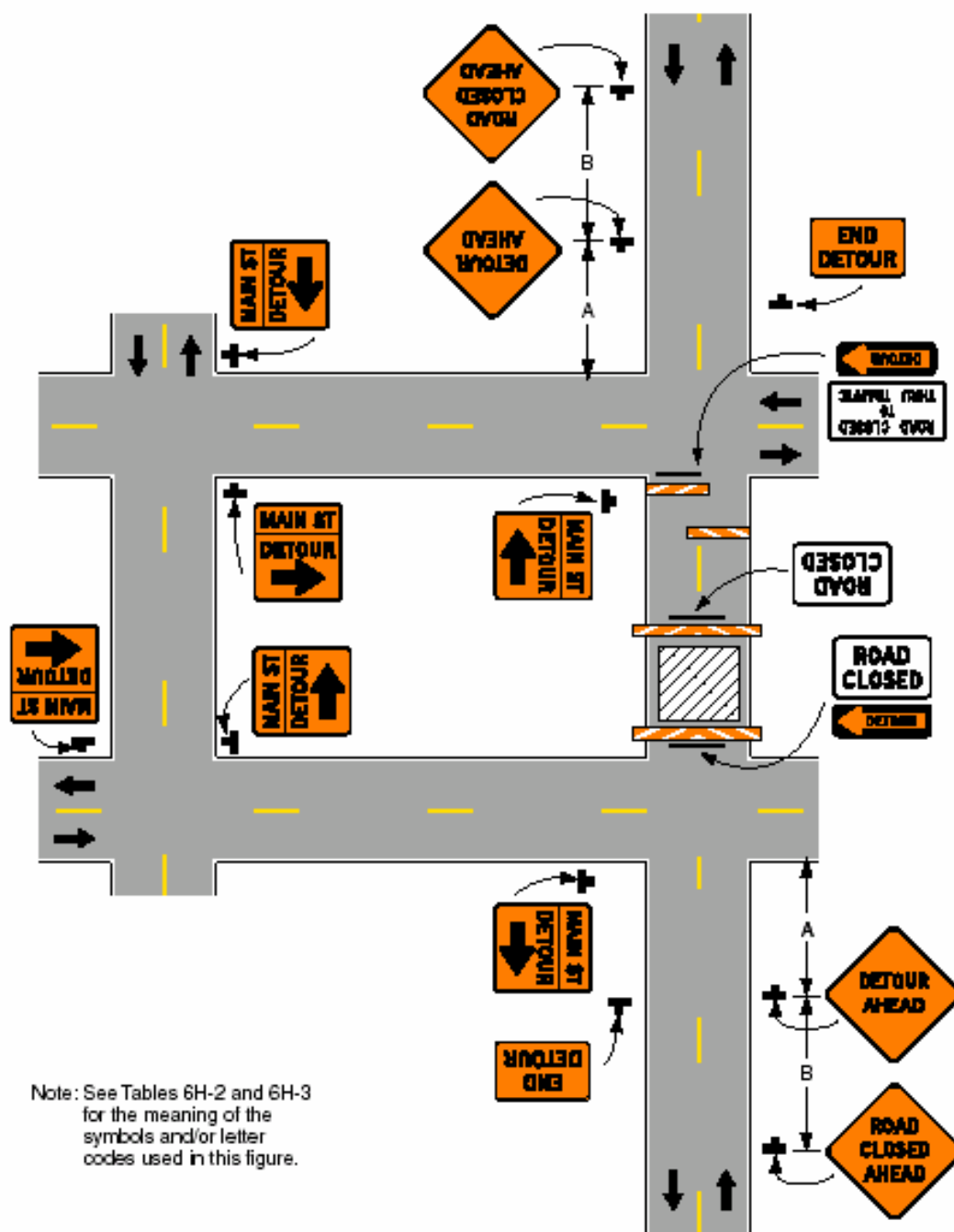
Note: If barricades are used to channelize pedestrians, there shall be continuous detectable bottom and top rails with no gaps between individual barricades to be detectable to users of long canes. The bottom of the bottom rail shall be no higher than 150 mm (6 in) above the ground surface. The top of the top rail shall be no lower than 900 mm (36 in) above the ground surface.

Public

2003 Edition

Page 6H-45

Figure 6H-20. Detour for Closed Street (TA-20)



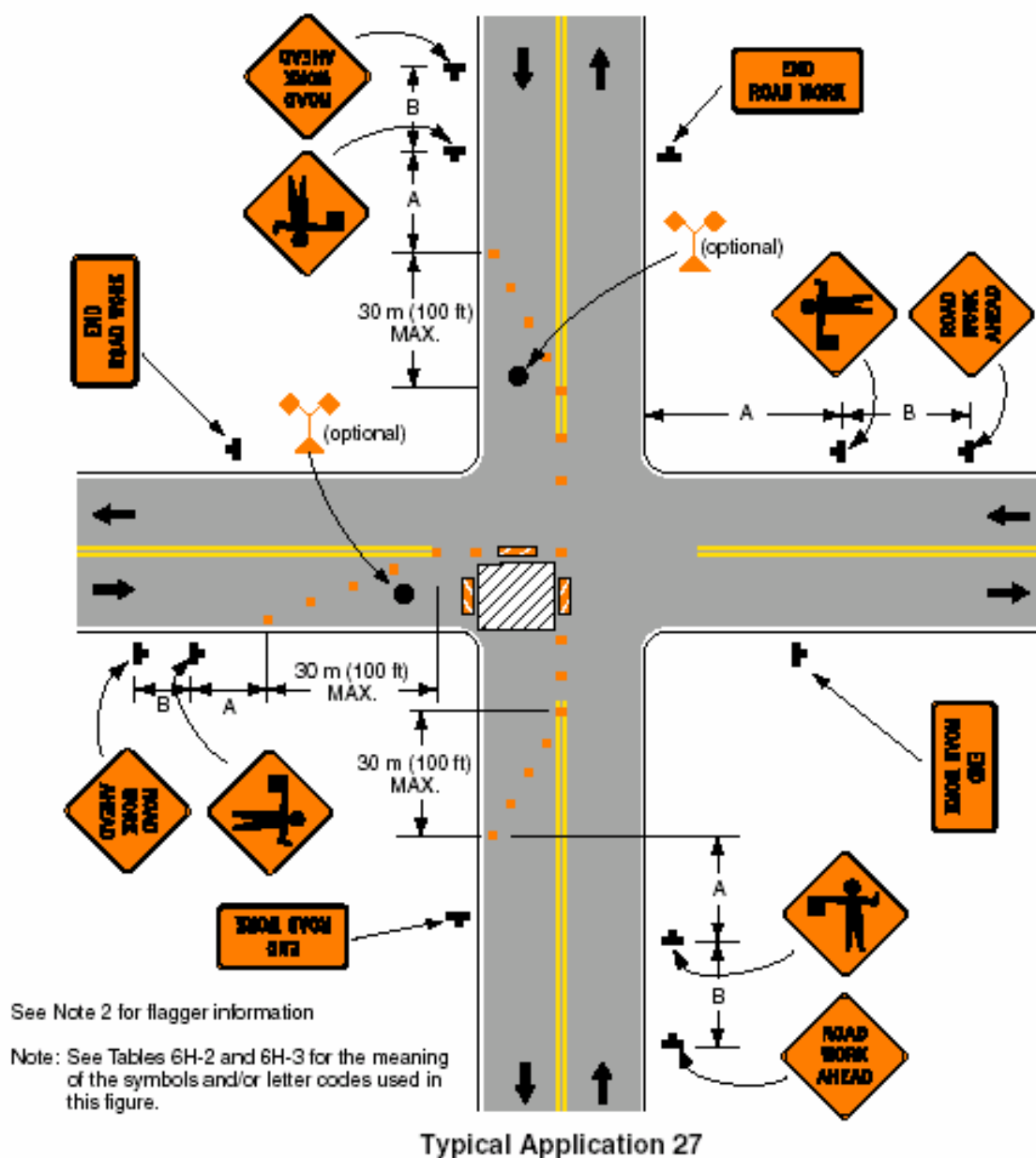
Typical Application 20

Public

2003 Edition

Page 6H-59

Figure 6H-27. Closure at Side of Intersection (TA-27)

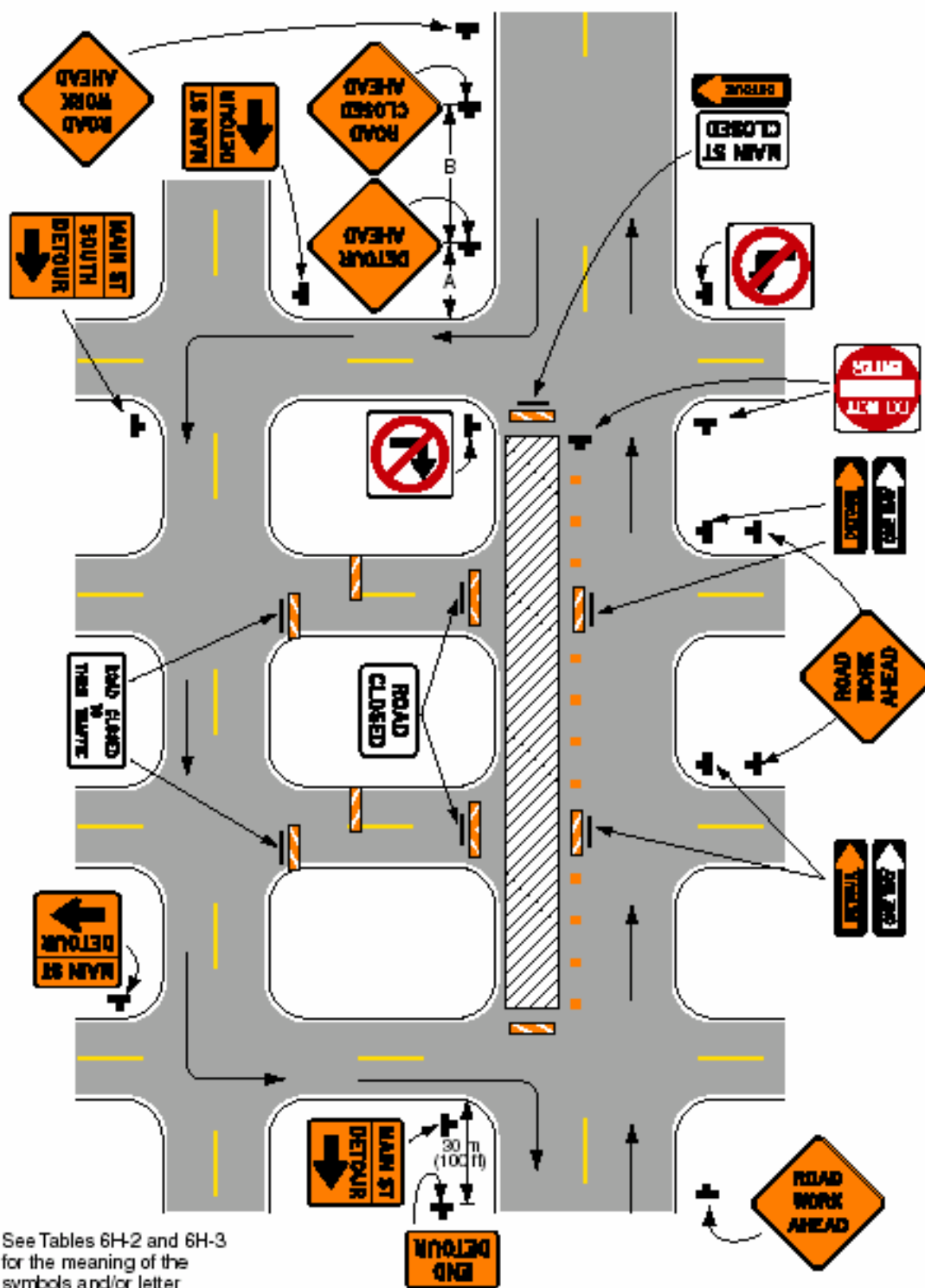


Public

2003 Edition

Page 6H-43

Figure 6H-19. Detour for One Travel Direction (TA-19)

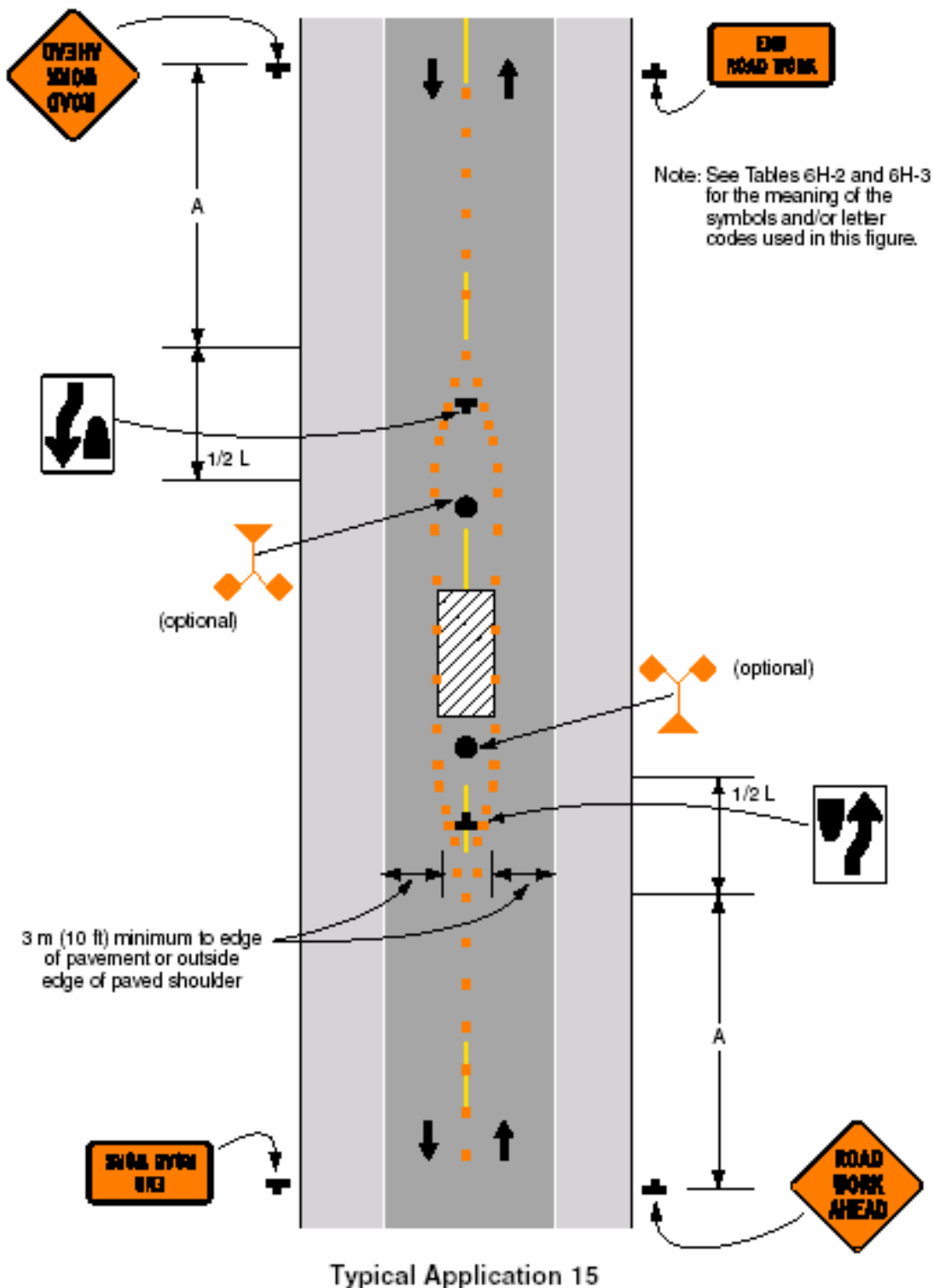


Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 19

Public

Figure 6H-15. Work in Center of Road with Low Traffic Volumes (TA-15)



Public

Figure 6H-13. Temporary Road Closure (TA-13)

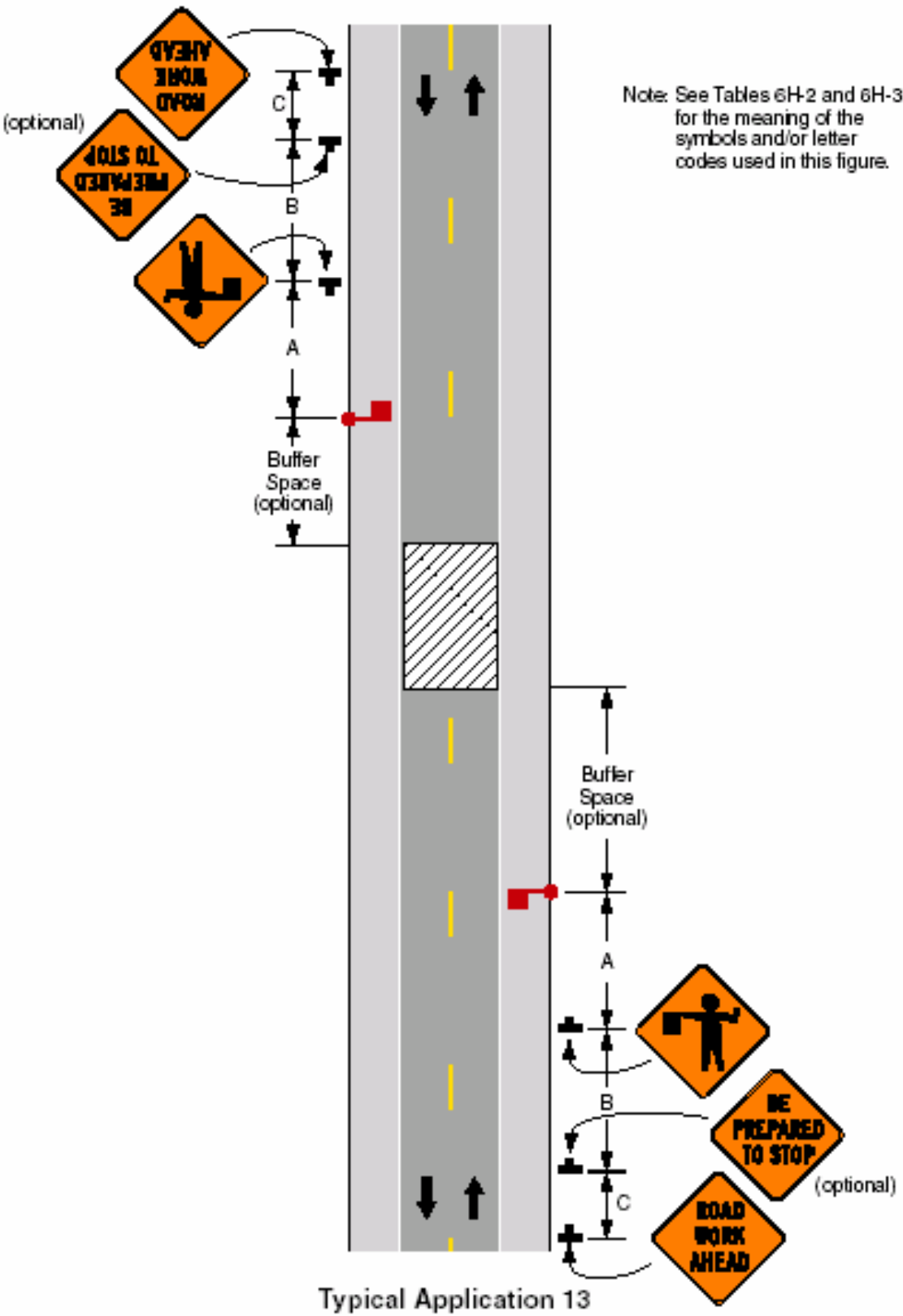
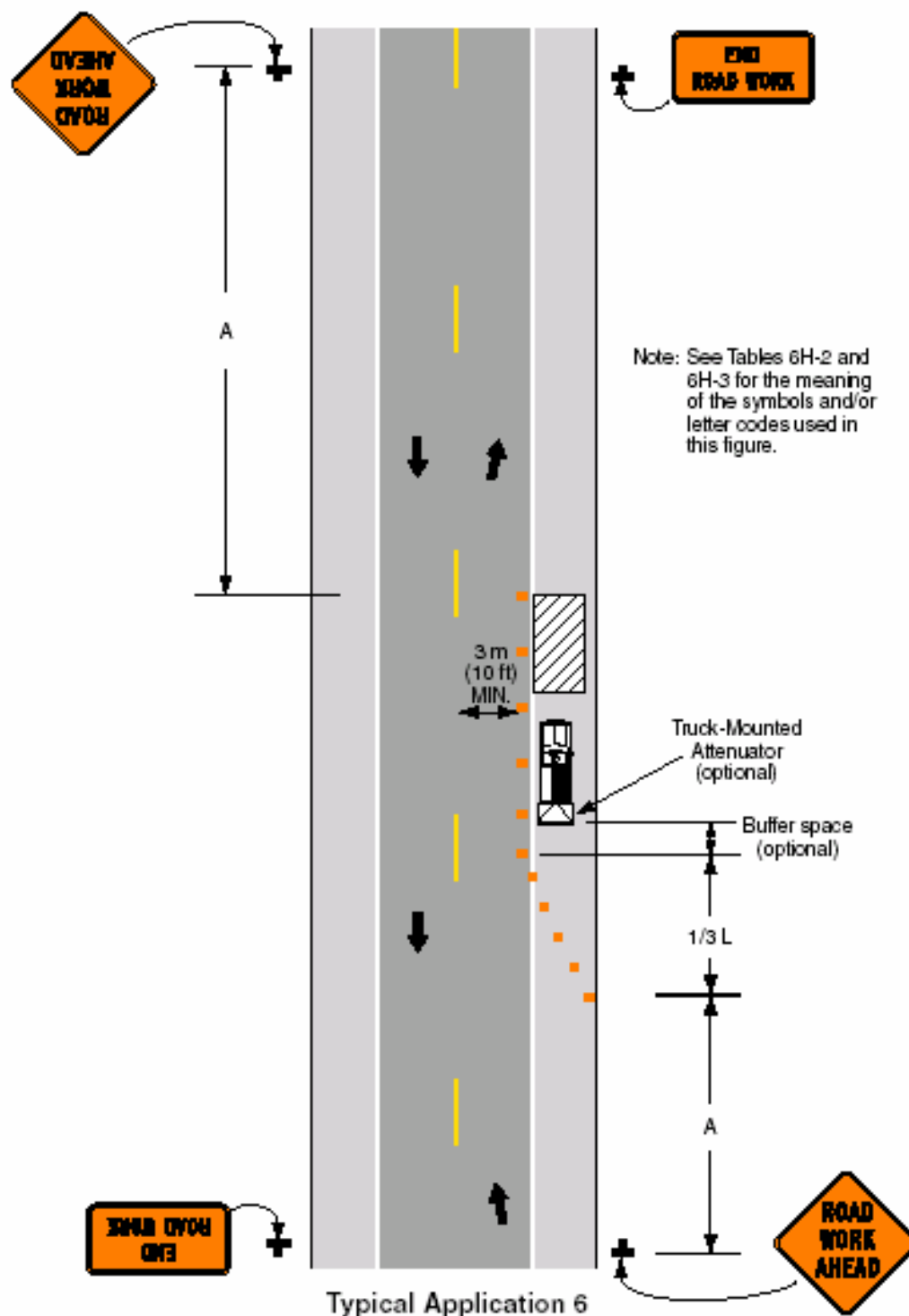


Figure 6H-11. Lane Closure on Two-Lane Road with Low Traffic Volumes



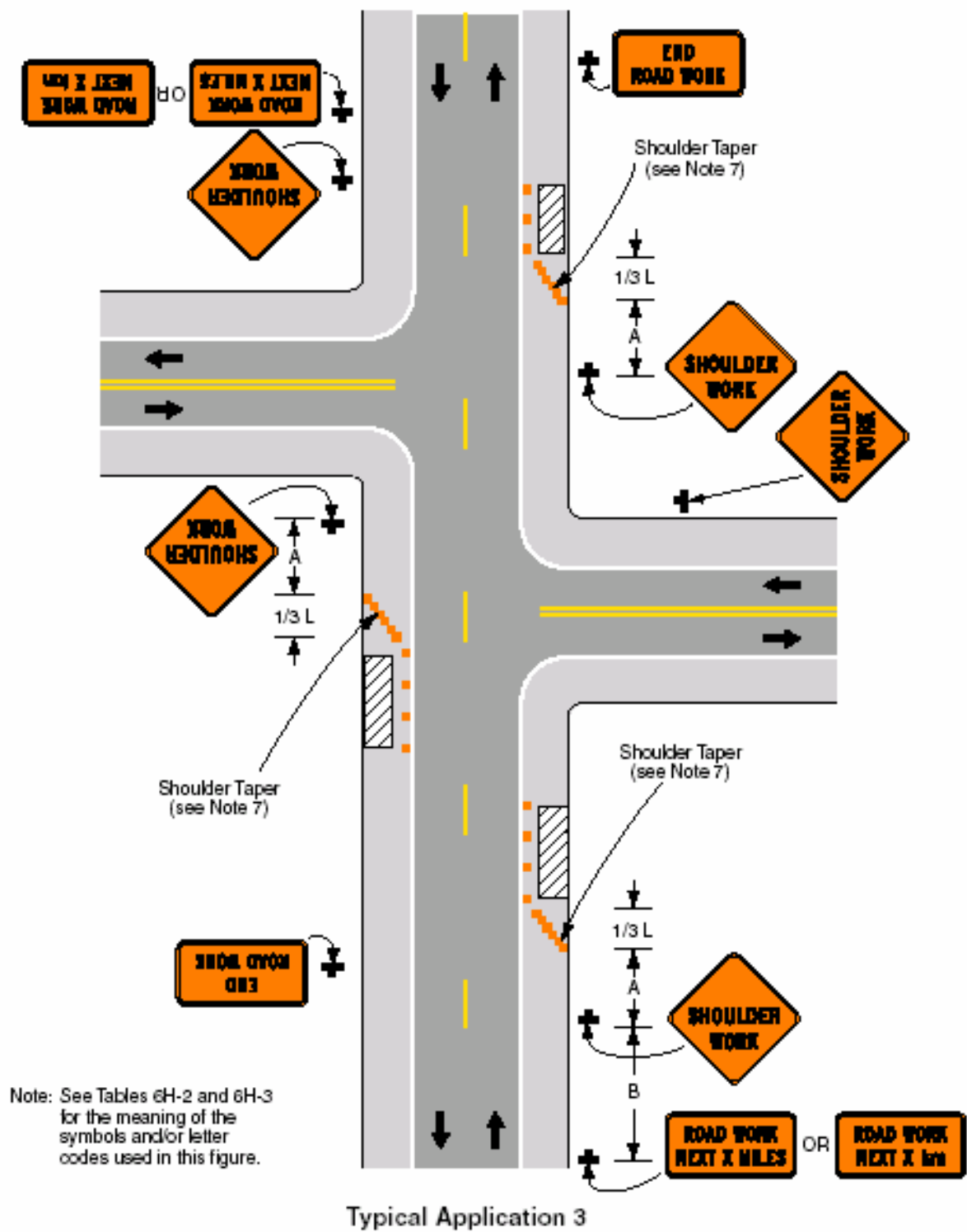
Public

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)

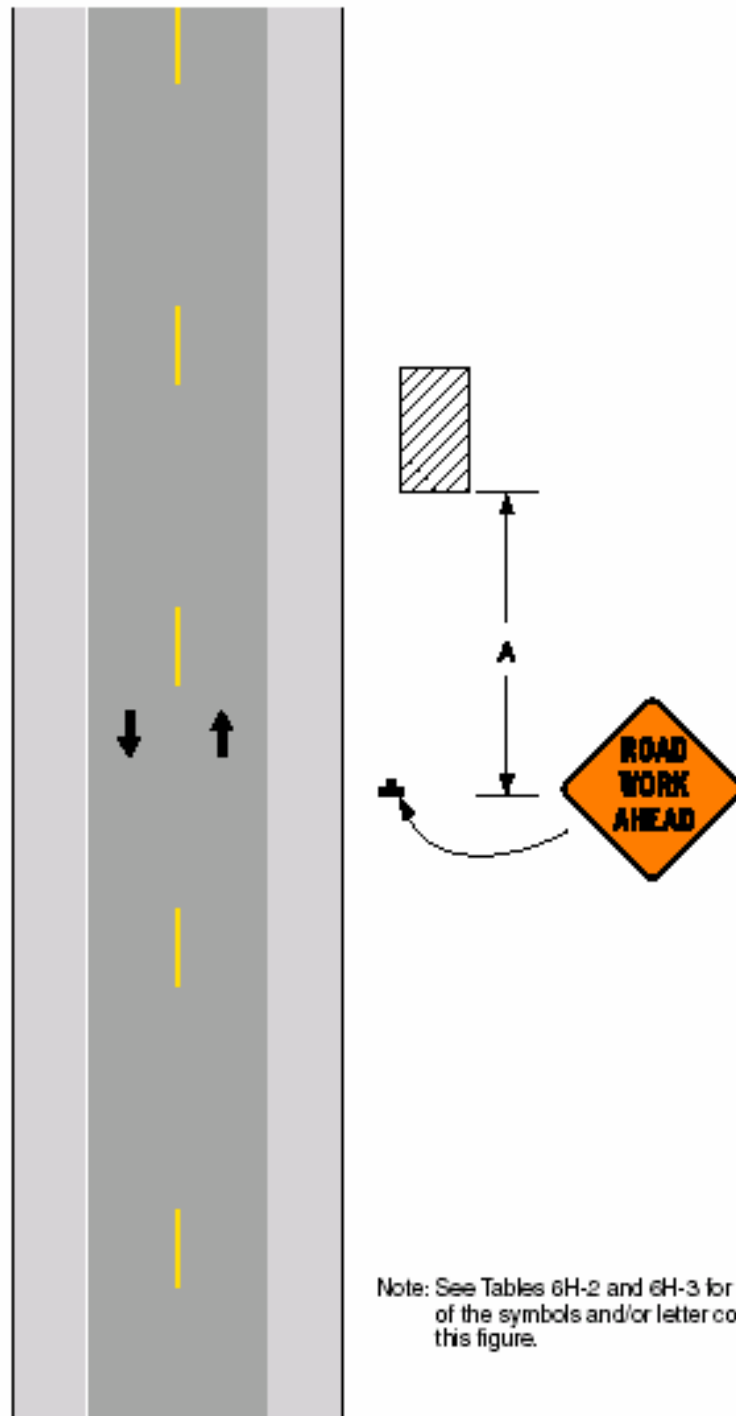


Public

Figure 6H-3. Work on Shoulders (TA-3)



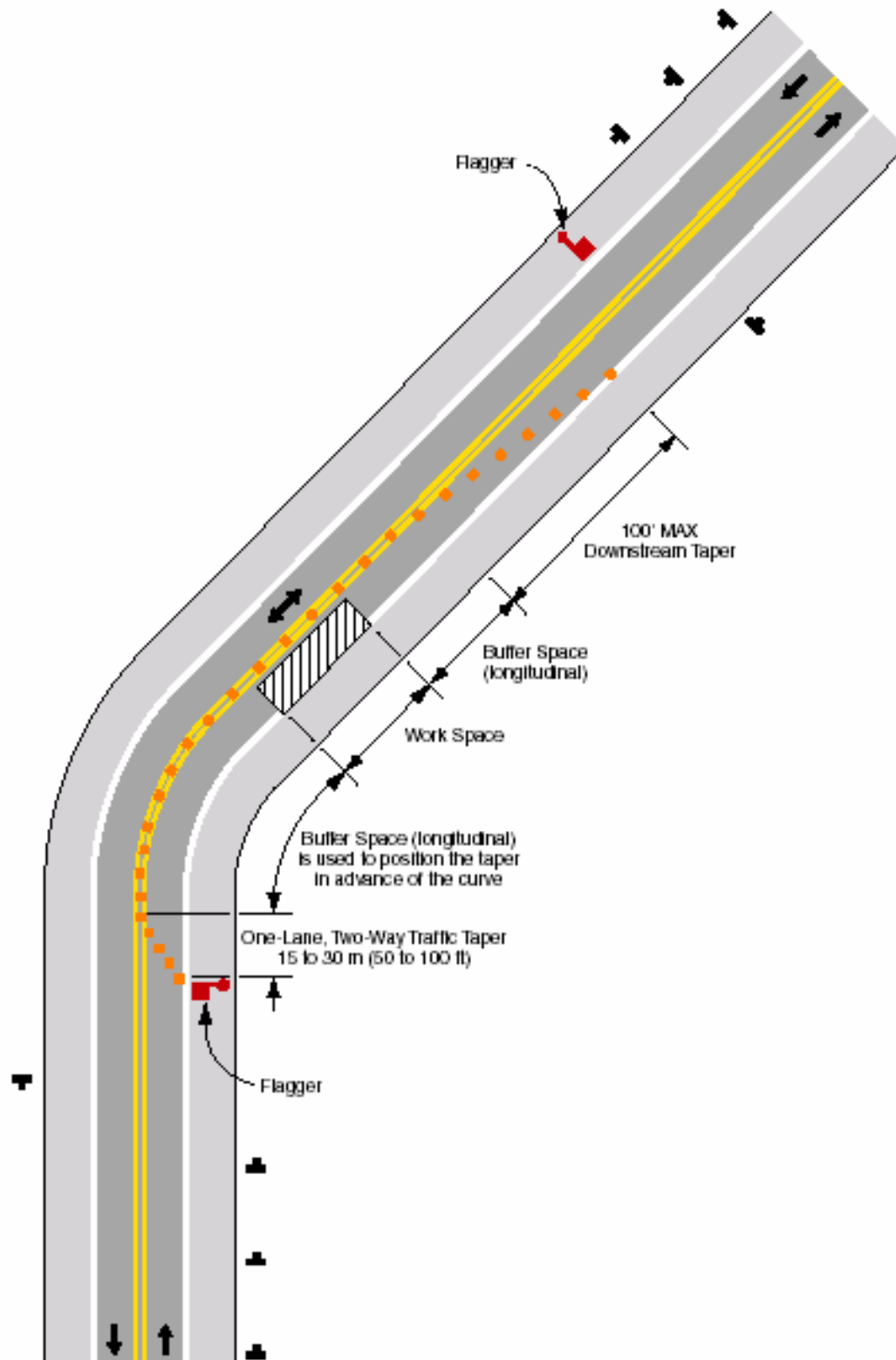
Public

Figure 6H-1. Work Beyond the Shoulder (TA-1)

Note: See Tables 6H-2 and 6H-3 for the meaning of the symbols and/or letter codes used in this figure.

Typical Application 1

Public

Figure 6C-3. Example of a One-Lane, Two-Way Traffic Taper

APPENDIX I

BLASTING SPECIFICATIONS



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix I Blasting Specifications

Prepared by



TETRA TECH EC, INC.

1940 E. Deere Ave. Suite 200
Santa Ana, CA 92705

February 2006

BLASTING

References:

OMI FF-15 Blasting Guidelines



NO.	DATE	DESCRIPTION	W.B.S.	DWN	CHKD	APPROVALS		

RECORD OF APPROVALS AND CHANGES

CONSTRUCTION – SPECIFICATIONS BLASTING NORTH BAJA PIPELINE, LLC	SUPERSEDES 51-E-A-17	
	SHEET 1 of 11 SHEETS	
	DRAWING NUMBER 4061-E-S-4	CHANGE 0

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4061-E-S-4CHANGE
0

1.0 **SCOPE**

This Specification outlines the Project areas of concern in the use of explosives along the pipeline Rights-of-Way and is to be used by CONTRACTOR as a guideline in the preparation of its Blasting Procedure. CONTRACTOR'S Blasting Procedure shall recognize that all work may be conducted along existing Rights-of-Way, which parallel and are adjacent to an operating high-pressure natural gas pipeline, and any overhead power and telephone lines.

CONTRACTOR shall be liable for any and all damages to existing facilities resulting from the blasting operations.

The use, storage and transportation of explosives is discussed in Section 3.0. CONTRACTOR and its blasting supervisor shall be thoroughly familiar with the rules and regulations of the U.S. Bureau of Mines, OSHA and with all State, County and Local regulations governing blasting operations. Section 3.0 also discusses the development of the standard shots.

This Specification also outlines the minimum safety requirements to be observed during blasting operations. In its Blasting Procedure, CONTRACTOR shall indicate by alignment stationing, milepost, or by some other approved method of identification, where and how it proposes to conduct its blasting operations and remain within the parameters established herein.

The final section of this Specification deals with the environmental aspects of blasting and outlines some of the areas of concern along the Right-of-Ways. Requirements of Federal, State, County and Local authorities shall be addressed in detail by CONTRACTOR in its Blasting Procedure.

1.1 **Blasting Procedure**

CONTRACTOR shall submit a detailed Blasting Procedure to North Baja Pipeline, LLC (North Baja) for approval prior to the start of any blasting operations. Acceptance of the Procedure by North Baja shall not relieve CONTRACTOR of responsibility for harmful consequences of its blasting operations, whether performed in accordance with the Procedure or not. The Blasting Procedure shall include the following information:

- Scope of Blasting Project
- Location and site Plan for areas known to require blasting

Typical blasting design criteria including, but not limited to, the following:

- Explosive type
- Delay type and interval
- Initiating methods

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- Delay pattern
- Maximum shot hole depth and diameter
- Maximum charge per hole
- Maximum charge per delay
- Distance to nearest belowground structures including existing buried pipelines
- Distance to nearest aboveground structures
- Peak particle velocity monitoring and control
- Proposed fly-rock control method
- Wet sand cover
- Matting (type – construction)
- Other
- Safety
- Reference to Federal, State, County and Local requirements
- Environmental
- Reference to Federal, State, County and Local requirements
- Mitigation methods
- Contingency planning

2.0 **CODES AND STANDARDS**

The latest applicable edition of the following codes, standards and specifications form a part of this specification:

Code and Federal Regulations (CFR)

18 CFR, Part 2.69	Guidelines to be Followed by Natural Gas Pipeline Companies in the Planning, Locating, Clearing and Maintenance of Rights-of-Way and the Construction of Above Ground Facilities
27 CFR, Part 181	Commerce in Explosives
29 CFR, Part 1910.109	Explosives and Blasting Agents OSHA
29 CFR, Part 1926.9	Blasting and Use of Explosives
49 CFR, Part 177	Carriage by Public Highway

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3.0 USE, STORAGE AND TRANSPORTATION OF EXPLOSIVES

CONTRACTOR'S use, storage and transportation of explosives shall be in compliance with Federal and State regulations and the stipulations contained in the Right-of-Way Grant and Temporary Use Permit, and any revised Federal grants that apply. CONTRACTOR shall provide North Baja with copies of all permits obtained prior to its commencement of blasting operations.

3.1 Permits

CONTRACTOR shall obtain and comply with the permit requirements for California. Application for license to obtain and use explosives is made through the county Sheriffs' office and approved by the State Fire Marshal.

3.2 Performance Requirements

3.2.1 General

The use, storage, transportation and handling of explosives shall be conducted in accordance with the regulations set forth in 29 CFR, Part 1926.

3.2.2 Storage and Transportation of Explosives and Blasting Agents

CONTRACTOR shall outline how it will provide magazines for storage and transportation of explosives and detonators in accordance with the requirements of 29 CFR, Part 1926. The American Table of Distance for Storage of Explosives as approved by the Institute of Makers of Explosives shall govern the location of storage magazines.

3.2.3 Use of Explosives and Blasting Agents

CONTRACTOR shall outline the qualifications of its blaster and the procedures for the following operations: loading of explosives, handling of explosives, electric blasting, firing of blasts, inspection after blasting, misfires and underwater blasting.

The procedures shall be in accordance with the requirements of 29 CFR, Part 1926 and shall ensure that the peak particle velocity at the existing pipeline does not exceed twelve (12) inches per second.

CONTRACTOR'S Procedure shall limit the maximum charge per delay to that specified in the "Pipeline Blasting Criteria" tables (see Attachment A) for a Ground Response Factor of 242. Should CONTRACTOR elect to exceed these criteria by increasing the charge size or by reducing the Ground Response Factor, or both, such a procedure shall require qualification. The procedure qualification shall include the monitoring of a minimum of five (5) test shots with three (3) channel recording

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seismographs. From these test shots, a scaled distance shall be calculated to establish Standard shot in terms of pounds of explosives per delay. CONTRACTOR shall include in its Blasting Procedure the shot hole array and method of delay to be employed. Production shot delays shall be identical to test shot delays. The tests shall be mandatory for each change in geology, change in explosive manufacturer or change in explosive grade as determined by North Baja.

For any other structures, the allowable peak particle velocity shall be as recommended in the Blaster's Handbook by Dupont, 175th Anniversary Edition, and the United States Bureau of Mines Standard.

3.2.4 Overbreak, Ground Cracking and Block Movement

Prior to proceeding with full-scale blasting operations following a major change in geology, change in explosive manufacturer or change in explosive grade, CONTRACTOR shall conduct a test blast limited in length no greater than twenty (20) feet of ditchline. Following detonation, the area between the blast and the existing pipeline shall be examined for indications of excessive overbreak, cracking and ground displacement (block movement). Overbreak or ground cracks extending one-half (1/2) or more of the distance between these points, or any signs of block movement, shall be cause for CONTRACTOR to immediately suspend blasting operations and review the blasting procedure.

3.2.5 Selection of Blasting Products and Methods

CONTRACTOR'S Blasting Procedure shall describe all blasting products and methods proposed for this Project and the justification for their selection. All of the items listed as typical blasting design criteria in Section 1.1 of this Specification shall be described in detail.

4.0 SAFETY

- 4.1** This section outlines the minimum safety requirements for blasting. CONTRACTOR shall include in its Procedure all Federal, State, County and Local safety requirements for blasting. CONTRACTOR'S Procedure shall address, as a minimum, the following requirements:
- 4.2** Explosives shall be stored in a locked magazine in accordance with the practices specified by the United States Bureau of Mines and OSHA. Detonating caps shall not be stored with explosives but shall be stored in a separate location in accordance with the practices specified by the United States Bureau of Mines and OSHA.

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- 4.3** Explosives shall be accounted for at all times. An inventory and use record of all explosives and detonating caps shall be maintained for the Project. Explosives not being used shall be kept in a locked magazine "off-limits" to unauthorized personnel.
- 4.4** The inventory and use record shall be reconciled at the end of each working day and shall include the number of misfires and their disposition. The inventory and use record shall be available for inspection of the jurisdictional authorities and North Baja at all times.
- 4.5** Smoking, matches, firearms, open flames and other fire, spark or heat producing devices and the operation of radio transmitters shall be prohibited in or near the explosive magazine or while explosives are being handled, transported or used.
- 4.6** No loaded holes shall be left unattended or unprotected. No explosives or blasting agents shall be abandoned on the Rights-of-Way. Explosives shall not be primed or fused until immediately before use and shall not be allowed to lay overnight in drilled holes.
- 4.7** CONTRACTOR shall, at all times, protect its personnel and the public from any injury or harm that might arise from drilling dust and/or the use of explosives. Only personnel thoroughly experienced in the handling of explosives shall be permitted to supervise, handle, transport or load and shoot explosives.
- 4.8** CONTRACTOR shall exercise caution in the vicinity of power lines, telephone lines, existing pipeline facilities, water wells, caves, structures and adjacent buildings to preclude the possibility of damage due to fly-rock, dust, air blast or vibration.
- 4.9** CONTRACTOR shall use every reasonable precaution, including but not limited to visual and audible warning signals and flagging and/or barricades to ensure personnel safety. Flaggers shall be stationed on all roadways which pass through the danger zone to stop traffic during blasting operations.
- 4.10** Warning signs, indicating the blast area, shall be erected and maintained at all approached to the blast area. Warning sign lettering shall be a minimum of four (4) inches in height on a contrasting background. Warning signs shall comply with the requirements or the jurisdictional authorities.

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- 4.11** Notification of blasting operations shall be given to all property owners and residences along the Right-of-Way, as well as owners of facilities (pipelines, power lines, buildings, etc.) in proximity of blasting operations. CONTRACTOR shall comply with the "One Call" notification requirements.
- 4.12** All jurisdictional authorities, e.g., California State Fire Marshall, shall be granted unrestricted access to all explosive records as well as site access for procedural inspections.
- 4.13** Prior to the end of the working day, any misfires shall be located and rendered safe.
- 4.14** CONTRACTOR shall conduct a leak survey after blasting, using a flame ionization unit, for all piping within six hundred sixty (660) feet of the closest charge.

5.0 ENVIRONMENTAL

This section outlines the minimum requirements of CONTRACTOR'S Blasting Procedure for compliance with environmental concerns along the pipeline Rights-of-Way. Refer to site-specific requirements relating to blasting.

CONTRACTOR shall complete an environmental checklist to determine the extent that blasting will affect the environment. The environmental review will overlap with the safety section as both sections are concerned with similar subject matter. The environmental review shall address:

- Land use
- Stream crossings
- Risk of upset
- Human health
- Transportation
- Plant and animal life
- Air quality
- Noise
- Soils and Geology

Each of the above items shall be discussed, as applicable, in the Blasting Procedure.

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5.1 Land Use

The Project Line Lists indicate land use. The environmental permits outline land use areas be environmental requirements. CONTRACTOR shall outline how its Blasting Procedure will minimize impacts to local residences, properties, businesses or operation that might be affected by blasting activity.

5.2 Stream Crossings

For major stream crossings, CONTRACTOR shall comply with FERC Stream and Wetland Construction and Mitigation Procedures and site-specific requirements.

5.3 Risk of Upset

CONTRACTOR shall outline how it will limit the risk of upset, e.g., methods of preventing unplanned detonations or the release of hazardous substances.

5.4 Human Health

CONTRACTOR shall identify any known or potential hazards to human health and shall outline how it intends to minimize such hazards, e.g., ensuring the safe use of explosives and the control of chemical vapors or dust generated by blasting.

5.5 Transportation

The Procedure shall describe how the explosives will be transported. Safeguards to be implemented to ensure the public safety during transport shall be discussed, e.g., limiting the size of transport convoys and provisions for official escort.

5.6 Plant and Animal Life

The Procedure shall address environmental concerns with respect to plant and animal life and shall outline procedures to be implemented to protect against changes in diversity or number of species, a reduction in the numbers of any unique, rare or endangered species, or a deterioration to existing habitat.

Blasting shall not be conducted within or near streams without prior consultation with Federal and State conservation authorities having jurisdiction to determine what protective measures shall be taken to minimize damages to fish and other aquatic life.

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5.7 Air Quality

The effect of blasting operations on ambient air quality shall be evaluated in CONTRACTOR'S Procedure. A dust abatement program to be implemented during drilling operations shall be included.

5.8 Noise

The Procedure shall review maximum acceptable noise levels and shall examine the potential for increases in existing levels and the extent of anticipated exposure of persons to severe noise levels resulting from blasting operations. CONTRACTOR'S Procedure shall include guidelines for limiting both shot size and frequency to control noise levels.

Also to be included in CONTRACTOR'S Procedure is its proposed methodology for warning nearby residents that may be effected by the blasting operations. Blasting after dark shall only be permitted in case of emergency and with the permission of the authorities having jurisdiction and/or North Baja.

5.9 Soils and Geology

The Procedure shall show that blasting operations will not result in unstable soil or geological conditions that could expose persons or property to hazards such as landslides, mudslides and ground failure. CONTRACTOR shall indicate show it proposed to reduce or curtain any unstable condition that may result from blasting operations.

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ATTACHMENT A**North Baja
PIPELINE BLASTING CRITERIA**

CHARGE (LBS/DELAY)	1	2	3	4	5	6	7	8	9	10	11	12
TRUE DISTANCE	PEAK PARTICLE VELOCITY – INCHES / SECOND											
30 FT	1.05	1.82	2.52	3.18	3.8	4.39	4.97	5.53	6.08	6.61	7.14	7.65
26 FT	1.32	2.29	3.17	3.99	4.78	5.53	6.25	6.96	7.64	8.31	8.97	9.62
20 FT	2.01	3.49	4.83	6.08	7.27	8.41	9.51	10.58	11.63	12.65		
15 FT	3.18	5.53	7.65	9.63	11.51	13.32						

(cont'd)

CHARGE (LBS/DELAY)	13	14	15	16	17	18	19	20	21	22	
TRUE DISTANCE	PEAK PARTICLE VELOCITY – INCHES / SECOND										
30 FT	8.16	8.66	9.15	9.63	10.11	10.58	11.05	11.51	11.97	12.43	
26 FT	10.26	10.88	11.5	12.11							
20 FT											
15 FT											

BASED ON GROUND RESPONSE FACTOR OF 242

CALCULATIONS BASED ON LEWIS L. ORIARD FORMULA

$$V = \text{GROUND RESPONSE} \times (\text{DISTANCE} / \text{SQUARE ROOT OF CHARGE PER DELAY}) ^{1.6}$$

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0

APPENDIX J

GEOLOGIC HAZARDS STUDY



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix J Geologic Hazards Study

Prepared by

Earth Systems Southwest

for



Wilbros Engineers

1940 E. Deere Ave. Suite 200
Santa Ana, CA 92705

February 2006

WILLBROS ENGINEERS, INC.
P.O. BOX 701650
TULSA, OKLAHOMA 74170-1650

**GEOLOGIC HAZARDS RECONNAISSANCE REPORT
NORTH BAJA PIPELINE EXPANSION
& IID LATERAL
LA PAZ COUNTY ARIZONA,
RIVERSIDE AND IMPERIAL
COUNTIES, CALIFORNIA**

December 5, 2005

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File No.: 08312-03
05-12-718

**Earth Systems**

Southwest

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(800) 924-7015
FAX (760) 345-7315

December 5, 2005

File No.: 08312-03
05-12-718

Willbros Engineers, Inc.
P.O. Box 701650
Tulsa, Oklahoma 74170

Attention: Mr. Carlos Daza

Project: **North Baja Pipeline Expansion & IID Lateral**
La Paz County, Arizona, Riverside and Imperial Counties, California

Subject: **GEOLOGIC HAZARDS RECONNAISSANCE REPORT**

Dear Mr. Daza:

We take pleasure to present this Geologic Hazards Reconnaissance Report prepared for the proposed North Baja Pipeline Expansion project to be constructed from La Paz County, Arizona to Riverside and Imperial Counties, California. This report should stand as a whole, and no part of the report should be excerpted or used to the exclusion of any other part.

This report completes our scope of services in accordance with our agreement, dated August 7, 2001 and amended by Change Order dated October 25, 2005. Other services that may be required are additional services and will be billed according to the Fee Schedule in effect at the time services are provided. Unless requested in writing, the client is responsible to distribute this report to the appropriate governing agency or other members of the design team.

We appreciate the opportunity to provide our professional services. Please contact our office if there are any questions or comments concerning this report or its recommendations.

Respectfully submitted,

EARTH SYSTEMS SOUTHWEST

Shelton L. Stringer
GE 2266, PG 7977

SER/sls

Distribution: 6/Willbros Engineers, Inc.
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Section 1 INTRODUCTION

1.1 Project Description

This Geologic Hazards Reconnaissance Report has been prepared for the proposed North Baja Pipeline Expansion project (NBP) to be constructed from La Paz County, Arizona to Riverside and Imperial Counties, California. The following summary of the projects comes from the Final NOI NOP filed with the California State Lands Commission (CLSC).

North Baja, an indirect wholly owned subsidiary of TransCanada Corporation, has announced its intention to expand its existing natural gas pipeline system in La Paz County, Arizona and Riverside and Imperial Counties, California. The existing North Baja system transports natural gas in a southbound direction. The expansion Project would allow for a northbound flow of gas.

The facilities proposed by North Baja include the following to expand the existing system:

- up to 80 miles of buried 36-inch- or 42-inch-diameter pipeline loop (referred to as the “B-Line”) adjacent to its existing 30-inch- and 36-inch-diameter pipeline (referred to as the “A-Line”) in La Paz, Riverside, and Imperial Counties;
- one metering station at the interconnect with SoCal Gas in Blythe (Blythe Meter Station);
- one pig receiver at the existing Ehrenberg Compressor Station in La Paz County;
- one pig launcher and one pig receiver at the existing Ogilby Meter Station in Imperial County;
- seven mainline valves along the right-of-way; and
- modifications within the Ehrenberg Compressor Station and Ogilby Meter Station to allow for northbound flow.

In association with its proposed expansion, North Baja proposes to construct a 0.5-mile-long, buried 12-inch-diameter pipeline lateral (Blythe Energy Interconnect Lateral) and associated metering and valving from the proposed Blythe Meter Station north to an interconnect with Blythe Energy’s existing supply lateral near Interstate Highway 10 in Riverside County. The lateral would cross privately owned land adjacent to the existing SoCal Gas pipelines and parallel to the D-10-13 Canal and Riviera Drive. North Baja’s preferred alignment would be on the east side of the canal; an alternative alignment on the west side of the canal is also under consideration.

North Baja also proposes to construct a new pipeline lateral and associated facilities in Imperial County from an interconnect near the Ogilby Meter Station to the existing Imperial Irrigation District (IID) El Centro Generating Station. The lateral would deliver up to 100 million cubic feet per day of natural gas to the IID El Centro Generating Station. The IID is considering a future expansion of the station to meet growing power demand.

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The IID Lateral facilities proposed by North Baja include:

- approximately 46 miles of buried 16-inch-diameter pipeline lateral (IID Lateral);
- one metering station at the interconnect with the IID El Centro Generating Station (IID El Centro Meter Station);
- one pig launcher at a tap off the A-Line near the Ogilby Meter Station;
- one pig receiver at the IID El Centro Generating Station; and
- up to five block valves along the right-of-way.

North Baja's preferred route of the IID Lateral would cross approximately 30 miles of federal land in Imperial County. The route on federal land deviates from designated utility corridors at one location for about 10 miles, where it would parallel Interstate Highway 8. Most of the IID Lateral would be installed in public road rights-of-way.

Figures of the proposed facilities are provided in Appendix A. Figure 1 depicts a general overview of the major Project facilities. Figure 1 also depicts North Baja's preferred route for the B-Line in the Palo Verde Valley (adjacent to the A-Line along 18th Avenue) and an alternative route under consideration in the Palo Verde Valley along 22nd Avenue. Figure 2 depicts North Baja's preferred route for the IID Lateral and various alternative routes under consideration...

1.2 Purpose and Scope of Study

The purpose for our services was to evaluate potential geologic hazard conditions and to provide professional opinions regarding the geologic constraints for the pipeline project. The scope of work included the following:

- Review of relevant geotechnical and geological literature, including reports and maps from the United States Geological Survey, the California Geological Survey, and other relevant information.
- Limited site reconnaissance of the north half of the pipeline route.
- Engineering analysis and evaluation of the acquired data to identify potential geotechnical or geological constraints that could include: faulting, groundshaking, secondary seismic hazards, landsliding, rock fall hazard, and erosion.
- A summary of our findings and recommendations in this written report.

Earth Systems Southwest previously conducted a quantitative analysis of the soil liquefaction hazard in a separate Liquefaction Hazard Evaluation and Mitigation (LHEM) report.

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Screening Investigation Purpose: The purpose of this screening investigation is to evaluate the severity of potential geologic hazards and to screen out areas that have a low potential for geologic hazards. Where this screening investigation demonstrates the absence of geologic hazards along the pipeline route, and if the lead agency technical reviewer concurs with this finding, this screening investigation will satisfy the site-investigation report requirement of CGS Special Publication 117 and no further investigation will be required. Where the findings of this screening investigation indicate the presence of geologic hazards, then a more-comprehensive quantitative evaluation may need to be conducted.

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Section 2

METHODS OF INVESTIGATION

2.1 Field Exploration

18th Avenue and Ehrenberg Compressor Site: Earth Systems Southwest conducted geotechnical exploration at the Ehrenberg Compressor Station site and along 18th Avenue. Along the 18th Avenue alignment, four exploratory borings were drilled to a depth of about 51.5 feet on August 9, 2001. At the Ehrenberg Compressor site, six exploratory borings were drilled to depths ranging from 26.5 to 51.5 feet on August 10, 2001.

Ogilby Meter Station: Earth Systems Southwest conducted geotechnical exploration at the Ogilby Meter Station site. One exploratory boring was drilled to a depth of 26.5 feet on September 28, 2001.

Colorado River and All American Canal Crossings: The LawGibb Group under contract to Willbros Engineers, Inc conducted geotechnical exploration for two crossing sites. At the Colorado River Crossing, four exploratory borings were drilled to a depth of about 90 to 91.5 feet on October 9 to 11, 2000. At the All American Canal Crossing, three exploratory borings were drilled to a depth of about 91.5 feet October 16 to 19, 2000.

These boring logs are presented in the Liquefaction Hazard Evaluation and Mitigation and geotechnical reports prepared by Earth Systems Southwest.

2.2 Geologic Studies

Air Photo Review: A set of vertical aerial photographs was reviewed stereoscopically for indications of landsliding or other ground movements at the edge of the Palo Verde Mesa (Milepost 11.6 to 11.8) where the pipeline would traverse up the mesa face.

Site Reconnaissance: Our associate geotechnical engineer/geologist conducted a site reconnaissance of the pipeline route from the Ehrenberg Compressor Station to Ogilby Meter Station site and the IID lateral. The purpose of this limited reconnaissance was to verify site conditions of potentially critical areas of the proposed pipeline route for geologic hazards.

Slope Terrain Analyses: The calculation of slope gradient is an essential part of the evaluation of slope stability. To calculate slope gradient for the terrain within the study area, 7.5- minute quadrangle digital elevation models (DEM) were obtained from the U.S. Geological Survey. These DEMs have a resolution of 30-meters. A slope-gradient map was made from the combined DEMs using the MicroDEM program.

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Section 3

DISCUSSION

3.1 Surficial Soil Conditions at Selected Sites

Ehrenberg Compressor Site (Milepost 0): The field exploration indicates that soils consist primarily of an upper surficial layer of silt that is 2 to 8 feet thick, underlain with medium dense to loosely deposited sand and some silty sand.

Colorado River Crossing (Milepost 0 to 0.5): The field exploration indicates that soils consist generally of loose to dense silty sand and sand with some gravel.

18th Avenue Alignment (Milepost 2.4 to 11.6): The field exploration indicates that soils consist generally of an upper layer of cohesive clayey soil underlain by sand to silty sand.

Ogilby Meter Station (Milepost 75.2): The field exploration indicates that soils consist generally of very dense, silty sand.

All American Canal Crossing (Milepost 79.6 to 79.8): The field exploration indicates that soils consist generally of medium dense to dense silty sand.

3.2 Groundwater

Measured Groundwater Levels from Exploration: Free groundwater was encountered in the borings at the following depths at selected sites.

Site	Milepost	Measured Groundwater Depth (feet)
Ehrenberg Compressor	0	17
Colorado River Crossing	0 to 0.5	13 to 23
18 th Avenue Alignment	2.4 to 11.6	9 to 16.5
All American Canal Crossing	79.6 to 79.8	29 to 31

However, there is uncertainty in the accuracy of short-term water level measurements. Groundwater levels may fluctuate with irrigation, drainage, regional pumping from wells, and site grading. The groundwater levels detected may not represent an accurate or permanent condition.

Estimated Groundwater Levels in the PaloVerde Valley region: USGS Professional Paper 486-G provides a groundwater contour map of the Palo Verde Valley and region. An excerpt of this map is presented on Figure 9.

Estimated Groundwater Levels in the Imperial Valley region: USGS Professional Paper 486-K provides a groundwater contour map of the Imperial Valley and region. An excerpt of this map is presented on Figure 10.

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3.3 Regional Geologic Setting

Ehrenberg Compressor Site, Colorado River Crossing, and 18th Avenue (Milepost 0 to 11.6): These areas lie in the Palo Verde Valley, which consists of approximately 1,000 feet of alluvial and sedimentary gravel, sand, silt, and clay deposits of the Colorado River Flood Plain. The Flood Plain in the Blythe area consists of approximately 100 feet of Younger (Holocene) alluvium consisting of sands, silts, clays, and some gravel. The younger alluvium is directly underlain by approximately 500 feet of older (Pliocene and Pleistocene) alluvium of soils similar to the younger alluvium. These soils are the result of several broad periods of degradation and aggradation by the Colorado River. The alluvial soils in the Blythe area reach to approximately 600 feet where the soil formation changes to a Pliocene age embankment deposit of the Gulf of California known as the Bouse Formation. This formation is composed of tufa and basal limestone overlain by interbedded clay, silt, and sand.

Palo Verde Mesa (Milepost 11.6 to 22.5): The Palo Verde Mesa consists of piedmont on the west side of the Palo Verde Valley that consists of older alluvium with lower terrace deposits at the valley wall. The mesa is dissected with several alluvial washes.

Palo Verde Peak Area (Milepost 22.5 to 36): The NBP route through this area traverses around the base of foothills that comprise the Palo Verde Mountains. The Palo Verde Mountains consist primarily of Tertiary volcanic rocks that form ragged peaks with a topographic high of about 1795 feet above mean sea level. Older alluvium fanglomerate and conglomerate deposits flank the mountains. Some Bouse Formation exposures are found at the base of the mountains. Recent alluvium lies within the floodplain of the Colorado River at the eastern base of the mountains and foothills.

Milpitas Wash to Ogilby (Milepost 36 to 71): The NBP route through this area traverses across the Milpitas Wash, a major alluvial drainage system, piedmont, and alluvial washes in the Arroyo Seco area through the Chocolate Mountains, and piedmont on the southeast side of the Chocolate Mountains. The piedmonts consist of older alluvium that is dissected with numerous alluvial washes.

Ogilby to All American Canal Crossing (Milepost 71 to 79.8): The NBP route through this area straddles the dividing line between the Salton Trough and the Mojave Desert section of the Southern Basin and Range physiographic province. This area lies on the Pilot Knob Mesa near the Algodones sand dunes to the west. The mesa soils consist of older and recent alluvium consisting of fine to coarse-grained sands with gravels, and cobbles.

The Algodones Fault trends northwest to southeast and is inferred to lie nearly parallel with the proposed NBP route from Milepost 75.5 to 79.5. The Algodones Fault is the dividing line between the Salton Trough and Southern Basin and Range.

IID Lateral: The IID lateral traverses across the Salton Trough physiographic province. The Salton Trough is a broad structural depression resulting from large scale regional faulting associated with horizontal slip along the San Andreas Fault System. The San Andreas Fault and inactive Sand Hills Fault bound the trough on the northeast. The San Jacinto Fault Zone bounds the trough on the southwest. The Salton Trough represents the northward extension of the Gulf of California that has experienced continual in-filling with both marine and non-marine

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sediments since its approximate formation in the Miocene Epoch.

A high level of seismicity from active northwest-trending faults and oceanic-type spreading centers characterizes the Salton Trough. Seismicity in the Salton Trough is concentrated between the offsets of three major transform faults - San Andreas, Imperial, and Cerro Prieto. Geodetic measurement, as well as historic and geomorphic evidence of recent fault movement, indicate a high rate of tectonic activity in the area.

The Imperial Valley is directly underlain by Holocene (0 - 11,000 years before present) Cahuilla Lake beds, which consist of interbedded lenticular and tabular silt, sand, and clay. The Holocene lake deposits are probably less than 100 feet thick. The Pleistocene Brawley Formation underlies the Cahuilla Lake beds. The Brawley Formation consists of at least 2,000 feet of gray clay, sand, and pebbles, which in turn overlie about 6,000 feet of the late Pliocene Borrego Formation. The Borrego Formation consists of lacustrine gray clay and sand. The Borrego Formation overlies an indeterminate thickness of the Pliocene marine Imperial Formation, Alverson Andesite, and Miocene continental sediments of the Split Mountain Formation. Basement rock consisting of Mesozoic granite and probably Paleozoic metamorphic rocks are estimated to exist at depths between 15,000 - 20,000 feet. Thicknesses of the various geologic formations are approximate.

3.4 Geologic Units

The proposed route of the NBP will generally encounter eight mapped geologic units. The mapped units are shown on the Geologic Maps, Figures 3 to 6. For the purposes of screening for geologic hazards, we used published geologic maps at 1:250,000 and 1:125,000 scales, combined with limited field reconnaissance along the proposed route of the pipeline. The following geologic units will be encountered during construction of the pipeline.

Quaternary lake deposits (Ql): The Imperial Valley, where the west section of the IID lateral crosses, is composed of lake deposits of ancient Cahuilla Lake beds that consist of interbedded lenticular and tabular silt, sand, and clay.

Quaternary Alluvium (Qal): Holocene alluvial deposits are mapped across the Palo Verde Valley and numerous washes. The alluvium in the Palo Verde Valley consists of unconsolidated sands, silts, clays, and some gravel. The washes generally consist of unconsolidated sand and gravels with some silts. The mid-section of the IID lateral crosses the East Mesa consisting of Holocene alluvial deposits.

Dune Sand (Qs): Unconsolidated sand and silty sand of both Holocene and Pleistocene origin. Extensive dune sand is mapped to the west of the NBP Milepost 75 to 79.8. The IID lateral crosses the Algodones sand dune field along the All American Canal.

Pleistocene Non-marine Older Alluvium & Fanglomerate (Qc): Dissected flat to gently sloping alluvium is common from Milepost 11.6 to 79.8. These poorly consolidated silts, sands, and gravels typically form desert pavement terraces coated with desert varnish between dry washes. The alluvium is generally locally derived, poorly sorted, angular, and reflects the lithology of the mountainous areas flanking these deposits.

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Tertiary Volcanic Rock (Tv): Undifferentiated volcanic rock comprises the Palo Verde Mountains and smaller outcrops near the NBP route.

Bouse Formation (Tbs): Interbedded marine to brackish water limestone, siltstone, sandstone, and tufa of Tertiary origin outcrops intermittently along the base of the Palo Verde Mountains.

Non-marine Clastic Volcanic Conglomerate (Tc): Non-marine clastic volcanic conglomerate outcrops along the NBP route at the flank of the Palo Verde Mountains.

Miocene Non-marine Sedimentary Deposits (Mc): Non-marine sedimentary conglomerate deposits composed of cemented gravel occur in limited outcrops along the NBP route.

3.5 Geologic Hazards

Geologic hazards that may affect the pipeline include seismic hazards (surface fault rupture, ground shaking, soil liquefaction, and other secondary earthquake-related hazards), slope instability, and erosion. A discussion follows on the specific hazards to the project.

3.5.1 Seismic Hazards

Seismic Sources: Several active faults or seismic zones lie within 93 miles (150 kilometers) of the project areas as shown on Tables 1 through 3 and Figure 7 in Appendix A. The primary seismic hazard to the pipeline project is moderate groundshaking from earthquakes along the San Andreas and Imperial Valley Faults. The Maximum Magnitude Earthquake (M_{\max}) listed is from published geologic information available for each fault (Cao et al., CGS, 2003). The M_{\max} corresponds to the maximum earthquake believed to be tectonically possible.

Surface Fault Rupture: The NBP route does not lie within any currently delineated State of California, *Alquist-Priolo (A-P)* Earthquake Fault Zones (Hart, 1997). Well-delineated fault lines cross through this region as shown on California Geological Survey (CGS) maps (Jennings, 1994). Therefore, active fault rupture is unlikely to occur along the NBP route. While fault rupture would most likely occur along previously established fault traces, future fault rupture could occur at other locations.

However, the IID lateral crosses the Imperial fault. This fault ruptured in both 1940 and 1979. In 1979, about 50 to 70 cm of cumulative right lateral displacement was measured occurring on two splays of the fault line near Interstate 8 where the preferred IID lateral route crosses. An excerpt of the A-P fault map at the Imperial fault is shown on Figure 8. Based on an estimated characteristic return rate of 79 years and 20 mm/yr geologic slip rate, an expected characteristic fault displacement of about 5 feet (1.6 m) may be anticipated for future ruptures, but could be locally greater as occurred in the 1940 event.

Algodones Fault: The inferred trace of the Algodones fault trends nearly parallel with the proposed NBP from Milepost 75.5 to 79.5. The fault appears to be an ancestral continuation to the southeast of the San Andreas transform fault of southeastern California, southwestern Arizona and northern Sonora, Mexico. The Algodones Fault is shown on most geologic and fault maps of the Yuma area but is concealed by young sediments.

Studies by Woodward-McNeill (1974) and Dames and Moore (1985) for the Salt River Dual Use

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Nuclear Plant and the Yuma Water Users Hydroelectric Plant project, respectively, have stated that the most recent activity along the Algodones Fault was pre-Holocene (11,000 years before present). An extensive fault investigation was performed to determine, in part, if the Algodones Fault was capable of future rupture or generating a major earthquake. The investigators found that the Algodones Fault is an east dipping normal fault confined to the western margin of the Fortuna Basin in Arizona (Heath, 1992). No evidence was found to indicate the Algodones Fault projected into California. West of Yuma, west dipping normal faults were identified and these most likely represent the eastern edge of the Salton Trough and are probably related to the East Mesa Fault (Heath, 1992).

A pattern of episodic release of stress in moderate to large events at the north end of the Algodones fault is supported by the study of Quaternary tectonics of the Yuma region conducted by Bull (1974) as part of the Woodward-McNeill report. Analysis of the data from trenches across the Algodones Fault in the Yuma region suggests that this portion of the fault has moved within the last 15,000 years (late Pleistocene). Further, paleosols indicated that characteristic movement along the fault has not occurred as continuous creep but consists of intermittent movement of several feet followed by periods of stability. The total late Pleistocene movement was estimated as 50 feet. The last movement, representing a single earthquake, was about 3 to 5 feet (Bull, 1974).

Imperial Fault: The Imperial fault is a right-lateral fault that connects the oceanic-type spreading centers located at the Brawley Seismic Zone and the Cerro Prieto geothermal area. The Imperial Fault is about 60 miles in length. It has produced at least two large historic earthquakes. The largest events were the 7.0M_w on May 18, 1940 and 6.5M_w on October 15, 1979.

The Brawley fault trends to the north from an intersection with the Imperial Fault at a location about four miles northeast of the City of El Centro. This fault has a surface expression approximately 9 miles long. The Imperial and Brawley faults have ruptured synchronously during past earthquakes. The California Geological Survey assigns a geologic slip rate of 20 mm/year, and a characteristic magnitude M_{max} of 7.0 with an average 79-year return period (CDMG, 1996).

Historic Seismicity: The Imperial Valley is among the most seismically active regions in the nation. Figure 7 shows the significant earthquakes that have been recorded in the region. Five significant historic seismic events (5.8M or greater) have significantly affected the Imperial Valley in the last 100 years. They are as follows:

- *Imperial Valley Events* - On June 22, 1915 twin magnitude 6.0 and 5.9M_S earthquakes occurred about an hour apart near El Centro resulting in at least six deaths (Ellsworth, 1990).
- *El Centro Event* - On May 19, 1940 a magnitude 7.1M_S (7.0M_w) earthquake ruptured the Imperial Fault with horizontal offsets up to 19 feet and triggered widespread liquefaction as evidenced by sand boils throughout the valley (Sylvester, 1979).
- *Imperial Valley Events* - On October 15, 1979 a magnitude 6.6M_S (6.5M_w) earthquake ruptured the Imperial Fault again with horizontal offsets of about 2 feet and triggered widespread liquefaction as evidenced by sand boils throughout the valley. A magnitude 5.8M_L event occurred as an aftershock along the Brawley Fault on the evening of October 15, 1979 (US Geological Survey, 1982).

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- *Westmorland Event* - On April 26, 1981, a magnitude 6.0M_S (5.9M_W) earthquake occurred 4 miles north of Westmorland and triggered widespread liquefaction. Although there was not surface faulting associated with this earthquake, canals and buildings were damaged. Liquefaction also occurred in the Brawley Seismic Zone after M5+ earthquakes in 1930, 1950 and 1957.
- *Superstition Hills Events* - On November 24, 1987, a magnitude 6.6M_S (6.5M_W) earthquake ruptured the Superstition Hills Fault causing over 15 miles of right lateral offset (26 in. maximum) and triggered liquefaction from the Salton Sea to Seeley. A magnitude 6.2M_L (5.9M_W) event occurred as a foreshock along the Elmore Ranch Fault on November 23.

Secondary Seismic Hazards: Secondary seismic hazards related to ground shaking include soil liquefaction, ground deformation, areal subsidence, tsunamis, and seiches. The site is far inland so the hazard from tsunamis is non-existent. At the present time, no water storage reservoirs are located in the immediate vicinity of the site. Therefore, hazards from seiches are considered negligible at this time.

3.5.2 Ground Shaking and Site Acceleration

The potential intensity of ground shaking motion may be estimated from the horizontal peak ground acceleration (PGA), measured in “g” forces. Included in Tables 1 to 3 are deterministic estimates of site acceleration from possible earthquakes at nearby faults at three representative locations along the pipeline route. Ground motions are dependent primarily on the earthquake magnitude and distance to the seismogenic (rupture) zone. Accelerations also are dependent upon attenuation by rock and soil deposits, direction of rupture, and type of fault. For these reasons, ground motions may vary considerably in the same general area. This variability can be expressed statistically by a standard deviation about a mean relationship.

In our evaluation of peak ground acceleration (PGA) we averaged three attenuation relationships: Boore et al. 1997; Sadigh et al, 1997; Abrahamson & Silva, 1997, and Campbell, 2003. Each attenuation relationship has their strengths and limitations. For this reason, the USGS used an equally weighted average of these four in their National Strong Motion Mapping Program.

The following table provides the probabilistic estimate of the PGA, EPA, PGV and Spectral Accelerations taken from the 2002 CGS/USGS seismic hazard maps and interactive seismic deaggregations available at the USGS National Strong Motion Mapping Program website. These values have been adjusted for alluvium soils, Soil Profile Type, S_D.

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**Estimate of PGA, EPA, PGV, and Spectral Accelerations
from 2002 CGS/USGS Probabilistic Seismic Hazard Maps**

**Ehrenberg Station, Riverside County, California
Modal Magnitude 7.6, Modal Distance 113 km**

Risk of Exceedance	Equivalent Return Period (years)	PGA (g)	EPA (g)(2)	PGV (3) (cm/sec)	Spectral Acceleration Sa (0.2 sec.)	Spectral Acceleration Sa (1.0 sec.)
10% in 50 years (DBE)	475	0.12	0.11	33	0.28	0.19
2% in 100 years (MCE)	2475	0.20	0.20	48	0.51	0.31

**Ogilby Meter Station, Imperial County, California
Modal Magnitude 6.9, Modal Distance 45 km**

Risk of Exceedance	Equivalent Return Period (years)	PGA (g)	EPA (g)(2)	PGV (3) (cm/sec)	Spectral Acceleration Sa (0.2 sec.)	Spectral Acceleration Sa (1.0 sec.)
10% in 50 years (DBE)	475	0.23	0.23	53	0.58	0.34
2% in 100 years (MCE)	2475	0.42	0.42	84	1.02	0.56

**IID Lateral at Imperial Fault, Imperial County, California
Modal Magnitude 6.9, Modal Distance 0 km**

Risk of Exceedance	Equivalent Return Period (years)	PGA (g)	EPA (g)(2)	PGV (3) (cm/sec)	Spectral Acceleration Sa (0.2 sec.)	Spectral Acceleration Sa (1.0 sec.)
10% in 50 years (DBE)	475	0.87	0.84	204	2.10	0.83
2% in 100 years (MCE)	2475	0.83	0.83	203	2.07	0.87

Notes:

- Values are adjusted from soft rock site, $S_{B/C}$. The soil amplification factors to adjust to Soil Profile Type S_D for PGA, Sa (0.2 sec), and Sa (1.0 sec), are as follows:
Ehrenberg: 1.5, 1.5, 2.0, respectively.
Ogilby: 1.2, 1.2, 1.8, respectively.
IID Lateral at Imperial Fault: 1.0, 1.0, 1.5, respectively
- EPA = Effective Peak Acceleration, derived from Spectral acceleration (S_A) at period of 0.2 seconds divided by scaling factor of 2.5 for 5% damping.
- PGV = Peak Ground Velocity, derived from Sa (1.0 sec).
- DBE = Design Basis Earthquake for California (Uniform) Building Code.
- MCE = Maximum Considered Earthquake for International Building Code (ASCE 7), deterministic limit at Imperial fault
- For other locations along the pipeline, a first order estimate of ground motion parameters may be obtained by interpolation between the tables.

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3.5.3 Liquefaction

Soil liquefaction is a natural phenomenon that occurs when granular soils below the water table are subjected to vibratory motions, such as produced by earthquakes. Vibrations cause an increase of pressure in the water within soil pores, as the soil tends to reduce in volume. When the pore water pressure reaches the vertical effective stress, the soil particles become suspended in water causing a complete loss in soil strength. The liquefied soil behaves as a thick liquid. Liquefaction can cause excessive structural settlement, ground rupture, lateral spreading (movement), or failure of shallow bearing foundations. Liquefaction is typically limited to the upper 50 feet of the subsurface soils.

Four conditions are generally required before liquefaction can occur:

1. The soils must be saturated below a relatively shallow groundwater level.
2. The soils must be loosely deposited (low to medium relative density).
3. The soils must be relatively cohesionless (not clayey). Clean, poorly graded sands are the most susceptible. Silt (fines) content increase the liquefaction resistance in that more cycles of ground motions are required to fully develop pore pressures. If the clay content (finer than 5 micron size) is greater than 20%, the soil is usually considered non-liquefiable, unless it is extremely sensitive.
4. Groundshaking must be of sufficient intensity to act as a trigger mechanism. Two important factors that affect the liquefaction opportunity are duration as indicated by earthquake magnitude (M) and intensity as indicated by peak ground acceleration (PGA).

The liquefaction susceptibility of a soil varies with the depth to ground water. Very shallow ground water increases the susceptibility to liquefaction (more likely to liquefy). In areas of limited or no geotechnical data, susceptibility zones may be identified by geologic criteria as defined in CGS Special Publication 117:

- Areas containing soil deposits of late Holocene age (less than 11,000 years, such as river channels and their historic floodplains), where the M7.5-weighted peak acceleration that has a 10% probability of being exceeded in 50 years is greater than or equal to 0.10 g and the water table is less than 40 feet below the ground surface; or
- Areas containing soil deposits of Holocene age (less than 11,000 years), where the M7.5-weighted peak acceleration that has a 10% probability of being exceeded in 50 years is greater than or equal to 0.20 g and the historic high water table is less than or equal to 30 feet below the ground surface; or
- Areas containing soil deposits of latest Pleistocene age (between 11,000 years and 15,000 years), where the M7.5-weighted peak acceleration that has a 10% probability of being exceeded in 50 years is greater than or equal to 0.30 g and the historic high water table is less than or equal to 20 feet below the ground surface.

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Based on these criteria and supplemented by the Liquefaction Hazard Evaluation And Mitigation Study conducted along selected areas the following areas have both the opportunity and susceptibility for soil liquefaction to occur.

Area	Milepost	Measured or Estimated Groundwater Depth (feet)	Geologic Unit	Liquefaction Potential
Palo Verde Valley	0 to 11.6	9 to 17	Qal	Moderate to High
Palo Verde Peak	23 to 25.3	40 to 20	Qal	Low to Moderate
	25.3 to 27.5	20 to 40	Qc/Qal	Very Low to Low
	27.5 to 31.9	5 to 20	Qal	Moderate to High
Milpitas Wash	34.9 to 35.7	43 to 57	Qal	Very Low
All American Canal	79.6 to 79.8	29 to 31	Qc/Qal	Very Low
East Mesa	IID Lateral	Generally 20 to 40 Locally <10 at W side	Qal	Low to Moderate Locally High
Imperial Valley	IID Lateral	Generally 5 to 15	Ql	Moderate to High

Quantitative analyses of the soil liquefaction hazard have been conducted from Milepost 0 to 11.6 and at 79.6 to 79.8. The liquefaction potential for Milepost 27.5 to 31.9 is likely to be similar to the Palo Verde Valley area.

Soil liquefaction potential is most acute along the Imperial Valley section of the IID lateral. Historic occurrence of soil liquefaction has been documented along the Alamo River banks from the 1970 Imperial Valley Earthquake (USGS Professional Paper 1254).

Liquefaction Effects: Soil Liquefaction can cause permanent ground displacements (PGD), ground surface disruption (sand boils, fissuring), and lateral spreading or movement on sloping ground or toward canal or river banks. Based on prior quantitative liquefaction analyses conducted by Earth Systems Southwest and our experience in the area, PGD may range from about 0 to 6 inches. However, at canal banks and especially at the Alamo River within the Imperial Valley, the lateral spreading potential may exceed these values.

3.5.4 Slope Stability

Potential geologic hazards related to slope instability include; landslides, debris flows and rock falls. The impact of these hazards to the site is discussed below.

Landslides: No significant landslides were observed during the site reconnaissance, nor are any known to exist along the proposed NBP Route. The terrain along and immediately adjacent to the pipeline route is less than 25% gradient (except at the edge of Palo Verde Mesa as discussed below). Therefore, the potential for landsliding is low to nil (see Figures 11 and 12).

Debris Flows: The proposed pipeline route traverses across numerous drainages with alluvial material. These drainages are subject to debris flow and flash flood occurrence during the sporadic heavy rainfall of the region.

Rock Falls: The Palo Verde Peak area contains moderate to steep slopes that contain blocky,

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volcanic rock outcrops and boulders on the surface. These outcrops are a potential source of falling and rolling boulders. Rock falls are most likely to occur during strong earthquakes or large storms that may loosen boulders on the surface. However, the proposed pipeline does not appear to be at risk from rock falls in that the route does not traverse sloping terrain exceeding 25% gradient nor is the route immediately at the foot of steep slopes.

Mesa Bank Stability (Milepost 11.6 to 11.8): The NBP route will traverse up the terrace edge of the Palo Verde Mesa (see Figure 10). The terrace slope is generally at a 25% gradient, but is locally at 30 to 35% gradient. This terrace slope is susceptible to water erosion if significant runoff occurs down the slope. The base of the terrace is densely vegetated. The terrace slope to the south appears to have been eroded by several small washes that formerly drained a larger drainage basin to the west. The drainage is now generally directed to a gulley cutting through the lower terrace about 4000 feet to the south of Milepost 11.7. There are several sand dunes at the base of the mesa to the south, giving the appearance of a hummocky topography.

River Bank Stability (Milepost 0 to 0.5): The Colorado River banks may be susceptible to failure during an earthquake or flooding. Horizontal directional drilling for the pipeline crossing will be well below and away from potential areas of bank instability.

3.5.5 Erosion and Scour

Evidence of erosion was observed in numerous alluvial washes (arroyos) on the Palo Verde Mesa. Erosion and scour of fluvial washes is considered a significant risk along significant portions of the NBP route (mainly from Mileposts 16.5 to 73). The NBP route crosses mesas and piedmonts that are generally depositional from outwashes from higher mountainous terrain. The existing alluvial washes may meander laterally from existing channels during flooding and possibly scour to deeper depths. We understand that soil cover of up to 5-feet depth and possible concrete encasement are being considered to mitigate this hazard across significant washes.

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Section 4

CONCLUSIONS

The following is a summary of our conclusions and professional opinions based on the data obtained from a review of selected technical literature, geologic and topographic maps, and limited site reconnaissance.

Geologic Constraints and Mitigation:

- The primary geologic hazard along the North Baja Pipeline is moderate ground shaking from earthquakes and resulting soil liquefaction originating on distant faults. A major earthquake of magnitude 7 or greater originating on the San Andreas or Imperial Valley Faults would be the critical seismic event that may affect the proposed North Baja Pipeline. The ground motion potential becomes stronger along the IID lateral. Engineered design and earthquake-resistant construction increase safety and allow development of seismic areas.
- The project study areas lie within seismic Zones 3 and 4 and about 0 to 113 km from Type A seismic sources as defined in the California Building Code. The *minimum* seismic design of the pipeline and facilities should comply with the latest edition of the California Building Code and ASCE 7-03.
- ***The IID Lateral crosses the active Imperial fault.*** Earthquake resistant design should accommodate an estimated 5 to 15 feet of fault displacement.
- Other seismic hazards including ground rupture and seismically induced flooding are considered low or negligible for the proposed North Baja Pipeline.
- A significant probability for soil liquefaction may occur for a design basis earthquake at the Ehrenberg Compressor site, the Arizona side of the Colorado River crossing, and western portion of the 18th Avenue alignment. Some areas around the Palo Verde Peak are susceptible to soil liquefaction where the pipeline traverses across recent alluvium at the base of foothills to the mountains. A significant potential for soil liquefaction occurs along the IID lateral within the Imperial Valley. The pipeline should be designed to be earthquake resistant using the estimated Peak Ground Velocity (PGV) and Permanent Ground Displacement (PGD) values given in this report.
- The North Baja Pipeline route crosses generally gently sloping terrain with gradients less than 25%, except at the edge of the Palo Verde Mesa at Milepost 11.6 to 11.8. Except at this area the potential for slope instability is low to nil. To avoid a potential instability of the NBP at the Palo Verde Mesa, the pipeline and the grade immediately to each side of the pipeline should be laid back to no more than 30% gradient for the estimated 60-foot high lower terrace slope. Minor cuts are anticipated to accommodate this grade transition.
- Fluvial scour erosion is possible within existing alluvial washes that dissect the older alluvium mesas and piedmonts. Deeper soil cover and possible concrete encasement are possible measures to mitigate this hazard across significant washes.

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Section 5

LIMITATIONS

Our findings and recommendations in this report are based on selected points of field exploration, review of maps and geologic data, limited site reconnaissance, and our understanding of the proposed project. Variations in soil, rock, or groundwater may require additional studies, consultation, and possible design revisions.

Findings of this report are valid as of the issued date of the report. However, changes in conditions of a property can occur with passage of time whether they are from natural processes or works of man on this or adjoining properties. In addition, changes in applicable standards occur whether they result from legislation or broadening of knowledge. Accordingly, findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of one year.

In the event that any changes in the nature, design, or location of the pipeline are planned, the conclusions contained in this report shall not be considered valid unless the changes are reviewed and conclusions of this report are modified or verified in writing.

This report is issued with the understanding that the owner, or the owner's representative, has the responsibility for submittal of this report to the appropriate governing agencies.

Earth Systems Southwest (ESSW) has striven to provide our services in accordance with generally accepted geotechnical engineering practices in this locality at this time. No warranty or guarantee is express or implied. This report was prepared for the exclusive use of the Client and the Client's authorized agents.

Although available through ESSW, the current scope of our services does not include an environmental assessment, or investigation for the presence or absence of wetlands, hazardous or toxic materials in the soil, surface water, groundwater or air on, below, or adjacent to the subject property.

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Appendices as cited are attached and complete this report.

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File No.: 08312-03
05-12-718**REFERENCES**

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Aerial Photographs Reviewed

<u>Date</u>	<u>Frame Numbers</u>	<u>Scale</u>	<u>Source</u>
2-23-95	48-6, 48-7, 48-8	1" = 1,650'	Riverside County Flood Control District

APPENDIX A

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Geologic Maps, Figures 3-6
Regional Fault Map, Figure 7
Excerpt of A-P Fault Map at Imperial Fault, Figure 8
Groundwater Levels, Palo Verde Valley, Figure 9
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Tables 1 through 3, Fault Parameters at Selected Sites

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FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT

Docket Nos. CP06-61-000 and CP01-23-003

Appendix J/Appendix A
Figure 1 General Project Location

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FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT

Docket Nos. CP06-61-000 and CP01-23-003

Appendix J/Appendix A
Figure 2 North Baja's Preferred IID Lateral Route and IID
Lateral Alternative Routes

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Appendix J/Appendix A
Figure 3 Geologic Map, North Half

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Appendix J/Appendix A
Figure 4 Geologic Map, South Half

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Appendix J/Appendix A
Figure 5 Geology Map, Pale Verde Peak

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Appendix J/Appendix A
Figure 6 Geologic Map; IID Lateral

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Appendix J/Appendix A
Figure 7 Regional Fault Map

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Docket Nos. CP06-61-000 and CP01-23-003

Appendix J/Appendix A

Figure 8 Excerpt of A-P Fault Map at Imperial Fault

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Docket Nos. CP06-61-000 and CP01-23-003

Appendix J/Appendix A

Figure 9 Groundwater Levels, Pale Verde Valley Area

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FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT

Docket Nos. CP06-61-000 and CP01-23-003

Appendix J/Appendix A
Figure 10 Groundwater Levels, IID Lateral

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Docket Nos. CP06-61-000 and CP01-23-003

Appendix J/Appendix A

Figure 11 Slope Terrain Analysis, Pale Verde Peak Area

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Appendix J/Appendix A
Figure 12 Slope Terrain Analysis, Ripley Area

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Table 1
Fault Parameters at Ehrenberg Station
& Deterministic Estimates of Mean Peak Ground Acceleration (PGA)

Fault Name or Seismic Zone	Distance from Site		Fault Type	Maximum Magnitude	Avg Slip Rate	Avg Return Period	Fault Length	Mean Site PGA
	(mi)	(km)		Mmax (Mw)	(mm/yr)	(yrs)		(g)
Reference Notes: (1)			(2) (3)	(4)	(2)	(2)	(2)	(5)
Elmore Ranch	69.5	111.9	SS B	6.6	1	225	29	0.03
Brawley Seismic Zone	69.8	112.4	SS B	6.4	25	24	42	0.03
San Andreas - Southern	70.1	112.8	SS A	7.7	24	220	199	0.07
Brawley	70.9	114.1	SS A	7.0	20	79	62	0.04
Imperial	77.3	124.4	SS A	7.0	20	79	62	0.04
Superstition Hills (San Jacinto)	80.5	129.5	SS B	6.6	4	250	23	0.03
Weinert (Superstition Hills)	81.0	130.3	SS C	6.6	4	250	22	0.03
Superstition Mtn. (San Jacinto)	83.4	134.2	SS B	6.6	5	500	24	0.03
Blue Cut	84.6	136.2	SS C	6.8	1	760	30	0.03
Pinto Mountain	89.6	144.1	SS B	7.2	2.5	499	74	0.04
Pisgah-Bullion Mtn.-Mesquite Lk	92.4	148.7	SS B	7.3	0.6	5000	89	0.04
San Jacinto - Borrego	92.6	149.0	SS B	6.6	4	175	29	0.02
Cerro Prieto	93.2	149.9	SS A	7.2	34	50	116	0.04

Notes:

- Jennings (1994) and California Geologic Survey (CGS) (2003)
- CGS (2003), SS = Strike-Slip, RV = Reverse, DS = Dip Slip (normal), BT = Blind Thrust
- 2001 CBC, where Type A faults: Mmax > 7 & slip rate > 5 mm/yr & Type C faults: Mmax < 6.5 & slip rate < 2 mm/yr
- CGS (2003)
- The estimates of the mean Site PGA are based on the following attenuation relationships:
Average of: (1) 1997 Boore, Joyner & Fumal; (2) 1997 Sadigh et al; (3) 1997 Campbell, (4) 1997 Abrahamson & Silva
(mean plus sigma values are about 1.5 to 1.6 times higher)
Based on Site Coordinates: 33.595 N Latitude, 114.531 W Longitude and Site Soil Type D

Table 2
Fault Parameters @ Ogilby Meter Station
& Deterministic Estimates of Mean Peak Ground Acceleration (PGA)

Fault Name or Seismic Zone	Distance from Site		Fault Type		Maximum Magnitude	Avg Slip Rate	Avg Return Period	Fault Length	Mean Site PGA
	(mi)	(km)	(2)	(3)	(Mw)	(mm/yr)	(yrs)	(km)	(g)
Reference Notes: (1)			(2)	(3)	(4)	(2)	(2)	(2)	(5)
Imperial	28.0	45.1	SS	A	7.0	20	79	62	0.10
Cerro Prieto	36.8	59.3	SS	A	7.2	34	50	116	0.09
Brawley	37.6	60.6	SS	A	7.0	20	79	62	0.08
Brawley Seismic Zone	41.8	67.3	SS	B	6.4	25	24	42	0.05
Laguna Salada	46.5	74.8	SS	B	7.0	3.5	336	67	0.06
Weinert (Superstition Hills)	45.1	72.6	SS	C	6.6	4	250	22	0.05
Superstition Hills (San Jacinto)	48.1	77.3	SS	B	6.6	4	250	23	0.05
Superstition Mtn. (San Jacinto)	51.4	82.7	SS	B	6.6	5	500	24	0.04
Elmore Ranch	57.8	93.0	SS	B	6.6	1	225	29	0.04
San Andreas - Southern	65.3	105.1	SS	A	7.7	24	220	199	0.07
Elsinore-Coyote Mountain	68.3	109.9	SS	B	6.8	4	625	39	0.04
San Jacinto - Borrego	68.6	110.4	SS	B	6.6	4	175	29	0.03
San Jacinto-Anza	82.5	132.7	SS	A	7.2	12	250	91	0.04
San Jacinto-Coyote Creek	84.6	136.2	SS	B	6.8	4	175	41	0.03
Elsinore-Julian	90.0	144.8	SS	A	7.1	5	340	76	0.03

Notes:

- Jennings (1994) and California Geologic Survey (CGS) (2003)
- CGS (2003), SS = Strike-Slip, RV = Reverse, DS = Dip Slip (normal), BT = Blind Thrust
- 2001 CBC, where Type A faults: Mmax > 7 & slip rate > 5 mm/yr & Type C faults: Mmax < 6.5 & slip rate < 2 mm/yr
- CGS (2003)
- The estimates of the mean Site PGA are based on the following attenuation relationships:
Average of: (1) 1997 Boore, Joyner & Fumal; (2) 1997 Sadigh et al; (3) 1997 Campbell, (4) 1997 Abrahamson & Silva
(mean plus sigma values are about 1.5 to 1.6 times higher)
Based on Site Coordinates: 32.761 N Latitude, 114.830 W Longitude and Site Soil Type D

Table 3
Fault Parameters @ IID Lateral at Imperial Fault
& Deterministic Estimates of Mean Peak Ground Acceleration (PGA)

Fault Name or Seismic Zone	Distance from Site		Fault Type		Maximum Magnitude Mmax	Avg Slip Rate	Avg Return Period	Fault Length	Mean Site PGA
	(mi)	(km)	(2)	(3)	(Mw)	(mm/yr)	(yrs)	(km)	(g)
Reference Notes: (1)			(2)	(3)	(4)	(2)	(2)	(2)	(5)
Imperial	0.0	0.0	SS	A	7.0	20	79	62	0.56
Brawley	4.2	6.8	SS	A	7.0	20	79	62	0.40
Weinert (Superstition Hills)	9.9	15.9	SS	C	6.6	4	250	22	0.20
Brawley Seismic Zone	13.6	21.9	SS	B	6.4	25	24	42	0.14
Superstition Hills (San Jacinto)	14.2	22.8	SS	B	6.6	4	250	23	0.15
Superstition Mtn. (San Jacinto)	17.0	27.3	SS	B	6.6	5	500	24	0.13
Cerro Prieto	18.5	29.7	SS	A	7.2	34	50	116	0.16
Laguna Salada	23.5	37.9	SS	B	7.0	3.5	336	67	0.12
Elmore Ranch	30.1	48.4	SS	B	6.6	1	225	29	0.07
Elsinore-Coyote Mountain	32.7	52.6	SS	B	6.8	4	625	39	0.08
San Jacinto - Borrego	34.9	56.2	SS	B	6.6	4	175	29	0.06
San Andreas - Southern	42.7	68.8	SS	A	7.7	24	220	199	0.11
San Jacinto-Anza	51.8	83.4	SS	A	7.2	12	250	91	0.06
San Jacinto-Coyote Creek	52.5	84.5	SS	B	6.8	4	175	41	0.05
Elsinore-Julian	54.9	88.4	SS	A	7.1	5	340	76	0.06
Earthquake Valley	59.8	96.3	SS	B	6.5	2	351	20	0.04
San Jacinto (Hot Spgs - Buck Ridge)	66.9	107.6	SS	C	6.5	2	354	70	0.03
San Andreas - Mission Crk. Branch	83.7	134.6	SS	A	7.2	25	220	95	0.04
San Andreas - Banning Branch	83.7	134.6	SS	A	7.2	10	220	98	0.04
Blue Cut	84.4	135.9	SS	C	6.8	1	760	30	0.03

Notes:

- Jennings (1994) and California Geologic Survey (CGS) (2003)
- CGS (2003), SS = Strike-Slip, RV = Reverse, DS = Dip Slip (normal), BT = Blind Thrust
- 2001 CBC, where Type A faults: Mmax > 7 & slip rate > 5 mm/yr & Type C faults: Mmax < 6.5 & slip rate < 2 mm/yr
- CGS (2003)
- The estimates of the mean Site PGA are based on the following attenuation relationships:
Average of: (1) 1997 Boore, Joyner & Fumal; (2) 1997 Sadigh et al; (3) 1997 Campbell, (4) 1997 Abrahamson & Silva
(mean plus sigma values are about 1.5 to 1.6 times higher)
Based on Site Coordinates: 32.774 N Latitude, 115.443 W Longitude and Site Soil Type D

APPENDIX K

PALEONTOLOGICAL RESOURCE MITIGATION AND MONITORING PLAN



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix K

Paleontological Resource Mitigation and Monitoring Plan

Prepared by



TETRA TECH EC, INC.

1940 E. Deere Ave. Suite 200
Santa Ana, CA 92705

February 2006

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Appendix K

Paleontological Resource Mitigation and Monitoring Plan

1.0 INTRODUCTION

North Baja Pipeline, LLC (North Baja), will construct the North Baja Pipeline Expansion Project (Project), a new natural gas pipeline from the U.S.-Mexico border to the existing North Baja facilities and the El Paso Natural Gas system in Ehrenberg, Arizona. The Project includes three elements: the B-Line, which includes interconnection facilities in Ehrenberg, Arizona, as well as a 79.8-mile, 42- and 48-inch-diameter pipeline between Blythe and the Mexican border; the Arrowhead Extension, which includes a meter station and a 2.1-mile, 36-inch-diameter pipeline extending from the proposed B-Line at milepost (MP) 7.4 to Southern California Gas Company's existing Blythe Compressor Station; and the Imperial Irrigation District (IID) Lateral, a 45.7-mile, 16-inch-diameter pipeline between North Baja's mainline and the IID El Centro Generating Station. The Project will be constructed in phases, with the first phase planned for construction in 2007, the IID Lateral for 2008, and the final phase of the Project in 2009, pending completion of upstream liquefied natural gas (LNG) terminal facilities.

This Paleontological Resources Mitigation and Monitoring Plan (PRMM Plan or Plan) fulfills the requirements of the Federal Energy Regulatory Commission (FERC) and California Environmental Quality Act (CEQA) for an assessment of the potential impact on paleontological resources (fossils) of construction of the Project. A similar plan was prepared and implemented for construction of the A-Line in 2002. This Plan summarizes the findings of the assessment contained in Resource Report 6 and the mitigation and monitoring measures planned to mitigate the potential adverse impacts of Project construction on paleontological resources. The Plan includes avoidance strategies, mitigation measures including procedures for scientific removal of significant fossils, preparation/curation protocols, and provisions for a final report on the paleontological data recovery.

2.0 GUIDANCE MITIGATION CRITERIA: SOCIETY OF VERTEBRATE PALEONTOLOGY RECOMMENDATIONS

Guidelines of the Society of Vertebrate Paleontology (SVP) are found in *Standard Measures for Assessment and Mitigation of Adverse Impacts to Nonrenewable Paleontological Resources* (SVP 1991, 1995, 1996), and have been adapted to evaluate the paleontological resources and potential adverse impacts of the Project, and to help formulate an appropriate mitigation plan to protect those resources considered scientifically important. The SVP standard measures address significance and sensitivity of paleontological resources and methods for mitigating adverse effects on fossil resources, including guidance pertaining to field assessment, monitoring, identification, storage, and compliance.

3.0 RESOURCE ASSESSMENT

3.1 LITERATURE AND MUSEUM ARCHIVAL REVIEWS

Prior to construction of the A-Line, paleontological literature and museum archival reviews for previously recorded fossil sites in the vicinity of the A-Line and a field reconnaissance were undertaken. All known geological and paleontological literature was reviewed for references to fossils. In addition, museum archival reviews were conducted at the University of California Museum of Paleontology (UCMP) at Berkeley, the San Diego Natural History Museum (SDNHM) at San Diego, and the San Bernardino County Museum (SBCM) in San Bernardino. The UCMP at Berkeley is considered the primary repository for fossils in the State of California and the UCMP collections are considered the most comprehensive of all California institutions.

Detailed information on the stratigraphy of the area was obtained from numerous geological publications. The geology in the vicinity of the proposed right-of-way has been mapped or described by numerous workers, including Brown (1923), Strand (1962), Jennings (1967), Metzger *et al.* (1973), Loeltz *et al.* (1975), Morton (1977), and Stone (1990). This report is heavily dependent on Dibblee (1954), Metzger *et al.* (1973), and Morton (1977), who have provided the most comprehensive and detailed accounts.

3.2 FIELD SURVEY

The purpose of the field survey was to supplement the literature and museum archival reviews by verifying that sensitive rock units identified during these reviews occurred at the points previously mapped, to document the present condition of any previously recorded fossil sites, to look for any previously unrecorded fossils sites, and to identify areas where any special mitigation measures might need to be implemented prior to construction to avoid potential construction delays. Prior to construction of the A-Line, a field survey of the pipeline right-of-way was conducted during September 2000. Field monitoring took place in accordance with the PRMMP in effect for the A-Line construction in 2002. Paleontological discoveries along the A-Line in 2002 are listed in Table K-1. The IID Lateral route was field surveyed in November 2005.

Table K-1: Paleontological Discoveries Along the A-Line in 2002		
Milepost	Results of Paleontological Monitoring	Significant Paleontological Find
25.7	Unidentified Holocene specimen (bone fragment)	No
27.2	Corals and calcareous algae in Bouse limestone	No
27.7-28.1	Turritelidae fossils, brachiopods, ostracods, foraminifera, amphistegina, echinoids, and algae	No
27.7-28.8	Slabs of chert hosting marine invertebrates	No
27.9	Large fossil log in Bouse Formation limestone spoil pile	No
28.1	Slabs of Bouse Formation limestone hosting kummel form echinoids	No
28.1-28.2	Echinoid (sea urchin) fossils of probably Miocene age (14 to 15 million years before present [mybp])	Yes
28.1-28.2	Small echinoid crowns, barnacles plates, and shark teeth	No
28.6	Chert/limestone pebbles; crinoids, corals, bryozoans, and sand shark teeth	No
28.5-29.0	Brachiopod in Bouse Formation	No
29.1	Paleozoic brachiopod	No
33.1	Petrified wood specimen	No
33.2	Paleozoic fossiliferous crinoidal limestone	No
32.1-35.0	Limestone nodule with Paleozoic fossil corals	No
41.5	Two petrified wood specimens in Pleistocene older alluvium	No
45.2-45.8	Marine fossils in carbonate pod (coral, bryozoa, crinoid ossicles)	No

3.3 ASSESSMENT OF POTENTIAL IMPACTS ON PALEONTOLOGICAL RESOURCES

Construction of the Project could result in either adverse or beneficial impacts on significant paleontological resources. Adverse impacts may occur when Project earth-moving and ground disturbance result in significant fossils being destroyed. The destruction of significant paleontological resources could occur either directly by mechanical means or indirectly by allowing weathering agents to reach previously buried specimens. Mechanical destruction could result not only from actual trenching, but also from excavations during construction of access roads, clearing, and grading. Indirect adverse impacts could occur whenever weathering agents are allowed to reach specimens previously naturally protected by burial. For instance, indirect impacts could occur from any ground disturbance that causes fracturing of the ground, allowing the percolation of rain water through the disturbed sediment. Additionally, indirect impacts could result from any changes in surface grade that modifies the drainage pattern and allows erosion of previously protected areas; increased erosion could expose previously protected fossils to weathering and destruction.

Based on the literature and museum archival review, field survey, and A-Line construction monitoring, the paleontological sensitivity for stratigraphic units crossed by the proposed pipeline routes was determined. The potential for fossils based on paleontological sensitivity along the proposed pipeline route is summarized by milepost in Table K-2.

Table K-2: Paleontological Sensitivity of Stratigraphic Units Found Along the North Baja Pipeline Expansion Project		
Mileposts	Stratigraphic Unit	Potential for Fossils
B-Line		
0.0 – 11.5	Holocene alluvium	low sensitivity
11.5 – 22.3	Pleistocene older alluvium	moderate sensitivity
22.3 – 25.2	Holocene alluvium	low sensitivity
25.2 – 25.8	Pleistocene older alluvium	moderate sensitivity
25.8 – 26.0	Holocene alluvium	low sensitivity
26.0 – 26.6	Miocene fanglomerate	low sensitivity
26.6 – 27.0	Holocene alluvium	low sensitivity
27.0 – 27.3	Miocene fanglomerate	low sensitivity
27.3 – 27.6	Holocene alluvium	low sensitivity
27.6 – 28.2	Pliocene Bouse Formation	moderate sensitivity
28.2 – 28.5	Holocene alluvium	low sensitivity
28.5 – 29.2	Pliocene Bouse Formation	moderate sensitivity
29.2 – 29.9	Early Tertiary volcanic rocks	low sensitivity
29.9 – 30.2	Pliocene Bouse Formation	moderate sensitivity
30.2 – 31.2	Early Tertiary volcanic rocks	low sensitivity
31.2 – 31.6	Pliocene Bouse Formation	moderate sensitivity
31.6 – 32.6	Miocene fanglomerate	low sensitivity
32.6 – 32.8	Holocene alluvium	low sensitivity
32.8 – 35.8	Miocene fanglomerate	low sensitivity
35.8 – 36.3	Holocene alluvium	low sensitivity
36.3 – 75.2	Pleistocene older alluvium	moderate sensitivity
75.2 – 79.8	Holocene alluvium	low sensitivity
Arrowhead Extension		
0.0 – 2.1	Holocene alluvium	low sensitivity
IID Lateral		
0.0 – 2.0	Pleistocene alluvium	low sensitivity
2.0 – 7.6	Dune sands	low sensitivity
7.6 – 27.6	Quaternary alluvium	low sensitivity
27.6 – 45.7	Quaternary Lacustrine sands	Low-moderate sensitivity

The results of literature and field review, and monitoring during the construction of the A-Line revealed very limited paleontological resources. Of the several areas identified during pre-construction analysis as moderate sensitivity along the A-Line, only a short stretch of about a mile, from MP 28.1 to MP 29.1, yielded a single significant paleontological find. Areas of Pleistocene older alluvium, potentially of moderate sensitivity and identified from MP 11.5 to MP 22.3, yielded no paleontological materials. Other areas of Pleistocene older alluvium, including MPs 35-75.2, yielded only occasional paleontological materials and no significant finds. The Arrowhead Extension is located in the same Holocene alluvium stratigraphic unit as the first 11.5 miles of the B-Line. The four stratigraphic units crossed by the IID Lateral have a low to low-moderate potential to yield paleontological resources, and the construction of the IID Lateral is unlikely to affect such resources.

Implementation of a paleontological resource mitigation plan prepared by a knowledgeable and experienced paleontologist can result in a substantial reduction in the severity of adverse construction-related impacts, both direct and indirect. A well-designed and fully implemented mitigation program can even provide some beneficial impacts by uncovering and recording information about or preserving significant fossils and associated geologic and geographic data in a public museum where they are available for future study by qualified investigators.

4.0 MITIGATION AND MONITORING

The purpose of the PRMMP is to assist North Baja in complying with environmental laws and permit requirements regarding the protection of significant paleontological resources that might be encountered during Project construction. The goal of the proposed program is to minimize the potential negative effects of Project construction to a point where no significant effect on paleontological resources will occur.

4.1 PROJECT-WIDE MEASURES

Construction of the Project will involve several known fossil-bearing rock units. However, the paleontological sensitivity of stratigraphic units crossed is low overall, taking into account literature, field review, and monitoring during the construction of the A-Line. Due to the widespread geographic distribution of these geological formations, a paleontological resource mitigation program has been developed. This mitigation program includes construction-worker education and spot monitoring of selected sections of the pipeline right-of-way during excavation to salvage any significant fossil remains encountered during construction involving ground-disturbing and earth-moving activities.

More specifically, the paleontological resource mitigation program includes the following:

Avoidance Strategy

1. All construction personnel will be given environmental training that will include instruction in both verbal and written form regarding what fossil resources may be encountered during construction. The Environmental Inspectors will receive additional instruction in fossil identification from the Project Paleontologist.
2. Construction personnel will be instructed that, if fossils are seen in areas without a Paleontological Monitor, the Environmental Inspector and the Project Paleontologist will immediately be notified, and the fossils will be avoided by further construction activities until a determination of the significance of the discovery can be made and a plan of action can be formulated.
3. Construction personnel will also be instructed that excavation spoils surrounded by exclusion fencing or survey flagging are to be avoided under all circumstances, and that any intrusions into an exclusion zone by personnel or equipment other than under the direction of the Project Paleontologist are strictly prohibited.
4. If the Paleontological Monitor or Environmental Inspector note an unusually large number of fossils or an individual highly significant specimen being excavated or disturbed by earth-moving operations, he or she will immediately contact the Project Paleontologist. The Environmental Inspector may temporarily halt construction activities until consultation with the Project Paleontologist and (on Federal lands) BLM staff to determine whether site-specific mitigation requirements are warranted.

5. Depending on the specific circumstances, the mitigation procedure could either: move construction away from the fossil locality and return later to carefully excavate the fossil site under the direction of the Project Paleontologist; or excavate through the fossil site, destroying a portion of the site, and salvaging a representative collection of significant fossils from an adjoining portion of the site.

Other General Mitigation Measures

1. A Paleontologist Monitor or Environmental Inspector will spot monitor ground-disturbing activities along those sections of the pipeline right-of-way identified during the literature/archival reviews and field survey as having a moderate potential for paleontological resources (see Section 4.2). During excavation in stratigraphic units with fossil-bearing potential, the Paleontologist Monitor or Environmental Inspector will monitor trenching activities and examine freshly exposed surfaces during clearing and grading operations. The Paleontologist Monitor or Environmental Inspector will salvage significant fossils exposed during construction after consultation with the Project Paleontologist.
2. Each significant salvaged fossil will be preliminarily identified to the lowest taxon possible by the Project Paleontologist before curation into the retrievable storage system. Specimens preserved in rock matrix will be prepared only sufficiently to provide a taxonomic identification.
3. During Project construction, the Paleontological Monitor or Environmental Inspector will prepare reports that will be summarized by the Project Paleontologist into a brief quarterly report to be submitted to the FERC, CSLC, and BLM. In these quarterly status reports, the Project Paleontologist will briefly describe the results of the paleontological resource mitigation program during that quarter.
4. During construction, if no fossil remains have been discovered after one-half of the excavations through any individual stratigraphic unit have been completed, upon the recommendation of the Project Paleontologist monitoring in that stratigraphic unit may be reduced or suspended entirely.
5. At the end of the Project, the Project Paleontologist will prepare a final report of findings that lists and places in a scientific perspective all significant salvaged materials.

Implementation of the mitigation measures described above will ensure protection of significant paleontological resources and result in compliance with Federal and State environmental guidelines.

4.2 SITE-SPECIFIC MITIGATION MEASURES

4.2.1 B-Line

Results of the paleontological monitoring conducted during the construction of the A-Line in 2002 are summarized in Table K-1. Based on the archival research and monitoring undertaken during the construction of the A-Line, monitoring of B-Line construction by a paleontologist is planned only through MPs 27 to 29, where the outer edge of the Bouse Formation is crossed.

4.2.2 IID Lateral

Based on low sensitivity of the stratigraphic units crossed by the IID Lateral, spot monitoring is planned. Between MP 27.6 to MP 46, spot monitoring recommended unless excavation unearths coarse beach intervals or thicker sand/gravel lenses. In the latter event, probability for fossils rises to high in those intervals and continuous monitoring is recommended.

5.0 FOSSIL EXTRACTION

The overall probability of discovery of salvageable fossils is at best only moderate in even the most promising intervals of this proposed right-of-way. If salvageable fossils are encountered, they would most likely be individual separate (disarticulated) bones of larger mammals such as elephants or other hoofed taxa like horses or bison. Predators, because of their inherent low frequency in any environment, are very unlikely.

Owing to the virtually unconsolidated nature of nearly all intervals of the multiple stratigraphic units along the right-of-way, the extraction of any fossil remains here would be a relatively simple and rapid process. Extraction and removal of individual post cranial skeletal bone elements might even be effected without having to resort to the use of plaster field jackets. Skulls, particularly those of larger ungulates, would probably require plaster jackets but the tedium and time-consuming process of exposing, undercutting, and removal of the fossils is greatly eased by the unconsolidated nature of the sediments.

6.0 CURATION AND REPORTING

6.1 PROTOCOL FOR CURATION/REPOSITORY STORAGE OF FOSSILS

Fossils encountered and judged salvageable by the Project Paleontologist along the Project route will be removed, stabilized, and accessed into museum collections. Museums in the vicinity of the right-of-way, including the University of California's Museum of Paleontology at Berkeley, Los Angeles County Museum, Anza Borrego Museum, San Diego Museum of Natural History and the San Bernardino County Museum all maintain collections of fossils that would be similar to those likely to be found on the Project. Contacts with museum personnel from these establishments suggest they would be willing to examine a suite of fossils salvaged and select any materials they wished to access into their collections.

Field collection is to follow standard strategies including, where necessary for vertebrate materials, plaster jackets. Materials are to be cleaned and stabilized only to the degree necessary for removal from the field and transport. Curation, including identification to generic or where possible specific levels, will proceed when materials arrive at the laboratory. Facilities for fossil preparation/curation are available at the Condon Museum, which is the Oregon State Museum of Paleontology, and that laboratory will be utilized for the initial stabilization and preparation of fossils.

At all these facilities the fossils will be available for study, teaching, research, or display to the scientific community as well as the public at large. Disposition of all fossils, including repository specimen numbers, will be part of the final report.

6.2 FINAL REPORT

Upon completion of the work, the Project Paleontologist will prepare a final paleontology report. The report will include a complete faunal and floral list of all taxa recovered and salvaged as well as museum collection accession numbers on all fossil objects and their final disposition (storage). The report will also include a summary narrative on the scientific import, which will address both the entire collection as well as specific specimens, depending on their significance.

This report will include, as prescribed by the SVP (1991, 1995, and 1996), a summary of the stratigraphy and lithology of fossil-bearing strata, taxonomic lists of plant and animal specimens noted and salvaged along the right-of-way and their scientific significance, and complete detailed records of the localities when collection took place (SVP 1991, 1995, 1996). In addition, the ultimate repository in California for each salvaged fossil along with the museum accession number will be recorded in addition to its identification to the lowest taxonomic level (genus and/or species) following stabilization and preparation to a sufficient degree that such identification might be made. A complete bibliography of pertinent papers on the taxa identified

will be part of this report. The final report will be distributed to the FERC, CSLC, BLM, BOR, Cibola National Wildlife Refuge (NWR), and other interested parties.

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APPENDIX L

DUST CONTROL PLAN



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix L

Dust Control Plan

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Appendix L

Dust Control Plan

1.0 INTRODUCTION

North Baja Pipeline, LLC (North Baja), will construct the North Baja Pipeline Expansion Project (Project), a new natural gas pipeline from the U.S.-Mexico border to the existing North Baja facilities and the El Paso Natural Gas system in Ehrenberg, Arizona. The Project includes three elements: the B-Line, which includes interconnection facilities in Ehrenberg, Arizona, as well as a 79.8-mile, 42- and 48-inch-diameter pipeline between Blythe and the Mexican border; the Arrowhead Extension, which includes a meter station and a 2.1-mile, 36-inch-diameter pipeline extending from the proposed B-Line at milepost 7.4 to Southern California Gas Company's existing Blythe Compressor Station; and the Imperial Irrigation District (IID) Lateral, a 45.7-mile, 16-inch-diameter pipeline between North Baja's mainline and the IID El Centro Generating Station. The Project will be constructed in phases, with the first phase planned for construction in 2007, the IID Lateral for 2008, and the final phase of the Project in 2009, pending completion of upstream liquefied natural gas (LNG) terminal facilities.

Construction of the proposed facilities will result in fugitive dust. Fugitive dust is particulate matter that is suspended in the air by wind or human activities and does not come from a point source such as a stack. Air quality regulations require the use of control techniques to minimize fugitive dust emissions. The goal is to eliminate visible airborne fugitive dust to the extent possible, given the construction techniques and requirements. This plan is designed to reduce fugitive dust emissions to a minimum from the Project.

There are several reasons to control fugitive dust. First, Imperial County is not currently in compliance with the U.S. Environmental Policy Act (EPA) Clean Air standards with regards to particulate matter under 10 microns or under 2.5 microns (abbreviated PM₁₀ and PM_{2.5}, respectively) (<http://www.epa.gov/airtrends>). Thus it is important that this Project not worsen the existing situation. Second, fugitive dust can cause respiratory distress, not only in the construction workers and nearby residents, but also in nearby wildlife. Fugitive dust can obscure visibility to the point of creating a safety hazard. Finally, fugitive dust can be evidence of soil loss through wind erosion. Fugitive dust can be created directly from the activities involved in pipeline construction, such as vegetation removal, grading, trenching, backfill, or topsoil replacement. Vehicles and equipment moving rapidly on unsurfaced roads and work areas can also create dust, while significant wind action on spoil piles or topsoil storage areas is yet another source of dust.

2.0 FUGITIVE DUST SOURCES ON THE NORTH BAJA PIPELINE EXPANSION PROJECT

Fugitive dust can be created directly from the activities involved in pipeline construction such as vegetation removal, grading, trenching, backfill, or topsoil replacement. Vehicles and equipment moving rapidly on unsurfaced roads and work areas can also create dust, while significant wind action on unprotected spoil piles or topsoil storage areas is yet another source of dust. These activities consist of a series of different operations, each with its own duration and potential for dust generation. In other words, emissions from any single construction site can be expected 1) to have a definable beginning and an end, and 2) to vary substantially over different phases of the construction process. This is in contrast to most other fugitive dust sources, where emissions are either relatively steady or follow a discernable annual cycle.

This dust control plan applies only to fugitive dust generated by construction activities and vehicle trips by support equipment on unpaved roads. These sources are evaluated in the Resource Report 9. Energy use, architectural coatings, and traffic impacts were not quantified because their impacts are not pertinent to, nor subject to, dust control measures. No demolition is required as part of this Project.

3.0 APPLICABLE RULES

Pipeline construction will occur in Imperial and Riverside counties, California, and La Paz County, Arizona. The agencies responsible for air quality activities in these counties are:

- Imperial County Air Pollution Control District (ICAPCD)
- Mojave Desert Air Quality Management District (MDAQMD)
- Arizona Department of Environmental Quality (ADEQ)

Permits are not required for pipeline and related aboveground facility construction emissions from any of the above noted agencies. However, there are applicable best management practices that apply to construction emissions identified by the responsible local air quality control agency. Table L-1 lists agency rules.

Table L-1: Fugitive Dust Rules		
Agency	Rule Number	Rule Description
ADEQ La Paz County, AZ	R18-2-604	Construction fugitive dust limitations
	R18-2-605	Road construction fugitive dust limitations
	R18-2-606	Material handling fugitive dust limitations
	R18-02-607	Storage pile fugitive dust limitations
	R18-2-702	Visible emission limitations
	R18-2-802	Off-road machinery opacity limitations
	R18-2-804	Roadway and site clearing opacity limitations
MDAQMD Riverside County, CA	401	Visible emission limitations
	402	Nuisance
	403	Fugitive dust control
IAPCD Imperial County, CA	401	Visible emission limitations
	407	Nuisance
	800-805	Fugitive dust control rules

4.0 DUST CONTROL MEASURES IDENTIFIED BY RULES

Impacts from fugitive dust would be controlled by applying the appropriate control measures (e.g., watering unpaved roads, covering piles, etc) as identified by each air quality control agency having jurisdiction over the construction areas. The following describes dust control measures proposed by North Baja based on the best management practices identified by agencies:

- Take every reasonable precaution to minimize fugitive dust emissions from construction activities.
- Take every reasonable measure to limit visible density (opacity) of emissions (VDE) to less than or equal to 20 percent.
- Apply water one or more times per day to all affected unpaved roads, and unpaved haul and access roads.
- Reduce vehicle speeds on all unpaved roads, and unpaved haul and access roads.
- Clean up track-out and/or carry-out areas at paved road access points at a minimum of once every 48 hours.
- If bulk transfer operations are required, spray handling and transfer points with water at least 15 minutes before use.
- Cover all haul truck loads, or maintain at least 6 inches of freeboard space in each cargo compartment. Insure that all haul truck cargo compartments are constructed and maintained to minimize spillage and loss of materials, and clean or wash each cargo compartment at the delivery site after removal of the bulk materials.
- Apply water to active construction areas to limit VDE to less than or equal to 20 percent.
- Apply water to open and/or unvegetated areas to limit VDE to less than or equal to 20 percent.
- For temporary surfaces during periods of inactivity, restrict vehicular access by means of either fencing or signage, and apply water to comply with the stabilized surface requirements.

5.0 ADDITIONAL DUST CONTROL MEASURES

5.1 USE OF TACKIFIERS

Use of tackifiers will be limited to spoil and topsoil piles. During construction of the A-Line in 2002, several types of tackifiers and several methods of applying tackifiers were tried with generally unsatisfactory results. Tackifiers were found to work on spoil piles or other locations with no traffic or subsequent disturbance. In areas with repeated vehicle use, however, they were ineffective. To be effective, tackifiers required a compact soil surface, sufficient moisture holding capabilities (*e.g.*, the presence of clays or organic matter), and/or soil structure (*i.e.*, the ionic bonding of soil particles into clods, or “peds”). These soil characteristics were found to be absent for much of the A-Line right-of way especially in desert areas. In many places along the right-of-way, removal of surficial soil exposed a dry, structureless, silty C-horizon. In these soils the individual mineral particles entirely lack adhesion, rendering them highly susceptible to wind erosion. Moreover, the depth, dryness, and poor moisture holding capability of the soils allow them to absorb large quantities of water or water-based compounds without compacting, puddling, or maintaining the particle adhesion necessary to inhibit wind erosion. Similar soil characteristics are found along the IID Lateral.

Additional measures proposed by North Baja related to fugitive dust control near residential and agricultural areas and highways, and cross-country construction are described in more detail below.

5.2 RESIDENTIAL AND AGRICULTURAL AREAS AND HIGHWAYS

The main objective of the fugitive dust control effort is to decrease dust emissions. In Imperial County, the objective is to reduce dust emissions below the ICAPCD limit of 20 percent opacity to comply with fugitive PM₁₀ regulations in Rules 800 through 805 of the ICAPCD. Dust will be controlled so that impacts to adjacent residences are kept to a minimum at all times. Fugitive dust emissions in agricultural and residential areas will be controlled either by the application of water on the construction right-of-way and access roads, by water and tackifier on topsoil and spoil piles, speed control on exposed surface areas, and the mechanical covering of exposed piles with plastic or other wind-resistant covers.

Fugitive dust rules adopted and enforced by the Mojave Desert AQMD will apply to the portion of the construction route within Riverside County, *i.e.*, Rules 401 through 403. These rules are similar in scope and requirements as the ICAPCD rules noted above.

5.3 CROSS-COUNTRY CONSTRUCTION

Topsoil Piles – For spoils and topsoil piles, a single application of a tackifier (organic polymer) will be sufficient to control dust until these materials are re-applied to the work area. This

compound will be applied once where soil conditions warrant after piles are created as a water-based additive from a spray truck.

Cleared Right-of-Way and Unpaved Access Roads – Water without tackifier will be applied as required to reduce dust. Vehicles may travel these areas immediately upon application of water. Given the temperature and humidity conditions present on the right-of-way, puddling of water, if it occurs at all, will be short term.

6.0 SAFETY MEASURES FOR DUSTY CONDITIONS DURING ROW CLEARING

In areas adjacent to highways where dust could cause poor visibility, grading activities will be restricted to prevent unsafe conditions. Restrictions may include applying water as close to earth-moving equipment as possible, slowing the speed of construction equipment, spacing equipment further apart, increased traffic control, or shutting down operations. North Baja will coordinate with the California Highway Patrol to ensure adequate traffic control measures are in place, including the possibility of using flaggers to control traffic if extreme low visibility conditions develop.

7.0 MONITORING AND RECORDKEEPING

Environmental Inspectors are primarily responsible for monitoring and enforcing the need for dust control. The contractor will implement dust control as specified above, and the Environmental Inspectors will be responsible for making sure that dust control is effective and recorded.

8.0 RESPONSIBLE CONTACT

The following individual(s) are responsible for the preparation, submittal, and implementation of this Dust Control Plan.

Name	Title	Company	Address	Phone
(Preparation)				
(Submittal)				
(Implementation)				

APPENDIX M

DRY WASHES CROSSED BY THE NORTH BAJA PIPELINE EXPANSION PROJECT

TABLE M-1

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-1	1	0.2	Colorado River	Directional Drill	7S 23E 2	Blythe	Perennial	840	None; avoided by directional drilling	None; avoided by directional drilling	tamarisk, willow, arrow weed	Riparian	Imperial Reservoir	Yes
W-2	4	16.9	Unnamed Drainage	Trench	8S 21E 2	Roosevelt Mine	Seasonal	20	0.01	0.04	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-3	5	17.7	Unnamed Drainage	Trench	8S 21E 11	Roosevelt Mine	Seasonal	20	0.01	0.04	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-4	5	17.9	Unnamed Drainage	Trench	8S 21E 11	Thumb Peak	Seasonal	20	0.01	0.04	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-5	5	18.2	Unnamed Drainage	Trench	8S 21E 11	Thumb Peak	Seasonal	10	0.01	0.02	Poaceae sp., creosote	Creosote Bush Scrub	Imperial Reservoir	No
W-6	5	18.7	Unnamed Drainage	Trench	8S 21E 14	Thumb Peak	Seasonal	3	0.002	0.006	Poaceae sp., creosote	Creosote Bush Scrub	Imperial Reservoir	No
W-7	5	18.8	Unnamed Drainage	Trench	8S 21E 14	Thumb Peak	Seasonal	2	0.001	0.004	Poaceae sp., creosote	Creosote Bush Scrub	Imperial Reservoir	No
W-8	5	18.9	Unnamed Drainage	Trench	8S 21E 14	Thumb Peak	Seasonal	5	0.003	0.01	Poaceae sp., creosote	Creosote Bush Scrub	Imperial Reservoir	No
W-9	5	19.0	Unnamed Drainage	Trench	8S 21E 14	Thumb Peak	Seasonal	9	0.01	0.02	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-10	5	19.1	Unnamed Drainage	Trench	8S 21E 14	Thumb Peak	Seasonal	15	0.009	0.03	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-11	5	20.1	Unnamed Drainage	Trench	8S 21E 22	Thumb Peak	Seasonal	10	0.006	0.02	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-12	5	20.1	Unnamed Drainage	Trench	8S 21E 22	Thumb Peak	Seasonal	30	0.02	0.06	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-13	5	20.2	Unnamed Drainage	Trench	8S 21E 22	Thumb Peak	Seasonal	15	0.009	0.03	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-14	5	21.8	Unnamed Drainage	Trench	8S 21E 34	Thumb Peak	Seasonal	12	0.007	0.02	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-15	5	21.9	Unnamed Drainage	Trench	8S 21E 34	Thumb Peak	Seasonal	5	0.003	0.009	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-16	6	22.4	Unnamed Drainage	Trench	9S 21E 4	Thumb Peak	Seasonal	3	0.002	0.006	Poaceae sp., creosote	Creosote Bush Scrub	Imperial Reservoir	No
W-18	6	22.5	Unnamed Drainage	Trench	9S 21E 4	Thumb Peak	Seasonal	50	0.03	0.09	Poaceae sp., creosote	Desert Wash Woodland	Imperial Reservoir	No
W-17	6	22.4	Unnamed Drainage	Trench	9S 21E 4	Thumb Peak	Seasonal	2	0.001	0.004	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-19	6	22.8	Unnamed Drainage	Trench	9S 21E 4	Thumb Peak	Seasonal	25	0.014	0.05	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-20	6	24.5	Unnamed Drainage	Trench	9S 21E 10	Palo Verde	Seasonal	15	0.009	0.03	Palo Verde, creosote	Creosote Bush Scrub	Imperial Reservoir	No
W-21	6	24.6	Unnamed Drainage	Trench	9S 21E 10	Palo Verde	Seasonal	5	0.003	0.009	white bursage, creosote	Creosote Bush Scrub	Imperial Reservoir	No
W-22	6	24.6	Unnamed Drainage	Trench	9S 21E 10	Palo Verde	Seasonal	10	0.006	0.018	creosote	Creosote Bush Scrub	Imperial Reservoir	No
W-23	6	25.0	Unnamed Drainage	Trench	9S 21e 15	Palo Verde	Seasonal	5	0.003	0.009	smoke tree, white bursage, creosote	Desert Wash Woodland	Imperial Reservoir	No
W-24	6	26.0	Unnamed Drainage	Trench	9S 21E 22	Palo Verde	Seasonal	6	0.005	0.01	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	Yes
W-25	6	26.1	Unnamed Drainage	Trench	9S 21E 22	Palo Verde	Seasonal	3	0.002	0.006	ironwood, creosote	Creosote Bush Scrub	Imperial Reservoir	No
W-26	6	26.2	Unnamed Drainage	Trench	9S 21E 22	Palo Verde	Seasonal	6	0.003	0.01	Palo Verde, smoke tree	Desert Wash Woodland	Imperial Reservoir	No
W-27	6	26.3	Unnamed Drainage	Trench	9S 21E 22	Palo Verde	Seasonal	5	0.003	0.009	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-28	6	26.9	Unnamed Drainage	Trench	9S 21E 26	Cibola	Seasonal	10	0.006	0.02	tamarisk, Palo Verde	Tamarisk Scrub	Imperial Reservoir	No
W-29	6	27.0	Unnamed Drainage	Trench	9S 21E 26	Cibola	Seasonal	2	0.001	0.004	creosote, white bursage, ironwood	Creosote Bush Scrub	Imperial Reservoir	No
W-30	6	27.0	Unnamed Drainage	Trench	9S 21E 26	Cibola	Seasonal	30	0.02	0.06	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-31	6	27.0	Unnamed Drainage	Trench	9S 21E 26	Cibola	Seasonal	35	0.02	0.06	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-32	6	27.6	Unnamed Drainage	Trench	9S 21E 26	Cibola	Seasonal	15	0.009	0.03	creosote shrub, Palo Verde	Creosote Bush Scrub	Imperial Reservoir	Yes
W-33	6	27.7	Unnamed Drainage	Trench	9S 21E 26	Cibola	Seasonal	20	0.01	0.04	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-34	6	27.7	Unnamed Drainage	Trench	9S 21E 26	Cibola	Seasonal	3	0.002	0.006	creosote shrub	Creosote Bush Scrub	Imperial Reservoir	No
W-35	6	27.9	Unnamed Drainage	Trench	9S 21E 26	Cibola	Seasonal	15	0.009	0.03	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
W-36	6	27.9	Unnamed Drainage	Trench	9S 21E 26	Cibola	Seasonal	20	0.01	0.04	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No
CW-1	7	28.65	Unnamed Drainage	Trench	9S 21E 36	Cibola	Seasonal	2	0.001	0.004	white bursage, creosote, cholla sp.	Creosote Bush Scrub	Imperial Reservoir	Yes

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
CW-2	7	28.7	Unnamed Drainage	Trench	9S 21E 36	Cibola	Seasonal	6	0.003	0.01	white bursage, creosote	Creosote Bush Scrub	Imperial Reservoir	Yes
CW-3	7	28.8	Unnamed Drainage	Trench	9S 21E 36	Cibola	Seasonal	2	0.001	0.004	white bursage, creosote	Creosote Bush Scrub	Imperial Reservoir	Yes
CW-4	7	29.2	Unnamed Drainage	Trench	9S 21E 36	Cibola	Seasonal	150	0.09	0.3	cat claw acacia, Palo Verde, creosote, brittle bush, arrow weed	Desert Wash Woodland	Imperial Reservoir	Yes
CW-5	7	29.25	Unnamed Drainage	Trench	9S 21E 36	Cibola	Seasonal	12	0.007	0.02	cat claw acacia, Palo Verde, creosote, brittle bush, tamarisk	Desert Wash Woodland	Imperial Reservoir	Yes
CW-6	7	30.2	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	3	0.002	0.01	tamarisk, arrow weed	Tamarisk Scrub	Imperial Reservoir	Yes
CW-7	7	31.1	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	4	0.002	0.007	tamarisk, creosote	Tamarisk Scrub	Imperial Reservoir	Yes
CW-8	7	31.15	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	14	0.008	0.03	Palo Verde, ironwood, creosote	Desert Wash Woodland	Imperial Reservoir	Yes
CW-9	7	31.2	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	8	0.005	0.015	Palo Verde, ironwood, creosote	Desert Wash Woodland	Imperial Reservoir	Yes
CW-10	7	31.35	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	6	0.003	0.01	Palo Verde, ironwood, creosote, tamarisk	Tamarisk Scrub	Imperial Reservoir	Yes
CW-11	7	31.4	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	6	0.003	0.01	Palo Verde, creosote, tamarisk	Tamarisk Scrub	Imperial Reservoir	Yes
CW-12	7	31.55	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	14	0.008	0.03	tamarisk	Tamarisk Scrub	Imperial Reservoir	Yes
CW-13	7	31.6	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	13	0.007	0.02	tamarisk	Tamarisk Scrub	Imperial Reservoir	Yes
CW-14	7	31.65	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	12	0.007	0.02	tamarisk, cat claw acacia, creosote	Tamarisk Scrub	Imperial Reservoir	Yes
CW-15	7	31.75	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	11	0.006	0.02	creosote, white bursage	Creosote Bush Scrub	Imperial Reservoir	Yes
CW-16	7	31.8	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	10	0.006	0.019	creosote, white bursage	Creosote Bush Scrub	Imperial Reservoir	Yes
CW-17	7	31.85	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	9	0.005	0.017	cholla sp., cat claw acacia, creosote	Creosote Bush Scrub	Imperial Reservoir	Yes
W-56	7	32.2	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	35	0.02	0.06	cholla sp., creosote	Desert Wash Woodland	Imperial Reservoir	Yes
W-57	7	32.5	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	20	0.01	0.04	ironwood, Palo Verde	Desert Wash Woodland	Imperial Reservoir	No

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-58	7	32.5	Unnamed Drainage	Trench	10S 21E 1	Cibola	Seasonal	8	0.005	0.015	ironwood, creosote	Desert Wash Woodland	Imperial Reservoir	No
W-59	7	32.6	Unnamed Drainage	Trench	10S 21E 2	Cibola	Seasonal	60	0.03	0.1	Palo Verde, creosote, ironwood	Desert Wash Woodland	Imperial Reservoir	Yes
W-60	7	32.8	Unnamed Drainage	Trench	10S 21E 2	Cibola	Seasonal	8	0.005	0.015	ironwood, creosote	Desert Wash Woodland	Imperial Reservoir	Yes
W-61	8	34.3	Unnamed Drainage	Trench	10S 21E 2	Palo Verde Peak	Seasonal	2	0.001	0.004	ironwood, creosote, white bursage	Desert Wash Woodland	Imperial Reservoir	No
EW-1	8	35.30a	Milpitas Wash	Trench	10S 21E 29	Palo Verde Peak	Seasonal	3749	2.2	6.9	smoke tree, cheesebush, acacia	Desert Wash Woodland	Imperial Reservoir	Yes
EW-2	8	35.80a	Unnamed Drainage	Trench	10S 21E 2	Palo Verde Peak	Seasonal	4	0.002	0.007	ironwood, creosote, brassica, krameria	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-3	8	36.05a	Unnamed Drainage	Trench	10S 21E 2	Palo Verde Peak	Seasonal	2	0.001	0.004	ironwood, creosote, brassica-tourn, krameria	Desert Wash Woodland	Imperial Reservoir	Yes
EW-5	8	36.15a	Unnamed Drainage	Trench	10S 21E 2	Palo Verde Peak	Seasonal	4	0.002	0.007	creosote, ironwood, ambrosia, krameria	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-6	8	36.20a	Unnamed Drainage	Trench	10S 21E 2	Palo Verde Peak	Seasonal	4	0.002	0.007	creosote, ironwood, ambrosia, krameria	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-7	8	36.35a	Unnamed Drainage	Trench	10S 21E 3	Palo Verde Peak	Seasonal	5	0.003	0.009	creosote, ironwood, ambrosia	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-12	8	36.55a	Unnamed Drainage	Trench	10S 21E 3	Palo Verde Peak	Seasonal	2	0.001	0.004	ambrosia, creosote, Palo Verde	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-14	8	36.62a	Unnamed Drainage	Trench	10S 21E 3	Palo Verde Peak	Seasonal	3	0.002	0.006	creosote, ambrosia, ironwood, krameria	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-16	8	36.67a	Unnamed Drainage	Trench	10S 21E 3	Palo Verde Peak	Seasonal	3	0.002	0.006	Palo Verde, ironwood, creosote, ambrosia	Desert Wash Woodland	Imperial Reservoir	Yes
EW-17	8	36.70a	Unnamed Drainage	Trench	10S 21E 3	Palo Verde Peak	Seasonal	15	0.009	0.03	ironwood, Palo Verde, lycium, creosote	Desert Wash Woodland	Imperial Reservoir	Yes
EW-22	8	37.00a	Unnamed Drainage	Trench	10S 21E 3	Palo Verde Peak	Seasonal	3	0.002	0.006	jojoba, ironwood, creosote, ambrosia	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-24	8	37.18a	Unnamed Drainage	Trench	10S 21E 3	Palo Verde Peak	Seasonal	15	0.009	0.03	Palo Verde, ironwood, creosote, big galleta, lycium	Desert Wash Woodland	Imperial Reservoir	Yes
EW-25	8	37.20a	Unnamed Drainage	Trench	10S 21E 3	Palo Verde Peak	Seasonal	15	0.009	0.03	Palo Verde, ironwood, creosote, big galleta, lycium	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-26	8	37.55a	Unnamed Drainage	Trench	10S 21E 3	Palo Verde Peak	Seasonal	3	0.002	0.006	ironwood, krameria, jojoba, creosote, ambrosia	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-27	8	37.70a	Unnamed Drainage	Trench	10S 21E 3	Palo Verde Peak	Seasonal	75	0.04	0.1	ironwood, creosote, cheesebush, lycium	Desert Wash Woodland	Imperial Reservoir	Yes

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
EW-28	8	38.05a	Unnamed Drainage	Trench	10S 20E 3	Palo Verde Peak	Seasonal	75	0.04	0.1	ironwood, creosote, cheesebush, lycium	Desert Wash Woodland	Imperial Reservoir	Yes
EW-29	8	38.40a	Unnamed Drainage	Trench	11S 20E 1	Palo Verde Peak	Seasonal	25	0.01	0.05	galleta, creosote, ironwood	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-34	9	39.20a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	80	0.05	0.1	Palo Verde, ironwood, creosote, ambrosia	Desert Wash Woodland	Imperial Reservoir	Yes
EW-37	9	39.70a	Unnamed Drainage	Trench	11S 20E 2	Buzzards Peak	Seasonal	80	0.05	0.1	encelia, cheesebush, ironwood, creosote	Desert Wash Woodland	Imperial Reservoir	Yes
EW-43	9	39.91a	Unnamed Drainage	Trench	11S 20E 2	Buzzards Peak	Seasonal	25	0.014	0.05	ironwood, ambrosia, encelia	Desert Wash Woodland	Imperial Reservoir	Yes
EW-44	9	39.93a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	5	0.003	0.009	creosote, ironwood	Creosote Bush Scrub	Imperial Reservoir	Yes
EW-45	9	39.94a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	25	0.014	0.05	Palo Verde, cheesebush, ironwood	Desert Wash Woodland	Imperial Reservoir	Yes
EW-47	9	40.20a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	50	0.03	0.09	ironwood, Palo Verde, creosote, krameria	Desert Wash Woodland	Salton Sea	Yes
EW-61	9	40.62a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	15	0.009	0.03	krameria, creosote, ironwood, ocotillo, ambrosia, cheesebush, encelia	Desert Wash Woodland	Salton Sea	Yes
EW-66	9	40.88a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	3	0.002	0.006	creosote, ambrosia, ironwood, krameria	Creosote Bush Scrub	Salton Sea	Yes
EW-70	9	41.12a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	150	0.09	0.3	ironwood, Palo Verde, creosote, krameria	Desert Wash Woodland	Salton Sea	Yes
EW-72	9	41.25a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	100	0.06	0.2	creosote, ambrosia, krameria, ironwood, encelia	Creosote Bush Scrub	Salton Sea	Yes
EW-75	9	41.55a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	15	0.009	0.03	ironwood, creosote, krameria	Creosote Bush Scrub	Salton Sea	Yes
EW-76	9	41.57a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	6	0.003	0.01	ironwood, creosote, ambrosia, Palo Verde, cholla	Creosote Bush Scrub	Salton Sea	Yes
EW-78	9	41.63a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	2	0.001	0.004	ironwood, Palo Verde, creosote, galleta grass, ambrosia	Creosote Bush Scrub	Salton Sea	Yes
EW-81	9	41.76a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	4	0.002	0.007	ironwood, Palo Verde, creosote, galleta, cholla	Creosote Bush Scrub	Salton Sea	Yes
EW-83	9	41.85a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	5	0.003	0.009	ironwood, creosote, ambrosia, krameria	Creosote Bush Scrub	Salton Sea	Yes
EW-89	9	42.25a	Unnamed Drainage	Trench	11S 20E 1	Buzzards Peak	Seasonal	8	0.005	0.015	ironwood, creosote, big galleta	Creosote Bush Scrub	Salton Sea	Yes

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
EW-91	9	44.32a	Unnamed Drainage	Trench	11S 20E 2	Buzzards Peak	Seasonal	30	0.01	0.06	bebbia, ironwood	Desert Wash Woodland	Salton Sea	Yes
EW-92	9	44.35a	Unnamed Drainage	Trench	11S 20E 2	Buzzards Peak	Seasonal	10	0.006	0.02	ironwood, Palo Verde, creosote, krameria, ambrosia	Creosote Bush Scrub	Salton Sea	Yes
EW-95	9	44.50a	Unnamed Drainage	Trench	11S 20E 2	Buzzards Peak	Seasonal	5	0.003	0.009	creosote, krameria, galleta, ironwood	Creosote Bush Scrub	Salton Sea	Yes
EW-98	10	42.80a	Unnamed Drainage	Trench	11S 20E 2	Buzzards Peak	Seasonal	3	0.002	0.006	ironwood, ambrosia, creosote	Desert Wash Woodland	Salton Sea	Yes
EW-109	10	43.59a	Unnamed Drainage	Trench	11S 20E 2	Buzzards Peak	Seasonal	100	0.06	0.2	Palo Verde, ironwood, creosote, lycium	Desert Wash Woodland	Salton Sea	Yes
EW-111	10	43.67a	Unnamed Drainage	Trench	11S 20E 2	Buzzards Peak	Seasonal	75	0.04	0.1	ambrosia, creosote, brittlebush, bebbia, cheesebush	Creosote Bush Scrub	Salton Sea	Yes
EW-126	10	44.49a	Unnamed Drainage	Trench	11S 20E 3	Buzzards Peak	Seasonal	25	0.014	0.05	lycium, bebbia, creosote, ironwood, krameria, brittlebush, brassica	Desert Wash Woodland	Salton Sea	Yes
EW-131v	10	44.90a-v	Unnamed Drainage	Trench	11S 20E 3	Buzzards Peak	Seasonal	5	0.003	0.009	creosote, ironwood, ambrosia, galleta, krameria	Creosote Bush Scrub	Salton Sea	Yes
EW-135v	10	45.15a-v	Unnamed Drainage	Trench	11S 20E 3	Buzzards Peak	Seasonal	300	0.2	0.6	creosote, Palo Verde, ironwood, krameria	Desert Wash Woodland	Salton Sea	Yes
EW-135	10	45.04a	Unnamed Drainage	Trench	11S 20E 3	Buzzards Peak	Seasonal	1	0.0006	0.002	ambrosia, creosote, krameria	Creosote Bush Scrub	Salton Sea	Yes
EW-136	10	45.12a	Unnamed Drainage	Trench	11S 20E 3	Buzzards Peak	Seasonal	70	0.04	0.1	ambrosia, creosote, krameria	Desert Wash Woodland	Salton Sea	Yes
EW-143	10	45.60a	Unnamed Drainage	Trench	12S 20E 4	Mt. Barrow	Seasonal	5	0.003	0.009	ironwood, jojoba, brassica, ambrosia, Bromus, lycium	Desert Wash Woodland	Salton Sea	Yes
EW-144	10	45.67a	Unnamed Drainage	Trench	12S 20E 4	Mt. Barrow	Seasonal	4	0.002	0.007	creosote, ambrosia, ironwood, brassica, krameria, acacia	Desert Wash Woodland	Salton Sea	Yes
EW-152	10	46.30a	Unnamed Drainage	Trench	12S 20E 4	Mt. Barrow	Seasonal	100	0.06	0.2	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	Yes
EW-162	10	47.08a	Unnamed Drainage	Trench	12S 20E 9	Mt. Barrow	Seasonal	30	0.01	0.06	Palo Verde, ironwood, creosote, bebbia, galleta, lycium	Desert Wash Woodland	Salton Sea	Yes
EW-163	10	47.15a	Unnamed Drainage	Trench	12S 20E 9	Mt. Barrow	Seasonal	3	0.002	0.006	calliandra, ironwood, creosote, bebbia, galleta, lycium	Creosote Bush Scrub	Salton Sea	Yes

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
EW-164	10	47.33a	Unnamed Drainage	Trench	12S 20E 9	Mt. Barrow	Seasonal	4	0.002	0.007	calliandra, galleta, ambrosia, creosote, krameria, ocotillo	Creosote Bush Scrub	Salton Sea	Yes
EW-165	10	47.72a	Unnamed Drainage	Trench	12S 20E 1	Mt. Barrow	Seasonal	30	0.01	0.06	ocotillo, krameria, ambrosia, creosote	Creosote Bush Scrub	Salton Sea	Yes
W-146	11	48.6	Unnamed Drainage	Trench	12S 20E 1	Mt. Barrow	Seasonal	6	0.003	0.01	Palo Verde, ironwood, white bursage	Creosote Bush Scrub	Salton Sea	Yes
W-147	11	48.6	Unnamed Drainage	Trench	12S 20E 1	Mt. Barrow	Seasonal	3	0.002	0.006	white bursage, jojoba, Palo Verde	Creosote Bush Scrub	Salton Sea	Yes
W-148	11	48.7	Unnamed Drainage	Trench	12S 20E 1	Ninemile Wash	Seasonal	8	0.005	0.015	white bursage, fairy duster, Palo Verde, lycium	Creosote Bush Scrub	Salton Sea	No
W-149	11	49.0	Unnamed Drainage	Trench	12S 20E 2	Ninemile Wash	Seasonal	6	0.003	0.01	ironwood, Palo Verde	Creosote Bush Scrub	Salton Sea	No
W-150	11	49.5	Unnamed Drainage	Trench	12S 20E 2	Ninemile Wash	Seasonal	3	0.002	0.006	white bursage, smoke tree, and Palo Verde	Creosote Bush Scrub	Salton Sea	No
W-151	11	49.7	Unnamed Drainage	Trench	12S 20E 2	Ninemile Wash	Seasonal	2	0.001	0.004	white bursage, opuntia sp., creosote	Creosote Bush Scrub	Salton Sea	No
W-152	11	49.7	Unnamed Drainage	Trench	12S 20E 2	Ninemile Wash	Seasonal	2	0.001	0.004	ironwood, Palo Verde	Desert Wash Woodland	Salton Sea	No
W-153	11	49.9	Unnamed Drainage	Trench	12S 20E 2	Ninemile Wash	Seasonal	10	0.006	0.02	ironwood, Palo Verde	Desert Wash Woodland	Salton Sea	No
W-154	11	50.0	Unnamed Drainage	Trench	12S 20E 2	Ninemile Wash	Seasonal	3	0.002	0.006	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-155	11	50.2	Unnamed Drainage	Trench	12S 20E 2	Ninemile Wash	Seasonal	2	0.001	0.004	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-156	11	50.2	Unnamed Drainage	Trench	12S 20E 2	Ninemile Wash	Seasonal	15	0.009	0.03	ironwood, Palo Verde	Desert Wash Woodland	Salton Sea	No
W-157	11	50.7	Unnamed Drainage	Trench	12S 20E 2	Ninemile Wash	Seasonal	15	0.009	0.03	ironwood, Palo Verde	Desert Wash Woodland	Salton Sea	No
W-158	11	50.7	Unnamed Drainage	Trench	12S 20E 2	Ninemile Wash	Seasonal	50	0.03	0.1	ironwood, Palo Verde	Desert Wash Woodland	Salton Sea	No
W-159	11	51.3	Unnamed Drainage	Trench	12S 20E 3	Ninemile Wash	Seasonal	20	0.002	0.04	ironwood, Palo Verde	Desert Wash Woodland	Salton Sea	No
W-160	11	51.8	Unnamed Drainage	Trench	12S 20E 3	Ninemile Wash	Seasonal	25	0.014	0.05	ironwood, Palo Verde	Desert Wash Woodland	Salton Sea	No
W-161	11	51.9	Unnamed Drainage	Trench	12S 20E 3	Ninemile Wash	Seasonal	25	0.014	0.05	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-162	11	52.1	Unnamed Drainage	Trench	12S 20E 3	Ninemile Wash	Seasonal	30	0.01	0.1	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-164	11	52.3	Unnamed Drainage	Trench	13S 20E 5	Ninemile Wash	Seasonal	2	0.001	0.004	creosote	Desert Wash Woodland	Salton Sea	No
W-165	11	52.3	Unnamed Drainage	Trench	13S 20E 5	Ninemile Wash	Seasonal	2	0.001	0.004	creosote, ironwood	Desert Wash Woodland	Salton Sea	No
W-163	11	52.3	Unnamed Drainage	Trench	13S 20E 5	Ninemile Wash	Seasonal	2	0.001	0.004	creosote, ironwood	Desert Wash Woodland	Salton Sea	No
W-166	11	52.4	Unnamed Drainage	Trench	13S 20E 5	Ninemile Wash	Seasonal	2	0.001	0.004	creosote, ironwood	Desert Wash Woodland	Salton Sea	No
W-167	11	52.5	Unnamed Drainage	Trench	13S 20E 5	Ninemile Wash	Seasonal	2	0.001	0.004	creosote, ironwood	Desert Wash Woodland	Salton Sea	No
W-168	11	53.1	Unnamed Drainage	Trench	13S 20E 6	Ninemile Wash	Seasonal	15	0.009	0.03	creosote, ironwood, Palo Verde	Desert Wash Woodland	Salton Sea	No
W-169	11	53.1	Unnamed Drainage	Trench	13S 20E 6	Ninemile Wash	Seasonal	2	0.001	0.004	creosote, white bursage, ocotillo	Desert Wash Woodland	Salton Sea	No
W-170	11	53.2	Unnamed Drainage	Trench	13S 20E 6	Ninemile Wash	Seasonal	6	0.003	0.01	wolfberry, creosote	Creosote Bush Scrub	Salton Sea	No
W-171	12	54.3	Unnamed Drainage	Trench	13S 20E 7	Ninemile Wash	Seasonal	2	0.001	0.004	ironwood, white bursage	Creosote Bush Scrub	Salton Sea	No
W-172	12	54.4	Unnamed Drainage	Trench	13S 20E 1	Ninemile Wash	Seasonal	2	0.001	0.004	ironwood, creosote, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-173	12	54.5	Unnamed Drainage	Trench	13S 20E 1	Ninemile Wash	Seasonal	2	0.001	0.004	ironwood, creosote, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-174	12	54.5	Unnamed Drainage	Trench	13S 20E 1	Ninemile Wash	Seasonal	4	0.002	0.007	ironwood, creosote, jojoba	Creosote Bush Scrub	Salton Sea	No
W-175	12	54.5	Unnamed Drainage	Trench	13S 20E 1	Ninemile Wash	Seasonal	2	0.001	0.004	ocotillo, creosote	Creosote Bush Scrub	Salton Sea	No
W-176	12	54.6	Unnamed Drainage	Trench	13S 20E 1	Ninemile Wash	Seasonal	2	0.001	0.004	ocotillo, creosote	Creosote Bush Scrub	Salton Sea	No
W-177	12	55.0	Unnamed Drainage	Trench	13S 20E 1	Ninemile Wash	Seasonal	3	0.002	0.006	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-178	12	55.4	Unnamed Drainage	Trench	13S 20E 1	Ninemile Wash	Seasonal	3	0.002	0.006	white bursage, ironwood	Desert Wash Woodland	Salton Sea	No
W-179	12	55.6	Unnamed Drainage	Trench	13S 20E 1	Ninemile Wash	Seasonal	30	0.01	0.06	white bursage	Desert Wash Woodland	Salton Sea	No
W-180	12	55.8	Unnamed Drainage	Trench	13S 20E 1	Ninemile Wash	Seasonal	2	0.001	0.004	white bursage, ironwood	Desert Wash Woodland	Salton Sea	No
W-181	12	57.4	Unnamed Drainage	Trench	13S 20E 2	Ninemile Wash	Seasonal	2	0.001	0.004	Palo Verde	Creosote Bush Scrub	Salton Sea	No

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-182	12	57.7	Unnamed Drainage	Trench	13S 20E 3	Clyde	Seasonal	4	0.002	0.007	Palo Verde	Desert Wash Woodland	Salton Sea	No
W-183	13	57.9	Unnamed Drainage	Trench	13S 20E 3	Clyde	Seasonal	4	0.002	0.007	Palo Verde, creosote	Creosote Bush Scrub	Salton Sea	No
W-184	13	58.2	Unnamed Drainage	Trench	13S 20E 3	Clyde	Seasonal	4	0.002	0.007	ironwood, Palo Verde	Creosote Bush Scrub	Salton Sea	No
W-185	13	59.4	Unnamed Drainage	Trench	14S 20E 5	Clyde	Seasonal	12	0.007	0.02	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-186	13	59.5	Unnamed Drainage	Trench	14S 20E 5	Clyde	Seasonal	5	0.003	0.009	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-187	13	59.5	Unnamed Drainage	Trench	14S 20E 5	Clyde	Seasonal	4	0.002	0.007	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-188	13	59.5	Unnamed Drainage	Trench	14S 20E 5	Clyde	Seasonal	4	0.002	0.007	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-189	13	60.0	Unnamed Drainage	Trench	14S 20E 8	Clyde	Seasonal	3	0.002	0.006	creosote, white bursage	Desert Wash Woodland	Salton Sea	No
W-190	13	60.1	Unnamed Drainage	Trench	14S 20E 8	Clyde	Seasonal	3	0.002	0.006	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-191	13	60.2	Unnamed Drainage	Trench	14S 20E 8	Clyde	Seasonal	4	0.002	0.007	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-192	13	60.7	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	2	0.001	0.004	creosote, ironwood	Desert Wash Woodland	Salton Sea	No
W-193	13	60.7	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	2	0.001	0.004	Palo Verde, creosote	Desert Wash Woodland	Salton Sea	No
W-194	13	61.0	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	3	0.002	0.006	creosote, white bursage, ironwood	Creosote Bush Scrub	Salton Sea	No
W-195	13	61.1	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	3	0.002	0.006	creosote, white bursage, ironwood	Creosote Bush Scrub	Salton Sea	No
W-196	13	61.2	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	3	0.002	0.006	creosote, white bursage, ironwood	Creosote Bush Scrub	Salton Sea	No
W-197	13	61.3	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	2	0.001	0.004	creosote, white bursage, ironwood	Creosote Bush Scrub	Salton Sea	No
W-198	13	61.3	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	2	0.001	0.004	creosote, white bursage, ironwood	Creosote Bush Scrub	Salton Sea	No
W-199	13	61.5	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	2	0.001	0.004	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-200	13	61.6	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	18	0.01	0.03	Palo Verde, ironwood, white bursage	Desert Wash Woodland	Salton Sea	No

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-201	13	61.6	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	3	0.002	0.006	creosote, Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-202	13	61.6	Unnamed Drainage	Trench	14S 20E 1	Clyde	Seasonal	2	0.001	0.004	creosote, Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-203	13	62.0	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	2	0.001	0.004	creosote, Palo Verde, ironwood	Creosote Bush Scrub	Salton Sea	No
W-204	13	62.0	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	2	0.001	0.004	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-205	13	62.1	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	2	0.001	0.004	creosote, brittlebush, ironwood	Creosote Bush Scrub	Salton Sea	No
W-206	13	62.1	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	2	0.001	0.004	creosote, brittlebush	Creosote Bush Scrub	Salton Sea	No
W-207	13	62.2	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	3	0.002	0.006	creosote, brittlebush, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-208	13	62.2	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	3	0.002	0.006	creosote, brittlebush, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-209	13	62.3	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	2	0.001	0.004	creosote, brittlebush, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-210	13	62.3	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	2	0.001	0.004	creosote, brittlebush, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-211	13	62.5	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	10	0.006	0.02	Palo Verde, ironwood, brittlebush, white bursage	Creosote Bush Scrub	Salton Sea	No
W-212	14	62.7	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	2	0.001	0.004	creosote, brittlebush, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-213	14	62.7	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	2	0.001	0.004	creosote, brittlebush, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-214	14	62.7	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	2	0.001	0.004	creosote, brittlebush, ocotillo, ironwood	Creosote Bush Scrub	Salton Sea	No
W-215	14	62.8	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	20	0.012	0.04	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-216	14	62.9	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	20	0.012	0.04	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-217	14	62.9	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	20	0.012	0.04	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-218	14	63.4	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	8	0.005	0.015	creosote, brittlebush, ocotillo, ambrosia dumosa, milkweed	Creosote Bush Scrub	Salton Sea	No
W-219	14	63.5	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	11	0.006	0.02	Palo Verde, ironwood	Creosote Bush Scrub	Salton Sea	No

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-220	14	63.6	Unnamed Drainage	Trench	14S 20E 2	Clyde	Seasonal	2	0.001	0.004	creosote, brittlebush, ocotillo, ambrosia clumosa, milkweed	Creosote Bush Scrub	Salton Sea	No
W-221	14	63.7	Unnamed Drainage	Trench	14S 20E 2	Hedges	Seasonal	3	0.002	0.006	Palo Verde, ironwood, creosote	Desert Wash Woodland	Salton Sea	No
W-222	14	63.7	Unnamed Drainage	Trench	14S 20E 2	Hedges	Seasonal	2	0.001	0.004	Palo Verde, ironwood, creosote	Desert Wash Woodland	Salton Sea	No
W-223	14	63.7	Unnamed Drainage	Trench	14S 20E 2	Hedges	Seasonal	2	0.001	0.004	Palo Verde, ironwood, white bursage	Desert Wash Woodland	Salton Sea	No
W-224	14	63.8	Unnamed Drainage	Trench	14S 20E 2	Hedges	Seasonal	2	0.001	0.004	Palo Verde, ironwood, white bursage	Desert Wash Woodland	Salton Sea	No
W-225	14	63.8	Unnamed Drainage	Trench	14S 20E 2	Hedges	Seasonal	8	0.005	0.015	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-226	14	64.1	Unnamed Drainage	Trench	14S 20E 3	Hedges	Seasonal	3	0.002	0.006	creosote, brittlebush, ocotillo, ambrosia clumosa, milkweed	Creosote Bush Scrub	Salton Sea	No
W-227	14	64.3	Unnamed Drainage	Trench	14S 20E 3	Hedges	Seasonal	3	0.002	0.006	creosote, brittlebush, ocotillo, ambrosia clumosa, milkweed	Creosote Bush Scrub	Salton Sea	No
W-228	14	64.4	Unnamed Drainage	Trench	14S 20E 3	Hedges	Seasonal	2	0.001	0.004	creosote, brittlebush, ocotillo, ambrosia clumosa, milkweed	Creosote Bush Scrub	Salton Sea	No
W-229	14	64.4	Unnamed Drainage	Trench	14S 20E 3	Hedges	Seasonal	3	0.002	0.006	Palo Verde, ironwood, brittlebush	Desert Wash Woodland	Salton Sea	No
W-230	14	64.5	Unnamed Drainage	Trench	14S 20E 3	Hedges	Seasonal	2	0.001	0.004	Palo Verde, ironwood, brittlebush	Desert Wash Woodland	Salton Sea	No
W-231	14	64.5	Unnamed Drainage	Trench	14S 20E 3	Hedges	Seasonal	3	0.002	0.006	Palo Verde, ironwood, brittlebush	Desert Wash Woodland	Salton Sea	No
W-232	14	64.6	Unnamed Drainage	Trench	14S 20E 3	Hedges	Seasonal	4	0.002	0.007	Palo Verde, ironwood, brittlebush, white bursage	Desert Wash Woodland	Salton Sea	No
W-233	14	64.6	Unnamed Drainage	Trench	14S 20E 3	Hedges	Seasonal	2	0.001	0.004	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-234	14	64.9	Unnamed Drainage	Trench	14S 20E 3	Hedges	Seasonal	2	0.001	0.004	Palo Verde, ironwood, white bursage	Desert Wash Woodland	Salton Sea	No
W-235	14	64.9	Unnamed Drainage	Trench	14S 20E 3	Hedges	Seasonal	2	0.001	0.004	Palo Verde, ironwood, white bursage	Desert Wash Woodland	Salton Sea	No
W-236	14	65.2	Unnamed Drainage	Trench	15S 20E 3	Hedges	Seasonal	4	0.002	0.007	saltbush, creosote, Palo Verde	Creosote Bush Scrub	Salton Sea	No
W-237	14	65.3	Unnamed Drainage	Trench	15S 20E 3	Hedges	Seasonal	2	0.001	0.004	brittlebush, fairy duster, creosote, white bursage	Creosote Bush Scrub	Salton Sea	No

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-238	14	65.6	Unnamed Drainage	Trench	15S 20E 3	Hedges	Seasonal	15	0.009	0.03	wolfberry, ironwood, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-239	14	65.8	Unnamed Drainage	Trench	15S 20E 3	Hedges	Seasonal	3	0.002	0.006	white bursage, creosote	Creosote Bush Scrub	Salton Sea	No
W-240	14	65.9	Unnamed Drainage	Trench	15S 20E 3	Hedges	Seasonal	2	0.001	0.004	white bursage, creosote, Palo Verde	Creosote Bush Scrub	Salton Sea	No
W-241	14	65.9	Unnamed Drainage	Trench	15S 20E 3	Hedges	Seasonal	3	0.002	0.006	white bursage, creosote, Palo Verde	Creosote Bush Scrub	Salton Sea	No
W-242	14	65.9	Unnamed Drainage	Trench	15S 20E 3	Hedges	Seasonal	6	0.003	0.01	white bursage, creosote	Creosote Bush Scrub	Salton Sea	No
W-243	14	66.0	Unnamed Drainage	Trench	15S 20E 3	Hedges	Seasonal	5	0.003	0.009	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-244	14	66.0	Unnamed Drainage	Trench	15S 20E 3	Hedges	Seasonal	12	0.007	0.02	Palo Verde, ironwood	Desert Wash Woodland	Salton Sea	No
W-245	14	66.5	Unnamed Drainage	Trench	15S 20E 3	Hedges	Seasonal	6	0.003	0.01	ironwood, creosote	Creosote Bush Scrub	Salton Sea	No
W-246	14	66.7	Unnamed Drainage	Trench	15S 20E 2	Hedges	Seasonal	2	0.001	0.004	white bursage, creosote	Creosote Bush Scrub	Salton Sea	No
W-247	14	66.8	Unnamed Drainage	Trench	15S 20E 1	Hedges	Seasonal	2	0.001	0.004	white bursage, creosote, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-249	14	67.8	Unnamed Drainage	Trench	15S 20E 1	Ogilby	Seasonal	2	0.001	0.004	ironwood, creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-250	14	68.4	Unnamed Drainage	Trench	15S 20E 1	Ogilby	Seasonal	10	0.006	0.02	Palo Verde, ironwood	Creosote Bush Scrub	Salton Sea	No
W-251	15	68.5	Unnamed Drainage	Trench	15S 20E 1	Ogilby	Seasonal	2	0.001	0.004	Palo Verde, creosote	Creosote Bush Scrub	Salton Sea	No
W-252	15	68.6	Unnamed Drainage	Trench	15S 20E 1	Ogilby	Seasonal	8	0.005	0.015	white bursage, ocotillo, ironwood	Creosote Bush Scrub	Salton Sea	No
W-253	15	68.6	Unnamed Drainage	Trench	15S 20E 1	Ogilby	Seasonal	5	0.003	0.009	Palo Verde, creosote	Creosote Bush Scrub	Salton Sea	No
W-254	15	68.7	Unnamed Drainage	Trench	15S 20E 1	Ogilby	Seasonal	5	0.003	0.009	ironwood, Palo Verde	Creosote Bush Scrub	Salton Sea	No
W-255	15	68.7	Unnamed Drainage	Trench	15S 20E 1	Ogilby	Seasonal	5	0.003	0.009	ironwood, creosote	Creosote Bush Scrub	Salton Sea	No
W-256	15	69.0	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	8	0.005	0.015	Palo Verde, creosote	Creosote Bush Scrub	Salton Sea	No
W-257	15	69.0	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	2	0.001	0.004	creosote, Palo Verde, white bursage	Creosote Bush Scrub	Salton Sea	No

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-258	15	69.2	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	5	0.003	0.009	creosote, ironwood	Creosote Bush Scrub	Salton Sea	No
W-259	15	69.3	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	3	0.002	0.006	ironwood, white bursage, creosote	Creosote Bush Scrub	Salton Sea	No
W-260	15	69.7	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	10	0.007	0.02	Palo Verde, creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-261	15	69.7	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	2	0.001	0.004	creosote, Palo Verde, white bursage	Creosote Bush Scrub	Salton Sea	No
W-262	15	69.8	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	6	0.003	0.01	Palo Verde, creosote	Creosote Bush Scrub	Salton Sea	No
W-263	15	69.9	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	2	0.001	0.004	creosote, white bursage, ironwood	Creosote Bush Scrub	Salton Sea	No
W-264	15	70.1	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	7	0.004	0.02	Palo Verde, ironwood, white bursage	Creosote Bush Scrub	Salton Sea	No
W-265	15	70.4	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	5	0.003	0.009	Palo Verde, creosote	Creosote Bush Scrub	Salton Sea	No
W-266	15	70.5	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	2	0.001	0.004	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-267	15	70.5	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	3	0.002	0.006	creosote, white bursage, ironwood	Creosote Bush Scrub	Salton Sea	No
W-268	15	70.6	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	2	0.001	0.004	creosote, ironwood	Creosote Bush Scrub	Salton Sea	No
W-269	15	70.7	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	3	0.002	0.006	creosote, ironwood	Creosote Bush Scrub	Salton Sea	No
W-270	15	70.7	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	2	0.001	0.004	creosote, Palo Verde, white bursage, ironwood	Creosote Bush Scrub	Salton Sea	No
W-271	15	70.8	Unnamed Drainage	Trench	15S 20E 2	Ogilby	Seasonal	6	0.003	0.01	creosote, ironwood	Creosote Bush Scrub	Salton Sea	No
W-272	15	70.8	Unnamed Drainage	Trench	15S 20E 3	Ogilby	Seasonal	4	0.002	0.007	creosote, ironwood, white bursage	Creosote Bush Scrub	Salton Sea	No
W-273	15	70.8	Unnamed Drainage	Trench	15S 20E 3	Ogilby	Seasonal	3	0.002	0.006	white bursage, creosote	Creosote Bush Scrub	Salton Sea	No
W-274	15	70.8	Unnamed Drainage	Trench	15S 20E 3	Ogilby	Seasonal	2	0.001	0.004	white bursage, creosote	Creosote Bush Scrub	Salton Sea	No
W-275	15	71.0	Unnamed Drainage	Trench	15S 20E 3	Ogilby	Seasonal	3	0.002	0.006	creosote, smoke tree, white bursage	Creosote Bush Scrub	Salton Sea	No
W-276	15	71.1	Unnamed Drainage	Trench	15S 20E 3	Ogilby	Seasonal	8	0.005	0.015	smoke tree, ironwood, white bursage, creosote	Creosote Bush Scrub	Salton Sea	No

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-277	15	71.2	Unnamed Drainage	Trench	15S 20E 3	Ogilby	Seasonal	5	0.003	0.009	milkweed, creosote, ironwood	Creosote Bush Scrub	Salton Sea	No
W-278	15	71.6	Unnamed Drainage	Trench	15S 20E 3	Ogilby	Seasonal	2	0.001	0.004	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-279	15	71.6	Unnamed Drainage	Trench	15S 20E 3	Ogilby	Seasonal	5	0.003	0.009	smoke tree, creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-280	15	71.6	Unnamed Drainage	Trench	15S 20E 3	Ogilby	Seasonal	2	0.001	0.004	white bursage, creosote	Creosote Bush Scrub	Salton Sea	No
W-281	15	71.6	Unnamed Drainage	Trench	15S 20E 3	Ogilby	Seasonal	2	0.001	0.004	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-282	15	71.9	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	3	0.002	0.006	ironwood, creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-283	15	71.9	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	3	0.002	0.006	creosote, ironwood, white bursage	Creosote Bush Scrub	Salton Sea	No
W-284	15	72.0	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	12	0.007	0.02	ironwood, creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-285	15	72.3	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	6	0.003	0.01	Palo Verde, ironwood, ocotillo, white bursage	Creosote Bush Scrub	Salton Sea	No
W-286	15	72.3	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	2	0.001	0.004	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-287	15	72.5	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	5	0.003	0.009	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-288	15	72.5	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	5	0.003	0.009	creosote, white bursage, ocotillo	Creosote Bush Scrub	Salton Sea	No
W-289	15	72.8	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	10	0.006	0.02	creosote, white bursage	Creosote Bush Scrub	Salton Sea	No
W-290	16	73.3	Unnamed Drainage	Trench	16S 20E 1	Ogilby	Seasonal	5	0.003	0.009	creosote, smoke tree, ocotillo, ambrosia, brittlebush	Creosote Bush Scrub	Salton Sea	No
W-291	16	73.6	Unnamed Drainage	Trench	16S 20E 1	Ogilby	Seasonal	4	0.002	0.007	creosote, smoke tree, ocotillo, ambrosia, brittlebush	Creosote Bush Scrub	Salton Sea	No
W-292	16	74.4	Unnamed Drainage	Trench	16S 20E 1	Ogilby	Seasonal	2	0.001	0.004	creosote, smoke tree, ocotillo, ambrosia, brittlebush	Creosote Bush Scrub	Salton Sea	No
W-293	16	74.6	Unnamed Drainage	Trench	16S 20E 1	Ogilby	Seasonal	2	0.001	0.004	creosote, ambrosia dumosa, milkweed	Creosote Bush Scrub	Salton Sea	No
W-294	16	74.7	Unnamed Drainage	Trench	16S 20E 1	Ogilby	Seasonal	2	0.001	0.004	creosote, ambrosia dumosa, milkweed	Creosote Bush Scrub	Salton Sea	No

TABLE M-1 (cont'd)

Dry Washes Crossed by the North Baja Pipeline Expansion Project

Map I.D. No.	Map Page	Entering Milepost	Drainage Name	Construction Method	Township Range Section	USGS 7.5-minute Quadrangle	Seasonal or Perennial	Width (feet)	Project Impact (acres)	A-Line Impact (acres)	Vegetation	Habitat Type	Watershed	Drains to Colorado River
W-295	16	74.8	Unnamed Drainage	Trench	16S 20E 1	Ogilby	Seasonal	2	0.001	0.004	creosote, ambrosia dumosa, milkweed	Creosote Bush Scrub	Salton Sea	No
W-296	16	75.0	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	2	0.001	0.004	creosote, brittlebush, ocotillo, ambrosia clumosa, milkweed	Creosote Bush Scrub	Salton Sea	No
W-297	16	75.1	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	2	0.001	0.004	ambrosia dumosa, larrea tridentata	Creosote Bush Scrub	Salton Sea	No
W-298	16	75.2	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	2	0.001	0.004	ambrosia dumosa, larrea tridentata	Creosote Bush Scrub	Salton Sea	No
W-299	16	75.2	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	3	0.002	0.006	creosote, brittlebush, ocotillo, ambrosia clumosa, milkweed	Creosote Bush Scrub	Salton Sea	No
W-300	16	75.5	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	5	0.003	0.009	creosote	Creosote Bush Scrub	Salton Sea	No
W-301	16	75.8	Unnamed Drainage	Trench	16S 20E 2	Ogilby	Seasonal	15	0.009	0.03	creosote	Creosote Bush Scrub	Salton Sea	No
W-302	17	77.0	Unnamed Drainage	Trench	16S 20E 2	Grays Well	Seasonal	3	0.003	0.006	creosote	Creosote Bush Scrub	Salton Sea	No
								7948	4.08181	13.05418				

APPENDIX N

FIRE PREVENTION AND SUPPRESSION PLAN



North Baja Pipeline, LLC
NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix N
Fire Prevention and Suppression Plan

Prepared for:

United States Department of the Interior (USDI)
Bureau of Land Management (BLM)
Arizona State Office
California State Office

May 2006

North Baja Pipeline Expansion Project

Fire Prevention and Suppression Plan

1. Introduction

The Fire Prevention and Suppression Plan (Fire Plan) identifies measures to be taken by North Baja Pipeline, LCC (North Baja) and its contractors (Contractor) to ensure that fire prevention and suppression measures are carried out in accordance with Federal, State, and local regulations. Measures identified in this Fire Plan apply to work within the project area defined as the right-of-way (ROW), access roads, all work and storage areas, whether temporary or permanent, and other areas used during construction and operation of the project. This Fire Plan was developed in accordance with the U.S. Department of the Interior, Bureau of Land Management (BLM) ROW Plans of Development and Grants, BLM Manual Handbook H-2901-1.

2. Purpose

The risk of fire danger during pipeline construction is related to smoking, refueling activities, operating vehicles and other equipment off roadways, welding activities, and the use of explosive materials and flammable liquids. During pipeline operation, risk of fire is primarily from vehicles and pipeline maintenance activities that require welding.

This Fire Plan establishes standards and practices that will minimize risk of fire danger and, in case of fire, provide for immediate suppression.

3. Responsibilities and Coordination

This Fire Plan will be implemented by North Baja and the Contractor on the North Baja Pipeline Expansion Project (Project). North Baja and the Contractor have the responsibility for providing all necessary fire-fighting equipment on the project site to their respective employees, and operating under the requirements of this Fire Plan. Prior to construction, North Baja will contact the appropriate fire control authorities to establish communications, obtain any required permits (such as burning or fire waiver permits prior to conducting any heavy equipment or burning activities), and/or fulfill other obligations as directed by fire control authorities. In addition to the above, North Baja will:

- Ensure that prevention, detection, pre-suppression, and suppression activities are in accordance with this Fire Plan and Federal, State, and county laws, ordinances, and regulations pertaining to fire;
- Accompany agency representatives on fire tool and equipment inspections and take corrective action upon notification of any fire protection requirements that are not in compliance; and
- Restrict operations on Federal lands during conditions of high fire danger as directed by the BLM as described in Section 4.1.11, Restricted Operations.

The fire prevention and suppression measures described in this Fire Plan will be in effect from pre-construction to the end of restoration. These restrictions may change by advance written notice by fire control authorities. However, required tools and equipment will be kept in serviceable condition and will be immediately available at all times.

4. Fire Prevention Measures

Methods and procedures that will be implemented prior to and during construction, operation, maintenance and termination of the project to minimize the risk of fire are described below.

a. Training

The Contractor will train all personnel about the measures to take in the event of a fire. The Contractor will also inform each construction crew member of fire dangers, locations of extinguishers and equipment, and individual responsibilities for fire prevention and suppression during regular safety briefings. Smoking and fire rules also will be discussed with the Contractor and all field personnel during the project's environmental training.

b. Smoking

Smoking is prohibited except in areas cleared and graded a minimum of 10 feet in diameter to mineral soil. All burning tobacco and matches will be extinguished before discarding. Smoking also is prohibited while operating equipment or vehicles, except in enclosed cabs or vehicles.

Smoking is never permitted in any area designated by DANGER or NO SMOKING signs. Smoking is not permitted in these areas regardless of any other factor. Smoking is not permitted on the pipeline ROW. Smoking is only permitted on access roads, within vehicles, and in approved smoking areas as described in the paragraph above.

c. Spark Arresters

During construction, operation, maintenance and termination of the ROW, all equipment operating with an internal combustion engine will be equipped with federally approved spark arresters. Spark arresters are not required on trucks, buses, and passenger vehicles (excluding motorcycles) that are equipped with an unaltered muffler or on diesel engines equipped with a turbocharger. Agency fire inspection officers will have full authority to inspect spark arresters on project equipment prior to its use on the project on Federal lands and periodically during the construction project.

d. Parking, Vehicle Operation, and Storage Areas

In no case will motorized equipment, including worker transportation vehicles, be driven or parked outside of the designated and approved work limits. Equipment parking areas, the ROW, staging areas, designated vehicle-parking areas, and small stationary engine sites, where permitted, will be cleared of all flammable material. Clearing will extend a minimum of 2 feet beyond the edge of the area to be occupied, but not beyond the boundaries of the approved ROW, extra workspace or ancillary site. Glass containers will not be used to store gasoline or other flammables.

e. Equipment

All motor vehicles and equipment will carry at least one long handled (48 inch minimum) round point shovel, a double-bit ax or Pulaski (3.5 pounds or larger) and one dry chemical fire extinguisher (with a UL rating of at least 5B or C). Individuals using power saws and grinders will have a shovel as described above, and an 8-ounce capacity fire extinguisher immediately available. All equipment will be kept in a serviceable condition and readily available.

The Contractor shall maintain a list, to be provided to local fire protection agencies, of all equipment which is either specifically designed for or capable of being adapted to fighting fires. The Contractor shall provide basic fire fighting equipment on-site during construction, including fire extinguishers, shovels, axes and other tools in sufficient number so that each employee on site can assist in the event of a fire-fighting operation. See Attachment A, Contractor's Specification for Fire Prevention and Control, for a complete list of equipment that the North Baja requires the Contractor to provide at various locations on the project site.

f. Road Closures

The Contractor will notify the appropriate fire suppression agency of the scheduled closures prior to the open cut crossing of a road. If required, the Contractor will construct a bypass prior to the open-cut installation of a road crossing, unless a convenient detour can be established on existing project approved roads or within project approved work limits. All bypasses will be clearly marked by the contractor. During road closures the Contractor will designate one person, who knows the bypass, to direct traffic. The Contractor will minimize, to the extent possible, the duration of road closures.

g. Refueling

Fuel trucks will have a large fire extinguisher charged with the appropriate chemical to control electrical and gas fires. The extinguisher will be a minimum size 35-pound capacity with a minimum 30 B.C. rating. Power saw refueling will be done in an area that has first been cleared of material that could catch fire.

h. Burning

No burning of slash, brush, stumps, trash, explosives storage boxes, or other project debris will be permitted on the project. No lunch or warming fires or barbecue grills will be allowed.

i. Flammable Liquids and Explosives

The handling and use of explosives shall be conducted in strict conformance with all local, State, and Federal regulations as detailed in North Baja's construction specification on Blasting.

j. Fire Guard

The Contractor will designate a Fire Guard on each construction crew prior to the start of construction activities each day. The Fire Guard must be physically able, vigilant, and suitably trained to detect fires and use required fire-fighting equipment, according to the requirements specified in this Fire Plan. An alternative or back-up Fire Guard will be designated to assume responsibility if the primary Guard is unavailable to perform his or her duties. The Contractor will provide, if required by North Baja, additional fire watch people with radio communication to the Fire Guard if the construction activity becomes too wide spread for one Fire Guard to

manage effectively.

k. Fire Guard Communications

The Fire Guard will be responsible for maintaining contact with fire control agencies and will be equipped with a radio or cellular telephone so immediate contact with local fire control agencies can be made. If cellular telephone coverage is not available, the Fire Guard will use the contractor's frequency to contact their radio base at the Contractor's yard. From there, yard personnel will telephone emergency dispatch.

l. Welding

One 5-gallon back-up pump will be required with each welding unit in addition to the standard fire equipment required in all vehicles. All equipment will be kept in a serviceable condition and readily available.

m. Restricted Operations

The Contractor will restrict or cease operations on Federal lands during periods of high fire danger at the direction of the BLM Fire Management Officer. Restrictions may vary from stopping certain operations at a given time or stopping all operations. North Baja may obtain approval to continue some or all operations if acceptable precautions are implemented. A written waiver must be issued to the Contractor.

The responsible BLM Fire Management Officer will notify North Baja the previous day if fire danger predictions call for restrictions the following day. If a sudden change in fire danger requires restrictions during the day, the BLM Fire Management Officer will notify North Baja immediately. North Baja will immediately notify the Contractor of restricted activities.

n. Monitoring

Construction and Environmental Inspectors for North Baja will inspect the job site and the Contractor's operations for compliance with all provisions of this Fire Plan. In addition, Federal State, and local fire control agencies may perform inspections in areas under their jurisdiction at their discretion.

o. Pipeline Operation and Maintenance

During pipeline operation, the risk of fire danger is minimal. The primary causes of fire on the ROW result from unauthorized entry by individuals utilizing the ROW for recreational purposes and from fires started outside the ROW. In the latter case, authorities can use the ROW as a potential firebreak. After the completion of pipeline construction, North Baja will block access in some locations to the ROW in coordination with the land managing agencies to minimize recreational use of the ROW. However, most of the ROW is in relatively flat terrain where there is no realistic way to block access. BLM's restricted routes of travel will help to limit recreational access. North Baja's maintenance and patrol personnel will be equipped with basic fire-fighting equipment including fire extinguishers and shovels as described in Section 4.1.5, Equipment. Maintenance crews will also carry emergency response/fire control contract phone numbers.

5. Fire Suppression

a. Suppression

The Contractor will take the following actions should a fire occur within the project area during construction:

- Take immediate action to suppress fires using all available manpower and equipment;
- Notify the Fire guard;
- Immediately notify the nearest fire suppression agency of the fire location, action taken, and status (see Section 6.2);
- Immediately notify North Baja of the fire location and action taken; and
- Relinquish the Fire Guard's direction of fire suppression activities to agency fire management officers upon their arrival.

Note: If required, personnel may leave the ROW boundaries ONLY to accomplish fire suppression. Heavy equipment is not to leave the ROW to suppress a fire unless directed by a BLM Representative on Federal lands or by the State or local authorities on private or State lands.

If a reported fire is controlled, the Fire guard will note the location and monitor the progress in extinguishing the fire. The Fire Guard, or his/her designee, will remain at the fire scene until it is fully extinguished. The extinguished fire will be monitored in accordance with procedures described in Section 5.2 below.

When reported by the BLM Fire Management Officer, the Contractor will make any equipment and personnel currently at the site temporarily available for fighting fires in the vicinity of the project. Payment of such services will be made at rates determined by the BLM Fire Management Officer.

b. Monitoring

The Contractor will mark the location and boundaries of all extinguished fires. The extinguished fire site will be monitored by the contractor for a minimum of 24 hours. Monitoring includes walking the fire site perimeter, as well as crossing through the site. The Fire Guard will maintain a log of all extinguished fire locations for future reference.

c. Notification

Construction crew members will report all fires, whether extinguished or controlled, to the Fire Guard. If the fire is uncontrolled, the Contractor's Fire Guard will call the nearest fire suppression agency (911) and the North Baja Lead Environmental Inspector. Information regarding the location of the fire, property ownership, and closest access roads should be reported to the 911 operator and North Baja.

If a reported fire is controlled, but not extinguished, the fire guard will call to notify the nearest police/fire authorities (see Section 6.2) using the non-emergency telephone line to alert them of the situation. The status of the fire will be monitored by the Fire Guard and when extinguished the nearest fire suppression agency will be notified.

North Baja will also immediately contact the nearest landowner(s). North Baja will maintain and provide the Contractor with an up-to-date list of landowner and land management agency contacts along the pipeline ROW.

d. Emergency Contacts

Construction	Phone Number	Office Location	BLM Contact
Arizona			
La Paz County	911 311 520-669-2281	Emergency Number Non-emergency Number County Sheriff's Office	
California			
Riverside County	911	Emergency Number County Sheriff's Office (Non-emergency)	
Imperial County	911	Emergency Number County Sheriff's Office (Non-emergency)	

ATTACHMENT A

North Baja Construction Specifications Regarding Fire Prevention and Control

[To be provided when construction specifications are complete.]

APPENDIX O

SITE-SPECIFIC RESIDENTIAL CONSTRUCTION MITIGATION PLANS

Non-Internet Public

DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT Docket Nos. CP06-61-000 and CP01-23-003

Appendix O Site-specific Residential Construction Mitigation Plans

B-Line (all Riverside County)		IID Lateral (all Imperial County)	
Page	Figure Name	Page	Figure Name
O-1	MP 2.92; Tract CA-RI-0200; 8580 18 th Ave	O-21	MP 8.90; Offline
O-2	MP 3.3; Tract CA-RI-0210; 8691 18 th Ave	O-22	MP 27.84; Tract CA-IM-1460
O-3	MP 3.62; Tract CA-RI-0252; 9201 18 th Ave	O-23	MP 27.94; Tract CA-IM-1480
O-4	MP 3.64; Tract CA-RI-0253; 9231 18 th Ave	O-24	MP 28.12; Tract CA-IM-1510
O-5	MP 3.72; Tract CA-RI-0262; 9260 18 th Ave	O-25	MP 29.54; Tract CA-IM-1610
O-6	MP 3.75; Tract CA-RI-0263; 9300 18 th Ave	O-26	MP 40.44; Tract CA-IM-2220
O-7	MP 3.77; Tract CA-RI-0264; 9360 18 th Ave	O-27	MP 41.40; Tract CA-IM-2260
O-8	MP 3.84; Tract CA-RI-0280; 9400 18 th Ave	O-28	MP 41.42; Tract CA-IM-2270
O-9	MP 3.92; Tract CA-RI-0290; 9511 18 th Ave	O-29	MP 41.94; Tract CA-IM-2310
O-10	MP 4.23; Tract CA-RI-0340; 9826 18 th Ave	O-30	MP 41.99; Tract CA-IM-2320
O-11	MP 4.42; Tract CA-RI-0400; 10100 18 th Ave	O-31	MP 42.12; Tract CA-IM-2360
O-12	MP 4.64; Tract CA-RI-0440; 10220 18 th Ave	O-32	MP 42.89; Offline
O-13	MP 4.93; Tract CA-RI-0450; 10531 18 th Ave	O-33	MP 42.92; Tract CA-IM-2450
O-14	MP 5.25; Tract CA-RI-0500; 18 th Ave	O-34	MP 43.04; Tract CA-IM-2460
O-15	MP 5.72; Tract CA-RI-0550; 11301 18 th Ave	O-35	MP 43.72; Tract CA-IM-2500
O-16	MP 6.38; Tract CA-RI-0604; 11960 18 th Ave	O-36	MP 45.24; Offline
O-17	MP 7.66; Tract CA-RI-0670; 12401 18 th Ave	O-37	MP 45.26; Offline
O-18	MP 7.91; Tract CA-RI-0700; 13480 18 th Ave	O-38	MP 45.30; Offline
O-19	MP 8.20; Tract CA-RI-0740; 13780 18 th Ave	O-39	MP 45.32; Offline
O-20	MP 8.66; Tract CA-RI-0771; 14231 18 th Ave	O-40	MP 45.36; Offline
		O-41	MP 45.40; Offline

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APPENDIX P

OFF-HIGHWAY VEHICLE MANAGEMENT PLAN



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix P

Off-Highway Vehicle Management Plan

Prepared by



TETRA TECH EC, INC.

1940 E. Deere Ave. Suite 200
Santa Ana, CA 92705

February 2006

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Appendix P

Off-Highway Vehicle Management Plan

1.0 INTRODUCTION

The North Baja Pipeline Expansion Project (Project) will construct a new natural gas pipeline to connect with the Gasoducto Bajanorte Pipeline at the U.S.-Mexico border and to the existing North Baja facilities and the El Paso Natural Gas system in Ehrenberg, Arizona. In addition, new connections will be made with the Southern California Gas Company (SoCalGas) system near Blythe, California, and with the Imperial Irrigation District's (IID) El Centro Generating Station in El Centro, California. The proposed Project will be constructed in phases, with the first phase planned for construction in 2007, the IID Lateral for 2008, and the final phase of the North Baja Expansion in 2009, pending completion of upstream liquefied natural gas (LNG) terminal facilities.

The Project includes three elements: the B-Line, which includes interconnection facilities in Ehrenberg, Arizona, as well as a 79.8-mile, 42- and 48-inch diameter pipeline between Blythe and the Mexican border; the Arrowhead Extension, which includes a meter station and a 2.1-mile, 36-inch diameter pipeline extending from the proposed B-Line at milepost (MP) 7.4 to SoCalGas' existing Blythe Compressor Station; and the Imperial Irrigation District Lateral (IID Lateral), a 45.7-mile, 16-inch diameter pipeline between the B-Line and IID's El Centro Generating Station.

Construction and operation of the Project could cause conditions that may affect adjacent lands, pipeline integrity, or off-highway vehicle (OHV) users. One of the near-term effects of construction could be disruption of established OHV use or interference with pipeline construction activities. One of the long-term effects of pipeline construction and maintenance is the increased accessibility the right-of-way may provide for OHV use into previously restricted or inaccessible areas. To reduce the potential for interference between pipeline construction activities and OHV users and inappropriate OHV use of the pipeline right-of-way, North Baja developed this plan to cover initial siting, construction, and operation of the pipeline. This plan is based on discussions with the Bureau of Land Management (BLM) recreation specialists and biologists in 2001-2002 and again in 2005, and experience gained while operating, maintaining, and managing the A-Line right-of-way since 2002.

2.0 SITING

The entire length of the B-Line will be located 25 feet west or south of the existing A-Line constructed in 2002. Use of the existing right-of-way does not add potential access points beyond those created by the A-Line and avoids creating a new right-of-way with new access points at some other location.

The IID Lateral, a new pipeline, has been sited at the edge of existing road shoulders or along existing transmission lines for 33.8 miles of its 46-mile total length. A 7.9-mile segment is located within the Imperial Sand Dunes Recreation Area (ISDRA), including a 5.6-mile distance through the Buttercup Management Area Campground, which is intensively managed for OHV uses. The selection of the IID Lateral route was based on an evaluation of alternative routes and consultation with the Bureau of Reclamation (BOR), IID, BLM, and the members of the Technical Review Team (Cassady 2005a, 2005b, 2005c). The location of the route accounts for concerns that arose during those consultation meetings.

The eastern end of the pipeline alignment (east of the All-American Canal [AAC] and Interstate [I-8]) will be located adjacent to an existing 500-kilovolt (kV) electric transmission line from MP 0.1 to MP 2.3. This portion of the route is in the Ogilby Management Area of the ISDRA, an area of lighter OHV use and away from any developed recreational facilities. Between MP 2.3 and MP 2.6, the pipeline will be directionally drilled under I-8 and the AAC. From MP 2.6 the alignment continues west adjacent to the I-8 right-of-way to MP 4.4. In this segment the route traverses the northern edge of the Buttercup Campground, avoiding the main parking and vendor area by hugging the I-8 right-of-way, an alignment that was suggested by the ISDRA Technical Review Team (TRT) (Cassady 2005d, Appendix T).

West of the Buttercup Campground, BLM suggested that the area between Grays Well Road and I-8 is less intensively used than the area to the south of Grays Well Road. Accordingly, North Baja considered a route in this strip between the freeway and Grays Well Road. This area currently contains a wood pole line and a fiber optic line (Level 3), and is also somewhat more constricted than it appears by a relatively wide (400-foot) CalTrans right-of-way. While early investigations suggested there may still be room for the 16-inch pipeline within the strip, upon completing a recent field survey to more accurately locate the Level 3 fiber optic conduits, North Baja concluded that there is not sufficient space for the pipeline within this area. Beginning at MP 4.4 the proposed route turns south crossing Grays Well Road and three electric transmission lines, which it then parallels for 1.2 miles. Other alignment adjustments were made in this stretch at the suggestion of BLM, with the goal of avoiding the most intensively used areas. At MP 5.7 the alignment crosses I-8 to an area between the freeway and the AAC, where there is no access for OHV users. The pipeline will cross this area between MP 5.7 and 7.9, adjacent to an area that will be used by IID for its AAC relining project. The line will be drilled beneath the AAC (and exit the ISDRA) at MP 7.9. A block valve will be located at MP 7.6. The valve is located in an area between the I-8 right-of-way and the AAC that is generally avoided by OHV enthusiasts because it is very difficult to access.

3.0 CONSTRUCTION

In the area crossed by the B-Line, OHV use is permitted only on BLM-designated routes of travel except between MPs 71.1 and 74.5 (see Section 4.0). Prior to construction, the right-of-way will be clearly marked on the ground. Where active construction is underway, the right-of-way will be occupied by workers and equipment. OHV users will be directed back to designated routes of travel.

Construction of the IID Lateral would normally be planned for the winter to avoid the hottest weather and the nesting bird season. Because peak OHV use season is from Labor Day to Easter and is especially high in November and December, BLM recreation planners and the TRT recommended that pipeline construction take place during the summer months to avoid conflict with the high use recreational season (North Baja 2005a, 2005b). North Baja has incorporated this suggestion into its proposed construction schedule. The TRT also raised concerns that various recreational activities might conflict with the pipeline if it was buried at standard depths. In response to these concerns, the pipeline will be buried to ensure 6 feet of cover (3 feet greater than typical pipeline depths) between MPs 2.7 and 5.7.

During construction, the work area within the ISDRA will be fenced to prevent recreational users from entering the construction area. Because this will represent a short-duration recreational use restriction in a limited area during the low-use season, this will not constitute a significant impact. Surface contours will be re-established once the pipeline has been installed.

4.0 OPERATION

Where the pipeline will be located in areas of authorized OHV use such as between MPs 71.1 and 74.5 of the B-Line and MPs 2.3 to 7.9 of the IID Lateral (both segments are in the ISDRA), the pipeline right-of-way will not be restricted for OHV use, so no significant impact on recreational use will result with respect to normal pipeline operations. Short-term recreational impacts could result from operation and maintenance activities if North Baja needed to perform major maintenance work, such as pipeline repairs; however, such major work would occur seldom, if ever. Routine maintenance at block valves will occur inside the fenced valve yard and will not affect recreational use. During operation, North Baja will maintain a rigorous program of inspection to ensure that underground facilities are properly marked and the integrity of the pipeline is intact. In areas outside of the ISDRA where OHV use is supposed to be confined to designated roads and trails, North Baja will employ appropriate OHV blocking tools.

4.1 OHV BLOCKING GOALS AND TOOLS

Based on the premises that OHV users will use the right-of-way as a road if there are no blocking measures, and that a relatively small investment in visual blocking can reduce OHV route proliferation, North Baja implemented in 2002 blocking measures at certain important intersecting road crossings for the A-Line. In 2002 three categories of roads were considered in the OHV blocking plan where crossed by the pipeline right-of-way:

- Paved roads,
- Existing unpaved roads, and
- Obvious OHV tracks.

Where the proposed right-of-way closely parallels an existing route, it was assumed that although the right-of-way is visible, it will not be attractive to OHV users. Inspection of the right-of-way from parallel roads during 2005 confirmed this original assumption.

Where the right-of-way crosses one of these road types, consideration was given to one of several OHV blocking tools:

- Berms will be placed across the right-of-way where it intersects an existing OHV road. Berm slopes shall not exceed 30 percent.
- Berms will be placed across the right-of-way as part of erosion control, strategically placed to reduce visibility and mimic local topography.
- Rock redistribution and strategic placement, without making it into a challenging obstacle course, will occur across the pipeline where large rock is available and such work would “erase” the visual cues of “road.”
- The right-of-way will be backbladed or raked by bulldozer or by hand, to erase the traces of the intersection of the pipeline with an existing OHV route or dirt road.

- Ocotillo and large cacti will be salvaged and replanted where they are available, with the understanding that survival criteria would not be applied because even dead specimens can provide convincing visual clues of “no road.”
- Other desert species, including creosote bush scrub and desert wash woodland species (palo verde, ironwood, smoke tree, *etc.*) will also be salvaged and replanted, with the understanding that they would be unlikely to survive but could still provide value as a visual block even if they are dead.
- Woody material removed during construction will be redistributed across the right-of-way used to both disguise the right-of-way and serve as “vertical mulch.”
- No action will be taken where it is apparent that no blocking measure would prevent OHV use.

4.2 ASSESSMENT

4.2.1 *B-Line*

An assessment of road crossings along the A-Line right-of-way was completed in December 2001 through the use of aerial photographs and field verification. The substrate, terrain, vegetation, and other roads within the area, especially those that run parallel to the right-of-way, were all considered during the assessment. Additionally, North Baja and BLM conducted a joint survey of the pipeline route prior to construction in order to further identify and assess locations where visual blocking of the right-of-way will help to discourage use of the right-of-way by unauthorized OHV traffic. The results of that assessment are described in the OHV Blocking Plan (North Baja 2001). The plan related specific landscape features for 16 route segments and the type of blocking methods that might be successful, and identified the method selected for a specific road crossing.

Because the B-Line will be located in the existing operational right-of-way for the A-Line, the same road crossings are still applicable. Proposed blocking measures are described below.

Milepost 0.36 (Riviera Drive) —An earthen berm was installed across North Baja’s right-of-way on the western edge of Riviera Drive to discourage OHV users from accessing other parts of the property from that location. This has proven effective in discouraging access down the right-of-way from this location. However, OHV use on the right-of-way originating from other locations has been relatively heavy on the North Baja and adjacent SoCalGas rights-of-way. Based on a review of pre-construction aerial photography, this appears to be a continuation of an OHV use pattern established prior to North Baja’s existence. North Baja proposes to reconstruct the earthen berm at Riviera Drive after construction of the Colorado River loop and, with the property owner’s concurrence, will leave the right-of-way with a rougher, more hummocky surface, instead of the smooth finished grade that matches that adjacent ground surface. This may make the right-of-way less attractive as a travel way. North Baja will also offer to procure and install signs for the property owner, should he choose to attempt to discourage OHV access at the main entry points on the property (unrelated to the pipeline right-of-way).

Milepost 11.88—An existing dirt road crosses the right-of-way at MP11.88, this road also was used as a temporary access road to the right-of-way during A-Line construction in 2002. This area is very sandy and dominated by herbaceous plants and creosote bush, and the terrain is relatively flat. It is likely that this area will disguise itself fairly quickly with herbaceous plants, and thus the recommended method of visual blocking was raking and replanting of creosote bush. In 2005, evaluation of this revegetation effort indicated that OHV blocking efforts were successful. After construction of the B-Line, the right-of-way will be raked and creosote bush will be replanted to block OHV access.

Mileposts 12.5, 13.25, 14.9 (Gravel Pit Road), 16.2, and 18.3 (Bradshaw Trail)—These roads are all existing dirt roads that intersect with the powerline access road, which runs parallel to the right-of-way. The substrate is sand with small gravel, and the terrain is flat. The adjacency of the A-Line to the existing powerline right-of-way made visual blocking measures less likely to be effective, and the right-of-way does not increase access into previously inaccessible areas. The redistribution of woody material across the right-of-way was enough to discourage OHV traffic from using the pipeline as a road. Evaluation of this measure in 2005 indicated that these measures were effective. They will be re-instituted after construction of the B-Line.

Milepost 22.1—This major dirt road that is used by many recreational vehicle (RV) drivers to get to desired camping areas. The substrate and terrain are the same as above. In 2002, it was recommended that 3-foot berms be placed across the right-of-way at this location to discourage traffic from turning onto the right-of-way instead of the powerline right-of-way access road. Evaluation in 2005 of this measure indicated that it was effective. The same measures will be re-instituted after construction of the B-Line.

Mileposts 23.97, 24.04, and 24.27—These are signed access roads that lead into a dry desert wash, which is then used as OHV access. The terrain is flat, and the area is thickly vegetated with saltbush. Respreding the cut vegetation over the right-of-way to provide sufficient blocking were the measures implemented at these crossings in 2002. Evaluation of these measures in 2005 indicated that they were effective. They will be re-instituted after construction of the B-Line.

Milepost 34.95 (Walter's Camp Road)—This is a major road that parallels the bank of Milpitas Wash. The terrain at the area where the road crosses is hilly, so a berm could be used effectively to block OHV traffic and blend into the surrounding landscape. In 2002, a 3-foot berm was placed to the north of the road intersection because Milpitas Wash is directly south of the road intersection, and the bank of Milpitas Wash provided its own blocking. Evaluation of these measures in 2005 indicated that it was effective. It will be re-instituted after construction of the B-Line.

Mileposts 35.05 to 35.73 (Milpitas Wash)—Milpitas Wash is a large desert wash that is used as a track for OHV users. Because the banks of the wash were restored to their original contours in 2002, the pipeline route to the north and south of the wash was effectively blocked to OHV traffic within the wash. However, to more effectively reduce the visual cues, replanting of desert wash trees was recommended in 2002 for areas within the right-of-way and along the banks where the right-of-way intersects. Evaluation of these measures in 2005 indicated that

they were effective, and OHV usage has not created a problem in this area. They will be re-instituted after construction of the B-Line.

Mileposts 36.9, 41.5—The substrate along this part of the pipeline consists of desert varnish coated desert pavement, and the terrain is hilly. The right-of-way is approximately 250 feet off State Route 78 at this location. After construction of the A-Line in 2002, 3-foot-tall berms were constructed along the right-of-way, and backblading was also used. Evaluation of these measures in 2005 indicated that they were effective. They will be re-instituted after construction of the B-Line.

Milepost 39.0— At this location a dirt road and a wash intersect with the right-of-way. The substrate and terrain at this location are the same as that of MP 36.9A, as is the location of State Route 78. Therefore, the visual blocking method recommended is the strategic placing of berms (3 feet tall) along the right-of-way, the use of backblading, or both.

Milepost 42.25—This crossing is a desert wash that is used by OHV traffic. Because the banks of this wash are steep, the recontouring of the banks will provide OHV blocking. Replanting of desert wash vegetation will provide further visual blocking of the right-of-way.

Milepost 47.3—This is an existing dirt road that crosses the right-of-way behind the Border Patrol Checkpoint along State Route 78. The substrate and terrain at this location are similar to that at MPs 36.9A, 39.0A, and 41.5A. Two- to three-foot tall berms along the right-of-way and backblading were recommended and installed in this area in 2002. Evaluation of these measures in 2005 indicated that they were effective. They will be re-instituted after construction of the B-Line.

Milepost 49.0 (Black Mountain Road)—Black Mountain Road is a maintained dirt road. The road cut currently has berms on either side. The creation of 3-foot-tall berms across the right-of-way on either side of Black Mountain Road and replanting of salvaged cacti or ocotillo will create an effective block to OHV traffic.

Milepost 49.4—The right-of-way parallels a powerline at this location. A powerline access road crosses the right-of-way within a small desert wash. The use of a 4-foot berm at the edge of the wash in 2002 blended into the landscape and discouraged OHV traffic from using the pipeline as road access. Cacti and ocotillo salvage and replanting in 2002 also discouraged OHV traffic. Evaluation of these measures in 2005 indicated that they were effective. They will be re-instituted after construction of the B-Line.

Milepost 49.8—This location is similar to that at MP 49.4 in that the right-of-way parallels a powerline with an access road. Therefore, the blocking measure recommended and implemented in 2002 was a single 4-foot berm that blended into the landscape and cacti salvage and replanting to discourage OHV traffic from using the pipeline as a road. Evaluation of these measures in 2005 indicated that they were effective. They will be re-instituted after construction of the B-Line.

Mileposts 50.2, 50.7, and 51.8—These three crossings are all within dry desert washes with desert wash trees. The wash banks were restored after construction of the A-Line to their

natural contours, thereby providing natural berms. Additional blocking measures included salvage and replanting of desert wash trees across the right-of-way on both banks of the wash.

Mileposts 54.45 and 54.47—At this location two dirt roads intersect the right-of-way within approximately 125 feet of each other. The terrain is relatively flat, and the substrate is desert varnish-coated desert pavement. Backblading was used in 2002 to disguise the right-of-way, and 3-foot berms were placed across the right-of-way at the far north and south sides of the two roads to discourage OHV traffic on the right-of-way. These measures were effective and will be reinstated after construction of the B-Line.

Milepost 54.98 (Ogilby Road)—Ogilby Road is a paved county road that leads from State Route 78 to I-8. To the south of this intersection, the right-of-way parallels Ogilby Road. To prevent OHV traffic to the north of this intersection, a 4-foot berm was placed across the right-of-way in 2002 on the north side of the intersection. Evaluation of these measures in 2005 indicated that they were effective because no OHV tracks were observed in this area. They will be re-instituted after construction of the B-Line.

Mileposts 55.85, 56.45, 56.92, 57.05, 66.8, 67.0, 69.25, and 70.9—The right-of-way at these eight crossings parallels Ogilby Road. The edge of the right-of-way is within 100 feet of Ogilby Road. The substrate is desert varnish-coated desert pavement, and the terrain is relatively flat and sparsely vegetated. The adjacency to Ogilby Road made blocking measures such as berms, backblading, or replanting unlikely to adequately block the right-of-way. Therefore, at these crossing locations no action was recommended or taken in 2002. Evaluations of these crossing measures in 2005 indicated limited OHV traffic. A similar approach will be taken after construction of the B-Line.

Mileposts 64.9 (Walker Way Road), 65.36 (County Road 8125), and 66.5 (Golden Rock Ranch Road)—These three roads are all maintained dirt roads that are predominantly used by RV drivers and other campers to get to desired camping spots. Because campers use the area, the right-of-way could potentially be seen as an OHV route. The maintenance of the roads has created berms, which were enhanced in 2002 after construction of the A-Line (to a total height of 4 feet) at the locations where they intersected the right-of-way to discourage drivers from using the right-of-way as a road. Evaluation of this measure in 2005 indicated that it was effective. They will be re-instituted after construction of the B-Line.

4.2.2 IID Lateral

Mileposts 0.0 to 7.9 (ISDRA)—This area is a recognized OHV use area. OHV blocking measures are unnecessary.

Mileposts 7.9 to 46.0 (primarily Imperial County roadways)—This segment of the IID Lateral will be located at the edge and sometimes in the pavement of the traveled way. OHV blocking measures are unnecessary.

4.2.3 Arrowhead Extension

The 2.1-mile Arrowhead Extension is partially in agricultural lands with the remainder in the Arrowhead Boulevard right-of-way. This area does not provide access to previously restricted or inaccessible areas; therefore, OHV blocking measures are unnecessary.

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APPENDIX Q

VISUAL RESOURCE STUDY



North Baja Pipeline, LLC

NORTH BAJA PIPELINE EXPANSION PROJECT

Appendix Q

Visual Resource Study

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Appendix Q

Visual Resource Study

1.0 INTRODUCTION

The North Baja Pipeline Expansion Project (Project) will construct a new natural gas pipeline to connect with the Gasoducto Bajanorte Pipeline at the U.S.-Mexico border and to the existing North Baja facilities and the El Paso Natural Gas system in Ehrenberg, Arizona. The Project includes three elements: the B-Line, which includes interconnection facilities in Ehrenberg, Arizona, as well as a 79.8-mile, 42- and 48-inch diameter pipeline between Blythe and the Mexican border; the Arrowhead Extension, which includes a meter station and a 2.1-mile, 36-inch diameter pipeline extending from the proposed B-Line at milepost (MP) 7.4 to Southern California Gas Company's (SoCalGas) existing Blythe Compressor Station; and the Imperial Irrigation District Lateral (IID Lateral), a 45.7-mile, 16-inch diameter pipeline between the B-Line and IID's El Centro Generating Station.

The purpose of this report is to evaluate the visual impact of the proposed Project. The specific facilities evaluated in this analysis are listed in Tables Q-1 and Q-2. The location of the Project is shown in Figure Q-1.

Table Q-1: Pipeline Facilities Associated with the North Baja Expansion Project				
Facility	Pipe Diameter (inches)	Approximate Milepost	Length (in miles)	County, State
B-Line				
Colorado River Loop	42	0.0 to 0.5	0.5	La Paz, AZ, Riverside, CA
Mainline Loop	42/48	0.5 to 79.8	79.3	Riverside, CA Imperial, CA
B-Line Total			79.8	
Arrowhead Extension	36	0.0 to 2.1	2.1	Riverside, CA
IID Lateral	16	0.0 to 45.7	45.7	Imperial, CA
Project Total			127.6	

APPENDIX Q**Table Q-2: Aboveground Facilities Associated with the North Baja Expansion Project**

Facility	Approximate Milepost	County, State
B-Line		
Ehrenberg Compressor Station modifications and pig receiver	0.0	La Paz, AZ
Rannells Trap pig launcher and receiver	11.7	Riverside, CA
Mainline Valve #1	0.0	Riverside, CA
Mainline Valve #2	5.7	Riverside, CA
Mainline Valve #3	11.7	Riverside, CA
Mainline Valve #4	11.7	Riverside, CA
Mainline Valve #5	28.0	Imperial, CA
Mainline Valve #6	41.6	Imperial, CA
Mainline Valve #8	75.2	Imperial, CA
Mainline Valve #9	75.2	Imperial, CA
Ogilby Meter Station modifications and pig launcher, receiver	75.2	Imperial, CA
Arrowhead Extension		
Two Taps at the A-Line and B-Line, Crossover Piping, and Pig Launcher	0.0	Riverside, CA
Blythe-Arrowhead Meter Station and Pig Receiver	2.1	Riverside, CA
IID Lateral		
Tap at mainline and pig launcher	0.0	Imperial, CA
IID Lateral Valve #1	0.0	Imperial CA
IID Lateral Valve #2	7.6	Imperial CA
IID Lateral Valve #3	27.2	Imperial CA
IID Lateral Valve #4	38.7	Imperial CA
El Centro Meter Station and pig receiver	45.7	Imperial CA

2.0 VRM PROCESS OVERVIEW

In order to assess visual resource impacts of the Project, it is important to understand the methodology used for the visual impact assessment. Most of the right-of-way crosses lands administered by the Bureau of Land Management (BLM). The BLM has developed a systematic approach to managing scenery and visual resources of landscapes, called the Visual Resource Management (VRM) System (BLM 2000). This system was used for the inventory of visual resources and evaluation of the predicted visual effects that could be created by the Proposed Project.

The purpose of the BLM VRM system is twofold: 1) to manage the quality of the visual environment and 2) to reduce the visual impact of development activities, while maintaining effectiveness in the BLM's resource programs. Managing the visual aspects of changes to the natural landscape is particularly important for the BLM because most activities taking place on BLM-administered lands involve some degree of alteration to the landscape.

The Federal Land Policy and Management Act of 1976 (FLPMA) requires that public lands be managed in a manner that will protect the quality of scientific, *scenic*, historical, ecological, environmental, air and atmospheric, water resources, and archaeological values (43 United States Code 1701). The BLM is concerned with managing visual impact without unduly reducing commodity production or limiting overall program effectiveness.

Because the scenic value and management objectives of public lands vary, it is not practical or desirable to provide a uniform level of visual management for all areas administered by the BLM. The agency has therefore developed a system for evaluating the visual resources of a given area and for determining what degree of protection, rehabilitation, or enhancement is desirable and possible.

The VRM system is an analytical process that identifies, sets, and meets objectives for maintaining scenic values and visual quality. It functions in two ways:

First, for management purposes, the BLM conducts an inventory that evaluates visual resources on all lands under its jurisdiction (*Inventory/Evaluation*). Once inventoried and analyzed, lands are given relative visual ratings (*Management Classification*). The development of Visual Management Classes is not project-specific. It is a general process to identify broad visual objectives for all public lands during land management planning processes.

Visual Management Classes are established through the resource management planning (RMP) process for all BLM-administered lands. During the RMP process, the Class boundaries are adjusted as necessary to reflect the resource allocation decisions made in RMPs. In accordance with BLM Manual 8400 (April 5, 1984), it is BLM policy that “*interim* visual management objectives” are established where a project is proposed and there are no RMP approved Visual Management Classes. These interim objectives are developed using the

guidelines in Manual Section 8410 and must conform to the land use allocations set forth in the RMP, which covers the project area. The establishment of interim VRM objectives will not require a plan amendment unless the project itself requires one.

Secondly, when any development is proposed – whether it is proposed by the BLM itself through its planning process, or by other agencies, or by the private sector – the degree of contrast between the proposed activity and the existing landscape is measured utilizing a methodology called “Contrast Rating”.

The assessment of Project visual resource impacts is presented in four parts: 1) B-Line, 2) IID Lateral, 3) Arrowhead Extension; and 4) aboveground facilities.

2.1 VRM PLANNING AUTHORITY

The North Baja Pipeline Expansion Project will cross public lands administered by three different field offices of the BLM: Palm Springs Field Office (B-Line MP 11.7 to 22.3); Yuma Field Office (B-Line MPs 22.3 to 33.8); and El Centro Field Office (B-Line MPs 33.8 to 79.8, and MPs 0.0 to 27.6 of the IID Lateral). Each of these BLM offices handles visual resource management differently.

Lands crossed by the B-Line under the jurisdiction of the BLM-Palm Springs Field Office, from MP11.7 to 22.3, do not have a formally designated Visual Management Class through the RMP process, and the BLM did not formally correlate Multiple-Use Class designations with VRM classifications (Jim Foote, BLM, 2004). However, since these lands have not been classified by the BLM and are also located within the CDCA, the CDCA Plan requires that each project develop “Interim VRM Classes and Objectives” (BLM 1980). Interim objectives were developed and included in the Visual Resource Study for the 2002 North Baja Project, and a detailed description of the process used to develop Interim VRM Classes was presented for that project. A synopsis of that process follows in this report for MP 11.7 to 22.3.

Visual resource classifications for lands under the jurisdiction of the BLM-Yuma Field Office are outside the CDCA (B-Line MPs 22.3 to 33.8). These lands are designated by the current RMP as Visual Management Class III. (Aaron Curtis, BLM, 2006; BLM 1987). The BLM Yuma Field Office is currently updating their RMP and VRM maps displayed at planning Open Houses have shown the entire California State Route 78 utility corridor as Visual Management Class III. Some surrounding lands have Class II because of extensive cultural resources. The new RMP may be adopted by the end of 2006.

Public lands administered by the BLM-El Centro Field Office (B-Line MPs 33.8 to 79.8) are based directly on the Multiple-Use Class designations developed through the CDCA Plan (Larry Caffey, BLM, 2005; BLM 1980). The Multiple-Use Class – VRM Class associations for lands administered by the El Centro field office are:

- Multiple-Use Class “C” = VRM Class I

- Multiple-Use Class “L” = VRM Class II
- Multiple-Use Class “M” = VRM Class III
- Multiple-Use Class “I” = VRM Class IV

For public lands administered by the BLM-EI Centro Field Office and crossed by the IID Lateral (IID MPs 0.0 to 27.6) Visual Management Classes are based directly on the Multiple-Use Class designations developed through the CDCA Plan (Larry Caffey, BLM, 2005).

Visual Management Classes describe the different degrees of modification allowed to the basic elements of the landscape.

Class I. Natural ecological changes and very limited management activity are allowed. Any contrast created within the characteristic landscape must not attract attention. This classification is applied to wilderness areas, wild and scenic rivers, and other similar situations.

Class II. Changes in any of the basic elements (form, line, color, texture) caused by a management activity should not be evident in the characteristic landscape. Contrasts are seen, but must not attract attention.

Class III. Contrasts to the basic elements caused by management activity are evident, but should remain subordinate to the existing landscape.

Class IV. Any contrast attracts attention and is a dominant feature of the landscape in terms of scale, but it should repeat the form, line, color, and texture of the characteristic landscape.

Class V. This classification is applied to areas where the natural character of the landscape has been disturbed to a point where rehabilitation is needed to bring it up to one of the four other classifications. The classification also applies to areas where there is potential to increase the landscape’s visual quality. It will, for example, be applied to areas where unacceptable cultural modification has lowered scenic quality; it is often used as an interim classification until objectives of another class can be reached.

Table Q-3 (derived from BLM 1986a) was used in 2001 to determine the Interim Visual Management Classes for the North Baja Pipeline. Because these same lands will be crossed by the B-Line from MP 11.7 to 22.3, in the BLM Palm Springs area, this table was used again in this report:

Table Q-3: Interim Visual Resource Management Classes							
Visual Sensitivity	H	H	H	M	M	M	L
Special Areas	I	I	I	I	I	I	I
Scenic Quality A	II	II	II	II	II	II	II
Scenic Quality B	III	III	III	III	IV	IV	IV
Scenic Quality C	III	IV	IV	IV	IV	IV	IV
Distance Zones	FG/MG	BG	SS	FG/MG	BG	SS	SS

Note: Class V areas are those that have been identified in the VRM planning system which require rehabilitation or enhancement and therefore are not included in the chart above.

On BLM lands the proposed B-Line route crosses VRM Classes II, III, and IV lands (24.9, 23.5, and 6.8 miles, respectively). The IID Lateral crosses VRM Class II lands (20.8 miles) and VRM Class IV lands (4.9 miles).

Table Q-4 displays the various VRM Class objectives by Milepost and by Jurisdiction.

Table Q-4: VRM Class Designations by Milepost					
	Milepost	VRM Class)			
		I	II	III	IV
B-Line					
	0.0-0.2	-	-	-	-
	0.2-3.4	-	-	-	-
	3.4-11.7	-	-	-	-
	11.7-14.5	-	-	-	2.7
	14.5 - 14.8	-	-	-	-
	14.8-17.3	-	-	-	2.5
	17.3 - 17.6	-	-	-	0.3-
	17.6 - 18.1	-	-	-	0.5
	18.1 - 18.3	-	-	-	-
	18.3 - 19.3	-	-	-	0.8-
	19.3-22.3	-	-	-	-
	22.3 - 33.8	-	-	4.2	-
	33.8 - 34.5	-	-	0.7	-
	34.5 - 39.6	-	4.9	-	-
	39.6 - 49.0	-	9.1	-	-
	49.0 - 52.0	-	-	3.0	-
	52.0 - 55.1	-	3.1	-	-
	55.1 - 62.0	-	-	6.9	-
	62.0 - 66.0	-	4.0	-	-
	66.0 - 71.3	-	-	4.4	-
	71.3 - 75.5	-	3.8	-	-
	75.5 - 79.8	-	-	4.3	-
IID Lateral					
	0.0 - 2.3	-	2.3	-	-
	2.3 - 7.2	-	-	-	4.9
	7.2 - 27.6	--	18.5	--	-
	27.6 - 45.6	-	-	-	-
Arrowhead Extension					
	0.0-2.1	-	-	-	-
TOTALS		0	45.7	23.5	11.7

3.0 B-LINE AND ASSOCIATED FACILITIES

The B-Line will be located adjacent to the existing A-Line, generally offset 25 feet to the west side. The existing A-Line was approved in 2002 and constructed in spring and summer of 2002. Landscape restoration was completed in fall of 2002. Subsequently in the winter of 2004-2005, precipitation was received in the California Desert that was reported to be of a magnitude of "once-in-100-years." Revegetation of the pipeline right-of-way has been somewhat dramatic because of this precipitation. In order to document the visual effects of the existing pipeline construction activities and the effectiveness of mitigation measures undertaken during the initial phases of construction, operation and maintenance, this Visual Resource Study documents the changes that occurred at each of the eight Key Observation Points of the original mainline pipeline, called the "A-Line." Additionally, photographs were taken to show the visual effects of the mainline construction from the Mexican border to Ehrenberg Compressor Station near Blythe, California. These photographs proficiently show the visual effects of pipeline construction, operation and maintenance in the desert environment, and therefore, aid in the assessment of future visual effects of the proposed Project (see Attachment A).

3.1 VRM INVENTORY AND EVALUATION FOR PALM SPRINGS FIELD OFFICE BLM LANDS (MP 11.7 TO 22.3)

The visual resources inventory consists of a scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. Based on these three factors, BLM-administered lands from MP 11.7 to 22.3 were placed into one of four visual resources inventory classes. These inventory classes represent the relative value of the visual resources, Class I and II being the most valued, Class III representing a moderate value, and Class IV being of least value from a scenic standpoint. The inventory classes provide the basis for considering visual values in the RMP process.

The California Desert Conservation Area Plan (BLM 1980), as amended, identifies the following actions the BLM will take to effectively manage for activities involving alteration of the natural character of the landscape to some degree:

1. The appropriate levels of management, protection, and rehabilitation of all public lands in the CDCA will be identified, commensurate with visual resource management objectives in the multiple-use guidelines.
2. Proposed activities will be evaluated to determine the extent of change created in any given landscape and to specify appropriate design or mitigation measures using the BLM's contrast rating process.

Because in 2001, Visual Management Classes had not been adopted by the BLM in an RMP for Federal lands crossed by the A-Line, North Baja used BLM methodology to inventory, evaluate and establish Interim VRM objectives. The Visual Resource Management Report prepared by

North Baja and included as an appendix in the 2002 North Baja Pipeline EIS for the A-Line identified Interim VRM objectives utilizing the guidelines set forth in BLM Handbook 8410 (BLM 1986a). These objectives conformed to the land use allocations set forth in the CDCA Plan that covers the Project area. The methodology utilized to develop these interim VRM objectives is explained in the sections below, including scenic quality evaluation, sensitivity levels, and distance zones. A similar approach has been used for the Project facilities from MP 11.7 to 22.3. For areas that have a Visual Management Class objective based on a Multiple-Use Class, there is an explanation of the differences, if any.

3.1.1 Scenic Quality Evaluation

Scenic quality is a measure of the visual appeal of a tract of land. In the visual resource inventory process, public lands are given an A (distinctive scenery), B (common scenery), or C (minimal or low scenic value) rating based on the existing scenic quality which is determined using seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications (see Table Q-5). An important premise of the evaluation is that all public lands have scenic value, but areas with the most variety and most harmonious composition have the greatest scenic value. Another important concept is that the evaluation of scenic quality is done in relationship to the natural landscape. This does not mean that man-made (cultural) features within a landscape necessarily detract from the scenic value. Man-made features that compliment the natural landscape may enhance the scenic value, such as split rail fences or log cabins.

To conduct a scenic quality evaluation, a planning area is subdivided into scenic quality rating units. Rating areas are delineated on the basis of the following:

1. Like physiographic characteristics
2. Similar visual patterns, texture, color, variety, etc. and
3. Areas which have similar impacts from man-made modifications.

The size of a scenic quality rating unit (SQRU) may vary from several thousand acres to one hundred or less acres, depending on the homogeneity of the landscape features and the detail desired in the inventory. Normally, more detailed attention is given to highly scenic areas or areas known to have high sensitivity. The A-Line, which was constructed in 2002, generally is located south of Interstate Highway 10 (I-10) in an east-west direction, then turns south and is located east of State Route 78, and east and then west of State Route 34 both of which lie in a north-south direction.

Table Q-5: Scenic Quality Inventory and Evaluation Chart			
Key Factors	Rating Criteria and Score		
Landform	High vertical relief as expressed in prominent cliffs, spires, <u>or</u> massive rock out-crops; <u>or</u> severe surface variation or highly eroded formations including major badlands or dune systems; <u>or</u> detail features dominant and exceptionally striking and intriguing such as glaciers	Steep canyons, mesas, buttes, cinder cones, and drumlins; <u>or</u> interesting erosional patterns or variety in size and shape of landforms; <u>or</u> detail features which are interesting though not dominant or exceptional.	Low rolling hills, foothills, or flat valley bottoms; <u>or</u> few or no interesting landscape features.
	5	3	1
Vegetation	A variety of vegetation types as expressed in interesting forms, textures, and patterns.	Some variety of vegetation, but only one or two major types.	Little or no variety or contrast in vegetation.
	5	3	1
Water	Clear and clean appearing, still, or cascading white water, any of which are a dominant factor in the landscape.	Flowing, or still, but not dominant in the landscape.	Absent, or present, but not noticeable.
	5	3	0
Color	Rich color combinations, variety or vivid color; <u>or</u> pleasing contrasts in the soil, rock, vegetation, water, or snow fields.	Some intensity or variety in colors and contrast of the soil, rock, and vegetation, but not a dominant scenic element.	Subtle color variation, contrast, or interest; generally mute tones.
	5	3	1
Adjacent Scenery	Adjacent scenery greatly enhances visual quality.	Adjacent scenery moderately enhances overall visual quality.	Adjacent scenery has little or no influence on overall visual quality.
	5	3	0
Scarcity	One of a kind; <u>or</u> unusually memorable, <u>or</u> very rare within region. Consistent chance for exceptional wildlife or wild-flower viewing, etc	Distinctive, though somewhat similar to others within the region.	Interesting within its setting, but fairly common within the region.
	5+	3	1
Cultural modifications	Modifications add favorably to visual variety while promoting visual harmony.	Modifications add little or no visual variety to the area, and introduce no discordant elements.	Modifications add variety but are very discordant and promote strong disharmony.
	2	0	-4

Scenic Quality

A= 19 or more

B= 12-18

C= 11 or less

In 2002, the SQRU for the North Baja Pipeline Route was established, inventoried and evaluated for the then proposed A-Line. Following is a summary of the scenic quality assessment for the pipeline route that was constructed in 2002. Because the B-Line will be built in the same right-of-way (25-feet away from the existing pipeline), the same scenic quality assessment applies to the B-Line as well for MP 11.7 to 22.3.

The dominant view of the landscape through which the right-of-way passes is a flat desert floor, covered with creosote bush scrub and widely scattered desert dry-washes. The majority of

BLM-administered lands under jurisdiction of Palm Springs and crossed by the B-Line are flat to hilly desert landscapes. Background views to the south reveal the Palo Verde Mountain Range in the background of the right-of-way. Following is a detailed discussion of landform, vegetation, water, color, adjacent scenery, scarcity and cultural modifications, which the BLM VRM system utilizes to establish existing scenic quality.

Landform. Regarding landforms, the Palo Verde Mesa generally slopes from west to east into and following the Colorado River drainage, with very little elevation change from MP 11.7 to 22.3. A few minor drainage swales cross the right-of-way corridor, however, no significant elevation change is observed.

Vegetation. The vegetative pattern on the desert floor is expansive areas of widely scattered, low-growing and sparse creosote bush scrub. Other plants observed in scattered locations include ocotillo, cholla, brittlebush, and cacti. In the dry desert washes, linear patterns of desert dry wash woodlands were observed to contain species of palo verde, ironwood, smoke tree (all of which are short, densely branched trees). There is little- or no-contrast in vegetation color or pattern within the SQRU.

Water. Generally, no water was observed within the SQRU during field reconnaissance in September-October 2005. The nearest body of water is the Colorado River, located approximately one-to seven-miles to the east, but the river is not visible from the pipeline route or from State Route 78.

Color. Colors exhibited in the B-Line right-of-way landscape include tan sand flats, brown background mountains and gray-green scrub brush. During months of rainfall in winter and early spring, the hues of green become brighter and create some contrast with the tan sands and desert varnish. Overall, for the majority of the year, there are only subtle color variations, little- to no-visual contrast or interest.

Adjacent Scenery. Regarding adjacent scenery, throughout the entire path of the B-Line, there is little variation from that of barren desert scrub. The scenery directly adjacent to the B-Line right-of-way from MP 11.7 to 22.3 adds minimally to the visual quality of this landscape.

Scarcity. The desert floor scenery crossed by the B-Line is very common within the southeastern region of the California Desert. The landscape has all the typical appearance of desert dominated by creosote scrub and flat desert landscapes. There are no unique or scarce viewsheds crossed by the right-of-way.

Cultural Modifications. Electrical transmission lines on double wooden poles are immediately adjacent to the B-Line right-of-way. Wooden power poles and associated conductors between them extend the entire length of the SQRU. This intrusion on the landscape constitutes a minor impact to the scenery. Some dirt roads have been cut through the SQRU; however, they generally can only be seen when traveling on them or in close proximity. The visual impacts of cultural modifications are restricted to the electric power line corridor, as well as State Route 78 which generally traverses north-south within 4- to 5-miles of the existing A-Line and proposed B-

Line pipeline route. Cultural modifications add little or no visual variety to the area, and introduce only slight discordant elements.

Overall, no exceptionally striking, intriguing, unique, or visually stimulating landforms, vegetative communities, waterbodies, colors, or adjacent scenery landscapes are crossed by the B-Line corridor in MP 11.7 to 22.3.

Utilizing the BLM VRM system, the scenic quality of the B-Line right-of-way is rated as shown in Table Q-6.

Table Q-6: Scenic Quality Rating Summary for the Existing Pipeline and B-Line Right-of-Way		
Key Factor	Possible Rating	B-Line SRQU Rating
Landform	1 to 5	1
Vegetation	1 to 5	1
Water	1 to 5	1
Color	1 to 5	1
Adjacent Scenery	1 to 5	3
Scarcity	1 to 5	1
Cultural Modifications	-4 to 2	0
Total Scenic Quality Score	2 to 32	8

In accordance with BLM Manual Handbook 8410-1 (BLM 1986), the scenic quality of an SQRU with a total score of 8 is "C" meaning low or minimal existing scenic quality.

3.1.2 Sensitivity Level Analysis

Sensitivity levels are a measure of public concern for landscape scenery. Public lands are assigned high, medium, or low sensitivity levels by analyzing the various indicators of public concern. A sensitivity level rating unit (SLRU) is delineated after review of the factors considered discerning public concern; however, there is no standard procedure for delineating SLRUs. The boundaries will depend on the factor that is driving the sensitivity consideration. The factors to be considered in the sensitivity level analysis are as follows:

Type of Users. Visual sensitivity will vary with the type of users. Recreational sightseers may be highly sensitive to any changes in visual quality, whereas workers who pass through the area on a regular basis may not be as sensitive to change.

The users can generally be characterized as individuals who recreate in the winter or reside in the communities of Palo Verde, Yuma, Blythe and El Centro who transit the area. There is a significant amount of vehicular traffic that travels through this vicinity via State Routes 78 and 34. State Route 78 is a connector between Interstate Highway 8 (I-8) and I-10, and State Route

34 is a cut-off through the abandoned Ogilby site to I-8. The dirt roads in the desert valley are used very infrequently. Common recreational opportunities appear to be off-road biking and four wheel driving, as there are signs posted noting that the area is an official OHV area. Workers for the electric utility make use of a dirt road graded to the side of the utility poles and tend to not be sensitive to the surrounding landscape sights.

The Colorado River is located approximately eight to ten miles to the east of the Project.

Where maintenance of visual quality is a major public issue, a rating of high is assigned; where it is a moderate public issue, a rating of moderate is assigned; and where it is a minor public issue, a rating of low is assigned. Given the remoteness of the Palo Verde Mesa and lack of public controversy expressed by residents of Blythe, Yuma or El Centro, it can be concluded that the maintenance of visual quality is a minor public issue. Therefore, the rating for this factor is LOW.

Adjacent Land Uses. For BLM-administered lands from MP 11.7 to 22.3, the land use that surrounds of the Project right-of-way is that of and overhead electrical utility line and open-space desert. There are no agricultural, commercial, residential, or industrial uses anywhere near the B-Line. I-8, to the south, carries people to the nearest cities, which are El Centro, California and Yuma, Arizona. To the north, I-10 carries people to the nearest city, which is Blythe, California. The small community of Palo Verde (population less than 100) is situated near the Imperial-Riverside County line, approximately four miles east of MP 22.3. Very few individuals live in the near vicinity of the Project in the remainder of MP 11.7 to 22.3.

Where maintenance of visual quality to sustain adjacent land use objectives is very important, a rating of high is assigned; where it is moderately important, a rating of moderate is assigned; and where it is slightly important, a rating of low is assigned. Given the uses of lands in the Pilot Knob Mesa, the rating for this factor is low.

Other Factors. All other data, such as research, or studies that include indicators of visual sensitivity, were researched. No other information that includes indicators of visual sensitivity is known to exist relative to the landscapes crossed. The rating for this factor is Low.

Overall Sensitivity Level. The overall sensitivity level is a judgmental process, which requires a careful analysis of all of the sensitivity level factors. The ratings given to each factor are reviewed, and the relationship between factors is analyzed. A high rating in any one factor does not necessarily mean that the overall sensitivity level rating should be high. For example, the rating for type of users might be high but the amount of use might be low. Consequently, the overall rating could be low or moderate.

As with determining the boundaries of the SLRU, the key factor in determining the overall sensitivity level is type of users. The residents of Palo Verde, Blythe, El Centro and Yuma have not expressed any undue concern regarding maintenance of visual quality. The users are sporadic and seasonal, OHV-users, or are simply persons traveling through on State Route 78.

The number of people in the Project area at any one time is very small. Therefore, the overall sensitivity level of the SLRU as shown in Table Q-7 is determined to be low.

Table Q-7: Sensitivity Level Rating for B-Line Route		
Factor	Rating Range	B-Line right-of-way Rating
Type of Users	High / Moderate / Low	Low
Amount of Use	High / Moderate / Low	Low
Public Interest	High / Moderate / Low	Low
Low Adjacent Land Users	High / Moderate / Low	Low
Other Factors	High / Moderate / Low	Low
Overall Sensitivity Rating	High / Moderate / Low	Low

3.1.3 Distance Zones

The visual quality of a landscape may be magnified or diminished by the visibility of the landscape from major viewing routes and key observation points. In the VRM system, therefore, distance zones play a key part in visual resource management.

Landscapes are subdivided into three distance zones based on a relative visibility from travel routes or observation points. The three zones are foreground-middleground, background, and seldom seen. Because areas that are closer have a greater effect on the observer, such areas require more attention than do areas that are farther away. Distance zones allow this consideration of the proximity of the observer to the landscape.

Foreground-Middleground Zone. This is the area that can be seen from each travel route (highways, use areas, rivers, or other viewing locations) for a distance of 3 to 5 miles where management activities might be viewed in detail. The outer boundary of this distance zone is defined as the point where the texture and form of individual plants are no longer apparent in the landscape. In some areas, atmospheric conditions can reduce visibility and shorten the distances normally covered by each zone. Also, where the foreground-middleground zone from one travel route overlaps the background from another route, the foreground-middleground designation is used.

Background Zone. This is the remaining area that can be seen from each travel route to approximately 15-miles. Areas in the background which are so far distant that the only thing discernible is the form or outline are not included. In order to be included within this distance zone, vegetation should be visible at least as patterns of light and dark.

Seldom-seen Zone. These are areas that are not visible within the foreground-middleground and background zones, and areas beyond the background zones.

The B-Line Route in the Palo Verde Mesa is in the foreground-middleground distance zone. This pipeline route is approximately 2 to 5 miles west of State Route 78 for the majority of the right-of-way on BLM-administered lands. The pipeline right-of-way landscape is not visible because the valley floor is so flat. The slight changes in topography make it so the vast majority of this pipeline route will not be visible at all from most of the miles of highways and county roads. Landscapes visible from these highways can be seen for distances of 15- to 20-miles, or greater, and yet the visual impacts for the existing pipeline right-of-way are very low to non-existent.

3.1.4 Determining Interim VRM Class

Table Q-8 shows the determinations made for the BLM-administered lands crossed by the proposed B-Line from MP 11.7 to 22.3 relative to scenic quality, sensitivity level, and distance zone:

Table Q-8: BLM Rating for B-Line for MP 11.7 to 22.3	
Existing Pipeline and B-Line Route	BLM Rating System
Scenic Quality	Minimal (C)
Sensitivity Level	Low (L)
Distance Zone	Foreground-Middleground (FG/MG)
Interim Visual Resource Management Class	Class IV (Major Modification Is Allowed)

In accordance with the table above, the Interim Visual Resource Management Class for BLM-administered lands crossed by the existing pipeline and the proposed B-Line from MP 11.7 to 22.3 is VRM Class IV. Accordingly, changes in any of the basic elements of form, line, color, or texture caused by the proposed Project may dominate the view and may be the major focus of viewer attention without creating a significant visual effect. The level of change to the characteristic landscape may be high. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements of the visual landscape. This level of modification to the landscape is not demanded, but is allowed without creating a “significant” visual impact, per the definition of significant in NEPA.

3.1.5 Contrast Rating

The contrast rating system is a systematic process used by the BLM to analyze potential visual impacts of proposed projects and activities. The BLM Handbook H-8431-1, Visual Resource Contrast Rating (BLM 1986b), provides necessary guidance to follow when conducting the ratings. It primarily is intended to assist Bureau personnel who are not formally trained in the design-arts to apply the basic principles of design in the resolution of visual impacts. It is not intended to be the only means of resolving these impacts. It should be used as a guide,

tempered by common sense, to ensure that every attempt is made to minimize potential visual impacts.

The basic philosophy underlying visual quality of a landscape depends on the visual contrast created between a project and the existing landscape. The contrast can be measured by comparing the project features with the major features in the existing landscape. The basic design elements of form, line, color, and texture are used to make this comparison and to describe the visual contrast created by the project. The assessment process provides a means for determining visual impacts and for identifying measures to mitigate these impacts.

3.1.6 Degree of Contrast

The rating is completed by determining the degree of contrast (i.e., strong, moderate, weak, or none) for each element. The general criteria and factors in Table Q-9 are used when rating the degree of contrast:

Table Q-9: Visual Contrast Rating	
Degree of Contrast	Criteria
None	The element contrast is not visible or perceived.
Weak	The element contrast can be seen but does not attract attention.
Moderate	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
Strong	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

3.1.7 Key Observation Points for MP 11.7 to 22.3 (Palm Springs BLM Field Office Lands)

The contrast rating is done from the most critical viewpoints. This is usually along commonly traveled routes or at other likely observation points. Factors that should be considered in selection of key observation points are angle of observation, number of viewers, length of time the project is in view, relative project size, season of use, and light conditions.

Relative to the B-Line from MP 11.7 to 22.3, there were no key observation points established because the existing A-Line right-of-way is not visible from any sensitive viewing location, and therefore, the proposed B-Line right-of-way will not be visible either. Potential sensitive viewing locations that were examined include California State Route 78, numerous county roads, and the village of Palo Verde at the Riverside/Imperial County line. The only vantage points that look into this section of the B-Line are along the utility line access road that follows the overhead electric line (see photo 0050 taken 9/22/05).

Form. Implementation of the proposed B-Line will create few, if any, changes in landform, as it will be constructed 25-feet away from the existing A-Line which was constructed in 2002. Because that right-of-way was recently disturbed by construction of the A-Line, then restored after construction, landforms have been restored to natural appearing conditions. Form contrasts will be weak to none.

Line. Implementation of the proposed B-Line will create no changes in line, as the A-Line and B-Line right-of-ways are contiguous. The right-of-way is not visible from KOPs described above. The existing electric utility is the only above-ground facility near the right-of-way, and the B-Line will be completely below-ground from MP 11.7 to 22.3. Line contrasts will be weak to none.

Color. Implementation of the proposed B-Line will create few, if any, changes in color, as it will be constructed 25-feet away from the existing A-Line which was constructed in 2002. Lighter colored soils, from pipeline construction, are slightly evident when driving on the electric utility access roads, but reveal only weak color contrasts. Orange-colored pipeline markers will be visible at intermittent locations along the pipeline, but will not detract from the visual quality of the area.

Texture. Implementation of the proposed B-Line will create few, if any, changes in texture, as it will be constructed 25-feet away from the existing A-Line which was constructed in 2002. Therefore, only a slight amount of existing desert vegetation will be disturbed during right-of-way expansion. The amount of texture contrast will be weak to none.

For BLM-administered lands from MP 11.7 to 22.3, visual contrasts created by the construction, operation and maintenance of the B-Line will be weak-to-none. Because the land-alteration activities of pipeline construction will not be visible from major viewing areas, and because the existing A-Line did not create any visual contrasts or public objection, there will be little or no visual effects from the B-Line to BLM-administered lands.

3.1.8 Determining Whether VRM Objectives Are Met

These contrast ratings can be evaluated against the Interim VRM Class objectives for MP 11.7 to 22.3. For comparative purposes, the four levels of contrast (i.e., none, weak, moderate, and strong) roughly correspond with VRM Classes I, II, III, and IV respectively. This means that a “strong” contrast rating may be acceptable in a Class IV area, but probably will not meet VRM objectives for a Class III area. In making these comparisons, the cumulative effect of all the contrast ratings must be considered. Certain combinations of ratings may indicate there is a stronger overall contrast than the individual ratings show. For example, several “moderate” ratings when viewed in combination may warrant an overall “strong” rating. This is a judgment determination by the visual resource evaluator.

Though experience in construction of the A-Line, it was learned that all of the contrast ratings for landscape elements were “none” or “weak,” and therefore potential contrast of visual elements (form, line, texture and texture) caused by trenching and backfilling for the pipeline construction

in 2002 did not cause any visual contrasts that were unacceptable after implementation of mitigation measures.

Therefore, based on lessons-learned during construction of the A-Line from MP 11.7 to 22.3, it is the conclusion of this visual resource analysis that the overall contrast rating for the A-Line route is "Weak" to "None", meaning that the pipeline right-of-way may be seen in some locations but does not attract attention and will meet the objectives of VRM Class II (weak contrast) or that the right-of-way is not visible to the casual observer and will meet the objectives of VRM Class I (no contrast).

Based upon experience gained by constructing the A-Line and the evaluation of this visual resource report, it is the conclusion that construction of the proposed B-Line in the same right-of-way (plus 25-feet of additional temporary construction right-of-way) will result in similar visual effects. Therefore it is the conclusion of this visual assessment that the proposed B-Line right-of-way will be seen in some locations but will not attract attention and will meet the objectives of VRM Class II (weak contrast) or that, in some locations, the right-of-way will not be visible to the casual observer and will meet the objectives of VRM Class I (no contrast).

Consequently, the visual resource management objectives for this Class IV area have been met by the construction that occurred in 2002 and will be met by the proposed the B-Line construction, operation and maintenance.

3.2 VRM EVALUATION FOR YUMA BLM FIELD OFFICE LANDS (MP 22.3 - 33.8)

From MP 22.3 to 33.8, Visual Management Classes have been adopted by the Yuma Field Office of the BLM. Under the current RMP, and under the proposed RMP maps shown at public open houses by the BLM, the B-Line right-of-way is designated as Class III for MP 22.3 to 33.8.

3.2.1 Key Observation Points for MP 22.3 to 33.8 (Yuma BLM Field Office Lands)

The only observation points of the existing A-Line and the proposed B-Line from MP 22.3 to 33.8 are from California State Route 78, which runs in a north-south direction. The pipeline right-of-way is located a distance from the highway, varying from a few-hundred-feet to 1-1/2-miles away. The pipeline and right-of-way crosses under State Route 78 at approximately MP 28.2. Because of the flat terrain, the existing right-of-way does not attract attention, and is not visually evident to passers-by, unless pointed out.

3.2.2 Degree of Contrast

The ratings of visual contrast for the Yuma Field Office BLM Lands are similar to those described above for Palm Springs Field Office BLM Lands.

Form. Implementation of the proposed B-Line will create few, if any, changes in landform, as it will be constructed 25-feet away from the existing A-Line which was constructed in 2002. Because that right-of-way was recently disturbed by construction of the A-Line, then restored after construction, landforms have been restored to natural appearing conditions. Form contrasts will be weak to none.

Line. Implementation of the proposed B-Line will create no changes in line, as the A-Line and B-Line right-of-ways are contiguous. The right-of-way is not visible from KOPs described above. The existing electric utility is the only above-ground facility near the right-of-way, and the B – Line will be completely below-ground from MP 11.7 to 22.3. Line contrasts will be weak to none.

Color. Implementation of the proposed B-Line will create few, if any, changes in color, as it will be constructed 25-feet away from the existing A-Line which was constructed in 2002. Lighter colored soils, from pipeline construction, are slightly evident when driving on the electric utility access roads, but reveal only weak color contrasts. Orange-colored pipeline markers will be visible at intermittent locations along the pipeline, but will not detract from the visual quality of the area.

Texture. Implementation of the proposed B-Line will create few, if any, changes in texture, as it will be constructed 25-feet away from the existing A-Line which was constructed in 2002. Therefore, only a slight amount of existing desert vegetation will be disturbed during right-of-way expansion. The amount of texture contrast will be weak to none.

For BLM-administered lands from MP 22.3 to 33.8, visual contrasts created by the construction, operation and maintenance of the B-Line will be weak-to-none. Because the land-alteration activities of pipeline construction will not attract attention from State Route 78 and there are no other major viewing areas, and because the existing A-Line did not create any visual contrasts or public objection, there will be little or no visual effects from the B-Line in the Yuma Field Office BLM Lands.

3.2.3 Determining Whether Visual Management Class Objectives Are Met

For MP 22.3 to 33.8, these contrast ratings can be evaluated against the Visual Management Class III objectives that were adopted in the 1987 RMP by the Yuma Field Office of BLM (Aaron Curtis, BLM, 2006). Though experience in construction of the A-Line, it was learned that all of the contrast ratings for landscape elements were “none” or “weak,” and therefore potential contrast of visual elements (form, line, texture and texture) caused by trenching and backfilling for the pipeline construction in 2002 did not cause any visual contrasts that were unacceptable after implementation of mitigation measures.

Therefore, based on lessons-learned during construction of the A-Line from MP 22.3 to 33.8, it is the conclusion of this visual resource analysis that the overall contrast rating for the A-line route is “Weak” to “None”, meaning that the pipeline right-of-way may be seen in some locations but does not attract attention and will meet the Visual Management Class II objectives (weak

contrast) or that the right-of-way is not visible to casual observers and will meet the Visual Management Class I objectives (no contrast).

Based upon experience gained by constructing the A-Line and the evaluation of this visual resource report, it is the conclusion that construction of the proposed B-Line in largely the same right-of-way (plus 25-feet of additional temporary construction right-of-way) will result in similar visual effects. Therefore it is the conclusion of this visual assessment that the proposed B-Line right-of-way will be seen in some locations but will not attract attention and will meet the Visual Management Class II objectives (weak contrast) or that, in some locations, the right-of-way will not be visible to the casual observer and will meet the Visual Management Class I objectives (no contrast).

As a result, the Visual Management Class III objectives for this area have been met by the construction that occurred in 2002 and will be met by the proposed construction, operation and maintenance of the B-Line.

3.3 VRM EVALUATION FOR EL CENTRO BLM FIELD OFFICE LANDS (MP 33.8 TO 79.8)

From MP 33.8 to 79.8, Visual Management Classes II and III have been adopted by the El Centro Field Office of the BLM (Larry Caffey, BLM, 2005). Therefore, it is not necessary to proceed through the VRM inventory process, as that has been accomplished by the BLM-RMP process. Table 2.1-2 above describes the Visual Management Class objectives by milepost. Under the current RMP, the B-Line right-of-way is designated as either Class II or Class III for MP 33.8 to 79.8, depending on exact location.

Adjacent features along most of the length of this right-of-way segment include paved highways, paved roads, and desert wash jeep trails, abandoned mines, and electric transmission lines. Over time, the visual contrast of the proposed B-Line will continue to diminish and the visual effect of the installed pipeline will be minimal.

The existing A-Line and the proposed B-Line route are located on the flat desert landscapes of the Pilot Knob Mesa. The right-of-way is seen in the foreground-middleground distance zone. This pipeline route is less than ¼ mile off State Routes 78 or 34 for the majority of the right-of-way on BLM-administered lands from MP 33.8 to 75.2. At approximately MP 75.2, the pipeline crosses under I-8 and from there to its terminus at MP 79.8, it is visible only from desert jeep roads. Even though the pipeline is close to viewers on State Routes 78 and 34, the majority of the pipeline right-of-way landscape is not visible because the valley floor is so flat that it is not discernible. The slight changes in topography make it so the vast majority of this pipeline route will not be visible at all from most of the miles of these highways. Landscapes visible from these highways can be seen for distances of 15- to 20-miles, or greater, and yet the visual impacts for the existing pipeline right-of-way are very low. Views of the pipeline right-of-way from I-8 are negligible.

The greatest visibility of the right-of-way is from the State Route 34 over-crossing bridge of I-8, and the right-of-way is visible as a cleared area adjacent to the highway. Even this clearing does not attract attention, but borrows from the form, line, color and texture of the straight, linear highway.

South of the freeway, the right-of-way is used by the US Border Patrol as a surveillance road, and it is not distinguishable as a pipeline right-of-way. Therefore, the visual contrasts are negligible. At the US/Mexican Border, MP 79.8, the B-Line route will cross under the All-American Canal (AAC).

3.3.1 Key Observation Points for MP 33.8 to 79.8 (El Centro BLM Field Office Lands)

For the A-Line that was constructed in 2002, eight key observation points (KOPs) were established along the pipeline corridor in the spring of 2001 to document the existing landscape setting, as shown in the following Table Q-10 (see photographs in Attachment A). Subsequently, in 2005, photographs were taken from these same KOPs in order to determine the visual effects of the 2002 construction and landscape rehabilitation activities, operation and maintenance activities that may be visually evident, plus any unauthorized OHV usage that may have created a visual disturbance.

Table Q-10: KOP Locations for the A-Line and B-Line					
KOP Number	Approximate Milepost	2001 GPS Location UTM NAD 83 Zone 11N		2005 GPS Location UTM NAD 83 Zone 11N	
		Easting	Northing	Easting	Northing
KOP 1	35.8	706810E	3684937N	706712E	3684758N
KOP 2	36.1	705975E	3684282N	706313E	3684407N
KOP 3	36.6	705800E	3683918N	705717E	3683851N
KOP 4	39	703269E	3681053N	703232E	3680993N
KOP 5	42.2	699577E	3677206N	699959E	3677199N
KOP 6	47.3	698744E	3671498N	698359E	3669365N
KOP 7	47.6	698155E	3668799N	698143E	3668799N
KOP 8	48.3	697649E	3667895N	697596E	3667810N

3.3.2 Comparison of KOP Views – 2002 to 2005

The visual effects of underground pipeline construction are sometimes dramatic, and sometimes unnoticeable, depending on various conditions in the existing landscape and the visual elements of the proposed Project – form, line, color, texture and scale. In the case of underground pipeline construction, operation and maintenance in the flat desert landscape from MP 33.8 to 79.8 with only scattered, low-growing scrub vegetation, very little visual contrast was created. The pairs of photographs in Attachment A are a comparison of pre-construction

existing scenic quality at each KOP, with a corresponding photograph taken from approximately the same location, showing the current scenic quality and visual conditions after construction.

3.3.3 Degree of Contrast

The photographs in Appendix A clearly show that, as seen from KOPs 1-8, there are no introduced contrasts of form, line, color, or texture that were created by the A-Line. Visual results of the B-Line will be the same.

3.3.4 Determining Whether VRM Objectives Are Met

Visual Management Class II and III objectives have been met by the A-Line construction that occurred in 2002 and will be met by the proposed B-Line construction, following implementation of restoration measures.

3.4 IMPACT SUMMARY

The visual effects of the cleared right-of-way vary along the proposed routes, depending on landscape terrain, vegetative patterns, and manmade modifications.

3.4.1 B-Line MP 0.0 to 11.7 and Arrowhead Extension

In the agricultural areas of the Palo Verde Valley, visual impacts will be temporary and very minor. The terrain is flat and agricultural operations will resume following construction. Construction activity will be a short-term visual intrusion to residents along 18th Avenue. Long term-impact will be unnoticeable because the pipeline will, for the most part, be located in county rights-of-way requiring little or no clearing. The crossing of the Colorado River will be accomplished by directional drilling, and setbacks from the river will protect existing vegetation. Therefore, no significant visual impacts will occur. Lands in this route segment are not administered by the BLM, and therefore, have no BLM-VRM classification.

3.4.2 B-Line MP 11.7 to 22.3 (Palm Springs BLM Field Office Lands)

In this flat desert landscape environment, a low degree of visual impact will occur initially and be further reduced over time. Visibility resulting from the very slight contrast in soil color and vegetative pattern between the right-of-way and adjacent areas will be offset by limited viewing afforded by areas with flat to low topographic relief and views that include existing manmade features of electric transmission lines and appurtenant access roads.

3.4.3 B-Line MP 22.3 to 29.7 and 31.5 to 33.8 (Yuma BLM Field Office Lands)

In this desert landscape environment, a low degree of visual impact will occur initially during construction of the B-Line, and after mitigation the weak contrasts will be further reduced over time. Visibility resulting from contrast in soil color and vegetative pattern between the right-of-way and adjacent areas will be partially offset by limited viewing afforded by areas with flat to low topographic relief and views that include existing manmade features, including California State Route 78, jeep trails, and various outfall drains in area. Adjacent features along most of the length of this route segment include paved roads and desert wash jeep trails, levees, canals, electric distribution, and high voltage electric lines. Over time the visual contrast of the proposed Project will continue to diminish and the visual effect of the installed pipeline will be minimal.

The proposed pipeline, at the location proposed, is consistent with the VRM Class III objectives in this area. Under this designation, the existing character of the landscape should be partially retained (Class III), and the overall level of change to the characteristic landscape should be low. The visual impacts resulting from the proposed pipeline will be within these guidelines.

3.4.4 B-Line MP 29.7 to MP 31.5 (Yuma BLM Field Office Lands)

In this route segment, the pipeline will cross hilly to flat terrain with a backdrop created by the steeper slopes of the Palo Verde Mountains to the west. In 2002, site grading to prepare for pipeline installation and maintenance was accomplished during the construction of the A-Line. The visual effects of pipeline construction in this right-of-way were minimal, and generally did not create any visual contrast with the surrounding landscape. Viewing locations and conditions of the B-Line will be the same as for the A-Line. Potential viewing locations include from State Route 78, which is parallel to the proposed pipeline route. Few longitudinal views down the right-of-way occur. Most often, glimpses of the right-of-way can be seen while traveling State Route 78, with the dominant visual feature being the mid distance views of the Colorado River bottom covered by the expanse of thick tamarisk. Tamarisk is a species of low-growing, densely branched evergreen trees that effectively screen the landscape from view. The highway alignment in this area is curvilinear with vertical changes in grade, and the two-lane highway has one single lane in either direction. All of these factors compete with the viewer's attention. Overall, there was not a large degree of visual contrast created by the construction of the A-Line, and construction of the B-Line will result in similar visual effects. Over time the impact will continue to diminish as vegetation softens the few views of the right-of-way.

The existing pipeline alignment was chosen to limit environmental and visual impacts. The Proposed B-Line will be installed 25-feet away from the existing pipeline in the same alignment. There will be no further visual impacts to form, line, color, and texture in the landscape. No visual mitigation is planned beyond the restoration measures proposed (see CMR Plan, Appendix A of the Environmental Report).

3.4.5 B-Line MP 33.8 to 79.8 (El Centro BLM Field Office Lands)

In this desert landscape environment, a very low degree of visual impact will occur initially during construction of the B-Line, and after implementation of mitigation measures, the weak visual contrasts will be further reduced. Visibility resulting from contrast in soil color and vegetative pattern between the right-of-way and adjacent areas will be partially offset by limited viewing afforded by areas with flat to low topographic relief as seen from California State Routes 78 and 34, and I-8.

The proposed pipeline, at the location proposed, is consistent with the VRM Class II and III objectives of this area. Under this designation, the existing character of the landscape should be retained (Class II), and partially retained (Class III), and the overall level of change to the characteristic landscape should be low. The visual impacts resulting from the proposed B-Line pipeline will be within these guidelines.

4.0 IID LATERAL PIPELINE TO EL CENTRO

For the purposes of visual resource management, BLM-administered lands crossed by the IID Lateral can be subdivided into three SQRUs. Those three SQRUs are the Pilot Knob Mesa (MP 0.0 to 0.5), Algodones Dunes (MP 0.5 to 8.1) and the East Mesa (MP 8.1 to 27.6). Following the methodology presented above for the B-Line (see Section 3.0), this report assesses compliance with Visual Resource Management Classes established in BLM RMP and Recreation Area Management Plans (RAMP) for the lands crossed by the IID Lateral (BLM 1980; 2003).

A fourth landscape crossed which is not administered by BLM, is the segment of the pipeline located in the Imperial Valley (MP 27.6 to 45.6).

From MP 0.0 to 7.9, the IID Lateral will cross the Imperial Sand Dunes Recreation Area (ISDRA). The BLM has adopted an objective of Visual Resource Management Classes II and III for the ISDRA by correlating the ISDRA Multiple-Use Classifications with the VRM Classes, as shown in Table Q-11.

Table Q-11: VRM Class Designations by Milepost for IID Lateral Pipeline			
Mileposts	BLM Field Office	BLM Multiple-Use Class Designation	Visual Resource Management Class Designation
0.0 – 2.3	El Centro	Limited (L)	VRM Class II
2.3 – 3.0	El Centro	Moderate (M)	VRM Class III
3.0 – 7.9	El Centro	Intensive (I)	VRM Class IV
7.9 – 27.6	El Centro	Limited (L)	VRM Class II

4.1 PILOT KNOB MESA SQRU (MP 0.0 TO 0.5)

The Pilot Knob Mesa was fully described in the analysis of the A-Line and B-Line. The dominant view of the landscape through which the right-of-way passes from MP 0.0 to 0.5 is a flat desert floor, covered with widely scattered creosote bush scrub and will parallel a multitude of overhead electrical transmission lines on wooden poles and steel lattice towers. This portion of the IID Lateral starts at a new Main Line Valve and tap to the mainline near Ogilby Road (MP 74.5 of the B-Line) and ends at the transition to Algodones Dunes (MP 0.5). The VRM Class objective for the Pilot Knob Mesa is Class II, where proposed activities should remain subordinate to the characteristic landscape. Because the proposed IID Lateral will be an underground facility and will parallel existing overhead transmission lines, the proposed Project will create no significant adverse visual effects upon the landscape in the Pilot Know Mesa.

4.1.1 Key Observation Points for MP 0.0 to 0.5 (El Centro BLM Field Office Lands)

There is only one key observation point looking into this segment of the IID Lateral, located on State Route 34 (the Ogilby Road) at the interchange of I-8, looking west through the corridor of overhead transmission lines (Table Q-12). The lateral pipeline will be constructed as an underground facility in a right-of-way adjacent and parallel to existing overhead transmission lines. This freeway interchange has an elevated viewer platform created by the overpass of Ogilby Road. Because this segment of the IID Lateral Pipeline is so short, only one KOP was necessary to determine the visual effects of the proposed Project.

Table Q-12: KOP Location for the IID Lateral through the Pilot Knob Mesa			
KOP Number	Approximate Milepost	2005 GPS Location UTM NAD 83 Zone 11N	
	MP	Easting	Northing
KOP 9	0.3	702642E	3627024N

4.1.2 Degree of Contrast

The basic philosophy underlying visual quality of a landscape depends on the visual contrast created between a project and the existing landscape. For the IID Lateral through the Pilot Knob Mesa, the contrast can be measured by comparing the project features with the major features in the existing landscape. The basic design elements of form, line, color, and texture were used to make this comparison and to describe the visual contrast created by the project. The assessment process provides a means for determining visual impacts and for identifying measures to mitigate these impacts.

4.1.3 Contrast Rating for the Proposed IID Lateral in Pilot Knob Mesa SQRU (MP 0.0 to 0.5)

The proposed IID Lateral from MP 0.0 to 0.5 will cross through the flat desert, open-space landscapes of the Pilot Knob Mesa administered by the BLM, parallel to overhead transmission lines. Following is an assessment of contrasts in form, line, color, and texture that will be caused by the IID Lateral.

Form. Implementation of the proposed IID Lateral will create no changes in landform, as it will be constructed on flat terrain parallel to existing transmission lines. Form contrasts will be weak to none.

Line. Implementation of the proposed IID Lateral will create no changes in line, as the transmission lines right-of-way and IID Lateral right-of-way are parallel and contiguous. Newly created line contrasts will be weak to none.

Color. Implementation of the proposed IID Lateral will create few, if any, changes in color, as it will be constructed parallel to the existing transmission line right-of-way. Lighter colored soils from pipeline construction will be indistinguishable, and not evident, as compared to transmission line access roads, and will result in no additional color contrasts. Orange-colored pipeline markers will be visible at intermittent locations along the pipeline, but will not detract from the visual quality of the area.

Texture. Implementation of the proposed IID Lateral will create few, if any, changes in texture, as it will be constructed parallel to the existing transmission line right-of-way. Therefore, only a slight amount of existing desert vegetation will be disturbed during construction. The amount of texture contrast will be weak to none.

For BLM-administered lands from MP 0.0 to 0.5, visual contrasts created by the construction, operation and maintenance of the IID Lateral will be weak-to-none. There will be little or no visual effects from the IID Lateral to BLM-administered lands.

4.1.4 Determining Whether VRM Objectives Are Met

The contrast ratings were compared with the objectives of VRM Class II. Though experience in construction of the A-Line, it was learned that all of the contrast ratings for landscape elements were “none” or “weak,” and therefore potential contrast of visual elements (form, line, texture and texture) caused by trenching and backfilling for the pipeline construction did not cause any visual contrasts that were unacceptable after implementation of restoration.

The overall contrast rating for the IID Lateral through the Pilot Knob Mesa is “None” to “Weak”. Consequently, the visual resource management objectives for this Class II area will be met by the construction, operation and maintenance of the proposed IID Lateral Pipeline. No mitigation measures are planned beyond the proposed restoration.

4.2 ALGODONES DUNES SQRU (MP 0.0 TO 7.9)

A very unique and interesting landscape feature on BLM-administered lands that will be crossed by the IID Lateral is the Algodones Dunes, also known as the Imperial Sand Dunes Recreation Area (ISDRA).

According to the BLM RAMP, “The ISDRA, located in eastern Imperial County in Southern California, offers outstanding opportunities for OHV recreation within the BLM’s California Desert Conservation Area. The approximately 159,072-acre ISDRA contains the largest mass of sand dunes in California, covering an area more than 40 miles long and averaging 5 miles in width. The ISDRA is considered a world-class OHV area and it represents one of the most popular OHV areas in the western United States. It is a well-known area to local residents and the thousands who visit each year from the southwestern United States and beyond. The ISDRA is the most heavily and intensively used OHV recreation area in the California Desert

District with over 1.4 million OHV visitors per year. In addition, the ISDRA is recognized for its frequent use as a backdrop for commercials and movies because of its unique beauty and landscape. The ISDRA is also recognized for providing unique habitat for several endemic and sensitive plant, insect, and animal species and habitats" (BLM 2003). The RAMP recognizes the unique scenic attributes of the dunes.

Visually evident man-made modifications in the vicinity of the pipeline route in the Algodones Dunes include I-8, the AAC, new Coachella Canal, and several wood-pole and steel-lattice-tower electric transmission lines traversing the Dunes in an east-west direction. The abandoned Coachella Canal to the west and the railroad to the east are not visually prominent man-made features.

According to the ISDRA RAMP, "the proximity of the Imperial Sand Dunes Recreation Area to private land and the wilderness area requires that the BLM carefully manage the recreation, natural, and cultural resources and corresponding resource values (such as "scenic values") within the planning area to reduce potential impacts to these areas" (BLM 2003).

4.2.1 Existing Scenic Quality

The BLM VRM system utilizes the following factors to establish existing scenic quality: landform, vegetation, water, color, adjacent scenery, scarcity and cultural modifications.

Landform. Regarding landforms, the RAMP adequately explains scenic quality of the Dunes, as follows. "The dune system is situated on a relatively flat plain. The plain has an elevation of approximately 50 feet above sea level. On the west, the plain is called East Mesa because it is east of Imperial Valley. On the east, the plain is called Pilot Knob Mesa. The dunes reach heights of 300 feet above the plain, and include classic examples of several different types of dune morphology. The sand dunes are thought to have originated from the beach sands of ancient Lake Cahuilla, a water body created by episodic diversions of the Colorado River into the Imperial Valley instead of the Gulf of California. The Imperial Dunes have formed primarily as a result of opposing seasonal winds. Winter winds come from the northwest, but often reverse to the southeast in summer. The stronger winter winds are slowly pushing the dune system southeastward. The east and west sides of the dunes system differs substantially in character. West side sands are composed of material that is generally heavier and coarser than the lighter, finer sands carried further east in the prevailing winds. The coarse sands form the largest, tallest dunes, which are located in the western two-thirds of the dune system. These constitute the 'primary dunes.' East of the primary dunes are the 'secondary dunes.' These dunes are smaller dunes composed of finer sands and having more vegetation cover."

Vegetation. Vegetation on the dunes is very sparse on the westerly side and top of dunes. East of the primary dunes, and transitioning into the Pilot Knob Mesa, vegetation is widely scattered creosote bush scrub. A corridor of vegetation, mostly non-native, water-loving species, follows the lower banks of the AAC, and creates a pleasant visual contrast of blue, green and tan colors.

Water. The only water in the Algodones Dunes SRQU is found in the All American Canal. The proposed pipeline will cross under the All American Canal and I-8 at approximately MP 2.3 and again at MP 7.9.

Color. Colors exhibited in the IID Lateral right-of-way landscape include light-tan to white sand dunes, gray-green Creosote bush scrub, medium-green, non-native species along the blue waters of the AAC.

Adjacent Scenery. Regarding adjacent scenery, throughout the path of the IID Lateral in the Algodones Dunes, vistas are available to the East Mesa and the Pilot Knob Mesa, especially when the route is slightly elevated from MP 4 to 6. The contrast created by the 300-foot tall sand dunes situated on a flat desert plane is dramatic.

Scarcity. The sand dunes crossed by the IID Lateral are very unique, and comprise the largest dune formations in southwestern United States.

Cultural Modifications. Electrical transmission lines are very visually evident in the vicinity of the proposed pipeline route and as viewed from the I-8 corridor. Additionally, the AAC, I-8, Grays Well Road, Buttercup Campground, Midway Campground, and the Plank Road monument are present and in the immediate vicinity of the proposed pipeline. All of these cultural modifications are very visually evident in the characteristic landscape. Steel lattice towers and wooden pole transmission lines create strong linear contrasts with the horizontal landforms of the dunes, and they extend the entire length of the crossing through this SQRU. This intrusion on the landscape constitutes a noticeable impact to the scenery. A multitude of tracks left in the sand by OHV also have created a visible cultural modification.

4.2.2 Existing Sensitivity Levels

Sensitivity levels are a measure of public concern for landscape scenery. Public lands are assigned high, medium, or low sensitivity levels by analyzing the various indicators of public concern. The factors to be considered in the sensitivity level analysis include type of users, adjacent land uses and other factors.

Type of Users. Visual sensitivity will vary with the type of users. Recreational sightseers may be highly sensitive to any changes in visual quality, whereas workers who pass through the area on a regular basis may not be as sensitive to change. According to the Imperial Dunes RAMP, “the Imperial Sand Dunes Recreation Area (ISDRA) is the most popular OHV area in the southwest United States. It encompasses the most intensively visited recreational area in the California Desert Conservation Area (CDCA). It provides a unique, world-class recreation opportunity” (BLM 2003). The primary recreational use is camping and the use of OHV, principally dune buggies, quads and all terrain vehicles. Camping in recreation vehicles (RVs) and vacation trailers is a predominant use in the Algodones Dunes, also known as the Imperial Sand Dunes Recreation Area. Buttercup Campground, Midway Campground and Dune Buggy Flats receive extreme recreation use; typically 100,000 people or more will recreate on the

dunes during the cooler autumn and winter months. Other recreation uses include utilization of the Rest Area in the median of I-8. Non-recreation uses include canals and roads, filming, conservation activities, and right-of-way use for utility lines.

Adjacent Land Uses. For BLM-administered lands, the land use that surrounds the IID Lateral route through the dunes is dominated in the winter by OHV related uses. Off season, adjacent land uses are those of open-space desert plains. The Plank Road monument is adjacent to the proposed right-of-way but will not be affected by construction, operation or maintenance of the IID Lateral pipeline. There are no agricultural, commercial, residential, or industrial uses anywhere in the vicinity of the IID Lateral and the dunes. There are, however, several utility and infrastructure uses that are located in the same corridor as the proposed IID Lateral. I-8 carries people to the nearest cities, which are El Centro, California and Yuma, Arizona. The AAC parallels and crosses under I-8 and several high voltage electric transmission lines are present.

The number of people using the ISDRA at any one time is extremely high in the cooler months of the year; yet is rather small during the hottest seasons. Recreationists are attracted to the unique scenery, and travelers on I-8 experience the scenery of the dunes as a unique visual relief while traveling through vast expanses of desert plains that exhibit minimal visual variety.

4.2.3 Distance Zones

The visual quality of a landscape may be magnified or diminished by the visibility of the landscape from major viewing routes and key observation points. In the VRM system, therefore, distance plays a key part in visual quality management. Landscapes of the ISDRA were subdivided into three distance zones based on a relative visibility from travel routes or observation points. The three zones are foreground-middleground, background, and seldom seen. Because areas that are closer have a greater effect on the observer, such areas require more attention than do areas that are farther away. Distance zones allow this consideration of the proximity of the observer to the landscape. Because recreationists travel cross-country on OHVs, and I-8 crosses through the dunes, the entire area of the dunes in the vicinity of the IID Lateral is visible as foreground/middleground, giving the greatest exposure and visibility to the landscape.

4.2.4 Determining VRM Classes

As previously stated, visual resource management classes are established through the RMP process for all BLM-administered lands. However, the BLM has not formally inventoried the lands within the ISDRA, nor has it given those lands Visual Management Classifications, according to the VRM Program. However, these ratings were developed based entirely on the multiple use classes in the RAMP-FEIS for the ISDRA (Larry Caffey, BLM, 2005).

The BLM currently manages the lands within the ISDRA according to the Multiple-Use Classes listed in the CDCA. VRM Class V was not assigned to any of the Multiple-Use Classes because

none of the lands in the ISDRA have been degraded to the point where they require rehabilitation.

Figure 3.7-1 in the RAMP FEIS depicts the VRM Classes associated with the Multiple-Use Classes that are assigned to ISDRA lands by management areas. Although the management areas do not exactly fall within the multiple use class, geographically, the following table will provide a general overall classification of the management areas as a whole. (However, a visual assessment conducted without regard to the multiple use class may result in different classifications, such as Mammoth Wash Management Area will most likely be VRM Class II.) As shown in Table Q-13, the popular dune areas and campgrounds within the ISDRA also can be categorized according VRM Classes.

Table Q-13: Visual Resource Management Classes of OHV Use and Camping Areas			
VRM Class I	VRM Class II	VRM Class III	VRM Class IV
North Algodones Dunes Wilderness	Dune Buggy Flat Management Area	Glamis Management Area	Mammoth Wash Management Area
	Adaptive Management Area		Buttercup Management Area
	Ogilby Management Area		Gecko Management Area

Visual Management Classes for IID Lateral in Algodones Dunes. Based on Multiple-Use Classes in the ISDRA-RAMP, the visual management class for the IID Lateral in the Algodones Dunes SQRU is Class II. In Class II landscapes, changes in any of the basic elements (form, line, color, texture) caused by the proposed Project should not be evident in the characteristic landscape. Contrasts can be visible, but must not attract attention.

From MP 0.0 to 7.9, the proposed IID Lateral will cross under open-space sand dunes, OHV recreation sites, campgrounds in the dunes, and will directionally drilled and/or bored under the All American Canal and I-8 at several locations.

4.2.5 Key Observation Points.

Contrast ratings were done from the most critical viewpoints in the Imperial Dunes Recreation Area. In 2005, five key observation points were established along the proposed IID Lateral pipeline corridor (see Table Q-14), and photographs were taken from these KOPs in order to analyze in detail the potential visual effects of the construction, operation, maintenance, and landscape rehabilitation activities (see Attachment B).

Table Q-14: Key Observation Point Locations in the Algodones Dunes SQRU			
KOP Number	Approximate Milepost	2005 GPS Location UTM NAD 83 Zone 11N	
		Easting	Northing
KOP 10	1.8	700250E	3625979N
KOP 11	3.5	698466E	3624346N
KOP 12	6.5	697399E	3623878N
KOP 13	5.3	695770E	3622776N
KOP 14	6.5	694831E	3621331N

As seen from KOP 10, the IID Lateral will enter the Algodones Dunes SQRU at the location where the landscape transitions from the flat mesa to the beginning of the small dunes at MP 0.5. The pipeline will be drilled and bored under both the AAC and I-8 freeway. The horizontal directional drill (HDD) pullback area is partially screened from view by the landforms of the sand dunes. After construction, there will be no visual effect of the pipeline as seen from KOP 10.

As seen from KOP 11, the proposed IID Lateral will be constructed adjacent to and parallel to the H-frame wooden transmission lines. The pipeline will be placed in a trench dug in the sand, and then backfilled. Because of the blowing and drifting nature of the sand, there will be no visible evidence of construction shortly after construction. No-evidence will remain of the pipeline after construction.

KOPs 12 to 14 are located on the south side of I-8, looking from Gray's Well Road. As seen from KOP 12, the pipeline will be located north of both the Gray's Well Road and the H-frame wooden poles, and adjacent to the I-8 right-of-way. The pipeline will be placed in a trench dug in the sand, and then backfilled. Because of the blowing and drifting nature of the sand, there will be no visible evidence of construction shortly after construction. No-evidence will remain of the pipeline a short time after construction. The only above-ground facility of the pipeline in the Algodones Dunes will be Mainline Valve No. 2 which will be located at MP 7.6. The valve will be visually evident, but in an area of limited public access between I-8 and the ACC.

As seen from KOP 13, there is a large area of sand dunes between Gray's Well Road and I-8, in which an H-frame transmission line runs parallel to I-8. The sand dunes on the horizon to the north of the freeway are covered with widely scattered, low-growing scrub brush. The pipeline will be placed in a trench dug in the sand, and then backfilled. Because of the blowing and drifting nature of the sand, there will be no visible evidence of construction shortly after construction.

As seen from KOP 14, the proposed pipeline will cross under the AAC at the western edge of the Algodones Dunes. From this vantage point, the expansive, horizontal landscapes of the East Mesa are visible. The tall single-mast tower, visible between the H-frame transmission pole and the white vacation-trailer on I-8, is located at the junction of the Coachella Canal and the

AAC. The proposed pipeline laydown area will be in the creosote scrub bush area almost directly behind the H-frame transmission pole.

On the south side of the ACC, landforms are flat to gently sloping, tan colored sand. The vegetation is widely scattered low growing gray-green creosote bush scrub and gray-green sage. After construction, there will be no visible evidence of the IID Lateral from KOP 14, because wind-driven sand, and extensive OHV use will obliterate any trace of construction activities.

On the north side of the ACC, the pipeline laydown area will be cleared and the pipeline will be placed by HDD. The trench will then be backfilled. Because of the blowing and drifting nature of the sand, there will be very little to no visual evidence of the pipeline shortly after construction.

4.2.6 Contrast Rating for the Proposed IID Lateral in ISDRA SQRU (MP 0.0 to 7.9)

The contrast rating of the proposed IID Lateral pipeline through the Algodones Dunes was completed by determining the degree of contrast (i.e., strong, moderate, weak, or none) for each element (form, line, color and texture). The general criteria and factors in Table Q-9 were used when rating the degree of contrast:

Form. Implementation of the proposed IID Lateral will create no changes in landform, as it will be constructed in the sand dunes of the ISDRA, all of which rapidly reform and re-sculpt during wind storms. There will be no form contrasts.

Line. Implementation of the proposed IID Lateral will create no changes in line, as the pipeline will be buried and sand dunes will be re-sculpted by winds on a regular basis. There will be no line contrasts.

Color. Implementation of the proposed IID Lateral will create no changes in color, as the natural colors of sand dunes will be dominant after construction, resulting in weak to no color contrasts. Orange-colored pipeline markers will be visible at intermittent locations along the pipeline, but will not detract from the visual quality of the area.

Texture. Implementation of the proposed IID Lateral will create no changes in texture, as it will be constructed in sand dunes parallel to the existing transmission line right-of-way. The amount of texture contrast will be none.

For BLM-administered lands from MP 0.0 to 7.9, visual contrasts created by the construction, operation and maintenance of the IID Lateral will be weak-to-none. There will be little or no visual effects from the IID Lateral to BLM-administered lands.

4.2.7 Determining Whether VRM Objectives Are Met

The contrast ratings were compared with the objectives for the VRM Classes II and III in the ISDRA RAMP. The potential contrast of visual elements (form, line, texture and texture) caused by trenching and backfilling for the pipeline construction will not cause any visual contrasts that will be unacceptable after implementation of mitigation measures. The sand dunes have a much higher visual absorption capability than the rocky desert landscapes that were traversed in 2002 by construction of the A-Line. The period of time that it will take to “heal the landscape” in the dunes is extremely short, because of wind-driven sand and wheel traffic of OHV users.

Therefore, the overall contrast rating for the IID Lateral through the Algodones Dunes SQRU is “None” to “Weak.” Consequently, the visual resource management objectives for this VRM Class II and III area will be met by the construction, operation and maintenance of the proposed IID Lateral Pipeline.

Because there will not be a significant visual impact created by pipeline construction, operation or maintenance in the Algodones Dunes, no mitigation measures are needed.

4.3 EAST MESA SQRU (MP 7.9 TO 27.6)

The dominant view of the landscape through which the IID Lateral passes is an extensive, visually flat desert plain covered with creosote bush scrub. There are no interesting landscape features on BLM-administered lands in the East Mesa, only a flat landform, uniform brush cover, no water, no rock outcrops. Background views to the east reveal the Chocolate Mountain Range in the background of the Lateral, and views to the east reveal a flat plain on the horizon.

4.3.1 Existing Scenic Quality

The BLM VRM system utilizes the following factors to establish existing scenic quality: landform, vegetation, water, color, adjacent scenery, scarcity and cultural modifications.

Landform. Regarding landform, the valley floor generally slopes from northeast to southwest, but it is visually flat and monotonous. A small amount of elevation change was observed during field investigations, but the general public will perceive this landscape as extremely “flat.”

Vegetation. The vegetative pattern on the East Mesa is uniformly scattered, low-growing and sparse, gray-green creosote bush scrub. There is little or no contrast in vegetation within the East Mesa SQRU.

Water. No water was observed within the East Mesa SQRU along the IID Lateral.

Colors. Colors exhibited in the IID Lateral landscape include tan sand flats and gray-green scrub brush. Overall, for the majority of the year, there are only subtle color variations, little- to no-visual contrast or interest.

Adjacent Scenery. Regarding adjacent scenery, throughout the entire path of the IID Lateral, there is little to no variation from that of flat, barren desert scrub.

Scarcity. The desert floor scenery crossed by the IID Lateral is very common within the southeastern region of California Desert, and is almost archetypical of the public's perception of "desert." The East Mesa has all the typical appearance of the desert landscape dominated by creosote bush scrub and flat desert landscapes. There are no unique or scarce viewsheds crossed by the right-of-way.

Cultural Modifications. Electrical transmission lines, communications and cell-phone towers can be seen from certain viewpoints within sight of the IID Lateral. These intrusions in the landscape constitute a minor impact to the scenery.

Overall, no exceptionally striking, intriguing, unique, or visually stimulating landforms, vegetative communities, water-bodies, colors, or adjacent scenery landscapes are crossed by the IID Lateral.

4.3.2 Existing Sensitivity Levels

Type of Users. The users of East Mesa can generally be characterized as motorists traveling on I-8. I-8 carries interstate traffic between San Diego, California to the west and Phoenix, Arizona to the east. Additionally, it carries local traffic between El Centro, California to the west and Yuma, Arizona to the east. Users also exit at Gordon's Well to access the nearby campground, Dune Buggy Flats and the RV Park.

Adjacent Land Uses. For BLM-administered lands, the land use that surrounds of the Project right-of-way is that of open-space desert and the East Mesa Area of Critical Environmental Concern. The only commercial or residential uses located near this Project site are Pair-A-Dice (a roadside establishment), Gordon's Well RV Park, and the deserted Brock Research Center, all of which are located on Evan Hewes Highway immediately adjacent to I-8.

4.3.3 Distance Zones

Following the distance zone criteria given for previous SQRUs, it was determined that all of the IID Lateral right-of-way from MP 8.1 to 27.6 will be in the foreground-middleground distance zone of I-8 and Evan Hewes Highway. Because areas that are closer to observers have a greater potential for adverse visual effects, such areas require more attention than do areas that are farther away. Distance zones allow this consideration of the proximity of the observer to the landscape.

4.3.4 Determining VRM Classes

As previously stated, visual resource management classes are established through the RMP process for all BLM-administered lands, but the BLM has not adopted any visual management classes for East Mesa. Therefore, visual resource management classes are correlated to the Multiple-Use Classes for the East Mesa (Larry Caffey, BLM, 2005). The proposed IID Lateral Pipeline will cross the East Mesa following Evan Hewes Highway on open-space desert lands administered by the BLM.

4.3.5 Key Observation Points.

The contrast rating was prepared from the most critical viewpoints: I-8, Evan Hewes Road, Pair-A-Dice and Gordon's Well RV Park (Table Q-15).

Table Q-15: Key Observation Point Location for the IID Lateral at East Mesa			
KOP Number	Approximate Milepost.	2005 GPS Location UTM NAD 83 Zone 11N	
		Easting	Northing
KOP 15	8.5	691478E	3620934N
KOP 16	8.6	691309E	3620998N
KOP 17	8.5	691478E	3620934N
KOP 18	20.6	672517E	3623169N

As seen from KOP 15, the IID Lateral Pipeline will enter the East Mesa SQRU near the Gordon's Well exit of I-8. The pipeline will be directionally drilled under the AAC from this location. The site where the pipeline construction will occur has no occupancy, no topographic relief, only scattered creosote bush scrub, no rockforms and no water features.

On the north side of the AAC, the pipeline laydown area will be cleared and the pipeline will be placed by HDD. The trench will then be backfilled. Because of the blowing and drifting nature of the sand and the rapid regeneration of sand dune vegetative communities, there will be very little- to no-visual evidence of the pipeline shortly after construction.

As seen from KOP 16, the Pair-A-Dice roadside establishment is a local landmark, comprised of paved parking, spent-military shells as parking barriers, grass-thatched roof over outdoor seating, and a restaurant-bar. The large tower to the right is a cell phone tower. The proposed IID Lateral will be located at the south edge of the pavement of Evan Hewes Highway, in front of the restaurant/bar. Once the pipeline is installed and the road repaved, the pipeline will not be visible from this vantage point. This view is looking toward the northwest.

As viewed from Evan Hewes Highway at KOP 17, looking northwest, Gordon's Well RV Park is a pleasant landscape setting in the desert that offers tall, green shade trees, paved roads, colorful red and pink flowering shrubs, and green lawns. The proposed IID Lateral will be located at the edge of pavement of the Evan Hewes Highway, and after construction and road repaving, the pipeline will not be visible.

For the next approximately 19 miles the IID Lateral will be constructed at the south and then north edge of pavement of Evan Hewes Highway, on BLM-administered land, as shown in KOP 18. Soil color is light-tan and vegetation is widely scattered, light-green creosote bush scrub. There are no rock formations or water features in this desert landscape of sameness. Because of the high winds in this area, the drifting nature of the desert sands, and the wide spacing of the creosote bush scrub, there will be very little to no visual evidence of the pipeline shortly after construction. Likewise, because of access afforded by Evan Hewes Road, the operation and maintenance of the proposed IID Lateral will have no adverse effect on the visual resources of these BLM-administered lands.

4.3.6 Degree of Contrast

The rating is completed by determining the degree of contrast (*i.e.*, strong, moderate, weak, or none) for each element. The general criteria and factors shown in Table Q-9 are used when rating the degree of contrast:

Form. Implementation of the proposed IID Lateral will create no changes in landform, as it will be constructed on flat terrain parallel to Evan Hewes Road and I-8. There will be no form contrasts.

Line. Implementation of the proposed IID Lateral will create no changes in line, as the IID Lateral right-of-way will be parallel to Evan Hewes Road. There will be no line contrasts.

Color. Implementation of the proposed IID Lateral will create few, if any, changes in color, as it will be constructed parallel to Evan Hewes Road and I-8. Minimal vegetative clearing of the right-of-way and lighter colored soils from pipeline construction will create weak-to-no color contrasts. Orange-colored pipeline markers will be visible at intermittent locations along the pipeline, but will not detract from the visual quality of the area.

Texture. Implementation of the proposed IID Lateral will create few, if any, changes in texture, as it will be constructed parallel to Evan Hewes Road and I-8. Therefore, only a slight amount of existing desert vegetation will be disturbed during construction. The amount of texture contrast will be weak to none.

For BLM-administered lands from MP 7.9 to 27.6, visual contrasts created by the construction, operation and maintenance of the IID Lateral will be weak-to-none. There will be little or no visual effects from the IID Lateral to BLM-administered lands.

4.3.7 Determining Whether VRM Objectives Are Met

The contrast ratings are compared with the VRM objectives for the East Mesa. For comparative purposes, the four levels of contrast (i.e., none, weak, moderate, and strong) roughly correspond with VRM Classes I, II, III, and IV respectively.

Though experience in construction of the North Baja Pipeline in 2002 (A-Line), it was learned that all of the contrast ratings for landscape elements were “none” or “weak,” and therefore potential contrast of visual elements (form, line, texture and texture) caused by trenching and backfilling for the pipeline construction did not cause any visual contrasts that were unacceptable after implementation of mitigation measures. The landscapes that will be crossed by the IID Lateral are even more uniform than those crossed in 2002 by the A-Line, and therefore, it was determined that the visual effects will be “None”.

Consequently, the visual resource management objectives for this area in East Mesa will be met by the proposed Project. Because there will not be a significant visual impact created by pipeline construction, operation or maintenance in the East Mesa, no mitigation measures are needed beyond those proposed for restoration.

4.4 IMPACT SUMMARY

IID Lateral MP 0.0 to MP 7.9 – The approximately 159,072-acre ISDRA contains the largest mass of sand dunes in California, covering an area more than 40 miles long and averaging 5 miles in width. The ISDRA is considered a world-class OHV area and it represents one of the most popular OHV areas in the western United States. In addition, the ISDRA is recognized for its frequent use as a backdrop for commercials and movies because of its unique beauty and landscape. Very little vegetation is present due to intense OHV use. Manmade modifications in the vicinity of the pipeline route in the Algodones Dunes include I-8, the AAC, new Coachella Canal, and several wood-pole and steel-lattice-tower electric transmission lines traversing the Dunes in an east-west direction. Moreover, wind-deposited sand is expected to mask most remaining visual evidence of the right-of-way within a relatively short period following construction. The VRM objectives for this area in the Algodones Dunes pipeline segment will be met by the proposed Project. Consequently, because there will not be a significant visual impact created by pipeline construction, operation, or maintenance, no mitigation measures are needed beyond those implemented during construction of the A-Line. Effectiveness will be similar.

IID Lateral MP 7.9 to 27.6 – The landscapes that will be crossed by the IID Lateral through the East Mesa are even more uniform than those crossed in 2002 by the A-Line. In this desert landscape environment, a low degree of visual impact will occur initially and be further reduced over time. Adjacent features along most of the length of this route segment include electric distribution and paved roads. Long term impact will be unnoticeable because the pipeline will for the most part be located in county rights-of-way requiring little or no clearing. The VRM objectives for this area in the East Mesa will be met by the proposed Project. Consequently, because there will not be a significant visual impact created by pipeline construction, operation

or maintenance in the East Mesa, no mitigation measures are needed beyond those implemented during construction of the A-Line. Effectiveness will be similar.

IID Lateral MP 27.6 to 45.6 – In the agricultural areas of the Imperial Valley, visual impacts will be temporary and very minor. The terrain is flat and agricultural operations will resume following construction. Construction activity will be a short-term visual intrusion to residents along county roadways. Long-term impact will be unnoticeable because the pipeline will for the most part be located in county rights-of-way requiring little or no clearing. Lands in this route segment are not administered by the BLM, and therefore, have no BLM VRM classification.

5.0 ARROWHEAD EXTENSION

The Arrowhead Extension is a 2.1-mile pipeline located between MP 7.4 of the proposed B-Line and SoCalGas' existing Blythe Compressor Station. The terrain is flat and uniform with a mix of agricultural and rural residential landscapes on both sides of Arrowhead Boulevard.

Construction activity would create a short-term visual intrusion along Arrowhead Boulevard.

There would be no long-term impact on visual resources in this area because little or no vegetation clearing would be required where the pipeline would be installed within the right-of-way associated with Arrowhead Boulevard, and agricultural operations would resume following construction where the pipeline would be outside the road right-of-way. The lands affected by the Arrowhead Alternative are not managed by the BLM and do not have a VRM classification. No mitigation measures are warranted or proposed.

6.0 ABOVEGROUND FACILITIES

Two new and separate aboveground facilities are proposed: the Blythe-Arrowhead and El Centro Meter Stations. Other aboveground facilities will be modified, but the incremental visual change will likely be unnoticeable. Construction of the aboveground facilities will also have a temporary impact on visual resources. The Blythe-Arrowhead Meter Station is a new aboveground facility. It will be located within SoCalGas' existing site associated with its Blythe Compressor Station. The aboveground structures will be painted to match the surroundings. Because the facility is not located on BLM land, it does not have a VRM classification.

The El Centro Meter Station is a new aboveground facility that will be located in the fenced yard of the existing El Centro Generating Station. It will be a minor industrial addition to a much larger industrial complex. Because the facility is not located on BLM land, it does not have a VRM classification.

The existing Ogilby Meter Station, located in the open desert near I-8, affects the surrounding visual landscape. The presence of construction crews/equipment will be a minor visual disruption. All modifications will be at or near ground level and be visually unobtrusive. The VRM designation for this site, located on BLM-administered land, is Class II. After construction is complete, modifications to the existing Ogilby Meter Station will not be visually evident to casual observers.

During modifications associated with the Ehrenberg Compressor Station, the presence of construction workers and equipment in the Project area will be a minor detraction. All modifications will be at or near ground level and be visually unobtrusive. Because the facility is not located on BLM land, it does not have a VRM classification.

There will be little impact to visual resources resulting from the expansion of the B-Line, new laterals, or aboveground facilities. The right-of-way created by construction of the A-Line has recovered significantly since construction was completed in 2002. Construction of the B-Line will result in an incremental impact that is expected to recover in a similar manner. Pipeline markers will be visible at intermittent locations along the pipeline, but will not detract from the visual quality of the area. The Project will not have a substantial effect on a scenic vista or substantially damage scenic resources within a state scenic highway because none exist in the Project area. Although aboveground facilities will use small floodlights on site, they will not create a new source of substantial light or glare that will adversely affect day or nighttime views in the area.

7.0 REFERENCES

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FIGURE Q-1

KOP LOCATIONS ALONG THE B-LINE AND IID LATERAL

Non-Internet Public

FINAL ENVIRONMENTAL IMPACT STATEMENT/REPORT FOR
THE PROPOSED NORTH BAJA PIPELINE EXPANSION PROJECT
Docket Nos. CP06-61-000 and CP01-23-003

Figure Q-1 KOP Locations Along the B-Line and IID Lateral

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Public access for this Non-Internet information is available only
through the Public Reference Room, or by e-mail at
public.referenceroom@ferc.gov.

ATTACHMENT A

A-LINE (2001) AND B-LINE (2005) KOP PHOTOS

ATTACHMENT A**NORTH BAJA PIPELINE EXPANSION PROJECT
A-Line (2001) and B-Line (2005) KOP PHOTOS**

KOP 1. Highway 78 at Milpitas Wash looking east-northeast (MP 35.8)



2001 Visual Conditions Before Pipeline Construction



2005 Visual Conditions After Pipeline Construction and Landscape Restoration.

KOP 2. Highway 78 at Milpitas Wash looking south-southeast (MP 36.1)



2005 Visual Conditions After Pipeline Construction and Landscape Restoration.

KOP 3. Highway 78 at Milpitas Wash Looking South-Southeast (MP 36.6)



2001 Visual Conditions Before Pipeline Construction



2005 Visual Conditions After Pipeline Construction and Landscape Restoration

KOP 4. Highway 78 near Access Road IMCA-1009 Looking Due East (MP 39.0)

2001 Visual Conditions Before Pipeline Construction.



2005 Visual Conditions After Pipeline Construction and Landscape Restoration.

KOP 5. Highway 78 Looking Southeast (MP 42.2)



2001 Visual Conditions Before Pipeline Construction.



2005 Visual Conditions After Pipeline Construction and Landscape Restoration.

KOP 6. Highway 78 near Access Road IMCA-1037, Looking East-Northeast (MP 47.3)
2001 Visual Conditions Before Pipeline Construction.



2005 Visual Conditions After Pipeline Construction and Landscape Restoration.

KOP 7. Highway 78 North of the U.S. Border Patrol Checkpoint Station looking Northeast
(MP 47.6)



2001 Visual Conditions Before Pipeline Construction.



2005 Visual Conditions After Pipeline Construction and Landscape Restoration.

**KOP 8. Highway 78 South of the U.S. Border Patrol Checkpoint Station Looking East-Northeast
(MP 48.3)**



2001 Visual Conditions Before Pipeline Construction.



2005 Visual Conditions After Pipeline Construction and Landscape Restoration.

ATTACHMENT B

IID LATERAL (2005) KOP PHOTOS

ATTACHMENT B**NORTH BAJA PIPELINE EXPANSION PROJECT
IID Lateral (2005) KOP Photos****KOP 9.** State Route 34 (Ogilby Road) Looking West-Southwest (MP 0.3)**KOP 10.** Interstate 8 near Grays Well Road, Looking Southwest (MP 1.8)

KOP 11. Grays Well Road (within ISDRA), Looking Southwest (MP 3.5)**KOP 12.** Between Grays Well Road and Interstate 8, Looking Southwest (MP 4.1)

KOP 13. Grays Well Road, Paralleling Interstate 8, Looking Southwest (MP 5.3)**KOP 14.** Western Edge of the Algodones Dunes, Looking Due West (MP 6.5)

APPENDIX R

**U.S. FISH AND WILDLIFE SERVICE'S
BIOLOGICAL OPINION**



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92011



In Reply Refer To:
FWS-ERIV-5068.2

Apr 20 2007

Michael J. Boyle, Chief
Environmental Gas Branch I
Office of Energy Projects
Federal Energy Regulatory Commission
Washington, D.C. 20426

Re: Formal Section 7 Consultation on the proposed North Baja Pipeline Expansion Project;
La Paz County, Arizona; Riverside County, California; and Imperial County, California
(1-6-05-F-5068.2)

Dear Mr. Boyle:

This document transmits our biological opinion based on our review of the proposed North Baja Pipeline Expansion Project (Project or proposed Project) located in La Paz County, Arizona; Riverside County, California; and Imperial County, California; and its effects on desert tortoise (*Gopherus agassizi*), desert tortoise critical habitat, and Peirson's milk-vetch (*Astragalus magdalenae* var. *peirsonii*) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 United States Code 1531 *et seq.*). Your September 27, 2006, request for formal consultation was received on September 29, 2006.

This biological opinion is based on information provided in the September 2006 draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR), which was prepared to also serve as the Biological Assessment, survey reports, a site visit on July 6, 2006, and other sources of information. The project description has been modified to reflect the adoption of the Arrowhead Alternative, a minor facility change that North Baja Pipeline, LLC (North Baja) incorporated into its proposed action after the issuance of the draft EIS/EIR. A complete administrative record of this consultation is on file at the Carlsbad Fish and Wildlife Office.

CONSULTATION HISTORY

A request for a species list was received by the Service on April 15, 2005.

A meeting was attended by Kurt Roblek, Carlsbad Fish and Wildlife Office, at the Navy Office in San Diego on August 25, 2005, in which endangered species issues and timeline were discussed.



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On September 27, 2005, Kurt Roblek met with Federal Energy Regulatory Commission (FERC) representatives and others to discuss more issues and the timeline for section 7 consultation and the draft EIS/EIR.

On December 30, 2005, the Service received a letter requesting a species list for a newly incorporated portion of the proposed project, the Imperial Irrigation District (IID) Lateral. In a phone call conversation on March 3, 2006, it was agreed that Peirson's milk-vetch and the flat-tailed horned lizard (*Phrynosoma mcallii*; proposed for listing at that time) were species of concern on the IID Lateral.

Survey reports for desert tortoise, Peirson's milk-vetch, Yuma clapper rail (*Rallus longirostris yumanensis*), and southwestern willow flycatcher (*Empidonax trailii extimus*) were received on February 7, 2006.

Penny Eckert of Tetrattech, EC Inc., escorted Tyler Grant, Carlsbad Fish and Wildlife Office, on a site visit on July 6, 2006. The length of the proposed project was driven and points of concern were visited.

The draft EIS/EIR was received on September 25, 2006.

The Service received the FERC request on September 29, 2006, for initiation of formal section 7 consultation on desert tortoise and Peirson's milk-vetch. The FERC determined the project would have no effect on the bald eagle (*Haliaeetus leucocephalus*), brown pelican (*Pelecanus occidentalis*), bonytail chub (*Gilia elegans*), and desert pupfish (*Cyprinodon macularis*). The FERC also determined that the project may affect, but would not be likely to adversely affect razorback sucker (*Xyrauchen texanus*) and its critical habitat, southwestern willow flycatcher, and Yuma clapper rail. The Service concurred with these "not likely to adversely affect" determinations in a letter dated November 11, 2006.

A draft of the Biological Opinion was provided to FERC representatives on March 28, 2007. FERC representatives reviewed the draft Biological Opinion. At this time, FERC representatives also informed the Service that the Arrowhead Alternative analyzed in the draft EIS/EIR would be adopted in the final EIS/EIR. The Arrowhead Alternative would have no effect on listed species.

DESCRIPTION OF THE PROPOSED ACTION

North Baja proposes to expand its existing natural gas transmission pipeline system between Ehrenberg, Arizona and an interconnection at the international border between the United States and Mexico. The North Baja system is the U.S. portion of the international North Baja/Gasoducto Bajanorte Pipeline Project. North Baja's existing system extends approximately 79.8 miles from an interconnection with the facilities of El Paso Natural Gas Company (El Paso)

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near Ehrenberg through southeast California to a point on the international border between Yuma, Arizona and Mexicali, North Baja Mexico, where the pipeline interconnects with the Gasoducto Bajanorte pipeline. The North Baja/Gasoducto Bajanorte Pipeline Project was built in 2002 to supply domestic natural gas from the United States primarily to gasfired electric generation facilities in Baja California, Mexico. Since that time, several projects have been initiated to build liquefied natural gas (LNG) storage and vaporization terminals on the Baja California coast, near the terminus of the Gasoducto Bajanorte pipeline. This new source of natural gas would be stored in tanks as LNG at the terminals in Baja California, and then re-gasified (vaporized) and transported as natural gas into the North Baja/Gasoducto Bajanorte systems.

The existing North Baja system is currently certificated by the FERC to transport 512,500 dekatherms per day (Dthd) of natural gas in a southbound direction. Once completed, the expanded system would be capable of transporting up to 2,932,000 Dthd (2,753 million standard cubic feet per day) of natural gas from the planned LNG terminals in a northbound direction for delivery to customers in California and Arizona. In addition to the new volumes from the LNG terminals, North Baja would continue to offer southbound gas transportation service for several existing shippers. The anticipated delivery points for the proposed Project are: the IID's existing El Centro Generating Station in El Centro, California and the SoCal Gas Company (SoCal Gas) system in Blythe, California; and the El Paso system in Ehrenberg, Arizona.

The proposed North Baja Pipeline Expansion Project would involve the construction and operation of a pipeline loop; two pipeline laterals; two meter stations; modifications at North Baja's existing compressor and meter stations; and installation of taps and crossover piping, mainline and lateral valves, and pig launchers and receivers. A loop is a segment of pipeline that is usually installed adjacent to an existing pipeline and connected to it at both ends. The loop allows more gas to be moved through the system. A lateral pipeline typically takes gas from the main system to deliver it to a customer, local distribution system, or another interstate transmission system. A pig is an internal tool that can be used to clean and dry a pipeline and/or to inspect it for damage or corrosion.

Specifically, North Baja proposes to construct and operate:

- 79.8 miles of pipeline loop (B-Line) consisting of 11.7 miles of 42-inch-diameter pipeline extending from the existing Ehrenberg Compressor Station at milepost (MP) 0.0 in La Paz County, Arizona to the existing Rannells Trap at MP 11.7 in Riverside County, California and 68.1 miles of 48-inch-diameter pipeline extending from Rannells Trap to an interconnection at the U.S.-Mexico border at MP 79.8 in Imperial County, California;
- 2.1 miles of 36-inch-diameter pipeline (Arrowhead Extension) extending from the proposed B-Line at MP 7.4 to SoCal Gas' existing Blythe Compressor Station in Riverside County; and

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- 45.7 miles of 16-inch-diameter pipeline (IID Lateral) extending from MP 74.5 of the B-Line near the existing Ogilby Meter Station in Imperial County to the existing IID El Centro Generating Station in Imperial County;
- modifications at the existing Ehrenberg Compressor Station in La Paz County and the existing Ogilby Meter Station in Imperial County to allow northbound flow of natural gas;
- metering modifications inside the existing El Paso Meter Station at the Ehrenberg Compressor Station site to allow LNG-source gas to be delivered into the El Paso system;
- one meter station (Blythe-Arrowhead Meter Station) at SoCal Gas' existing Blythe Compressor Station in Riverside County to measure gas delivery from the North Baja system to SoCal Gas;
- one meter station (El Centro Meter Station) at the IID's existing El Centro Generating Station in Imperial County to measure gas delivery from the North Baja system to the IID;
- two taps and crossover piping where the Arrowhead Extension would connect with the existing A-Line and proposed B-Line in Riverside County;
- one tap where the IID Lateral would connect with the proposed B-Line in Imperial County;
- four pig launchers, one where the Arrowhead Extension would connect with the existing A-Line and proposed B-Line, one at Rannells Trap in Riverside County, one at the Ogilby Meter Station, and one where the IID Lateral would connect with the proposed B-Line;
- five pig receivers, one at the Ehrenberg Compressor Station, one at the end of the Arrowhead Extension at the Blythe-Arrowhead Meter Station, one at Rannells Trap, one at the Ogilby Meter Station, and one at the end of the IID Lateral at the IID El Centro Generating Station;
- nine remote manual valves with automatic shutdown capability on the B-Line, adjacent to the existing A-Line valve sites; and
- four remote manual valves with automatic shutdown capability on the IID Lateral.

The proposed Project would be constructed in three phases beginning in 2007 and ending in 2009. Phase I would involve modifications at the existing Ehrenberg Compressor Station and

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Ogilby and El Paso Meter Stations and construction of the Arrowhead Extension; Blythe-Arrowhead Meter Station and pig receiver; and the pig launcher, taps, and crossover piping at the beginning of the Arrowhead Extension. Phase I-A would involve the construction of the IID Lateral and El Centro Meter Station, one of the horizontal directional drills (HDDs) of the All-American Canal, and the HDD of the Eastline Canal. Phase II would involve the construction of the B-Line adjacent to North Baja's existing A-Line between Blythe and the U.S.-Mexico border. Phase II would also include the HDD of the Colorado River and the second HDD of the All-American Canal.

Maintenance

An electronic monitoring system would monitor the integrity of the pipeline system. A maintenance team would be on-call at the Ehrenberg Compressor Station 24 hours a day. Maintenance activities would include erosion control, observation from a truck of the state of the facilities and conditions in the right-of-way, and repair of facilities if required. Environmental protection programs such as desert tortoise awareness training would be implemented during operation of the proposed project.

Additional details of the project description can be found in the draft EIS/EIR.

Conservation Measures

The following conservation measures were described in the draft EIS/EIR. This biological opinion is issued on the assumption that these conservation measures will be implemented.

General Minimization and Conservation Measures

1. North Baja would use its environmental training program, successfully implemented for the A-Line construction, as a basis for a site-specific environmental training program to be implemented before the start of work. All employees and contractors working in the field would be required to complete an environmental training session before beginning work on the right-of-way. The program would include discussions of the biology, distribution, and ecology of special status species within the geographic area of construction; protection afforded such species under applicable Federal and State laws and regulations; all protection measures that must be followed to protect such species during Project activities; penalties for noncompliance; reporting requirements; and the importance of compliance with all protection measures. To ensure proper focus, emphasis would be placed on the specific aspects of compliance applicable to the particular audience's activities on the Project.
2. Employees and contractors would be informed during one or more training sessions that they are not authorized to handle or otherwise move listed species at any time, including while commuting to work sites or at a work site.

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3. North Baja would hire and designate at least two Environmental Inspectors (EIs) per construction spread who would be responsible for overseeing Project environmental protection measures, including those for special status species. Environmental inspection procedures would be in compliance with the relevant provisions of North Baja's Construction Mitigation and Restoration Plan. North Baja would also hire and designate at least one authorized biologist who would be responsible for identification of habitat and individuals of special status species and for implementation of all measures requiring an authorized biologist's intervention. The biologist would, if needed, hold the required permits or formal agreements with appropriate Federal and State agencies for the survey or handling of any special status species.
4. An authorized biologist would conduct species-specific surveys of each Project facility located within areas identified during North Baja's surveys as listed species habitat no more than 7 days before the onset of activities.
5. Project personnel would exercise caution when commuting to the construction area to minimize any chance for the inadvertent injury or mortality of species encountered on roads leading to and from the construction area. North Baja's contractors and employees would report all such incidents directly to an EI.
6. Only existing routes of travel and approved access roads would be used to and from construction areas. Cross-country travel by vehicles and equipment would be prohibited. Except on county- or State-maintained roads, vehicle and equipment speeds would not exceed 25 miles per hour within potential habitat of a listed species. On the B-Line, between MPs 48.0 and 68.0 (an area of relatively high tortoise density), North Baja states that it would limit vehicle and equipment speeds to 10 miles per hour except for stringing trucks, which North Baja proposes to allow to travel at 25 miles per hour. In accordance with the recommendation of the environmental staffs of the FERC, the California State Lands Commission (CSLC), and the Bureau of Land Management (BLM) in Section 4.7.3 of the EIS/EIR, North Baja would be required to restrict stringing trucks to a 10-mile-per-hour speed limit between MPs 48.0 and 68.0 on the B-Line.
7. Authorized biologists would monitor all work where prior North Baja surveys have documented the occurrence of one or more listed species and where construction activities can reasonably be expected to adversely affect those species. In conjunction with North Baja's EIs, the biologists would have the authority to halt all non-emergency actions that might result in harm to a listed species, and would assist in the overall implementation of protection measures for listed species during Project activities.
8. All trash and food items generated by construction and maintenance activities would be promptly placed in a closed container and regularly removed from the Project site to reduce the attractiveness of the area to common ravens and other desert predators.

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9. Firearms and domestic pets would be prohibited from work sites.
10. In the construction work area and along access roads, employees and contractors would look under vehicles and equipment for the presence of special status species before movement. If a special status species is observed, no vehicles or equipment would be moved until the animal has left voluntarily or is removed by an authorized biologist.
11. Pipeline construction activities between dusk and dawn would be limited to emergencies only (i.e., issues involving human health and safety) with the exception of the HDD operations (including those at the Colorado River, the All-American Canal, Interstate 8, the East Highline Canal) and the open-cut crossing of Rannells Drain.
12. Open pipeline trenches, auger holes, or other excavations that could entrap wildlife would be inspected by an authorized biologist a minimum of three times per day, and immediately before backfilling. In habitats supporting special status species, pipe segments would either be capped or taped closed each night or raised on supports of sufficient height to prevent the entry and entrapment of special status species. Such pipe segments would be inspected regularly before sealing and before using in the morning. For open trenches, earthen escape ramps would be maintained at 1-mile intervals. Other excavations that remain open overnight would be covered, ramped, or fenced to prevent entrapment of wildlife.
13. If a listed species is located during construction, and a contingency for avoidance, removal, or transplant has not been approved by the U.S. Fish and Wildlife Service (FWS or Service) or appropriate agency, North Baja would not proceed with Project activities in that location until specific consultation with the FERC, the FWS, the BLM, and/or other appropriate agency is completed.
14. All encounters with listed species would be reported to the biologist, who would record the following information:
 - a. species;
 - b. location (narrative and maps) and dates of observations;
 - c. general condition and health, including injuries and state of healing;
 - d. diagnostic markings, including identification numbers or markers; and
 - e. locations moved from and to.
15. Upon locating a dead or injured listed species, North Baja would notify the FWS and the California Department of Fish and Game (CDFG) in California or the Arizona Game and Fish Department in Arizona. Written notification would be made within 15 days of the date and time of the finding or incident (if known) and would include: location of the carcass, a photograph, cause of death (if known), and other pertinent information.

16. As described in Section 2.2.1 of the EIS/EIR, in general, the construction right-of-way would be limited to a width of 105 feet along the B-Line. North Baja proposes to generally use a 100-foot-wide construction right-of-way for the Arrowhead Extension except when in the Arrowhead Boulevard roadway or road shoulder where a 60-foot-wide construction right-of-way would be used. The construction right-of-way for the IID Lateral would be limited to a width of 60 feet for the majority of its length and 80 feet where it parallels existing utility corridors. The construction right-of-way would be clearly staked and flagged in advance of construction. The construction work area includes approved work areas for the pipelines, compressor station, and meter stations; the facilities at Rannells Trap; the taps, crossover piping, and pig launcher associated with the Arrowhead Extension; access roads; the tap to the B-line and pig launcher associated with the IID Lateral; and staging and pipe storage areas.
17. As described in Section 4.6.2.3 of the EIS/EIR, North Baja would attempt to schedule construction in native habitats outside of the breeding season for migratory birds. If, however, construction activities are necessary in native habitats during the bird breeding season, North Baja would remove vegetation that could provide nesting substrate from the right-of-way before the breeding season, thus eliminating the possibility that birds could nest on the right-of-way. In accordance with the recommendation of the environmental staffs of the FERC, the CSLC, and the BLM in Section 4.6.2.3 of the EIS/EIR, specific plans relating to preclearing of vegetation would be coordinated with the FWS, the BLM, and the CDFG. Qualified biologists would conduct preconstruction surveys to confirm the absence of nesting birds before construction begins.
18. If, in spite of vegetation removal, nesting birds are found on the construction right-of-way, the nest would not be removed until fledging has occurred or unless authorized after consultation with the FWS, the CDFG, and, if the nest is located on Federal lands, the Federal land management agency.
19. At specified locations in areas of high-density microphyll woodland (see Table 4.5.3-2 of the EIS/EIR), North Baja would narrow the construction right-of-way width to 80 feet. Areas of this narrower construction width would be identified in the field, staked, and flagged in advance of construction.
20. At the conclusion of work, all trenches and holes would be completely filled, surfaces cleaned and smoothed, and each site recontoured to match the original profiles as closely as possible.
21. With the exception of fenced facilities, all materials and equipment would be removed from the area upon completion of work. All stakes, flagging, and fencing used to delineate and protect any environmental or cultural feature in the construction area would be removed no later than 30 days after construction and restoration are complete.

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22. Upon completion of Project activities, North Baja would submit a final report to the FERC for distribution to other agencies, including the FWS. The report would document the effectiveness and practicality of the conservation measures, the number of individuals of each species excavated from their burrows or removed from the site, the number of individuals killed or injured, and other pertinent information. The report would also recommend modifications of the Project stipulations in order to enhance the protection of species in the future. In addition, the final report would provide the actual acreage disturbed by Project activities by habitat type.
23. North Baja would also monitor the entire pipeline route to determine the success of restoration of desert vegetation. In native desert habitats, restoration would be considered successful if the right-of-way is similar in species composition to adjacent undisturbed lands. This post-construction monitoring would be conducted annually in areas of desert vegetation disturbed by construction through 2012. Results of the monitoring would be provided in reports to the FERC, the BLM, the CSLC, and the CDFG.
24. Additionally, North Baja would conduct surveys for non-native invasive plant species. The results would be compared to the preconstruction survey conducted to determine locations of weed infestations attributable to the Project. North Baja would be responsible for weed survey and control two times a year for 2 years, then once a year thereafter as part of its routine operation and maintenance of the pipelines.
25. After construction, the lead, cooperating, and/or other agencies would continue to conduct oversight inspection and monitoring. If it is determined that any of the proposed monitoring time frames are not adequate to assess the success of restoration, North Baja would be required to extend its post-construction monitoring programs. The BLM would retain North Baja's bond or other security until the BLM is satisfied with North Baja's reclamation efforts.

Desert Tortoise Conservation Measures

26. Compensation rates for new impacts on desert tortoise habitat of 1:1 would be calculated and an assessed financial contribution would be paid to the BLM. In accordance with accepted guidelines previously implemented by the FERC, the FWS, and the BLM, areas of new impacts would include only those areas not previously affected by construction of the A-Line.
27. North Baja would provide funding to the CDFG to manage acquired lands in addition to an enhancement fee based on the same compensation rate, which would be based on the CDFG published or calculated rates per acre at the time of issuance of the final EIS/EIR for the proposed Project.

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28. North Baja would submit the names, permit numbers, and relevant tortoise experience resumes of all individuals who might need to handle desert tortoises to the FWS for approval at least 15 days before the initiation of clearance surveys. North Baja would also submit the list to the BLM for its records. Project activities would not begin until an authorized biologist has been approved. Although other biologists may be employed as biological monitors, only those approved by the FWS as authorized biologists would be permitted to handle tortoises.
29. All persons authorized by the FWS to handle desert tortoises would follow the guidelines established in the Guidelines for Handling Desert Tortoises During Construction Projects (Desert Tortoise Council 1999).
30. A clearance survey for the desert tortoise would be conducted by an authorized biologist within 24 hours before ground disturbance.
31. Burrows outside of the limits of the construction right-of-way would be flagged so that the biological monitor would be able to more easily locate them during construction.
32. All desert tortoise burrows or pallets in the construction area would be excavated by an authorized biologist. All desert tortoise handling and burrow excavation would be in accordance with the handling procedures developed by the FWS and would be conducted by authorized biologists.
33. Desert tortoises that are found above ground and need to be moved from potential harm would be placed in the shade of a shrub by the authorized biologist. All desert tortoises removed from burrows would be placed in an unoccupied burrow of approximately the same size as the one from which it was removed.
34. If an existing burrow is unavailable, the authorized biologist would construct or direct the construction of a burrow of similar size, shape, depth, and orientation as the original burrow. Desert tortoises moved during inactive periods would be monitored for at least 2 days after placement in the new burrows to ensure their safety. The authorized biologist would be allowed some judgment and discretion to ensure that the survival of the desert tortoise is likely.
35. Should a tortoise wander into the construction area during construction, adjacent activities would be halted until the tortoise is moved out of the construction work area and out of harm's way.
36. North Baja would install exclusion fencing along the right-of-way in areas where tortoise density is sufficiently high to warrant fencing, in the opinion of the authorized biologist in charge of tortoise surveys and in consultation with the FWS and the CDFG, to prevent tortoises from entering the construction work area and getting in harm's way.

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37. A worker bonus program would be implemented that would reward construction staff who spot a tortoise within the construction work area and, without touching or disturbing the animal, notify the authorized biologist for action.
38. If a tortoise is located in the construction work area and is not moving, adjacent activities would be halted until an authorized biologist is able to move it out of harm's way.
39. All pipeline marker signs within desert tortoise habitat would be fitted with "bird-be-gone" or similar bird repellent devices.
40. Only approved access roads would be used. Only approved areas would be used for temporary storage areas, laydown sites, and any other surface-disturbing activities. Any routes of travel that require construction or modification, or any additional work areas, would be surveyed for tortoises by an authorized biologist(s) before modification or construction of the route or construction or use of a new work area.
41. Trench segments or other excavations would be provided with tortoise escape ramps at 1-mile intervals. All excavations would be inspected for tortoises three times daily and before backfilling.
42. Any time a vehicle is parked, the ground around and under the vehicle would be inspected for desert tortoises before the vehicle is moved. If a desert tortoise is observed, it would be left to move on its own. If this does not occur within 15 minutes, an authorized biologist would remove and relocate the tortoise.
43. Within desert tortoise habitat, construction pipe, culverts, or similar structures with a diameter of 3 inches or greater that are stored on the construction site for one or more nights would be inspected for tortoises before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored on the construction site.
44. All construction-related activities in desert tortoise habitat would be conducted between dawn and dusk.

Peirson's Milk-vetch Conservation Measures

45. All topsoil within 2 to 8 inches of the soil surface would be set aside during construction and respread above the pipeline when construction is complete.
46. The right-of-way of the B-line would be imprinted (sheepsfooted) to create microcatchments for seeds and moisture. The right-of-way for the IID Lateral would not be imprinted in the sand dunes because it would be ineffective.

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47. Construction in Peirson's milk-vetch habitat is expected to occur between mid-June and mid-September, usually the time of year of the fewest standing plants.

STATUS OF THE SPECIES/CRITICAL HABITAT

Desert Tortoise (*Gopherus agassizi*)

The Mojave population of the desert tortoise was emergency listed as endangered by the Service on August 4, 1989 (54 FR 32326). On April 2, 1990, the Service issued a final rule listing the desert tortoise as threatened (55 FR 12178). The Mojave population is defined as occurring north and west of the Colorado River in California (Mojave and Sonoran deserts), southern Nevada, north-western Arizona, and south-western Utah. Reasons for the threatened status included loss and degradation of habitat from construction projects, conversion of tortoise habitat for agricultural development, livestock grazing, and off-highway vehicle (OHV) activity. Also cited as factors for individual mortality and population declines were illegal collection, upper respiratory tract disease, and elevated levels of predation. The desert tortoise is also listed as threatened under the California Endangered Species Act.

In June 1994, a Final Recovery Plan was issued for the Mojave population of the desert tortoise. The Desert Tortoise Recovery Plan serves as the key strategy for recovery and delisting of the desert tortoise. The document divides the species' range into six distinct population segments or recovery units (i.e., Northern Colorado, Eastern Colorado, Eastern Mojave, North-eastern Mojave, Western Mojave, and Upper Virgin River) and recommends the establishment of 14 Desert Wildlife Management Areas (DWMAs) throughout the recovery areas. Within each designated region, the recovery plan recommends reserve level protection for both desert tortoise populations and habitat, while maintaining and conserving sensitive species and ecosystem functions. The design of the DWMAs follow accepted concepts of reserve design and, as part of the actions, restrict human activities that negatively affect the desert tortoise (Service 1994).

Critical Habitat

On February 8, 1994, the Service designated approximately 6.47 million acres of critical habitat for the Mojave population of the desert tortoise (California - 8 units, 4.8 million acres; Nevada - 4 units, 1.2 million acres; Arizona - 2 units, 338,700 acres; Utah - 2 units, 129,100 acres [59 FR 5820]). The rule became effective on March 10, 1994. The Service determined critical habitat unit boundaries based on proposed DWMAs in the Draft Recovery Plan for the Desert Tortoise (Mojave Population). A total of twelve critical habitat units were designated across California, Nevada, Utah, and Arizona. Three units span more than one state: Piute-Eldorado occurs in California and Nevada; Gold Butte-Pakoon occurs in Nevada and Arizona; and Beaver Dam Slope occurs in Nevada, Arizona, and Utah.

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Critical habitat is designated by the Service to identify the key biological and physical needs of the species and key areas for recovery, and focuses conservation actions on those areas. Critical habitat is composed of specific geographic areas that contain the biological and physical attributes that are essential to the species' conservation within those areas, such as space, food, water, nutrition, cover, shelter, reproductive sites, and special habitats. These features are called the primary constituent elements of critical habitat. The specific primary constituent elements of desert tortoise critical habitat are: sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow; sufficient quality and quantity of forage species and the proper soil conditions to provide for the growth of these species; suitable substrates for burrowing, nesting, and overwintering; burrows, caliche caves, and other shelter sites; sufficient vegetation for shelter from temperature extremes and predators; and habitat protected from disturbance and human caused mortality.

The final rule for designation of critical habitat did not explicitly ascribe specific conservation roles or functions to the various critical habitat units. Rather, it refers to the strategy of establishing recovery units and desert wildlife management areas recommended by the recovery plan for the desert tortoise, which had been published as a draft at the time of the designation of critical habitat, to capture the "biotic and abiotic variability found in desert tortoise habitat" (59 FR 5820, see page 5823). Specifically, we designated the critical habitat units to follow the direction provided by the draft recovery plan for the establishment of desert wildlife management areas. Note that each critical habitat unit functions independently of the others in terms of providing the physical and biological needs of individual desert tortoises; that is, desert tortoises are not required to move between or among units to complete their life histories. For this reason, we have not presented specific information related to the status of individual critical habitat units that are located outside of the action area. We also note that the critical habitat units in aggregate are intended to protect the variability that occurs across the large range of the desert tortoise; the loss of any specific unit would eliminate elements of the species' behavioral, ecological, and genetic variability.

Chuckwalla Critical Habitat Unit

Approximately 107,183 acres of this critical habitat unit lie within Joshua Tree National Park (Service 2005a). We were unable to obtain any information on specific uses of this area from the National Park Service; however, given the general patterns of visitor use at Joshua Tree National Park, we expect that this area receives little use.

Approximately 187,046 acres of this critical habitat unit lie within the Chocolate Mountains Aerial Gunnery Range (Pearce pers. comm. 2005). Within the area designated as critical habitat of the desert tortoise, the Marine Corps primarily uses the Chocolate Mountains Aerial Gunnery Range to support target sites for aircraft and, to a lesser degree, ground-based artillery; maintenance of the targets is the other primary activity in this area. Target areas cover approximately 2,095.5 acres and forward arming and refueling points occupy 161 acres. Approximately 202.8 miles of roads cross this portion of the critical habitat unit. Forward

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arming and refueling points are areas that the Marine Corps uses to land helicopters to refuel and rearm them in the field. Refueling can be done from a large transport helicopter to a smaller attack helicopter, but it is usually done from pre-positioned trucks. The trucks stay on designated routes to minimize surface disturbance and dust in the landing zone. Except to place targets in the designated targets areas, which are both mapped and marked with permanent monuments on the ground, vehicles are required to stay on the designated roads. Washes are only used when they are part of the designated routes. The Marine Corps and Service consulted, pursuant to section 7(a)(2) of the Act, on the effects on the desert tortoise and its critical habitat of the roads, target areas, and forward arming and refueling points in 1996 (Pearce pers. comm. 2005).

Life History

The desert tortoise is a large herbivorous reptile found in portions of the California, Arizona, Nevada, and Utah deserts, and extending in range to Sonora and Sinaloa, Mexico. In California, the species occurs primarily within the creosote bush, shadscale, and Joshua tree series of the Mojave Desert scrub, and the lower Colorado River Valley subdivision of the Sonoran Desert scrub. Optimal habitat has been characterized as creosote bush scrub in which precipitation ranges from 2 to 8 inches, the diversity of perennial plants is relatively high, and production of ephemerals is prominent (Luckenbach 1982, Turner 1982, Turner and Brown 1982, Schamberger and Turner 1986). Soils must be friable to allow for burrow excavation, but firm to avoid burrow collapse. In California, desert tortoises are typically associated with gravel flats or sandy soils with some clay, although the species has occasionally been found on windblown sand or rocky terrain (Luckenbach 1982).

Desert tortoises are found in a variety of desert habitats, including arid, sandy, or gravelly areas in creosote bush scrub. They retreat into their horizontal burrows to avoid high daytime temperatures. Desert tortoises are most active in California during the spring and early summer when annual food plants are most prevalent. Additional activity occurs during the warmer fall months and sometimes following summer rain storms. Desert tortoises spend the remainder of the year in burrows, escaping the extreme conditions of the desert. Further information on the range, biology, and ecology of the desert tortoise is described in Burge and Bradley (1976), Burge, (1978), Luckenbach (1982), Weinstein et al. (1987), Hovik and Hardenbrook (1989), Service (1994), and Tracy et al. (2004).

Population Dynamics

Desert tortoises do not reach sexual maturity until they are 10 to 15 years old. Tortoise populations are probably dependent on relatively rare years of sufficient and timely precipitation to produce sufficient forage for reproduction and survival. This life history makes the species susceptible to environmental perturbations that may affect recruitment of young animals into the population, or survival of breeding adults before replacement (55 FR 12179).

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Status and Distribution

Analysis of study plot data from sites in the western Mojave Desert indicate that subpopulations (both adults and especially juveniles) have declined over the last decade. The desert tortoise species is long-lived with a relatively slow rate of reproduction. Vandalism, collecting, raven predation, drought, and disease are a few of the many factors that are implicated in population declines. Habitat conditions have deteriorated and/or habitat has been lost in certain localities resulting from urban, energy, and mineral development; conversion of native habitats to agriculture; vehicle-oriented recreation; livestock grazing; military activities; and other uses (55 FR 12179). Luckenbach (1982) concluded that human activity is the most significant cause of tortoise mortality. Also, the apparent distribution of Upper Respiratory Disease Syndrome, not identified before 1987 in wild tortoises, has suggested the possibility of an epizootic condition and thus may be a significant contributing factor to the current high level of desert tortoise losses documented from certain localities (55 FR 12179).

Threats

Numerous factors are likely involved in the decline of desert tortoise populations. Predation by common ravens and domestic and feral dogs, unauthorized OHV activity, authorized vehicular activity, illegal collecting, upper respiratory tract disease, possibly other diseases, mortality on paved roads, vandalism, drought, livestock grazing, feral burros, human development, non-native plants, changes to natural fire regimes, and environmental contaminants are known or potential contributing factors. Tracy et al. (2004) postulate that “disease alone is not sufficient to explain (desert) tortoise die-offs.” They state that a combination of factors may be responsible for declines in the numbers of desert tortoises across its range and cite a “growing awareness” among experts on disease “that the probability of infection leading to death in (desert) tortoises may be a function of chronic stress (e.g., malnutrition) and the strain of infectious agent. This means that the presence of disease alone is not sufficient to explain (desert) tortoise die-offs. For example, it is possible that habitat degradation results in physiologically stressed (desert) tortoises that then succumb to disease agents that are normal at background levels in healthy populations.” Oftedal (2005) has advanced the concept that desert tortoises “must match their ability to balance nutrient intake and excretion over a period of years to ephemeral plant resources that change over period of weeks.” Basically, Oftedal contends that desert tortoises are completely dependent on nutrient resources that are only available briefly and on an irregular basis to sustain them over years when these resources are scarce or absent; furthermore, the ephemeral plants that they need to ingest at these times are high in protein and water relative to potassium. In areas where non-native plant species that do not contain these specific nutrients, such as Mediterranean grass and brome grass, have displaced the plants that desert tortoises require, they may be in a state of chronic nutritional stress. This level of stress may be an important component in the declines that have been observed over large portions of the California desert. Finally, Federal, State, and local agencies and non-governmental organizations have undertaken numerous activities to attempt to recover the desert tortoise in California. Agencies and others have modified grazing procedures, retired livestock allotments,

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fenced highways, removed burros, and restored disturbed habitat, among other activities in an attempt to recover the desert tortoise. The extent that these efforts will benefit the desert tortoise will be difficult to measure because of the slow reproductive rate of the species and other factors, such as disease, drought, and predation, that may be affecting the number of individuals in a region.

Increases in non-native plant presence and vegetative biomass may increase the propensity for habitat to burn. Desert tortoises and their habitat are not adapted for regular fires as some ecosystems are and wildfire may kill tortoises directly or affect the microhabitats available to them. In 2005, 136,447 acres of desert tortoise critical habitat (2.1 percent of total) burned.

Synopsis of Status

Available data suggest many or most desert tortoise populations are in long-term decline for reasons that are unclear. We make this statement despite acknowledging the difficulties involved in estimating the numbers of a species that spends a large portion of its life underground and that occurs over millions of acres. Although some statistical tests do not indicate obvious declines, other studies and observations clearly indicate that desert tortoise populations are not functioning normally. For example, the transects in the Western Mojave Recovery Unit that did not detect any sign over large areas of previously occupied habitat and the numerous carcasses found on permanent study plots and lack of recent sign also suggest population decline. During line distance sampling conducted in 8 desert wildlife management areas in California in 2003, 930 carcasses and 438 live desert tortoises were detected; more carcasses than live animals were detected in every study area (Woodman 2004). In 2004, workers conducting line distance sampling in California detected 1,796 carcasses and 534 live desert tortoises; once again, more carcasses than live animals were detected in every study area (Woodman 2005). Line distance sampling in the Chuckwalla DWMA shows a statistically significant decline in density from 11.61 tortoises per square kilometer in 2001 to 5.47 tortoises per square kilometer in 2004 (Averill-Murray et al. 2006).

Peirson's Milk-vetch (*Astragalus magdalenae* var. *peirsonii*)

Peirson's milk-vetch was listed as an endangered species by the State of California in 1979. On May 8, 1992, the Service published a rule proposing endangered or threatened status for seven desert milk-vetch taxa, including Peirson's milk-vetch (57 Federal Register 19844). The Service listed this species as threatened on October 6, 1998 (63 FR 53596) due to threats of increasing habitat loss from OHV use and associated recreational development, destruction of plants, and lack of protection afforded the plant under State law. At the time of listing, the Service estimated that 75-80% of the milk-vetch habitat in the Algodones Dunes was subject to OHV use.

Peirson's milk-vetch is a stout, short-lived perennial member of the Legume Family (Fabaceae). Stems are gray-green in color, upright, and reach heights of 20 to 70 centimeters (8 to 27 in).

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Leaves are pubescent, gray-green, long, and slender, with paired leaflets along each edge. The flowers are dull purple, arranged in 10- to 17-flowered racemes. The pods are large and inflated, 2 to 3.5 centimeters (0.8 to 1.4 in) long, and contain 4.5 to 5.5-mm (0.2-in) black flat seeds; the largest seeds of any *Astragalus* in North America (Barneby 1964). Seeds require no pre-germination treatment to induce germination but show increased germination success when scarified (Romsper and Burk 1979). Seeds germinated best at lower and intermediate temperatures (15 to 25°C) in laboratory studies (Romsper and Burk 1979), and as might be expected, germinate in the cooler fall and winter months. The taproot is extremely long and penetrates deeply before lateral rootlets emerge (Barneby 1964). The root crown is often exposed due to moving sand in the dunes. Milk-vetch seedlings mature rapidly, and although perennial, some plants may bear fruit within several months of germination (Barneby 1964, Phillips et al. 2001). Romsper and Burk (1979) noted that older plants were the primary seed producers, and plants that become reproductive in the first season do not contribute much to the seed pool. This corresponds to conclusions reached by Pavlik and Barbour (1986) on a related *Astragalus* species, although Phillips and Kennedy (2002) concluded that there was a “substantial infusion of seeds into the sand as a result of the 2000 germination event and favorable weather conditions in the dune system in the spring and summer 2001.” Survival into the following wet fall/winter period was low in studies conducted by Romsper and Burk (1979), and Phillips and Kennedy (2002) reported 26 percent survival of the 2000-01 cohort through the summer of 2001. Though additional research will improve our understanding of the relative importance of first year reproductive plants, the existing literature suggests that older plants are important contributors to the persistence of the Peirson’s milk-vetch seedbank. Romsper and Burk (1979) also noted significant presence of the bruchid seed beetles, which they concluded contributes to a high mortality of seeds and a reduced seed crop for the species.

Peirson’s milk-vetch grows on slopes and hollows of windblown dunes in the southwestern Sonoran Desert. The species is frequently associated with other psammophytic (sand-loving) plants in the psammophytic scrub plant community. The only confirmed extant population of Peirson’s milk-vetch in the U.S. is distributed in what can be considered one extensive population of scattered colonies spanning the length of the (Algodones) dune system (63 FR 53596). The plant occurs primarily in partially stabilized bowls that lie behind the primary, western-most dunes. Most vegetation occurs in dunes of intermediate size in the western half of the area, and not in the high dunes in the eastern portion of the dune field (Phillips and Kennedy 2002). Approximately 108,658 acres of psammophytic scrub/active dune occurs within the Imperial Sand Dunes Recreation Area (ISDRA) (BLM 2002), although recent studies conclude that mappable concentrations of plants were noted in less than 25 percent of the dunes proper (Phillips and Kennedy 2002). Service analysis of 2005 survey data concluded that 21 percent of the dunes was occupied (Service in litt. 2006). Surveys conducted in the Borrego Valley, where the species was originally collected, have failed to detect Peirson’s milk-vetch (BLM 2001). Another historic location, west of the Salton Sea, cannot be confirmed. Peirson’s milk-vetch has been apparently misidentified in the Yuma Dunes of Arizona (Phillips and Kennedy 2002). A specimen collected in the Gran Desierto of northwestern Sonora was confirmed as *A. m.* var. *peirsonii* by A. Phillips in 2001.

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Peirson's milk-vetch exhibits temporal variability in plant numbers apparently associated with annual precipitation patterns. In dune-wide surveys conducted during the spring of each year from 1997 to 2006, the species was most abundant in 2005, after the highest rainfall year, and least abundant in 2000 and 2006, after the lowest rainfall years. Responses of this species were similar in both the closed and open areas across 4 years of BLM monitoring (BLM 2001). Based on current understanding of the species' life history, sufficient rain in conjunction with wetter than average fall weather appears to trigger significant germination events. After germination, seedlings may be present throughout the dunes, especially during above normal precipitation years. As discussed above, older plants produce more seeds than first-year plants. In intervening drier years, plant numbers decrease as individuals die and are not replaced by new seedlings. The species likely depends on the production of seeds in the wetter years, and the persistence of seed producers and seeds in the seed bank until appropriate conditions for germination and reproduction occur. Further research and modeling are necessary to better understand the dynamics of this system and how the species may be responding to natural and man-made disturbances within its range.

Vehicles can crush individual plants, reduce the reproductive output of those that survive, and change dune structure. Destruction of plants and modification of habitat associated with OHV activity is considered the primary threat to Peirson's milk-vetch. Willoughby (2001), however, concluded that healthy milk-vetch populations persist in OHV "open areas" in the Algodones Dunes and that populations in both "open" and "closed" areas respond to precipitation patterns. This likely results from the observation that OHV use does not tend to encroach on habitat of the plants in more distant regions of the open area away from OHV staging concentrations (Willoughby 2001). At the time of listing, an estimated 75 percent of the ISDRA was open to motorized vehicle use. Since listing, recreational use and border traffic associated with illegal entry into the U.S. has increased significantly in the Algodones Dunes. The number of visits to the ISDRA has tripled since 1985 (BLM 2002).

The Service has not yet developed a recovery plan for Peirson's milk-vetch. Based on our current understanding of the species' biology, the primary conservation needs include: maintenance of the major occurrences of Peirson's milk-vetch to conserve genetic diversity; management of milk-vetch habitat to prevent catastrophic population declines; and collection of additional information concerning recreational use-patterns in the Algodones Dunes, the direct and indirect effects of OHV use on this species, and biological factors affecting milk-vetch demographics.

Critical Habitat

On August 5, 2003, the Service proposed to designate approximately 52,780 acres (ac) (21,359 hectares (ha)) of critical habitat for Peirson's milk-vetch (68 FR 46143). On August 4, 2004, the Service designated approximately 21,836 acres (ac) (8,848 hectares (ha)) as critical habitat (69 FR 47330).

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The proposed critical habitat is designed to provide sufficient habitat to maintain self-sustaining populations of *A. m. var. peirsonii* throughout its range and to provide those habitat components essential for the conservation of the species. These habitat components provide for: (1) individual and population growth, including sites for germination, pollination, reproduction, pollen and seed dispersal, and seed bank; (2) intervening areas that allow gene flow and provide connectivity or linkage within segments of the larger population; and (3) areas that provide basic requirements for growth, such as water, light, and minerals.

The primary constituent element of critical habitat for *A. m. var. peirsonii* consists of intact, active sand dune systems (defined as sand areas that are subject to sand-moving winds that result in natural expanses of slopes and swales) within the historical range of *A. m. var. peirsonii* that are characterized by: (A) substrates of the Rositas soil series, specifically Rositas fine sands of sufficient depth to promote *A. m. var. peirsonii* and discourage creosote bush scrub; and (B) wind-formed slopes of less than 30 degrees, but generally less than 20 degrees.

ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR §402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area that have undergone section 7 consultation, and the impacts of State and private actions which are contemporaneous with the consultation in progress.

This biological opinion does not rely on the regulatory definition of “destruction or adverse modification” of critical habitat at 50 CFR 402.02. Instead, we have relied upon the statute and the August 6, 2004, Ninth Circuit Court of Appeals decision in *Gifford Pinchot Task force v. U.S. Fish and Wildlife Service* (No. 03-35279) to complete the following analysis with respect to critical habitat.

The proposed project is entirely within the Lower Colorado River Valley subdivision of the Sonoran Desert. Vegetation communities in the action area include creosote bush scrub, desert wash woodland, desert sand dune, agricultural, and urban/ruderal. The proposed project would also cross approximately 2.7 miles of wetlands, some near the Colorado River and some near canals in the Imperial Valley.

The desert has been affected by a myriad of incremental impacts from anthropogenic sources. Habitat loss, roads, air and water pollution, recreational activities, and other activities occurring in the action area decrease the capacity for the habitat to support threatened and endangered species or directly decrease numbers of threatened and endangered species. Climate change is expected to change future habitat conditions, with potentially harmful results for threatened and endangered species.

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The first North Baja Pipeline (A-line) was constructed in 2002 adjacent to the B-line of the proposed project and thus has a large effect on the environmental baseline. Approximately 30 feet are between the A-line and proposed B-line. Reseeding of the A-line was generally unsuccessful, but an above-normal precipitation year in 2004-2005 aided restoration greatly. Small palo verde (*Cercidium floridum*) and ironwood (*Olneya tesota*) have grown in some areas. Vertical mulch appears to have succeeded in discouraging OHV traffic on the alignment, except near the international border where Border Patrol has been using the alignment. The alignment is still clearly visible however and complete restoration is not expected for many years.

Four weed species were found in preconstruction surveys for the A-line: African mustard (*Brassica tournefortii*), Australian saltbush (*Atriplex semibaccata*), fountain grass (*Pennisetum* sp.), and tamarisk (*Tamarix ramosissima*). Post-construction surveys found mustard and tamarisk in areas they had previously inhabited, but they had not spread to new areas. Fountain grass had been eliminated.

The environmental baseline for each species is described in more detail below:

Desert Tortoise

The proposed project is in the Eastern Colorado Recovery Unit as defined in the Recovery Plan (Service 1994). This Recovery Unit has one DWMA, the Chuckwalla DWMA. The desert tortoise population in the Chuckwalla DWMA is generally declining. In one long-term study plot, the density of tortoises has declined from approximately 150 per square mile to 50 per square mile from approximately 1979 to 1997 (Tracy et al. 2004). In another long-term study plot, the density has remained stable at approximately 50 per square mile (Tracy et al. 2004). However, the overall density as measured by line distance sampling has declined from 10.80 per square kilometer in 2001 to 6.38 per square kilometer in 2005 (Service 2006).

Approximately 62 miles of the proposed B-line is in desert tortoise habitat. Desert tortoise habitat is not present on the IID Lateral. Desert tortoise habitat occurs between approximately MP 11 of the proposed B-line outside of Blythe to approximately MP 76 at Interstate 8. Habitat in this area is creosote bush scrub or desert wash woodland. Desert tortoise information for the project comes from three sources: 2001 surveys for the A-line, 2002 construction encounters, and a 2005 survey for the B-line.

Occasional tortoise sign was found between Blythe and Milpitas Wash (approximately MPs 11 to 39). An increased concentration of sign and live tortoises was found from Milpitas Wash to Tumco Wash (approximately MPs 39 to 67). From Tumco Wash to Interstate 8 occasional sign was found (approximately MPs 67 to 76).

Thirteen tortoises were found during surveys in 2005, two of which were on the right-of-way. One hundred four burrows, 10 carcasses, and 21 scat were also found during surveys.

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One tortoise was killed during construction operations on the A-line, 15 were relocated, and 13 were observed. Thus tortoise populations along the right-of-way were likely not substantially affected by construction of the A-line.

Highway 78 parallels a portion of the alignment and likely affects the desert tortoise populations nearby, primarily from mortality of tortoises on the road. Tortoise sign was found in reduced numbers up to 0.4 kilometer from a highway in one study (Boarman and Sazaki 1994). The alignment also parallels two roads that are less busy, Stallard Road and Ogilby Road.

Peirson's Milk-vetch

Peirson's milk-vetch is assumed to occur in the Algodones Dunes from approximately MPs 0.5 to 7.5 of the IID Lateral. This section would lie near Interstate Highway 8, passing through a designated OHV open area and a campground. Thus, the suitability of the habitat for milk-vetch is currently impaired by substantial impacts from recreation.

The B-line right-of-way was surveyed for Peirson's milk-vetch south of Interstate 8. Peirson's milk-vetch was reported as present. Photographs were submitted with the survey report in which inflated seed pods are clearly visible. The right-of-way on the B-line south of Interstate 8 is not in the sand dunes, though a sand veneer may be present; therefore, it is not typical habitat for Peirson's milk-vetch. We have determined that the milk-vetch observed on the B-line is very unlikely to be Peirson's milk-vetch. The photographs are inconclusive, but they appear to show full-sized leaflets. Peirson's milk-vetch has extremely reduced leaflets. These plants are likely Borrego milk-vetch (*Astragalus lentiginosus* var. *borreganus*), which also has inflated pods.

EFFECTS OF THE ACTION

Proposed construction and maintenance of the North Baja Expansion Project will cause direct and indirect impacts on desert tortoise and Peirson's milk-vetch in the action area. The Project would result in 1,055.2 acres of disturbance to creosote bush scrub, 83.2 acres of disturbance to desert wash woodland, and 42.0 acres of disturbance to desert sand dunes. Urban/ruderal and agricultural would receive 442.6 acres and 278.7 acres of impacts, respectively. The total project would affect approximately 1,710 acres of non-wetland. Approximately 717 acres would be newly disturbed; the rest of the acreage was impacted during the construction of the A-line. Approximately 109 acres would be required for operation of the proposed facilities and the remaining 1,600 acres would be restored to the extent possible and allowed to recover to its former state. Approximately 36 acres of wetlands would be disturbed as well.

Desert Tortoise

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Construction and maintenance of the North Baja Pipeline Expansion Project could result in harm, harassment, and mortality to desert tortoises in and near the project right-of-way. Desert tortoises entering the right-of-way during construction could be crushed by construction equipment. Tortoises could fall into the trench excavated during construction and be killed, injured, or trapped. Tortoises suffer harassment when they are relocated or otherwise affected by construction activities. During construction of the A-line, one tortoise was reported to be crushed as a result of construction activities and 15 tortoises were relocated. Similar take is expected to occur during construction of the B-line.

Approximately 1,138 acres of potential desert tortoise habitat (creosote bush scrub and desert wash woodland) would be temporarily impacted. Though temporary impacts do not permanently render the habitat unusable, the desert may take decades if not longer to recover to a pre-disturbance state and until then would be more limited in its ability to support desert tortoise. The loss of perennial shrubs decreases the amount of cover for tortoises. Burrows may be crushed and rendered unusable. Invasive or "pioneer" plants, which may be less nutritious for tortoise, may become more common because of soil disturbance. Soil compaction can also discourage annuals that tortoise feed on. Thus, temporary disturbance has long-lasting consequences. Approximately 1 acre will be permanently impacted (in addition to permanent impacts from the A-line) in tortoise habitat during operation.

Approximately 237 acres of new disturbance would occur in desert tortoise habitat. This habitat disturbance would be offset at a 1:1 ratio for purchase of land within desert tortoise habitat that will be managed for conservation of the species.

Indirect Effects

Pipeline construction could encourage growth of invasive species. In the past century the Mojave and Colorado Deserts have been invaded by several exotic species of annual plants. These invasive plants have two effects on the desert tortoise: they increase wildfire frequency and they alter the annual plant community that tortoises feed on.

Proliferation of invasive plants has resulted in larger and more frequent fires in the deserts of the southwest (Brooks and Esque 2002). The desert tortoise and Mojave and Colorado Deserts are not adapted to frequent fires and are negatively affected by fire. Fire may directly kill tortoises (Esque et al. 2003, Lovich and Daniels 2000) or may result in altered vegetation attributes (Esque et al. 2003). Since tortoises are thought to be selective of the vegetation they consume to maintain proper mineral balance (Oftedal 2001), fire-altered vegetation attributes may be undesirable for the desert tortoise. The alien grasses *Schismus barbatus* and *S. arabicus* (Mediterranean grass or split grass) and *Bromus rubens* (red brome) appear to be the primary facilitator of increased fire frequency because the dead plants may remain for many years and create a fuelbed for fire to cross between shrubs.

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The invasion of exotic species has also changed the annual plant community that desert tortoises rely on for food. Exotic species are present in larger numbers than native species and usually form the bulk of the annual plant community biomass (Brooks 2000), likely because they out-compete native species (Brooks 2000). The primary exotic species of concern are *Schismus* spp., filaree (*Erodium cicutarium*), and red brome (*Bromus rubens*). Mediterranean grass is ubiquitous in the Mojave and Colorado Deserts where it occurs as a carpet covering the desert floor in wet years. Red brome is primarily confined to the Mojave Desert and also grows primarily under the canopy of shrubs like creosote, whereas Mediterranean grass grows in the open. Filaree, a forb, in contrast to the two previous grasses, is ubiquitous in both deserts and has been present probably since the 1600s while the two grasses have only become widespread in this century (Brooks and Esque 2002). *Schismus* spp. have relatively low nutritional value to tortoises (Oftedal et. al. 2002) and is often bypassed by foraging juvenile desert tortoises despite its overwhelming availability (Oftedal et. al. 2002). Filaree may be a significant part of the diet and appears to be somewhat nutritious early in its phenology (Oftedal 2002), but is not a preferred food (Jennings 1993). A nutritionally poor diet of invasive plants, especially grasses, may contribute to tortoises' susceptibility to upper respiratory tract disease (Tracy et al. 2004, Jacobson et al. 1991). Red brome (*Bromus rubens*) was not eaten by the desert tortoise at all in one study (Avery and Neibergs 1997) but has been considered a major food item for tortoise (Oftedal 2002). Experimental thinning of Mediterranean grass and red brome resulted in higher densities, biomass, and species richness of native annuals in one experiment (Brooks 2000). Mediterranean grass and red brome likely out-compete native annuals because of faster uptake of water and nitrogen (Brooks 2000). Saharan mustard is another common invasive (Sanders and Minnich 2000).

Surveys after construction of the A-line found that invasive species had not spread beyond pre-construction conditions, thus the mitigation measures were thought to be successful. The same mitigation measures would be used during B-line construction and restoration.

Ravens have been known to prey on young tortoises (Boarman 2002). Ravens are thought to have increased in number in the Mojave Desert by 1,500 percent in recent decades (Kristan and Boarman 2003). Trash would be the main attractant for ravens. Proper disposal of trash as described in conservation measure 8 would likely decrease the attractiveness of the project to ravens. The project would not be expected to cause an increase in ravens in the action area.

OHVs may crush tortoises or their burrows. OHVs may degrade habitat by destroying vegetation. The potential for the cleared right-of-way to be used by OHVs will be decreased by the use of "vertical mulch" to block access points. This method has been largely successful on the A-line.

Desert Tortoise Critical Habitat

An estimated 358 acres of the Chuckwalla Critical Habitat Unit would be impacted by the proposed project, of which 106 acres would be new disturbance. Compared to the size of the

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Critical Habitat Unit (1,020,600 acres) the impact is relatively small at 106 acres of new disturbance and 358 acres of total disturbance. Impacts would be offset by compensation paid to the BLM that would be used to buy tortoise habitat.

As discussed above, invasive species can reduce the suitability of habitat for desert tortoise. As discussed above, the project would not be expected to increase the spread of invasive species in the action area.

Peirson's Milk-vetch

Direct Effects

Milk-vetch plants and seeds can be damaged, uprooted, buried or otherwise killed or injured during construction activities.

The number of standing plants that may be affected by the project is highly dependent on the amount of rainfall that year. If there is little rainfall, few milk-vetch will sprout and hence few would be damaged by construction activities. If there is substantial rainfall, a large number of milk-vetch may be harmed during construction. Inevitable mixing of the topsoil during excavation and replacement above the finished pipeline could bury seeds too deep to germinate successfully, however, removal and stockpiling of the topsoil will aid in avoiding burial of seeds too deep for germination. Because the project area inhabited by milk-vetch is highly impacted by OHVs, the project is unlikely to have a measurable effect on the milk-vetch population.

Indirect Effects

Modification of the habitat could have subtle effects on milk-vetch in and near the right-of-way. Sand dunes do have a cryptogamic flora that would be disturbed by the project. The sand compaction could be increased. Slope and aspect are important to Peirson's milk-vetch and post-construction conditions could be unsuitable for milk-vetch.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Although segments of the proposed project alignment are privately held, the alignment is predominantly surrounded by public lands. Consequently, most activities reasonably expected to occur in the foreseeable future will have direct Federal involvement. However, the area's relative accessibility, in conjunction with recreational opportunities by local natural attractions such as the Colorado River, Algodones Dunes, and other areas, will likely continue to attract

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more recreational enthusiasts. Recreationists will likely continue to cause degradation of desert tortoise habitat and direct impacts to desert tortoise. OHV enthusiasts will likely continue to impact Peirson's milk-vetch individuals and habitat in the Imperial Sand Dunes. The overall effect of these activities is difficult to determine because data are lacking.

CONCLUSION

After reviewing the current status of the desert tortoise and Peirson's milk-vetch, the environmental baseline for the action area, effects of the proposed project, and cumulative effects, it is our biological opinion that the proposed project, as proposed, is not likely to jeopardize the continued existence of the desert tortoise or Peirson's milk-vetch. The proposed project crosses designated desert tortoise critical habitat in the Eastern Colorado Desert Recovery Unit and we conclude that the proposed action does not adversely modify critical habitat.

The Service concludes that the proposed action is not likely to jeopardize the continued existence of the desert tortoise and its critical habitat for the following reasons:

1. The number of tortoises potentially affected by construction of the B-line represents a small percentage of the desert tortoise population in the Eastern Colorado Recovery Unit. Loss of tortoises associated with construction and operation of the proposed North Baja Pipeline Expansion Project does not appreciably reduce the size of the tortoise population throughout the remainder of the recovery unit.
2. Habitat acreage associated with the final footprint of the proposed project represents a small percentage of tortoise habitat available in the Eastern Colorado Recovery Unit and critical habitat in the Chuckwalla Critical Habitat Unit. Approximately 1 acre of desert tortoise habitat would be permanently impacted by the project. Approximately 358 acres of critical habitat would be impacted, of which 108 acres would be newly impacted. Though the environmental baseline suggests that disturbances and impacts to desert tortoises in the area are of increasing concern, we do not believe that the incremental habitat change that would result from this project would preclude long-term survival or recovery or adversely modify critical habitat.
3. Proposed conservation measures would reduce direct take of desert tortoises and would reduce long-term impact to tortoise habitat.

The Service concludes that the proposed action is not likely to jeopardize the continued existence of Peirson's milk-vetch for the following reasons:

1. The habitat affected is heavily impacted because of its proximity to campgrounds, recreational areas, and Interstate 8, and likely supports an impoverished Peirson's milk-

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vetch seedbank and standing cohort. Thus the area is likely of small importance to the species' survival and recovery.

2. The habitat area involved is a small percentage of the area available for the species.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act, and Federal regulation pursuant to section 4(d) of the Act, prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the FERC so that they become binding conditions of any grant or permit issued to North Baja, as appropriate, for the exemption in section 7(o)(2) to apply. The FERC has a continuing duty to regulate the activity covered by this incidental take statement. If the FERC fails to adopt and implement the terms and conditions or fails to require North Baja to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, grant, and construction contract document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, North Baja must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the Act prohibits the removal and reduction to possession of Federally listed endangered plants or the malicious damage of such plants on non-Federal areas in violation of State law or regulation or in the course of any violation of a State criminal trespass law.

Amount or Extent of Take Anticipated

The Service anticipates 22 individual desert tortoise would be taken as a result of the proposed action. Based on survey reports and the amount of take that occurred during construction of the

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A-line, the incidental take in the form of accidental injury, death, or harassment is expected to be:

1. Accidental injury to or death of no more than two (2) tortoises as a direct or indirect result of pipeline construction activities.
2. Harassment by relocation of no more than eighteen (18) tortoises within the project right-of-way and access roads.
3. After completion of construction, impacts to desert tortoises including incidental take associated with vehicle use for pipeline maintenance and weed control is expected to occur. A maximum of two (2) tortoises may be harmed or killed as a result of pipeline maintenance.

Reasonable and Prudent Measures

The following reasonable and prudent measure is necessary and appropriate to minimize impacts of incidental take of desert tortoise.

1. Project biologists and consultants shall be allowed to communicate freely with the Service regarding implementation and compliance with the biological opinion.
2. Ensure that take levels are not exceeded and reinitiation is promptly executed, if necessary.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the Act, the FERC must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. The following terms and conditions shall implement reasonable and prudent measure 1:
 - a. Project biologists and consultants and others involved in the project shall be allowed to communicate freely with the Service verbally, by electronic mail, or written letter regarding implementation and compliance with the biological opinion. The project proponents shall submit to FERC and the Service all draft and final reports from project biologists and consultants that pertain to the listed species addressed in this opinion.
 - b. The Service shall be notified by electronic mail when the project begins.

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- c. The Service shall be notified within 2 working days of violations of the minimization and conservation measures and terms and conditions of this biological opinion.
- 2. The following terms and conditions shall implement reasonable and prudent measure 2:
 - a. The Service shall be notified within two working days of fatal take of desert tortoise.
 - b. The Service shall be notified within two working days if the number of non-fatal take reaches 17.

The Service believes that no more than 22 desert tortoise would be incidentally taken as a result of the proposed action. The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Federal agency must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Disposition of Dead or Injured Desert Tortoises

The Service's Carlsbad Fish and Wildlife Office [(760) 431-9440] must be notified within three working days should any desert tortoise be found injured or dead on the project site. A written notification must be made within five calendar days and include the date, time, and location of the discovered animal/carcass, the cause of injury or death, and any other pertinent information. Injured animals should be transported to a qualified veterinarian or certified wildlife care facility and the Service informed of the final disposition of any surviving animal(s). All dead specimens shall be submitted to educational/research institutions possessing the appropriate State and Federal permits. Failing deposition to an available institution, the carcass should be marked, photographed, and left in the field.

REINITIATION NOTICE

This concludes formal consultation on the North Baja Pipeline Expansion Project as outlined in the initiation request. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that


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may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding this consultation, please contact Tyler Grant of my staff at (760) 431-9440.

Sincerely,

A handwritten signature in cursive script, reading "Therese O'Rourke".

Therese O'Rourke
Assistant Field Supervisor

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APPENDIX T

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