

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.

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 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.

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
	4.4	5.1	0.7	SDG&E Powerline	South
	5.1	5.6	0.5	IID Powerlines	^e
	5.6	6.1	0.5	Interstate 8	West
	6.1	8.1	2.0	Interstate 8	North
	8.1	8.5	0.4	Evan Hewes Highway	North
	8.5	13.6	5.1	Evan Hewes Highway	South
	13.6	16.2	2.6	IID Powerline	North
	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	
	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 fence line 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.

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.

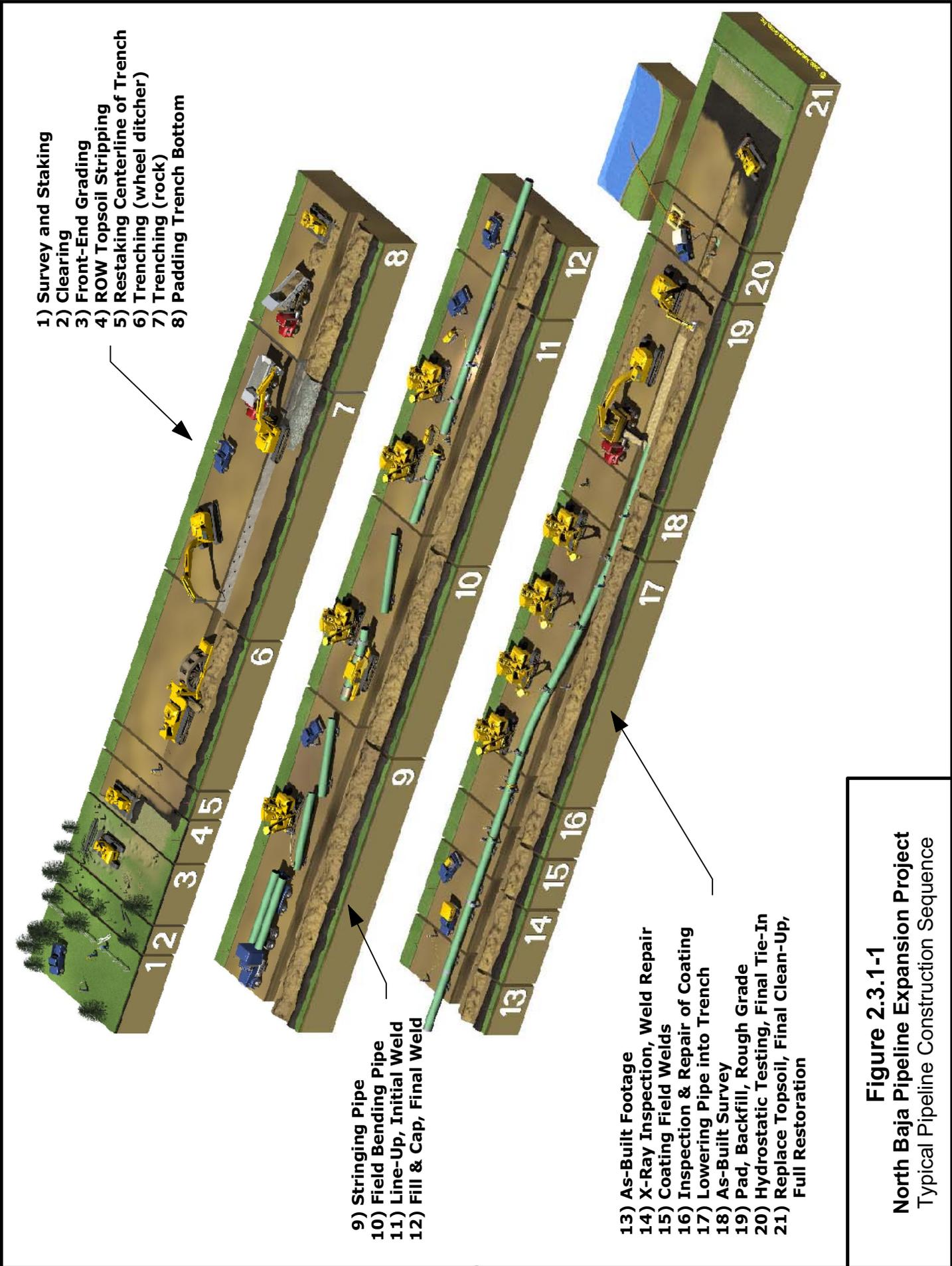


Figure 2.3.1-1
North Baja Pipeline Expansion Project
 Typical Pipeline Construction Sequence

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.

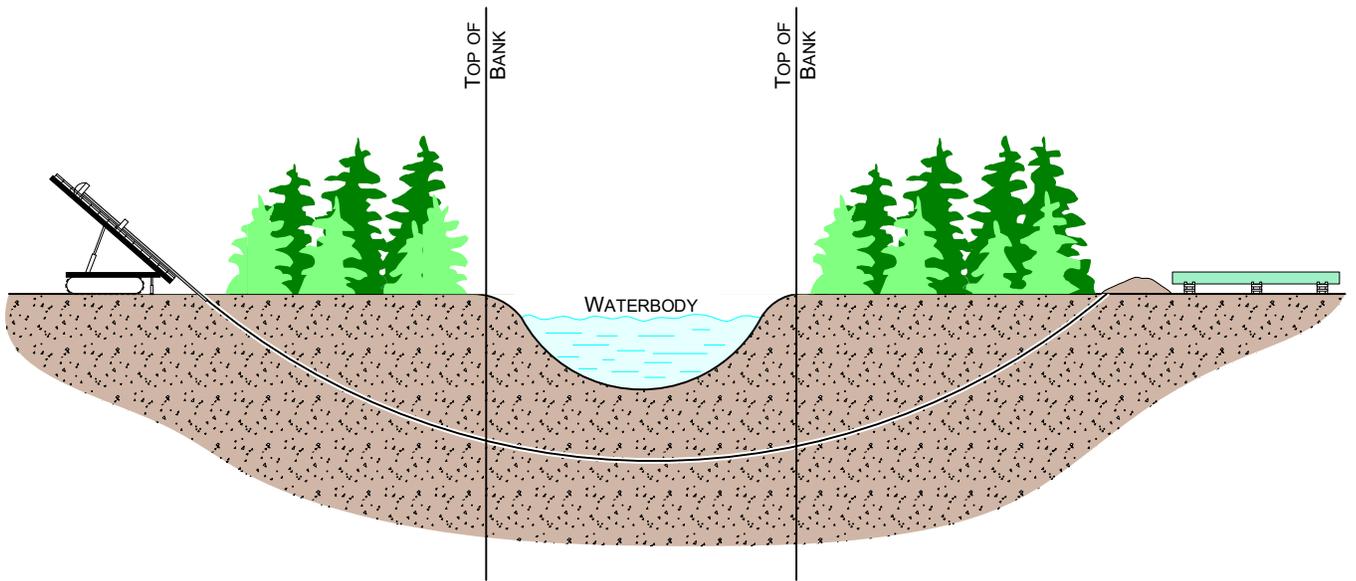
There would be little or no disruption to traffic at road or railroad crossings that are bored. North Baja would implement measures at open-cut crossings to ensure safety and minimize traffic disruptions. No roads would be closed unless adequate detours are provided. North Baja has developed a Traffic 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.

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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).

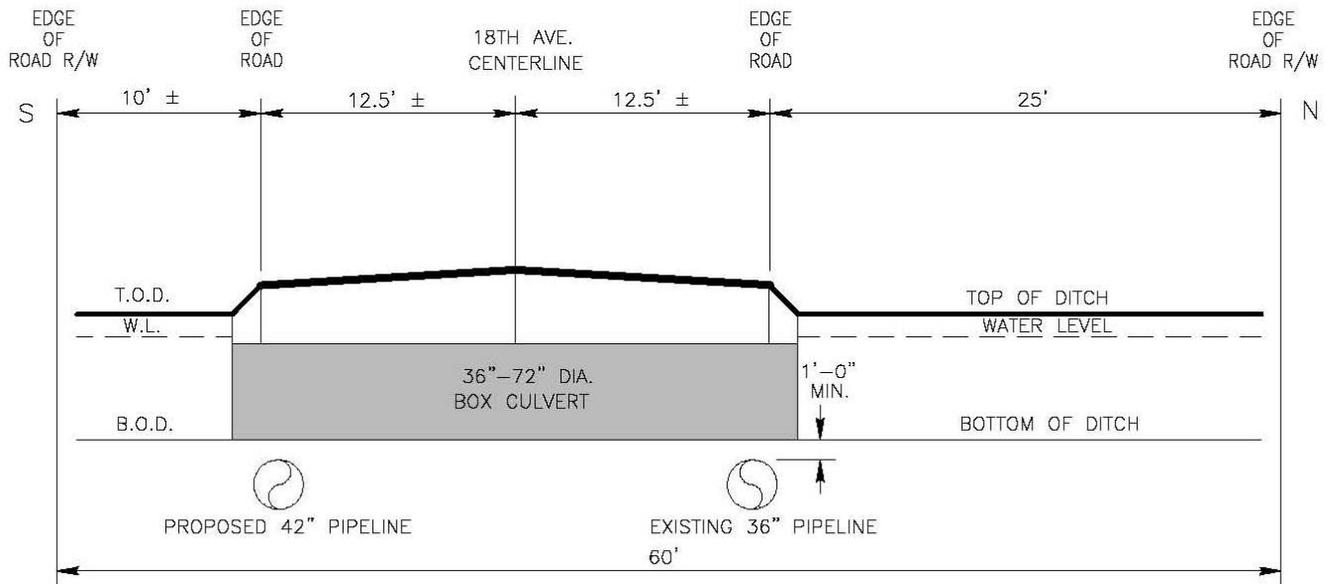
The second perennial waterbody, the Alamo River, would be crossed by the IID Lateral. North Baja proposes to cross the Alamo River by installing the pipeline in the road shoulder over the culverts that carry the water under Hunt Road.

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



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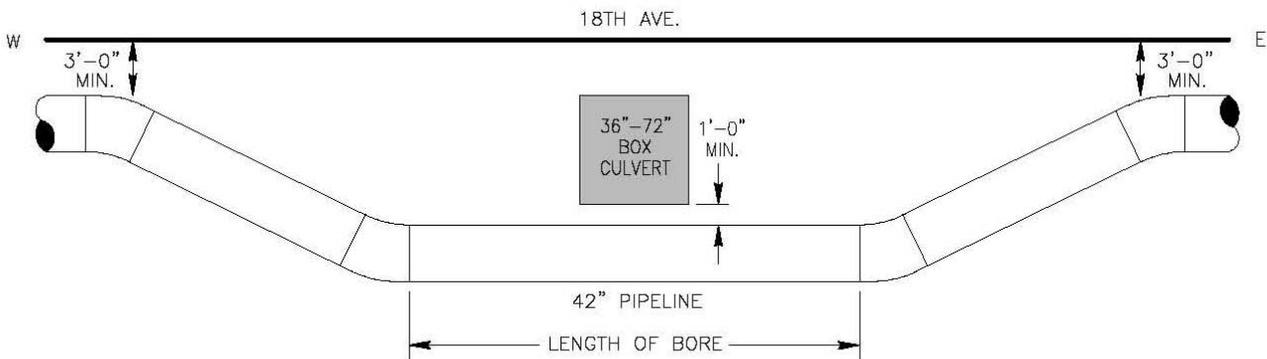
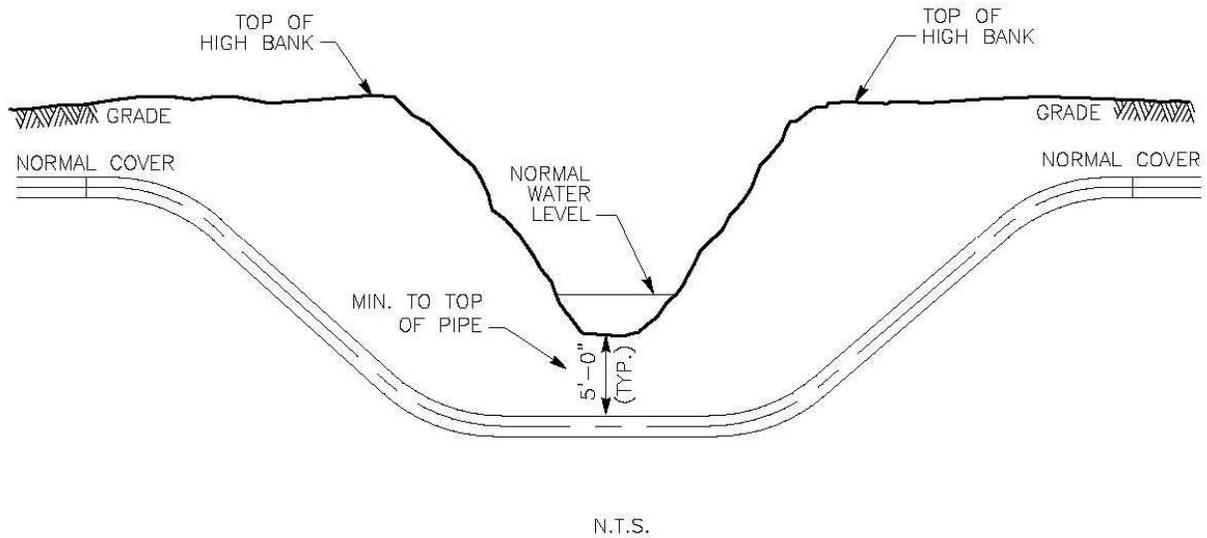


Figure 2.3.2-2
North Baja Pipeline Expansion Project
 Typical Canal/Drain Crossings for 18th Avenue



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.