Final *April 2015*

Environmental Assessment for the Miramar Pipeline Repair and Relocation Naval Base Point Loma San Diego, California

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DEPARTMENT OF DEFENSE
DEPARTMENT OF THE NAVY

FINDING OF NO SIGNIFICANT IMPACT FOR THE ENVIRONMENTAL ASSESSMENT FOR THE MIRAMAR PIPELINE REPAIR AND RELOCATION PROJECT, NAVAL BASE POINT LOMA, SAN DIEGO, CALIFORNIA

Pursuant to the Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508) implementing the National Environmental Policy Act (NEPA) and the Department of the Navy (Navy) NEPA regulations (32 CFR Part 775), and Chief of Naval Operations Manual-5090.1, the Navy gives notice that an Environmental Assessment (EA) has been prepared and an Environmental Impact Statement is not required for the Miramar Pipeline Repair and Relocation Project, Naval Base Point Loma (NBPL), San Diego, California.

Proposed Action: The purpose of the Proposed Action is to remedy technical degradation associated with the Miramar Fuel Pipeline, an eight-inch pipeline that transports fuel between NBPL and Marine Corps Air Station (MCAS) Miramar. The project is located in the first five miles of pipeline extending out into the City of San Diego. Pipeline section relocation and repairs are necessary to address: 1) pipeline anomalies (e.g., dents, corrosion, and metal loss); and 2) seismic geohazards (e.g., liquefaction/lateral spread, active fault crossing), to ensure the safe and long-term use of the pipeline. The project is needed to support the Navy's and Department of Homeland Security's existing and future fueling needs and service operations, while allowing the Navy to maintain readiness. Implementation of the Proposed Action will occur approximately from December 2015 through December 2017.

Public Participation: The public participation process involved the publication of a public meeting notice in the San Diego Union Tribune, Peninsula Beacon, and San Diego Reader on 16 January 2014 that initiated a 30-day public scoping period. The scoping period began on 16 January 2014 and ended on 16 February 2014. A public meeting was held on 29 January 2014 from 5 p.m. to 7 p.m. at Portuguese Hall on Point Loma in San Diego, California.

A Notice of Availability (NOA) for the Draft EA was published in the San Diego Union Tribune, Peninsula Beacon, and San Diego Reader on 07 November 2014 to initiate a 30-day public review of

the Draft EA. The public review/comment period for the Draft EA began on 07 November 2014 and ended on 06 December 2014. A public meeting was held on 03 December 2014 from 5 p.m. to 8 p.m. at Portuguese Hall on Point Loma in San Diego, California. Public involvement materials and the Draft EA were made available for public review online, and at the San Diego Central, Ocean Beach, and Point Loma/Hervey libraries. Public comments on the Draft EA were submitted electronically to the Navy at: http://www.navyregionsouthwest.com/go/doc/4275/1996890. Written comments were also received via mail at: NBPL Miramar Pipeline EA, Project Manager Naval Facilities Engineering Command Southwest Attention: (RUE20.TB) 2730 McKean Street, Building 291 San Diego, CA 92136-5198. Additionally, written and oral comments were received at the public meetings held during public scoping on 29 January 2014 and during public review of the Draft EA on 03 December 2014.

Public comments were received during the scoping period and Draft EA public review period. The primary topic of concern expressed by the public during the scoping period was the impact to traffic, specifically traffic impacts on Rosecrans Street and associated impacts to local residences and businesses. Another primary topic raised was the concern about preserving and restoring the La Playa Waterfront area and Bayside Trail following construction activities.

The public concerns raised during the Draft EA review period were similar in nature to those expressed during the scoping period. The primary topics of concern raised during the Draft EA public comment period were with respect to traffic impacts along Rosecrans Street, local resident/business notification procedures during construction activities, and impacts to the La Playa waterfront area and Bayside Trail. All comments received during the Draft EA public comment period are included in Appendix B of the EA, followed by responses to those comments.

A Notice of Availability of the Final EA and this Finding of No Significant Impact will also be published in the San Diego Union Tribune, Peninsula Beacon, and San Diego Reader. Copies of the documents will also be placed at the San Diego Central, Ocean Beach, and Point Loma/Hervey libraries and on the Navy website at: http://www.navyregionsouthwest.com/go/doc/4275/1996890.

Alternatives Analyzed:

1) Proposed Action/Alternative 1 is the continued use of the

existing eight-inch fuel pipeline from NBPL to MCAS Miramar as a Government Owned Government Operated system and would implement the pipeline relocation within a modified easement that incorporates changes necessary to address pipeline anomalies and geohazards. Alternative 1 is comprised of the following key components:

- Relocation of NBPL to Lytton Street pipeline segment to Rosecrans Street to address pipeline anomalies. A traffic control plan would be implemented to minimize traffic flow disruption.
- Installation of a pipeline valve station at Scott Street and Keats Street.
- The pipeline section currently crossing under the San Diego River would be closed in place and new pipeline would be suspended from the Pacific Highway Bridge. Two new valve stations would also be installed (San Diego River Crossing).
- Installation of two valve stations to address geohazards (area east of Mission Bay).
- All existing pipeline segments would be closed in place.

2) Alternative 2 consists of the same project components as described under Alternative 1, except that portions of the existing pipeline along the La Playa waterfront area and the Bayside Trail from McCall Street to Talbot Street would be removed instead of closed in place after relocating the pipeline to Rosecrans Street. Under Alternative 2, portions of the existing pipeline within the La Playa Bayside Trail, where the pipeline is currently exposed due to surface erosion, would be removed after the pipe is drained of fuel and cleaned. The portions of existing pipeline along the La Playa waterfront area that are under paved streets or structures would be closed in place and the pipe filled with concrete after being drained of fuel and cleaned. Of the 3,975 total feet of pipeline along the La Playa waterfront area, it is expected that 1,480 feet would be removed, and 2,495 feet would be closed in place. Temporary closure of specific portions of the La Playa Bayside Trail may be necessary during pipeline removal activities. Once the existing pipeline has been removed, the area would be backfilled with native material from the trench excavation, and the ground surface would be restored to maintain the original pathway condition. Disturbed areas beyond the footpath would be revegetated with non-invasive, native plant species. Where the

trench excavation disturbs the waterfront bank, it would be restored to its original/pre-disturbed bank condition. Proposed pipeline removal at the La Playa waterfront area would be expected to take approximately one to two months to complete, and would include pipe closure in accordance with regulatory guidelines and permitting requirements. Additional time may be required for periodic maintenance of the restoration vegetation.

3) Alternative 3 consists of the same project components as described under Alternative 1, with the exception that to address geohazards where the existing pipeline crosses beneath the San Diego River, the new pipeline would be suspended from the Santa Fe Railroad Bridge over the river rather than suspended from the Pacific Highway Bridge as under Alternative 1.

4) Under the No-Action Alternative, the Naval Supply Systems Command Fleet Logistics Center San Diego would not implement the pipeline changes necessary to address pipeline anomalies and geohazards.

Alternative to be Implemented:
Alternative 2 is selected for implementation as it best meets the purpose and need for the project and would have no significant impacts to the human or natural environment.

Existing Conditions: All the components of the project are located in San Diego County, California at various points along the existing 17-mile Pipeline. The project area is located between NBPL Defense Fuel Support Point (DFSP) in the NBPL Complex (south end of the pipeline) and the first five miles of pipeline extending out into the City of San Diego. The sections of fuel pipeline addressed in this project cross the City of San Diego communities of Peninsula and Midway-Pacific Highway. NBPL is located on the west side of San Diego Bay, near the mouth of the bay directly opposite Naval Base Coronado. NBPL is bordered to the north by the communities of La Playa and Sunset Cliffs; to the east by the San Diego Bay; to the west by the Pacific Ocean; and to the south by Cabrillo National Monument and the Pacific Ocean.

The first portion of the pipeline repair and relocation would occur on the section of pipeline that runs from NBPL to Lytton Street. The pipeline would be relocated to the residentially and commercially developed Rosecrans Street area. In addition, a new

pipeline would be installed in a separate location at the San Diego River crossing.

The only threatened or endangered species with the potential to occur within the project area is the least Bell's vireo. However, the nearest documented least Bell's vireo occurrence is approximately 0.8 mile upstream from (i.e., to the east of) the project area. Potential habitat within the project area is of very limited extent and would not be affected.

Project transportation and circulation includes the roadway segments, intersections, bicycle facilities, bus stops, and bus route alignments that may be affected by the construction of the proposed replacement pipeline. The project would be located in an urbanized area of the City of San Diego. Most of the land has been fully developed, although in many instances at a comparatively low density. Vehicle parking is accommodated by a combination of on-street spaces and off-street lots. Although non-motorized vehicle travel and public transit are accommodated, the primary mode of travel is by passenger car or other vehicles. The roadway segments that accommodate traffic and pedestrians that coincide with the replacement pipeline alignment include Rosecrans Street between Strothe Road and Talbot Street, Rosecrans Street between Keats Street and Roosevelt Road, Rosecrans Street between Roosevelt Road and Lytton Street, Lytton Street to Sports Arena Boulevard, Talbot Street between Rosecrans Street and Scott Street, Keats Street between Scott Street and Rosecrans Street, Scott Street between Talbot Street and Garrison Street, Scott Street between Garrison Street and Keats Street, and Pacific Highway.

Environmental Effects: The following is a summary of the environmental consequences of the selected alternative (Alternative 2). Also included are mitigation, conservation, and impact minimization measures that would be implemented to reduce potential impacts and ensure that impacts would be less than significant:

Geological Resources. Alternative 2 would not have significant impacts on geological resources. Compliance with applicable regulations and engineering requirements and use of erosion control measures and best management practices (BMPs), would further reduce any potential impacts that could occur. Through addressing pipeline geological hazard concerns, operation of Alternative 2 would result in beneficial effects on geological

resources.

Avoidance and Impact Minimization Measures/Special Conservation Measures (SCMs):

- Compliance with the Construction General Permit, including implementation of erosion control measures and BMPs.
- Monitoring and sampling the pipeline excavation and closure corridors for potential contamination and proper characterization and disposal of any contaminated soil and groundwater encountered.
- Compliance with applicable Federal, State, and County regulations for pipeline construction.

Biological Resources. Construction activities at the San Diego River crossing would occur above and outside of the San Diego riverbed and would not affect biological resources. Draining, cleaning, and filling the existing pipe with concrete also would not impact biological resources. As such, potential construction-related impacts to biological resources would be limited to aquatic habitats and to developed and landscaped areas that currently lack native vegetation. Noise from construction activities would be temporary and generally consistent with the nature of the area. Therefore, noise from construction would have minor short term impacts on local wildlife that may leave the area during construction and return when construction is over. Any bird species passing through the project areas, including species protected under the Migratory Bird Treaty Act (MBTA), would likely fly over the pipeline and would be unaffected by pipeline construction. Since bats do not occur at the Pacific Highway Bridge, no bats would be affected by project construction, and operations would not affect potential bat habitat. The only threatened or endangered species with the potential to occur within the project area is the least Bell's vireo. However, the nearest documented least Bell's vireo occurrence is approximately 0.8 mile upstream from (i.e., to the east of) the project area and potential habitat within the project area is of very limited extent and would not be affected. Therefore, the implementation of Alternative 2 would not affect any threatened or endangered species, and no significant impacts would occur. Implementation of Alternative 2 would provide a beneficial effect to the biota found at the San Diego Bay and San Diego River by reducing the risk and potential volume of a fuel spill from the pipeline during operations. As such, impacts to biological resources associated with

implementation of Alternative 2 in the San Diego River and San Diego Bay areas would be less than significant.

Removal of the pipeline in the La Playa area would require obtaining a Section 401 Regional Water Quality Control Board permit as well as a Section 404/Section 10 permit from the U.S. Army Corps of Engineers for all construction activities occurring within jurisdictional wetlands and/or waters of the U.S. All jurisdictional wetlands and other waters of the U.S. would need to be fully restored, if impacted. As such, implementation of Alternative 2 would only result in temporary impacts to the habitat found at the La Playa waterfront area. Also, implementation of the below listed avoidance and impact minimization measures would further reduce any potential impacts to biological resources. Therefore, implementation of Alternative 2 would have less than significant impacts to biological resources in the La Playa area.

Avoidance and Impact Minimization Measures/SCMs:

- All construction activities would occur outside of the San Diego riverbed, and barriers such as silt fences and sand bags would be placed where appropriate to prevent debris, sediment, or other materials from entering the San Diego Bay or the San Diego River during construction.
- Project-related activities would not be permitted to cause the removal or failure of an active nest of any MBTA-protected species. To that end, prior to construction during the avian breeding season (1 February - 31 August), a qualified biologist would survey the affected area to confirm that no nests are present or to ensure avoidance of any active nests that are present.
- Where appropriate to discourage nesting on structures that are subject to construction, those structures may be screened or covered.
- Another bat survey would be performed within 30 days prior to commencing construction activities that would disturb the bridge structure. If bat species are found during the pre-construction survey effort, then an avoidance and/or relocation effort would be developed and implemented.
- Estuary seablite and woolly seablite along the La Playa waterfront area would be flagged and avoided to the maximum extent possible. If avoidance is not possible, the project revegetation plan would be amended to include the planting of these two rare and native plant species commensurate

with the level of impact in appropriate habitat along the La Playa waterfront area.

Water Resources. Alternative 2 would result in no impacts to surface water and would not result in significant impacts to groundwater, water quality, or floodplains. Compliance with applicable regulations and engineering requirements and use of erosion control measures and BMPs would further reduce any potential impacts that could occur. In addition, the reduced risk of pipeline leakage from this project would result in a beneficial impact to surface water, groundwater, and water quality.

Avoidance and Impact Minimization Measures/SCMs:

- Compliance with the Construction General Permit, including implementation of erosion control measures and BMPs.
- Dewatering activities would comply with *General Waste Discharge Requirements for Discharges from Groundwater Extraction*, if necessary.
- Monitoring and sampling the pipeline excavation and closure corridors for potential soil contamination would occur. If any contaminated soils are found they would be properly characterized and disposed of.
- Compliance with applicable Federal, State, and County regulations for pipeline construction.

Hazardous Materials and Wastes. No increase in human health risk or environmental exposure to hazardous materials or hazardous wastes would result from construction and operation of Alternative 2. Implementation of the below avoidance and impact minimization measures would further reduce any potential impacts that could occur. Therefore, implementation of Alternative 2 would have a less than significant impact with respect to hazardous materials and hazardous wastes. Implementation of Alternative 2 at the location of the geohazards would reduce the potential for release of fuel during an earthquake, which would result in a beneficial effect.

Avoidance and Impact Minimization Measures/SCMs:

- Proper management of hazardous materials and waste during the trenching and construction of the new pipeline and during the closure of the existing pipeline.
- Monitoring and sampling the pipeline excavation and closure

corridors for potential soil and groundwater contamination, and proper characterization and disposal of any contaminated soil and groundwater encountered.

- Compliance with applicable Federal, State, and County regulations for pipeline construction.

Public Health and Safety/Protection of Children. The pipeline would be constructed and operated in compliance with all applicable Federal, State, and County regulations, and in accordance with Navy policies and procedures. Implementation of all applicable safety procedures would prevent and minimize potential risk to human health and the environment associated with construction and operation of the new pipeline sections; therefore, no significant impacts would occur. Alternative 2 would enhance the pipeline's overall safety, reliability and integrity. It would also increase public and environmental safety by minimizing the potential for future pipe leaks or breaks; thus, long-term effects are considered beneficial. No disproportionate risk of injury or hazardous substances exposure to children per Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, would occur.

Avoidance and Impact Minimization Measures/SCMs:

- Avoidance and impact minimization measures/SCMs would be the same as described under *Hazardous Materials and Wastes* above.

Noise. Construction generated noise associated with Alternative 2 would be compliant with City of San Diego's noise ordinance. Construction noise would be temporary and generally consistent with the developed nature of the area; therefore, there would be no significant impacts from noise.

Avoidance and Impact Minimization Measures/SCMs:

- No avoidance and impact minimization measures/SCMs are proposed.

Air Quality. Estimated air emissions associated with Alternative 2 would be below the *de minimis* thresholds for Clean Air Act Conformity; therefore, there would be no significant impacts to air quality.

Avoidance and Impact Minimization Measures/SCMs:

- No avoidance and impact minimization measures/SCMs are

proposed.

Socioeconomics and Environmental Justice. Beneficial economic impacts would occur from construction activities as short-term jobs will be created. There would be no disproportionately high environmental or health impacts on low-income or minority populations. Therefore, there would be no impacts to socioeconomics and environmental justice.

Avoidance and Impact Minimization Measures/SCMs:

- No avoidance and impact minimization measures/SCMs are proposed.

Transportation and Circulation. The Proposed Action would not have any significant effect on peak hour commuting within and through the transportation region of influence because: (1) construction would be scheduled to avoid the peak hour and peak direction on Rosecrans Street to the extent feasible; (2) open trenches would be covered while construction is suspended; and (3) trenchless construction would be expedited to minimize construction duration. Therefore, because the impacts are temporary, localized, and occur primarily during non-peak traffic periods, the transportation and circulation impacts are less than significant.

Avoidance and Impact Minimization Measures/SCMs:

- Notify residents and businesses of upcoming road work and preclusion of access to their driveways.
- Minimize the duration of precluded access by adhering to the City of San Diego's standard maximum open trench length of 500 feet.
- Construct in a manner, through phasing and construction techniques, to minimize the duration of closure of Nichols Street (east leg), Qualtrough Street (east leg), Tennyson Street, Udall Street, Voltaire Street, Whittier Street, and Yonge Street to the extent feasible.
- Strategically phase construction to limit the number of cross-streets that will be closed and detour traffic traveling to/from or along side streets blocked by the construction trench to the next available side street.
- Through the use of traffic control, modify existing roadway geometrics to best maintain vehicular and bicycle access and provide capacity during the construction period within the available roadway right-of-way.

- For locations with temporary roadway closures or limitations on allowed turning movements during construction, sign detour routes to direct detoured traffic to collector or arterial streets to discourage cut-through traffic on residential streets.
- Where the project crosses high volume roadways, use trenchless construction techniques to reduce or eliminate effects to the crossing roadway.
- Where trenchless construction is required, the launch and receiving pits should be protected by temporary railing, and the construction activity should be expedited to complete this stage of construction as quickly as feasible.
- Nighttime construction should be implemented in selected nonresidential areas to minimize construction duration, which would in turn reduce both traffic and economic effects.
- Notify surrounding land uses of upcoming loss of on-street parking prior to beginning construction.
- Provide guidance for bicyclists to maneuver around the construction zone through the use of traffic control or detour routes.
- Coordinate with the Metropolitan Transit System prior to construction to identify changes to bus stops or bus routes.
- Provide public notification of changes to bus stops or bus routes prior to construction.
- During pipeline closure in place, locate pipeline access pits outside of major streets and high traffic areas to the extent possible.

Utilities. The proposed replacement pipeline would not intersect any existing utility, and no temporary interruption of utility service would result from construction activities. Installation of the replacement pipeline would have no effect on access to existing utilities for the purposes of maintenance or repair. Therefore, there would be no significant impacts to utilities.

Avoidance and Impact Minimization Measures/SCMs:

- No avoidance and impact minimization measures/SCMs are proposed.

Finding: Based on the analysis presented in the EA and coordination with the City of San Diego, Unified Port of San Diego, and the California Coastal Commission, the Navy finds that implementation of the Selected Alternative (Alternative 2) will not significantly impact the quality of the human or natural environment or generate significant controversy.

The EA prepared by the Navy addressing this action is on file and interested parties may obtain a copy from:

NBPL Miramar Pipeline EA Project Manager
Naval Facilities Engineering Command Southwest,
Attention: (RUE20.TB)
2730 McKean St., Building 291
San Diego, CA 92136-5198.

24 APR 15
Date

RADM Patrick J. Lorge, USN
Commander Navy Region Southwest

ENVIRONMENTAL ASSESSMENT FOR THE MIRAMAR PIPELINE REPAIR AND RELOCATION NAVAL BASE POINT LOMA (NBPL)

SAN DIEGO, CALIFORNIA

ABSTRACT

The U.S. Department of the Navy (Navy) has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code § 4321, as amended); the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (Title 40 Code of Federal Regulations [CFR] §§ 1500-1508, 1 July 1986); Navy Procedures for Implementing NEPA (32 CFR § 775); and the Chief of Naval Operations Instructions for Implementing NEPA (OPNAV M-5090.1, Chapter 10).

The EA addresses the environmental effects associated with the repair and relocation of the existing Navy owned 8-inch Miramar Fuel Pipeline along various locations in the City of San Diego within the first five miles of the pipeline. The project is needed to maintain the safe, consistent, and continuous use of the pipeline between Naval Base Point Loma (NBPL) Defense Fuel Support Point (DFSP) and Marine Corps Air Station Miramar. This project would repair various pipeline anomalies and mitigate potential geohazards to provide for the continued fueling needs of existing and future Navy ships. The EA evaluates the potential environmental effects of three action alternatives as well as the No-Action Alternative on the environment.

Action Proponent: NBPL

Point of Contact:
NBPL Miramar Pipeline EA Project Manager
Department of the Navy
NAVFAC Southwest, Coastal IPT
2730 McKean Street, Building 291
San Diego, CA 92136-5198

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EXECUTIVE SUMMARY

The U.S. Department of the Navy (Navy) has prepared this Environmental Assessment (EA) in accordance with: the 1969 National Environmental Policy Act (NEPA) (42 United States Code § 4321, as amended); The Council on Environmental Quality Regulations for Implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508); and the Chief of Naval Operations Instructions for Implementing NEPA (OPNAV M-5090.1, Chapter 10). The action proponent for this project is Naval Base Point Loma (NBPL).

The Navy proposes to repair and relocate portions of the existing Navy owned 8-inch Miramar Fuel Pipeline along various locations in the City of San Diego within the first five miles of the pipeline. The first portion of the pipeline repair and relocation would occur on the pipeline that runs from NBPL to Lytton Street, where the majority of anomalies have been found during past inspections. In addition, new pipe would be installed in a separate location to address the geohazard concern at the San Diego River crossing. The total length of pipeline repair and relocation would be approximately 5 miles. The project also includes installation of five isolation valve stations to allow isolation of pipeline segments associated with geohazards 1 and 2. This EA addresses the potential environmental impacts of three action alternatives, and the No-Action Alternative.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the project is remedy the acute challenges to the long-term viability of the Miramar Pipeline which equates to making the necessary changes and repairs associated with: 1) pipeline anomalies (e.g., dents, corrosion, and metal loss); and 2) seismic geohazards (e.g., liquefaction/lateral spread, active fault crossing), to ensure the safe and long-term use of the pipeline.

The project is needed to address the current pipeline anomalies and geohazards to support the Navy's and Department of Homeland Security's existing and future fueling needs and service operations, while allowing the Navy to maintain readiness. Implementation of this project would help to ensure that NBPL Fuel Pier 180 continues to serve as a fuel depot for loading and unloading tankers. The NBPL Fuel Pier 180 is the primary fueling station for Navy and other federal agency ships in the vicinity, and visiting foreign Navy vessels, as well as transferring fuel to the local replenishment vessels and other small craft operating in San Diego Bay. Fuel Pier 180 at NBPL Defense Fuel Support Point (DFSP) is critical to the mission of the Navy and is the largest active Navy fueling facility in the vicinity.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Reasonable Alternatives Screening Factors

The project screening factors that would allow Navy mission, operational, and support functions to be fulfilled include:

- Fuel product transfer between NBPL to Marine Corps Air Station (MCAS) Miramar and from MCAS Miramar to NBPL must be retained;

- Any new pipeline constructed would be fully compliant with all applicable 49 CFR 195 pipeline construction codes during the removal and pipeline construction phases; and
- NBPL and MCAS Miramar must be able to continue normal operations and not be severely impacted during pipeline repair and relocation activities. Short-term disruptions in use of the pipeline would be acceptable, provided that military installation operations are not impacted.

Based on the screening factors outlined, three action alternatives have been identified that meet the purpose and need of the project. The No-Action Alternative has also been carried forward for detailed analysis in this EA.

Proposed Action/Alternative 1

The Proposed Action (herein referred to as Alternative 1) is the continued use of the existing 8-inch fuel pipeline from NBPL to MCAS Miramar as a Government Owned Government Operated system, and would implement the pipeline relocation within a modified easement that incorporates changes necessary to address pipeline anomalies and geohazards.

Alternative 1 comprises the following key components:

- Relocation of NBPL to Lytton Street pipeline segment to Rosecrans Street to address pipeline anomalies. A traffic control plan would be implemented to minimize traffic flow disruption.
- One valve station installation at Scott Street and Keats Street.
- The pipeline section currently crossing under the San Diego River would be closed in place and new pipeline suspended from the Pacific Highway Bridge. Two new valve stations would also be installed (San Diego River Crossing).
- Installation of two valve stations to address geohazard 2 (area east of Mission Bay).
- All pipeline segments no longer in use would be closed in place.

Alternative 2

Alternative 2 would consist of the same project components as described under Alternative 1, except that portions of the existing pipeline along the La Playa waterfront area and the Bayside Trail from McCall Street to Talbot Street would be removed instead of closed in place after relocating the pipeline to Rosecrans Street.

Alternative 3

Alternative 3 would consist of the same project components as described under Alternative 1, with the exception that to address geohazard 1, under Alternative 3, where the existing pipeline crosses beneath the San Diego River, the pipeline would be suspended from the Santa Fe Railroad Bridge over the river (rather than suspended from the Pacific Highway Bridge as under Alternative 1).

No-Action Alternative

Under the No-Action Alternative, the Naval Supply Systems Command Fleet Logistics Center San Diego would not implement the pipeline changes necessary to address pipeline anomalies and geohazards. The existing locations where the pipeline anomalies and geohazards that have been identified during past inspections would remain.

PREFERRED ALTERNATIVE

Alternative 2 is selected for implementation as it best meets the purpose and need for the project and would have no significant impacts to the human or natural environment.

PUBLIC AND AGENCY PARTICIPATION

The Navy coordinated with the following agencies in support of preparation of this EA: California Coastal Commission (CCC), Regional Water Quality Control Board, U.S. Army Corps of Engineers (USACE), Port of San Diego, City of San Diego, Metropolitan Transit System, and California Department of Transportation.

A 30-day public scoping period was initiated on January 16, 2014 and ran through February 16, 2014. One public scoping meeting was held on January 29, 2014, from 5 p.m. to 7 p.m., at Portuguese Hall in San Diego, California. The purpose of the public scoping meeting was to offer the public an opportunity to learn about the project, speak one-on-one with Navy representatives and subject matter experts, and to submit comments on the proposal. The public had an opportunity to submit written comments during the public scoping meeting. Additionally, the Navy provided a project website where the public could access project information and submit comments electronically to the Navy project manager (http://www.navyregionsouthwest.com/go/doc/4275/1996890). Comments on the proposal were also accepted via postal mail.

The Draft EA was available to the public for review and comment. A 30-day public review period occurred from November 07, 2014 through December 06, 2014. One public meeting was held on December 03, 2014, from 5 p.m. to 8 p.m., at Portuguese Hall in San Diego, California. The purpose of the public review of the Draft EA was to provide the public with the opportunity to participate in the project and to provide comments on the adequacy and accuracy of the EA. All comments received on the Draft EA are included in Appendix B, followed by responses to those comments.

The Draft EA was available for public review online, and at the San Diego Central, Ocean Beach and Point Loma/Hervey libraries. Comments were also accepted electronically via the Navy's website link at: http://www.navyregionsouthwest.com/go/doc/4275/1996890.

Written comments were also accepted via mail at the following address: NBPL Miramar Pipeline EA Project Manager Naval Facilities Engineering Command Southwest Attention: (RUE20.TB) 2730 McKean St., Building 291 San Diego, CA 92136-5198.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Potential environmental impacts have been analyzed for the following resources: geological resources, biological resources, water resources, hazardous materials and wastes, public health and safety/protection of children, noise, air quality, socioeconomics and environmental justice, transportation and circulation, and utilities.

Table ES-1 summarizes determinations of environmental consequences followed by the respective avoidance and minimization measures/special conservation measures (SCMs) for: Alternative 1, Alternative 2, Alternative 3, and the No-Action Alternative. Chapter 3 provides a detailed discussion of the baseline (existing) conditions and the environmental consequences. As described in Table ES-1, implementation of Alternative 1, Alternative 2, Alternative 3, or the No-Action Alternative would not result in significant impacts to any resource area.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Geological Resources	Alternative 1 would not have significant impacts on geological resources. Compliance with applicable regulations and engineering requirements and use of erosion control measures and best management practices (BMPs), would further reduce any potential impacts that could occur. Through addressing the geological hazard concerns at geohazards 1 and 2, operation of Alternative 1 would result in beneficial impacts associated with geological hazards. **Avoidance and Minimization Measures/ SCMs:** • Compliance with the Construction General Permit, including implementation of erosion control measures and BMPs. • Monitoring and sampling the pipeline excavation and closure corridors for potential contamination and proper characterization and disposal of any contaminated soil and groundwater encountered. • Compliance with applicable federal, state, and county regulations for pipeline construction.	Under Alternative 2, geological resources impacts would be similar to those described under Alternative 1, and no significant impacts to geological resources would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 2 would be the same as for Alternative 1.	Under Alternative 3, geological resources impacts would be similar to those described under Alternative 1, and no significant impacts to geological resources would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 3 would be the same as for Alternative 1.	Under the No-Action Alternative, the proposed new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. The pipeline in the area of geohazards 1 and 2 would continue to be vulnerable to failure during a major seismic event. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, the No-Action Alternative would result in less than significant impacts associated with geologic hazards. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Biological Resources	Construction activities at the San Diego River crossing would occur above and outside of the San Diego riverbed and would not affect biological resources. Draining, cleaning, and filling the existing pipe with concrete also would not impact biological resources. As such, construction impacts would be limited to developed and landscaped areas that lack native vegetation communities and aquatic habitats. Noise would be temporary, generally consistent with the nature of the area, consistent with normal construction practices, limited by the local noise ordinance, and would not significantly alter the overall noise environment found in the project areas. Any bird species passing through the project areas, including species protected under the MBTA, would likely fly over the pipeline and would be unaffected by pipeline construction. Since bats do not occur at the Pacific Highway Bridge, no bats would be affected by project construction, and operations would not affect potential bat habitat. The only threatened or endangered species with the potential to occur within the project area is the least Bell's vireo.	Impacts from Alternative 2 would be similar to those described for Alternative 1. Removal of the pipeline in the La Playa area would require obtaining a Section 401 RWQCB permit as well as a Section 404/Section 10 permit from the USACE for all construction activities occurring within jurisdictional wetlands and/or waters of the U.S. All jurisdictional wetlands and other waters of the U.S. would need to be fully restored, if impacted. As such, implementation of Alternative 2 would affect the habitat found at the La Playa waterfront area, but these impacts would be temporary. With implementation of the avoidance and minimization measures, implementation of Alternative 2 would have less than significant impacts to biological resources.	Impacts from Alternative 3 would be similar to those described for Alternative 1. Habitat at the Santa Fe Railroad is similar to habitat at the Pacific Highway Bridge. Alternative 3 would have less than significant impacts to biological resources.	Existing conditions would remain unchanged and there would be no impact to biological resources. The Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability. Therefore, there would be no impacts to biological resources under the No-Action Alternative.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Biological Resources (continued)	However, the nearest documented least Bell's vireo occurrence is approximately 0.8 mile upstream from (i.e., to the east of) the project area and potential habitat within the project area is of very limited extent and would not be affected. Therefore, the implementation of Alternative 1 would not affect any threatened or endangered species, and no significant impacts would occur. Implementation of Alternative 1 would provide a beneficial impact to the biota found at the San Diego Bay and San Diego River by reducing the risk and potential volume of a fuel spill during operations. As such, impacts to biological resources associated with implementation of Alternative 1 would be less than significant.	**Avoidance and Minimization Measures/ SCMs:** In addition to the SCMs provided for Alternative 1, Alternative 2 also includes: Estuary seablite and woolly seablite along the La Playa waterfront area would be flagged and avoided to the maximum extent possible. If avoidance is not possible, the project revegetation plan would be amended to include the planting of these two rare and native plant species commensurate with the level of impact in appropriate habitat along the La Playa waterfront area.	**Avoidance and Minimization Measures/ SCMs:** Avoidance and Minimization Measures/ SCMs under Alternative 3 are the same as those for Alternative 1.	**Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Biological Resources (continued)	**Avoidance and Minimization Measures/ SCMs:** • All construction activities would occur outside of the San Diego riverbed, and barriers such as a silt fence or sand bags would be placed where appropriate to prevent debris, sediment, or other materials from entering the San Diego Bay or the San Diego River during construction. • Project-related activities would not be permitted to cause the removal or failure of an active nest of any MBTA-protected species. To that end, prior to construction during the avian breeding season (1 February - 31 August), a qualified biologist would survey the affected area to confirm that no nests are present or to ensure avoidance of any active nests that are present. • Where appropriate to discourage nesting on structures that are subject to construction, those structures may be screened or covered. • Another bat survey would be performed within 30 days prior to commencing construction activities that would disturb the bridge structure. If bat species are found during the pre-construction survey effort, then an avoidance and/or relocation effort would be developed and implemented.			

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Water Resources	Alternative 1 would result in no impacts to surface water and would not result in significant impacts to groundwater, water quality, or floodplains. Compliance with applicable regulations and engineering requirements and use of erosion control measures and BMPs would further reduce any potential impacts that could occur. In addition, the reduced risk due to pipeline damage would result in a beneficial impact to surface water, groundwater, and water quality. **Avoidance and Minimization Measures/ SCMs:** • Compliance with the Construction General Permit, including implementation of erosion control measures and BMPs. • Dewatering activities would comply with *General Waste Discharge Requirements for Discharges from Groundwater Extraction*, if necessary. • Monitoring and sampling the pipeline excavation and closure corridors for potential contamination and proper characterization and disposal of any contaminated soil and groundwater encountered. • Compliance with applicable federal, state, and county regulations for pipeline construction.	Under Alternative 2, water resources impacts would be similar to those described under Alternative 1, and no significant impacts to water resources would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 2 would be the same as for Alternative 1.	Under Alternative 3, water resources impacts would be similar to those described under Alternative 1, and no significant impacts to water resources would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 3 would be the same as for Alternative 1.	Under the No-Action Alternative, the new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, the No-Action Alternative would result in less than significant impacts to water resources. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Hazardous Materials and Wastes	No increase in human health risk or environmental exposure to hazardous materials or hazardous wastes would result from construction and operation of Alternative 1. Implementation of avoidance and minimization measures would further reduce any potential impacts that could occur. Therefore, implementation of Alternative 1 would have a less than significant impact with respect to hazardous materials and hazardous wastes. Implementation of Alternative 1 at the location of geohazards 1 and 2 would reduce the potential for release of fuel during an earthquake; this would be a beneficial impact. **Avoidance and Minimization Measures/ SCMs:** • Proper management of hazardous materials and waste during trenching and construction of the new pipeline, and closure of the existing pipeline. • Monitoring and sampling the pipeline excavation and closure corridors for potential contamination and proper characterization and disposal of any contaminated soil and groundwater encountered. • Compliance with applicable federal, state, and county regulations for pipeline construction.	Under Alternative 2, hazardous materials or hazardous wastes impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 2 would be the same as for Alternative 1.	Under Alternative 3, hazardous materials or hazardous wastes impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 3 would be the same as for Alternative 1.	Under the No-Action Alternative, the new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, implementation of the No-Action Alternative would not have a significant impact with respect to hazardous materials and wastes. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Public Health and Safety/Protection of Children	The pipeline would be constructed and operated in compliance with all applicable federal, state, and county regulations, and in accordance with Navy policies and procedures. Implementation of all applicable safety procedures would prevent and minimize potential risk to human health and the environment associated with construction and operation of the new pipeline sections; therefore, no significant impacts would occur. Alternative 1 would enhance the overall safety, reliability and integrity, and increase public and environmental safety by minimizing the potential for future pipe leaks or breaks; thus long-term impacts are considered beneficial. No disproportionate risk of injury or hazardous substances exposure to children per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs would be the same as described under *Hazardous Materials and Wastes* above.	Under Alternative 2, public health and safety impacts would be similar to those described for Alternative 1, and no significant impacts would occur. Alternative 2 would enhance the overall safety, reliability and integrity, and increase public and environmental safety by minimizing the potential for future pipe leaks or breaks; thus long-term impacts are considered beneficial. No disproportionate risk of injury or hazardous substances exposure to children per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs would be the same as described under *Hazardous Materials and Wastes* above.	Under Alternative 3, public health and safety impacts would be similar to those described for Alternative 1, and no significant impacts would occur. Alternative 3 would enhance the overall safety, reliability and integrity, and increase public and environmental safety by minimizing the potential for future pipe leaks or breaks; thus long-term impacts are considered beneficial. No disproportionate risk of injury or hazardous substances exposure to children per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs would be the same as described under *Hazardous Materials and Wastes* above.	Under the No-Action Alternative, there would be no change from the existing conditions. Although the pipeline does not currently pose a risk to public or environmental health and safety, under the No-Action Alternative the beneficial safety features associated with the proposed project would not be implemented. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, the No-Action Alternative would result in less than significant impacts to public health and safety. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Noise	Construction generated noise associated with Alternative 1 would be compliant with City of San Diego's noise ordinance, temporary, and generally consistent with the developed nature of the area; therefore, there would be no significant noise impacts. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 2, noise impacts would be similar to those described under Alternative 1, and no significant noise impacts would occur. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 3, noise impacts would be similar to those described under Alternative 1, and no significant noise impacts would occur. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under the No-Action Alternative, no construction activities would occur, and the existing noise environment would not change. Therefore, there would be no noise impacts. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.
Air Quality	Estimated emissions associated with Alternative 1 would be below the *de minimis* thresholds for CAA conformity; therefore, there would be no significant impacts to air quality. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Estimated emissions associated with Alternative 2 would be below the *de minimis* thresholds for CAA conformity; therefore, there would be no significant impacts to air quality. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Estimated emissions associated with Alternative 3 would be below the *de minimis* thresholds for CAA conformity; therefore, there would be no significant impacts to air quality. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under the No-Action Alternative, no construction activities would occur, and existing air quality would not be affected. Therefore, there would be no impacts to air quality from implementation of the No-Action Alternative. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Socioeconomics and Environmental Justice	Beneficial economic impacts would occur from construction with no significant impacts identified. There would be less than significant impacts on the environment and health of populations, related to noise and transportation. These impacts would not be high or adverse nor would they disproportionately affect minority or low-income populations. Therefore, there would be no impact to environmental justice. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 2, socioeconomic and environmental justice impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 3, socioeconomic and environmental justice impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Implementation of the No-Action Alternative would have no socioeconomic or environmental justice impacts. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Transportation and Circulation	The Proposed Action would not have any significant effect on peak hour commuting within and through the ROI because: (1) construction would be scheduled to avoid the peak hour and peak direction on Rosecrans Street to the extent feasible; (2) open trenches would be covered while construction is suspended, and (3); trenchless construction would be expedited to minimize construction duration. In addition, because the impacts are temporary, localized, and occur primarily during non-peak periods, the transportation and circulation impacts are less than significant.	Under Alternative 2, transportation and circulation impacts would be similar to those described under Alternative 1, and no significant impacts would occur.	Under Alternative 3, transportation and circulation impacts would be similar to those described under Alternative 1, and no significant impacts would occur.	Under the No-Action Alternative, no construction activities would occur, and existing traffic conditions would not change. Therefore, there would be no impact relative to transportation and circulation.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Transportation and Circulation (continued)	**Avoidance and Minimization Measures/ SCMs:** • Notify residents and businesses of upcoming road work and preclusion of access to their driveways. • Minimize the duration which access is precluded by adhering to the City of San Diego's standard maximum open trench length of 500 feet. • Construct in a manner, through phasing and construction techniques, to minimize the duration of closure of Nichols Street (east leg), Qualtrough Street (east leg), Tennyson Street, Udall Street, Voltaire Street, Whittier Street, and Yonge Street to the extent feasible. • Strategically phase construction to limit the number of cross-streets that will be closed and detour traffic traveling to/from or along side streets blocked by the construction trench to the next available side street. • Through the use of traffic control, modify existing roadway geometrics to best maintain vehicular and bicycle access and provide capacity during the construction period within the available roadway right-of-way.	**Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 2 would be the same as for Alternative 1.	**Avoidance and Minimization Measures/ SCMs:** • Alternative 3 would be designed to incorporate measures to avoid or minimize impacts to transportation and circulation during construction along the portion of the alignment located east of Pacific Highway. • Other avoidance and minimization measures/ SCMs for Alternative 3 would be the same as for Alternative 1.	**Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Transportation and Circulation (continued)	• For locations with temporary roadway closures or limitations on allowed turning movements during construction, sign detour routes to direct detoured traffic to collector or arterial streets to discourage cut-through traffic on residential streets. • Where the project crosses high volume roadways, use trenchless construction techniques to reduce or eliminate effects to the crossing roadway. • Where trenchless construction is required, the launch and receiving pits should be protected by temporary railing, and the construction activity should be expedited to complete this stage of construction as quickly as feasible. • Nighttime construction should be implemented in selected nonresidential areas to minimize construction duration, which would in turn reduce both traffic and economic effects. • Notify surrounding land uses of upcoming loss of on-street parking prior to beginning construction. • Provide guidance for bicyclists to maneuver around the construction zone through use of traffic control or detour routes.			

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Transportation and Circulation (continued)	• Coordinate with MTS prior to construction to identify changes to bus stops or bus routes. • Provide public notification of changes to bus stops or bus routes prior to construction. • During closure in place, locate pipeline access pits outside of major streets and high traffic areas to the extent possible.			
Utilities	The proposed replacement pipeline would not intersect any existing utility, and no temporary interruption of utility service would result from construction activities (i.e., installation of the replacement pipeline and removal of portions of the existing pipeline). Installation of the replacement pipeline would have no effect on access to existing utilities for the purposes of maintenance or repair. Therefore, there would be no significant impacts to utilities. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 2, utilities impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 3, utilities impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** Alternative 3 would be designed to avoid potential conflicts with existing utilities (i.e., avoidance of temporary utility service interruption and maintaining access to existing utilities for maintenance) along the portion of the proposed alignment located east of Pacific Highway and south of Friars Road.	Under the No-Action Alternative, the new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. Therefore, implementation of the No-Action Alternative would have no impact with respect to utilities. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Cultural Resources ***(not carried forward for detailed analysis)***	In the absence of known historic properties in most of the Alternatives' APE, but with the identified archaeological potential, assessing effect in conformance with Stipulation VIII of the NBPL Programmatic Agreement (PA) here requires that Section 106 compliance be for a conditional finding of "no adverse effect" under 36 CFR 800.4(d)(1). As such, the demonstration of Section 106 compliance here is provisional, pending results of the monitoring to be conducted during the ground disturbance phase for any project alternatives (see below). **Avoidance and Minimization Measures/ SCMs:** • Under Stipulation IX.A of the NBPL PA, the Navy "will provide for archaeological monitoring of ground disturbing activities within areas of known or provisional archaeological sensitivity" for identifying the presence or absence of any sub-surface archaeological deposits of features during construction.	Impacts for Alternative 2 would be similar to those described for Alternative 1. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 2 would be the same as for Alternative 1.	Impacts for Alternative 3 would be similar to those described for Alternative 1. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 3 would be the same as for Alternative 1.	No impacts to cultural resources would occur with implementation of the No-Action Alternative. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table ES-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Cultural Resources (continued)	• In accordance with the NBPL PA, the Pipeline Relocation Project would therefore be required to retain qualified contracted archaeological monitoring support to identify, and assist in quickly dealing with, any such features or deposits encountered during the excavation of trenches for relocating the pipeline and installing isolation valve stations. • The NBPL Cultural Resources Program Archaeologist would review and approve the project's choice for contracted archaeological monitoring support to ensure that the individuals involved meet the Secretary of the Interior's Professional Standards for qualified prehistoric and historic archaeologist. • In consultation with the NBPL Cultural Resources Program Archaeologist, the contracted archaeological consultant would, prior to construction monitoring, prepare a Monitoring and Discovery Plan that would lay out monitoring protocols, historic context, eligibility thresholds, and other required procedures for approval by the Navy.			

Notes: Best Management Practices (BMPs), Clean Air Act (CAA), Executive Order (EO), Regional Water Quality Control Board (RWQCB), Special Conservation Measures (SCMs).

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ACRONYMS AND ABBREVIATIONS

µg/m^3	microns
ACM	asbestos-containing material
ACHP	Advisory Council on Historic Preservation
APE	Area of Potential Effect
ASME	American Society of Mechanical Engineers
AT&T	American Telegraph and Telephone
BLS	U.S. Bureau of Labor Statistics
BMP	Best Management Practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CASHPO	California State Historic Preservation Officer
CCC	California Coastal Commission
CCND	Coastal Consistency Negative Determination
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
Census	U.S. Census Bureau
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH_4	methane
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Levels
CNPS	California Native Plant Society
CNRSW	Commander Navy Region Southwest
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO2 equivalent
CRMP	Cultural Resources Management Plan
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibels
dBA	A-weighted decibels
DFM	diesel fuel marine
DFSP	Defense Fuel Support Point
DoD	Department of Defense
DOPAA	Description of Proposed Action and Alternative
DTSC	California Department of Toxic Substances Control
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FICUN	Federal Interagency Committee on Urban Noise
FONSI	Finding of No Significant Impact
FR	Federal Register
GHGs	greenhouse gas
GIS	geographic information systems
GWP	global warming potential
HAPs	hazardous air pollutants
IMPLAN	Impact Analysis for Planning
JP-5	jet propellant fuel no. 5
Ldn	Day-Night Average Level
LDUUV	Large Displacement Unmanned Undersea Vehicle
LED	light-emitting diode
Leq	Energy Equivalent Levels
Leq_{24}	Energy Equivalent Levels in a 24-hour period
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MTS	Metropolitan Transit System
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NASNI	Naval Air Station North Island
NAVFAC	Naval Facilities Engineering Command
NAVFAC SW	Naval Facilities Engineering Command Southwest
NAVSEA	Naval Sea Systems Command
NAVSUP FLC SD	Naval Supply Systems Command Fleet Logistics Center San Diego
Navy	U.S. Department of the Navy
NBPL	Naval Base Point Loma
NBPL PA	Naval Base Point Loma Programmatic Agreement
NEPA	National Environmental Policy Act
NESHAP	National Emission Standard for Hazardous Air Pollutants
NOAA	National Oceanic and Atmospheric Administration
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NRCS	Natural Resources Conservation Service
NRSW	Navy Region Southwest
O_3	ozone
OPA	Oil Pollution Act
OPNAVINST	Chief of Naval Operations Instructions
OSHA	U.S. Occupational Safety and Health Administration
PCBs	polychlorinated biphenyls
PHMSA	Pipeline and Hazardous Materials Safety Administration
PM_{10}	particulate matter less than or equal to 10 microns
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns
ppm	parts per million
RAQS	San Diego County Regional Air Quality Strategy
RCRA	Resource Conservation and Recovery Act
ROI	region of influence
RWQCB	Regional Water Quality Control Board
SCMs	special conservation measures
SDAB	San Diego Air Basin
SDAPCD	San Diego County Air Pollution Control District
SDG&E	San Diego Gas and Electric
SERDP	Strategic Environmental Research and Development Program
SIP	State Implementation Plan
SO_2	sulfur dioxide
SPAWAR	Space and Naval Warfare System Command
SSC Pacific	Space and Naval Warfare Systems Center Pacific
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
U.S.	United States
UCSD	University of California San Diego
UFC	Unified Facilities Criteria
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Society
VOCs	volatile organic compounds

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**ENVIRONMENTAL ASSESSMENT
FOR THE MIRAMAR PIPELINE
REPAIR AND RELOCATION
NAVAL BASE POINT LOMA (NBPL)**

SAN DIEGO, CALIFORNIA

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CHAPTER 1
PURPOSE AND NEED FOR THE PROJECT

1.1 INTRODUCTION

This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [USC] § 4321, as amended); the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (Title 40 Code of Federal Regulations [CFR] §§ 1500-1508, 1 July 1986); Navy Procedures for Implementing NEPA (32 CFR § 775); and the Chief of Naval Operations Instructions for Implementing NEPA (OPNAV M-5090.1, Chapter 10). The action proponent for this project is Naval Base Point Loma (NBPL).

The existing Miramar Pipeline is an approximately 17-mile-long, American National Standard Institute (ANSI) Class 300, 8-inch carbon steel, liquid fuel pipeline owned by the U.S. Department of the Navy (Navy) that runs underground between NBPL and Marine Corps Air Station (MCAS) Miramar, San Diego, California (Figure 1-1). Much of the pipeline passes through developed areas (residential, commercial, and high traffic). Some areas of the pipeline traverse natural and semi-natural habitats. The fuel pipeline crosses the City of San Diego communities of Point Loma, Clairemont, Bay Park, and Miramar.

The pipeline was constructed in 1954 within City of San Diego easements to the Navy, and carries both jet propellant fuel no. 5 (JP-5) and diesel fuel marine (DFM) to NBPL and JP-5 to MCAS Miramar (Navy 2012). Miramar Station is a commercially operated breakout facility that receives and stores government owned product via a commercial pipeline and is connected to NBPL and MCAS Miramar via the 8-inch Navy owned pipeline. It is located approximately 13 miles from NBPL and 4 miles from MCAS Miramar and consists of four 80,000-barrel tanks, a commercial pipeline, and a pump house. Current operations include:

- Shipments of both JP-5 and DFM from Miramar Station to NBPL
- Shipments of JP-5 from Miramar Station to MCAS Miramar
- Transfer of JP-5 between NBPL and MCAS Miramar in both directions
- Simultaneous receipt of JP-5 to MCAS Miramar and DFM to NBPL

The project would continue use of the existing 8-inch pipeline in a manner that addresses pipeline anomalies and geohazards consistent with the Pipeline Installation and Maintenance Agreement that the Navy Real Estate group is negotiating with the City of San Diego. Pipeline anomalies are dents, corrosion, or metal loss with the potential to compromise pipeline integrity. A geohazard is a geological state that presents a potential risk to the human environment. The geohazards applicable to the project area include the high seismic risk potential associated with active fault zones and liquefaction, and lateral spreading that could occur as a result of seismic activity.

Figure 1-1
Regional Location of the Miramar Pipeline between NBPL and MCAS Miramar

The first portion of the pipeline repair and relocation would occur on the pipeline that runs from NBPL to Lytton Street, where the majority of anomalies have been found during past inspections. In addition, the new pipe would be installed in a separate location to address the geohazard concern at the San Diego River crossing. The total length of pipeline repair and relocation would be approximately 5 miles. The project also includes installation of five isolation valve stations to allow isolation of pipeline segments as discussed further in Chapter 2 of this EA.

1.2 PROJECT LOCATION

The project area is located between NBPL Defense Fuel Support Point (DFSP) in the NBPL Complex (south end of the pipeline) and the first 5 miles of pipeline extending out into the City of San Diego. The sections of fuel pipeline that will be addressed in this project cross the City of San Diego communities of Peninsula and Midway-Pacific Highway. NBPL is located on the west side of San Diego Bay, near the mouth of the bay directly opposite Naval Base Coronado, as shown in Figure 1-1. NBPL is bordered to the north by the communities of La Playa and Sunset Cliffs; to the east by the San Diego Bay; to the west by the Pacific Ocean; and to the south by Cabrillo National Monument and the Pacific Ocean.

1.3 BACKGROUND

1.3.1 Regulatory Context

The U.S. Department of Transportation (USDOT), through its Pipeline and Hazardous Materials Safety Administration (PHMSA), regulates pipelines per the requirements in 49 CFR 195 for hazardous liquids only, and has no jurisdiction or authority of natural gas or and other gases. These regulations provide minimum safety standards, and they apply to national pipeline systems owned and operated by pipeline operators. Federally owned pipeline systems are exempt from USDOT regulations, as such USDOT has no jurisdiction over the Miramar pipeline.

Although the 8-inch pipeline does not fall under the jurisdiction of PHMSA and the requirements in 49 CFR 195, the Navy uses this regulation as a Best Management Practice (BMP) guideline for repair of pipeline anomalies (e.g., dents, corrosion, and metal loss) identified during inspections (Navy 2008a). Accordingly, the government has elected to consider the entire pipeline route as a High Consequence Area as defined in 49 CFR 195.452, *Pipeline Integrity Management in High Consequence Areas*. Therefore, all work to relocate, or repair the pipeline shall meet the requirements of 49 CFR 195 and related guidelines of the PHMSA for design, material procurement, construction, and construction documentation.

1.3.2 Recent Pipeline Inspections, Studies, and Repairs

The Miramar Pipeline is inspected internally approximately every five years consistent with American Petroleum Institute 570, *Piping Inspection Code: In-service Inspection, Repair, and Alteration of Piping Systems*. The most recent in-line inspection commenced in August 2013 and preliminary data results were reported in October 2013. Confirmation digs were completed in July 2014 and analysis is ongoing. In 2008, several inspections and/or studies were conducted

on the pipeline including an Inspection Assessment, a Metal Loss Comparison Study, Corrosion Growth Study, High Consequence Analysis, and a Geohazard/Seismic Assessment. More than 140 anomalies identified during these inspections and studies were corrected by eight repairs made to the pipeline. A hydraulic analysis of the entire pipeline was performed (Navy 2011a).

The pipeline system is rated to operate at a maximum flow rate of 1,571 barrels per hour. This is the safe operating flow rate that will keep surge pressures below 814 pounds per square inch, the surge limit of a fully-qualified Class 300 pipeline system. To meet the overall Navy mission as discussed below in Section 1.4, *Purpose and Need*, at this reduced flow rate (i.e., reduced from full surge limit), Naval Supply Systems Command Fleet Logistics Center San Diego (NAVSUP FLC SD) operates the pipeline 10-12 hours per day six days per week (Navy 2011a).

NAVFAC conducted the Miramar Pipeline Optimization Study (Navy 2011a) requested by NAVSUP FLC SD and funded by Defense Logistics Agency-E to determine the best operational and most economical solution for resupply of liquid fuel between NBPL and MCAS Miramar. A number of factors were considered during the Study, including cost and benefit, schedule, advantages and disadvantages, and risk assessment. The preferred option identified in the Optimization Study called for realigning portions of the pipeline, addressing geohazards associated with seismic issues (liquefaction and lateral spread), and other miscellaneous repair needs (Navy 2011a). This option was recommended because it is the lowest cost alternative, meets all of the operational requirements and constraints, can be completed in the least amount of time, and the government does not give up ownership of its asset.

The Optimization Study also discussed replacing the existing pipeline between NBPL and Lytton Street (approximately 3.5 miles), which would address the sections of pipeline where the highest numbers of anomalies have been historically identified, and would eliminate the majority of metal loss features found during inspections.

In addition, the Optimization Study identified potential modifications to alleviate the problems associated with the following geohazard areas: (1) Pipeline along the southern bank of the San Diego River, and (2) Active fault crossing of the Rose Canyon Fault Zone.

In 2009 emergency repairs were made to several sections of pipeline identified as requiring immediate action to maintain pipeline integrity. The potential environmental effects of these repairs were analyzed under Categorical Exclusion NEPA documentation (Navy 2008b, 2009b), and in accordance with U.S. Army Corps of Engineers (USACE) Nationwide Permit Authorization (File No. SPL-2008-00898-KJC) (USACE 2009).

1.3.3 Historical Leaks and Erosion Issues Along the La Playa Waterfront Area

There have been several fuel leaks along the La Playa waterfront area section of the pipeline in the past. Specifically, spills occurred in 1994 (San Antonio Avenue and McCall Street), 1995 (San Antonio Avenue and Qualtrough Street), and in 1996 (San Antonio Avenue and Noren Place, plus Talbot Street and Anchorage Lane). These spills resulted in the government patrolling the area every day (5-days/week) as required by the Underground Service Alert (Dig Alert) program. In 2009, hourly patrols during fuel transfers to monitor for leaks were initiated because of severe erosion along the Bayside Trail.

Erosion along the waterfront is also a problem. Currently, there are several locations within this section of pipeline where surface erosion has exposed the piping so that sections of the pipe are now protected with a temporary cover of sand bags. Emergency repairs took place in 2009 to replace the cover over a section of the pipeline that was exposed at La Playa Beach (Navy 2009a). A 2010 survey of the pipeline identified three new exposed areas of pipeline that occurred mainly as a result of winter storms in 2009 and also due to stormwater runoff from residential irrigation discharges, continuous wave action, and water craft wake. Bayside Trail, a popular walking path, runs parallel to La Playa Beach and over the existing pipeline. Emergency repairs to provide temporary coverage of this section of the buried pipeline and to address soil erosion problems began in late 2011 (Navy 2011b). These pipeline repairs were made in accordance with USACE Nationwide Permit Authorization (File No. SPL-2011-00489-RRS) (USACE 2011).

1.3.4 Geohazard Assessment and Issues Identified

A study of pipeline geological hazards or "geohazards" performed in May of 2008 identified geohazards associated with a 1,000-foot section of pipeline that crosses the San Diego River and runs parallel to its southern bank. That section of the pipeline was identified as being vulnerable to failure during a major seismic event (Navy 2008a). The problems associated with this section of pipe include liquefaction and lateral spread of the soil surrounding the pipe. Liquefaction is the conversion of soil into a fluid-like mass during an earthquake or other seismic event. Lateral spreading is a form of liquefaction that results in the horizontal movement of the soil due to a slightly sloped ground surface.

Based on a magnitude 6.9 earthquake and a 475-year return period peak horizontal ground acceleration, this section of the pipeline has the potential to be subjected to 5 to 15 feet of soil displacement, and it is expected that this would result in a loss of pipeline integrity. The 475-year return period event equates to a 10 percent probability of exceeding the event in 50 years and is the most common standard used to assess seismic risk. In addition, it is also the basis for many building codes for seismic design. It was estimated that the existing pipe is only capable of 3.3 feet of movement in this area (Navy 2008a).

The existing pipeline crosses the Rose Canyon Fault Zone east of Mission Bay and is intersected by three inferred fault traces (the Mission Bay fault, the Rose Canyon fault, and the Old Town fault). All three of these faults are capable of producing an earthquake of magnitude 6.9. According to the geohazard assessment for the pipeline, an earthquake of this magnitude could produce a horizontal surface rupture or offset of 6 feet or more (Navy 2008a). The pipeline in these areas would not withstand the stresses caused by such a movement (the pipe currently has an estimated capability of withstanding 1 foot of movement). Replacing the pipe with increased wall thickness and/or strength would not alleviate the situation (Navy 2008c).

1.4 PURPOSE OF AND NEED FOR THE PROJECT

The overall mission of the Navy is to maintain, train, and equip combat-ready Naval forces capable of winning wars, deterring aggression, and maintaining freedom of the seas. The government-owned pipeline between NBPL and MCAS Miramar (Miramar Pipeline) is a

strategic Department of Defense (DoD) logistic asset that sustains an uninterrupted supply of petroleum products necessary to meet the overall mission as well as the Navy's U.S. Pacific Fleet and Department of Homeland Security defense mission requirements. The U.S. Pacific Fleet mission is to protect and defend the maritime of the U.S. in the Indo-Asia Pacific region, and the mission of the Department of Homeland Security is to ensure a homeland that is safe, secure, and resilient against terrorism and other hazards. Further, Base Realignment and Closure and other base consolidations have brought additional Navy assets into the Metro San Diego area, which has increased the demand for petroleum requirements within the area. A continuous uninterrupted flow of fuel product is required to meet the increased military demand.

The NAVSUP FLC SD provides logistics, business, and support services to fleet, shore, and industrial commands of the Navy, U.S. Coast Guard (USCG), Military Sealift Command, and other joint and allied forces. NAVSUP FLC SD is responsible for the safe transfer of fuel between the fuel facility and military ships or vessels as well as overall operation of the pipeline.

The purpose of the project is to remedy the acute challenges to the long-term viability of the Miramar Pipeline which equates to making the necessary changes and repairs associated with: 1) pipeline anomalies (e.g., dents, corrosion, and metal loss); and 2) seismic geohazards (e.g., liquefaction/lateral spread, active fault crossing), to ensure the safe and long-term use of the pipeline. Based on recent inspections discussed in Section 1.3, portions of the existing pipeline must be relocated, repaired, upgraded, or replaced to remove dents, corrosion, and metal loss to minimize potential future leaks and enhance its overall safety, reliability, and integrity.

The project is critically needed to address the current pipeline anomalies and geohazards to support the Navy's and Department of Homeland Security's existing and future fueling needs and service operations, while allowing the Navy to maintain readiness. Implementation of this project would help to ensure that NBPL Fuel Pier 180 continues to serve as a fuel depot for loading and unloading tankers. The NBPL Fuel Pier 180 is the primary fueling station for Navy and other federal agency ships in the vicinity, and visiting foreign Navy vessels, as well as transferring fuel to the local replenishment vessels and other small craft operating in San Diego Bay. Fuel Pier 180 at NBPL DFSP is critical to the mission of the Navy and is the largest active Navy fueling facility in the vicinity. More than 11 million gallons of fuel are issued and received every month to an average of 43 ships from the Military Sealift Command, Expeditionary Warfare Training Groups, three carrier strike groups, National Oceanic and Atmospheric Administration, Department of Homeland Security, and other nations. In addition, the fuel pipeline provides jet fuel to aircraft at Naval Base Coronado/Naval Air Station North Island. These installations rely on fuel from the pipeline to ensure their operations are carried out successfully.

1.5 DECISION TO BE MADE

The decision to be made as a result of the analysis in this EA is to decide if an Environmental Impact Statement (EIS) needs to be prepared. An EIS will need to be prepared if it is determined that the Proposed Action (Alternative 1) or other alternative ultimately selected for

implementation would have significant impacts to the human or natural environment. Should an EIS be deemed unnecessary based on the effects analysis of the alternative selected for implementation, this selection would be documented in a Finding of No Significant Impact (FONSI).

1.6 SCOPE OF THE ANALYSIS

NEPA, CEQ regulations, and Navy procedures for implementing NEPA specify that an EA should address only those resource areas potentially subject to impacts. In addition, the level of analysis should be commensurate with the anticipated level of environmental impact. Relevant inspections and pre-planning studies that determined the scope of analysis include: 2011 Miramar Pipeline Optimization Study (Navy 2011a); the 8-Inch Pipeline In-line Inspection and Geohazard Assessment (Navy 2008a); Geotechnical Exploration and Recommendations Navy Jet Fuel Pipeline Repair (Navy 2008c); NEPA documents for previous pipeline repairs (Navy 2008b, 2009a, 2009b, 2011b, 2011c); Corrosion Growth Study for the 8-inch Pipeline (Navy 2008d); Biological and Cultural Resources Surveys for the Miramar Pipeline (Navy 2011d); USACE permits pursuant to Clean Water Act (CWA) for previous repairs (USACE 2009, 2011), Repair 8-Inch Miramar Pipeline NBPL to MCAS Miramar (Naval Facilities Engineering Command Southwest [NAVFAC SW] 2014a), and Repair 8-Inch Miramar Pipeline NBPL to MCAS Miramar – Improvement Drawings (NAVFAC SW 2014).

Resources carried forward for detailed analysis in this EA include: geological resources, biological resources, water resources, hazardous materials and wastes, public health and safety/protection of children, noise, air quality, socioeconomics and environmental justice, transportation and circulation, and utilities. Airspace, land use, coastal zone management, aesthetics, recreation, and cultural resources were not carried forward for detailed analysis because the project would not affect or would only negligibly affect these resources. The rational for not carrying these resources forward for detailed analysis is provided at the beginning of Chapter 3 and is briefly summarized below.

- **Airspace** – None of the alternatives would affect airspace within the project area, therefore, no significant impacts to airspace would occur.
- **Land Use** – None of the alternatives would change or modify existing land uses within the project area, therefore, no significant impacts to land use would occur.
- **Coastal Zone Management** – None of the alternatives would have long-term effects on public access or boater recreation; would have no long-term effects on biological productivity, water quality and sensitive biological species; would not increase human health risk or environmental exposure to hazardous materials or hazardous wastes; would not disturb archaeological sites or other cultural resources; would not alter the visual character of the area, and would not generate regionally significant air emissions. None of the alternatives would have significant impacts to coastal uses and resources.
- **Aesthetics** – None of the alternatives would alter the visual character of the project area, therefore no significant aesthetics impacts would occur.

- **Recreation –** Public recreational access would be only temporary limited along La Playa waterfront area and the Bayside Trail would be restored to its current condition or better than current condition, therefore no significant recreation impacts would occur.
- **Cultural Resources –** In the absence of known historic properties in most of the Alternatives' area of potential effect (APE), but with the identified archaeological potential, assessing effect in conformance with Stipulation VIII of the Naval Base Point Loma Programmatic Agreement (NBPL PA) here requires that Section 106 compliance be for a conditional finding of "no adverse effect" under 36 CFR 800.4(d)(1). As such, the demonstration of Section 106 compliance here is provisional, pending results of the monitoring to be conducted during the ground disturbance phase for any project alternatives. If no historic-period deposits or features are identified during monitoring, or if those observed do not possess content or integrity sufficient to recommend their National Register of Historic Places eligibility, then the effects assessment under Stipulation VIII would be "no historic properties affected". If eligible deposits or features are found, but the project work would not adversely affect these, then the current "no adverse effect" would stand and the EA could remain unchanged. However, if newly-identified deposits or features are found eligible and would be adversely affected by project activities, then the project work affecting the deposits or features would stop for a period sufficient to provide for an expedited consultation to define resolution of the adverse effect, in accordance with 36 CFR 800.6, with this EA then amended to reflect this change. This would require execution of a Memorandum of Agreement with the CASHPO, and possibly the Advisory Council on Historic Preservation, stipulating actions required for resolving the adverse effect, which would then still support this EA's finding of no significant impact (FONSI) to cultural resources. Project work would continue following completion of the stipulated actions.

1.7 INTERGOVERNMENTAL COORDINATION

The Navy is working with the following agencies in support of preparation of the EA:

- California Coastal Commission (CCC): Concurrence with the Navy's application for a Coastal Commission Negative Determination (CCND) in accordance with the Coastal Zone Management Act (CZMA) (refer to Appendix A).
- Regional Water Quality Control Board (San Diego RWQCB) - For consultation.
- USACE - For consultation.
- Port of San Diego.
- City of San Diego - To obtain necessary right-of-way permits.
- Metropolitan Transit System (MTS).
- California Department of Transportation (Caltrans).

Appendix A of the EA will document the correspondence between the Navy and the regulatory agencies involved in this project.

1.8 PUBLIC PARTICIPATION

A 30-day public scoping period was initiated on January 16, 2014 and ran through February 16, 2014. One public scoping meeting was held on January 29, 2014, from 5 p.m. to 7 p.m., at Portuguese Hall in San Diego, California. The purpose of the public scoping meeting was to

offer the public an opportunity to learn about the project, speak one-on-one with Navy representatives and subject matter experts, and to submit comments on the proposal. The public had an opportunity to submit written comments during the public scoping meeting. Additionally, the Navy provided a project website where the public could access project information and submit comments electronically to the Navy project manager (http://www.navyregionsouthwest.com/go/doc/4275/1996890). Comments on the proposal were also accepted via postal mail.

The Draft EA was available to the public for review and comment. A 30-day public review period occurred from November 07, 2014 through December 06, 2014. One public meeting was held on December 03, 2014, from 5 p.m. to 8 p.m., at Portuguese Hall in San Diego, California. The purpose of the public review of the Draft EA was to provide the public with the opportunity to participate in the project and to provide comments on the adequacy and accuracy of the EA. All comments received on the Draft EA are included in Appendix B, followed by responses to those comments.

The Draft EA was available for public review online, and at the San Diego Central, Ocean Beach and Point Loma/Hervey libraries. Comments were also accepted electronically via the Navy's website link at: http://www.navyregionsouthwest.com/go/doc/4275/1996890.

Written comments were also accepted via mail at the following address: NBPL Miramar Pipeline EA Project Manager Naval Facilities Engineering Command Southwest Attention: (RUE20.TB) 2730 McKean St., Building 291 San Diego, CA 92136-5198.

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CHAPTER 2
PROPOSED ACTION AND ALTERNATIVES

This chapter includes a list of the reasonable alternatives screening factors and descriptions of the Proposed Action (Alternative 1), additional action alternatives (Alternatives 2 and 3), and the No-Action Alternative. It also includes descriptions of alternatives considered but not carried forward for detailed analysis.

2.1 REASONABLE ALTERNATIVES SCREENING FACTORS

The project screening factors that would allow Navy mission, operational, and support functions to be fulfilled include:

- Fuel product transfer between NBPL to MCAS Miramar and from MCAS Miramar to NBPL must be retained;
- Any new pipeline constructed would be fully compliant all applicable 49 CFR 195 pipeline construction codes during the removal and pipeline construction phases; and
- NBPL and MCAS Miramar must be able to continue normal operations and not be severely impacted during pipeline repair and relocation activities. Short-term disruptions in use of the pipeline would be acceptable, provided that military installation operations are not impacted.

Based on the screening factors outlined, three action alternatives have been identified that meet the purpose of and need for the project. The No-Action Alternative has also been carried forward for detailed analysis in this EA. Section 2.6, *Alternatives Considered but Not Carried Forward for Detailed Analysis*, describes those pipeline repair or relocation alternatives that were considered but not carried forward for detailed analysis in this document.

2.2 PROPOSED ACTION/ ALTERNATIVE 1

The Proposed Action (herein referred to as Alternative 1) is the continued use of the existing 8-inch fuel pipeline from NBPL to MCAS Miramar as a Government Owned Government Operated system and would implement the pipeline relocation within a modified easement that incorporates changes necessary to address pipeline anomalies and geohazards (Figure 2-1). Pipeline relocation would be coordinated with the City of San Diego, Port of San Diego, USACE, MTS, and Caltrans as necessary.

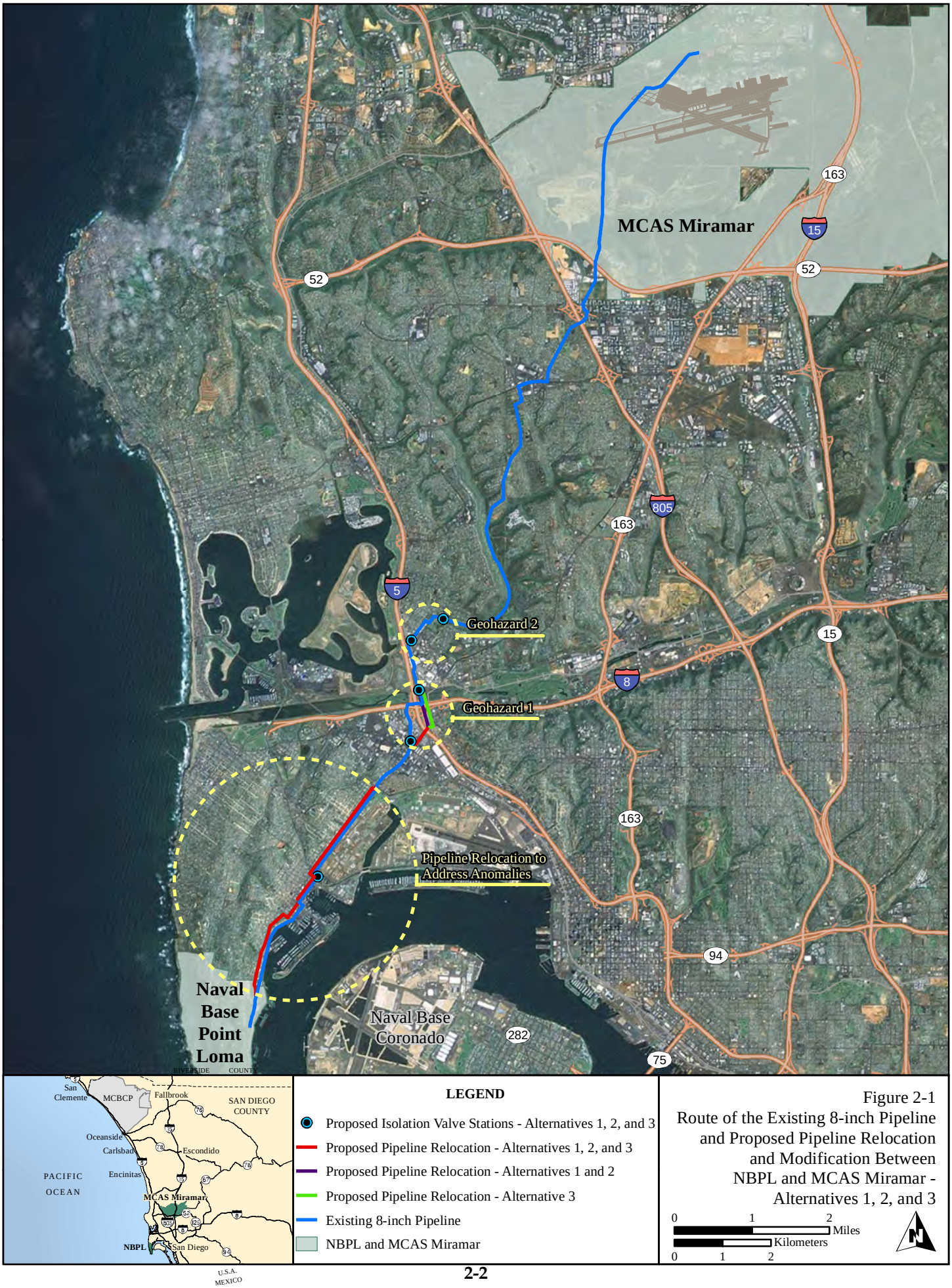


Figure 2-1
Route of the Existing 8-inch Pipeline and Proposed Pipeline Relocation and Modification Between NBPL and MCAS Miramar - Alternatives 1, 2, and 3

A Traffic Analysis and a Traffic Control Plan has been prepared and analyzed and circulated through the City of San Diego review process. The Traffic Analysis utilizes existing traffic count data to determine preferred times of construction that would have the least impact to traffic flow in the area. It has also established ways to segment the construction activities to minimize traffic flow disruption while not impeding on construction feasibility, and provide detour routes for vehicles and pedestrians when appropriate. The Traffic Control Plan has developed the actual sign, cone, and other construction equipment locations for each phase of construction. The phases are based on the findings of the Traffic Analysis. The goals of the Traffic Analysis/Traffic Control Plan effort are to reduce impacts to the local community, businesses, churches, and schools in the area, especially along Rosecrans Street, while maintaining standard traffic control geometries and operations during construction.

Under Alternative 1, the pipeline relocation and valve station installation activities discussed in the subsections below would begin in December 2015 and would take 2 years and 1 month to complete (1 month in 2015 [December], 12 months in 2016, and 12 months in 2017).

Regarding project operations, there is currently sufficient NAVSUP FLC SD staff qualified to carry out fueling operations throughout the pipeline repair and relocation periods, and to operate the pipeline when all repairs and pipe installations are complete. No additional personnel would be assigned to operate and maintain the pipeline. Personnel associated with project construction are discussed under the project alternatives presented below.

2.2.1 Relocation of NBPL to Lytton Street Pipeline Segment to Rosecrans Street to Address Pipeline Anomalies

To provide a long-term solution to address the majority of anomalies that have been found during past inspections and erosion problems along the La Playa waterfront area, the pipeline from NBPL to Lytton Street would be relocated outside the La Playa waterfront area to within the Rosecrans Street right-of-way (Figure 2-2a). Additionally, a new valve station would be installed at Scott Street and Keats Street as shown on Figure 2-2a. Under Alternative 1, the existing pipeline in the La Playa area would be closed in place after defueling, cleaning, disposing of waste, and filling the pipe with concrete, in accordance with regulatory requirements. The estimated cost for closing the pipeline in place within the La Playa waterfront area would be approximately $22,650.

As per the project design specifications, the new pipe would consist of new 8-inch carbon steel and would be delivered to the site in 40-foot sections that would be pre-coated and welded onsite, above or in the pipeline trenches. A factory-applied fusion-bonded epoxy coating would be applied on all buried pipe as well as field-applied fusion-bonded epoxy coating for the field joints, and bend fittings. The above grade portions of the pipe would be provided with a military-standard low volatile organic compound (VOC) epoxy/polyurethane coating system. Some belowground welding in the trenches would be needed to join the existing and new sections of the pipe together. These joints would also be coated with field-applied fusion-bonded epoxy coating.

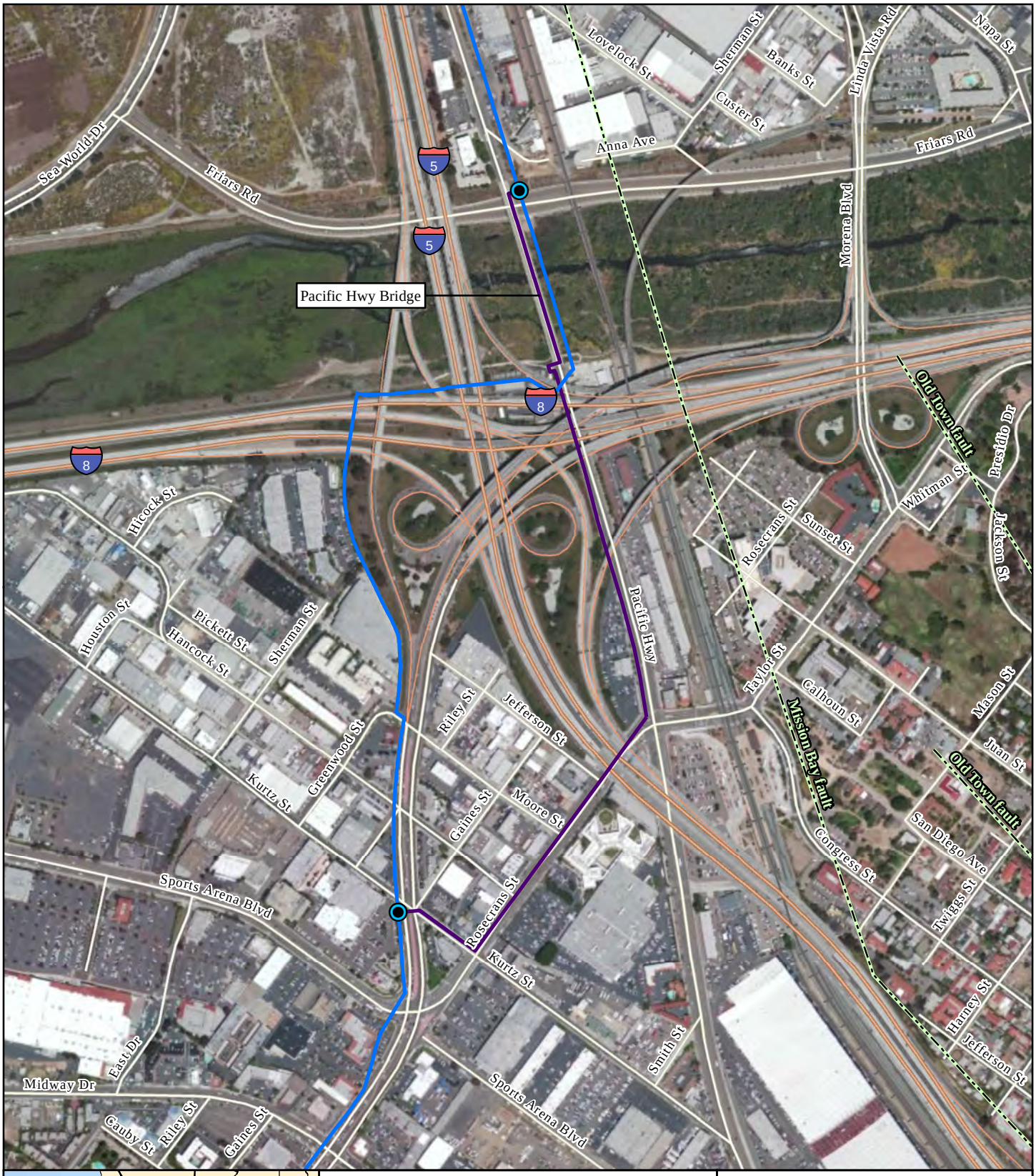
Figure 2-2a
Proposed Pipeline Relocation to Address Pipeline Anomalies

The overall length of new pipeline installation to address pipeline anomalies from NBPL to Lytton Street (La Playa waterfront area) is approximately 3.5 miles. The proposed pipeline relocation would be expected to take between 6 and 12 months to complete, including start-up and demobilization. It is estimated that approximately 10-15 workers would be onsite during construction. Heavy equipment and vehicles would be used onsite for excavation and trenching activities. Typical equipment needed may include excavators, loaders, compactors, multiple heavy-duty trucks, paving equipment, concrete trucks, water trucks, dump trucks, welding truck, excavation shoring equipment, air compressors, and other typical construction tools. The equipment would generally be stationed onsite during construction at the Navy parking area located near North Harbor Drive. To alleviate traffic impacts, at most a few hundred feet of pipe is expected to be constructed each day between the hours of 7:00 a.m. and 7:00 p.m. on weekdays. Construction activities on Rosecrans Street would be scheduled to avoid traffic congestion during the peak hour and in the peak direction of travel, to the extent feasible. At the end of each construction day, trench areas will be trench-plated, or backfilled and paved, so that the excavated area can be crossed by vehicle traffic.

2.2.2 Pipeline Relocation and Valve Station Installation to Address Geohazard 1 (San Diego River Crossing)

As previously discussed in Section 1.3, geohazards applicable to the project area include the high seismic risk potential associated with active fault zones and liquefaction, and lateral spreading that could occur as a result of seismic activity.

To alleviate the geohazard concern identified along the 1,000-foot section of the pipeline that crosses the San Diego River, the pipeline would be relocated as shown in Figure 2-2b. Under Alternative 1, where the existing pipeline crosses beneath the San Diego River, it would be suspended from the Pacific Highway Bridge over the river and continue along Pacific Highway to Rosecrans Street, connecting to the existing pipeline via Kurtz Street. A remotely activated isolation valve station would be installed on the north side of the San Diego River crossing. In addition, a valve station would be installed near the Kurtz Street and Camino Del Rio intersection. The length of the pipeline between the valve stations would be approximately 4,600 feet. There would be no excavation or disturbance to the ground surface or subsurface where the existing pipeline crosses under the San Diego River. That portion of the pipeline would be taken out of service by filling the pipe with concrete, which would be pumped into the pipe from the cut ends where the new pipeline is tied into the existing pipeline at both the north and south ends of the Pacific Highway Bridge. Excavation of the pits to make the pipe tie-in welds would be conducted outside of wetlands. All regulatory guidelines and permitting requirements would be followed to ensure safe closure of the pipeline. Proposed pipeline relocation and valve station installation within the San Diego River area would be expected to take between 6 and 12 months to complete, including start-up and demobilization. It is estimated that approximately 10-15 workers would be onsite during construction. Heavy equipment and vehicles would be used onsite for excavation and trenching activities. All construction activities would occur outside of the riverbed.



LEGEND

- Proposed Pipeline Relocation
- Existing 8-inch Pipeline
- Proposed Isolation Valve Location
- Fault Lines

Figure 2-2b
Proposed Pipeline Relocation and Valve Station Installation to Address Geohazard 1

0 400 800 Feet
0 100 200 Meters

Typical equipment needed may include scaffolding, excavators, loaders, compactors, multiple heavy-duty trucks, paving equipment, concrete trucks, water trucks, dump trucks, welding truck, excavation shoring equipment, air compressors, and other typical construction tools. The equipment would generally be stationed onsite during construction at the Navy parking area located near North Harbor Drive when not in use.

2.2.3 Valve Station Installation to Address Geohazard 2 (Area East of Mission Bay)

To alleviate the geohazard concern identified along the existing pipeline that crosses the Rose Canyon Fault Zone east of Mission Bay, two remotely activated isolation valve stations would be installed to limit the amount of potential product spilled in the event that a major earthquake would severely damage the pipeline. One value station would be installed in the Tecolote Nature Center parking lot, and the other near the end of Knoxville Street in the paved cul-de-sac, east of West Morena Boulevard. Figure 2-2c indicates the approximate location of the fault lines and the locations of the proposed valve stations.

The isolation valve vaults would be below ground reinforced concrete structures, constructed within the City of San Diego street right-of- way, and would include traffic rated lids equipped with a lockable hatch that is accessible from the ground surface. The vault structures would be approximately 8 by 12 feet in size. The vaults would contain a full-port double-block and bleed plug valve, equipped with a motor actuator. The motor actuator would be remotely controlled by the Automatic Fuel Handling Equipment control system at NBPL in a similar configuration to the other existing isolation valve stations along the pipeline. Communication with the Automatic Fuel Handling Equipment system would be by phone line to match the existing system. The valve station would also contain a pressure transmitter which would allow pipeline operators at NBPL to monitor the pipeline pressure at the valve station.

Proposed valve station installations within this area would be expected to take approximately one to two months to complete, including start-up and demobilization. It is estimated that approximately 3-5 workers would be at each location during construction. Heavy equipment and vehicles would be used onsite for excavation and trenching activities. Typical equipment needed may include excavators, loaders, compactors, multiple heavy-duty trucks, paving equipment, concrete trucks, water trucks, dump trucks, excavation shoring equipment, air compressors, and other typical construction tools. The equipment would generally be stationed onsite for during construction at the Navy parking area located near North Harbor Drive when not in use.

Figure 2-2c
Proposed Valve Station
Installation to Address
Geohazard 2

2.3 ALTERNATIVE 2

Alternative 2 would consist of the same project components as described under Alternative 1 (see Figures 2-1, 2-2a, 2-2b, 2-2c), except that portions of the existing pipeline along the La Playa waterfront area from McCall Street to Talbot Street would be removed instead of closed in place after relocating the pipeline to Rosecrans Street. Under Alternative 2, portions of the existing pipeline within the Bayside Trail (where the pipeline is currently exposed due to surface erosion) would be removed after the existing pipe is drained of fuel and cleaned, prior to disposing of the pipe. The estimated cost for removing portions of the pipeline within the La Playa waterfront area would be approximately $634,500.

The portions of existing pipeline along the La Playa waterfront area that are under paved streets or under structures that have been placed over the top of the pipe, would not be removed, but would be closed in place by filling the pipe with concrete.

Of the 3,975 total feet of pipeline along the La Playa waterfront area, it is expected that 1,480 feet would be removed, and 2,495 feet would be closed in place.

Temporary closure of specific portions of the Bayside Trail may be necessary during pipeline removal activities. Work associated with the decommissioning and removal of the pipeline, and surface restoration along the Bayside Trail would entail the planting of native species appropriate to the waterfront environment. The restoration work, grading, and planting along the waterfront would be coordinated with and approved by the Port of San Diego and USACE as appropriate and would occur for a minimum of 12 months or more pursuant to the USACE permit requirements.

Once the existing pipeline has been removed, the area would be backfilled with native material from the trench excavation, and the ground surface would be restored to maintain the original pathway condition. Disturbed areas beyond the footpath would be revegetated with non-invasive, native plant species. Where the trench excavation disturbs the waterfront bank, it would be restored to its original/pre-disturbed bank condition, utilizing a biodegradable jute mesh fabric or similar erosion control blanket to prevent bank erosion until the new plant materials have been re-established. Plant materials would be replaced with in-kind, existing native materials as set forth through Port of San Diego/USACE guidelines and permitting requirements. Placement of shoreline stabilization measures, such as rip-rap or sheet piling, would not be proposed as part of this project.

Proposed pipeline removal at the La Playa waterfront area would be expected to take approximately one to two months to complete, and would include pipe closure in accordance with regulatory guidelines and permitting requirements. Additional time may be required for periodic maintenance of the restoration vegetation. It is estimated that approximately 5-8 workers would be onsite during construction. Typical equipment needed to remove the pipeline and place plant materials may include a small excavator and loader, small compactors, flatbed truck, pickup truck with winches, and various hand tools. The equipment would be stationed at the Navy parking area located near North Harbor Drive when not in use.

2.4 ALTERNATIVE 3

Alternative 3 would consist of the same project components as described under Alternative 1 (see Figure 2-1, 2-2a, 2-2c), with the exception that to address geohazard 1, under Alternative 3, where the existing pipeline crosses beneath the San Diego River, the pipeline would be suspended from the Santa Fe Railroad Bridge over the river and would be relocated along a slightly different route as shown in Figure 2-3. The existing pipeline that would no longer be in service would be closed in place after defueling, cleaning, disposing of waste, and filling the pipe with concrete. All regulatory guidelines and permitting requirements would be followed to ensure safe closure of the pipeline. Proposed pipeline relocation construction duration and procedures, and valve station installation locations for Alternative 3 would be similar to those described under Alternative 1. The length of the pipeline between the two valve stations would be approximately 5,000 feet.

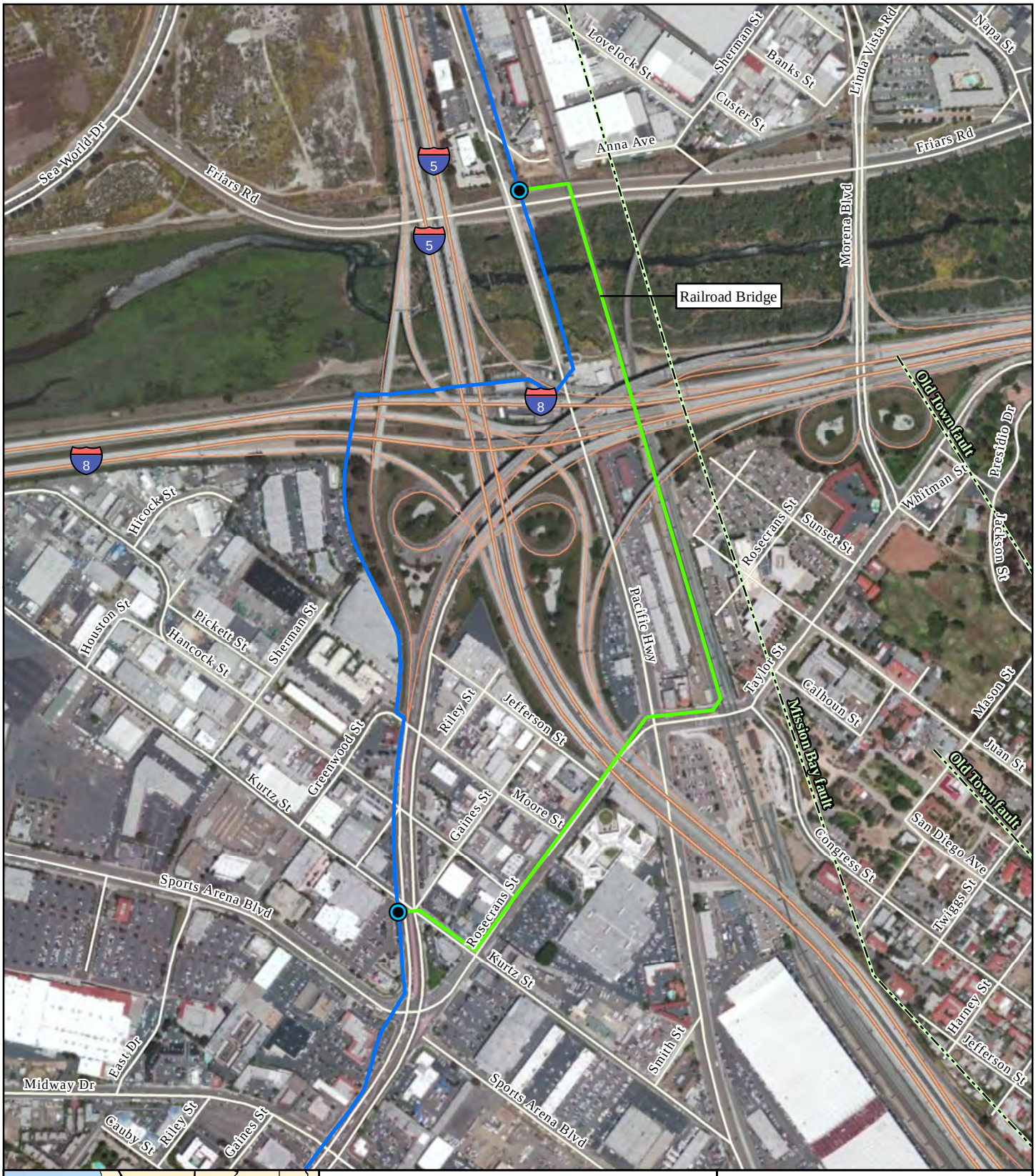
2.5 NO-ACTION ALTERNATIVE

Under the No-Action Alternative, the NAVSUP FLC SD would not implement the pipeline changes necessary to address pipeline anomalies and geohazards. The existing locations where the pipeline anomalies and geohazards that have been identified during past inspections would remain. The No-Action Alternative provides a measure of the baseline conditions described in Chapter 3, against which the potential impacts of the action alternatives can be compared. As such, the No-Action Alternative is carried forward for analysis.

2.6 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD FOR DETAILED ANALYSIS

Four project alternatives were considered, but were not carried forward for detailed analysis. These alternatives and the rationale for not carrying them forward for detailed analysis are presented below.

1. **Replace the entire existing pipeline vice replacing only a portion of the pipeline.** This alternative was not carried forward because no repairs of the existing pipeline are currently necessary beyond what is being proposed in the most southern five miles of the pipeline.
2. **Alternative pipeline route.** An alternate route for the replacement pipe was considered from Lytton Street through Chatsworth Boulevard and Catalina Boulevard back to NBPL. This alternative was considered not feasible however, because according to NAVSUP FLC SD the pump house system hydraulics for fuel transfers to MCAS Miramar would not be functional without considerable upgrades using this route, therefore this alternative was not carried forward for detailed analysis.



LEGEND

- Proposed Pipeline Relocation
- Existing 8-inch Pipeline
- Proposed Isolation Valve Location
- Fault Lines

Figure 2-3
Proposed Pipeline Relocation and Valve Station Installation to Address Geohazard 1 - Alternative 3

0 400 800 Feet
0 100 200 Meters

3. **An alternative to using the pipeline for fuel transfer (e.g., truck, ship, barge, or rail).** This alternative was not carried forward for detailed analysis because the pipeline transportation cost per unit is much lower than using a truck, ship, barge, or rail for fuel transportation. For example, if the fuel was shipped to the facility without using the pipeline, a total of 12,500 tanker trucks per year may be needed and it would increase the carbon footprint and represent a significant cost to the Navy. It would also provide disruptions to local traffic flow on Rosecrans Street on a daily basis.
4. **Repair pipeline and place the pipeline back into existing trench.** This alternative was not carried forward for detailed analysis because it would not allow the pipeline to remain operational during pipeline repair. It is critical to ensure that the pipeline and fuel flow remain operational during the construction and repair process. In addition, permitting requirements through USACE within the La Playa waterfront area make it highly improbable that continual repairs could occur there. This alternative would not allow the Navy mission, operational, and support functions to be fulfilled. It would also not address the continual erosion problems that occur to the pipeline in the La Playa waterfront area.
5. **Replace pipeline through/under the San Diego River.** This alternative was not carried forward for detailed analysis because the potential impacts to riverine habitat and biological resources would be potentially significant and would result in a significant cost to the Navy.

2.7 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Potential environmental impacts have been analyzed for the following resources: geological resources, biological resources, water resources, hazardous materials and wastes, public health and safety/protection of children, noise, air quality, socioeconomics and environmental justice, transportation and circulation, and utilities. Airspace, land use, aesthetics, recreation, and cultural resources were not carried forward for detailed analysis because the project would not affect or would only negligibly affect these resources. The rational for not carrying these resources forward for detailed analysis is provided at the beginning of Chapter 3.

Table 2-1 provides a summary of environmental consequences for each alternative by resource area. Chapter 3 provides a detailed discussion of the baseline (existing) conditions and the environmental consequences.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Geological Resources	Alternative 1 would not have significant impacts on geological resources. Compliance with applicable regulations and engineering requirements and use of erosion control measures and best management practices (BMPs), would further reduce any potential impacts that could occur. Through addressing the geological hazard concerns at geohazards 1 and 2, operation of Alternative 1 would result in beneficial impacts associated with geological hazards. **Avoidance and Minimization Measures/ SCMs:** • Compliance with the Construction General Permit, including implementation of erosion control measures and BMPs. • Monitoring and sampling the pipeline excavation and closure corridors for potential contamination and proper characterization and disposal of any contaminated soil and groundwater encountered. • Compliance with applicable federal, state, and county regulations for pipeline construction.	Under Alternative 2, geological resources impacts would be similar to those described under Alternative 1, and no significant impacts to geological resources would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 2 would be the same as for Alternative 1.	Under Alternative 3, geological resources impacts would be similar to those described under Alternative 1, and no significant impacts to geological resources would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 3 would be the same as for Alternative 1.	Under the No-Action Alternative, the proposed new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. The pipeline in the area of geohazards 1 and 2 would continue to be vulnerable to failure during a major seismic event. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, the No-Action Alternative would result in less than significant impacts associated with geologic hazards. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Biological Resources	Construction activities at the San Diego River crossing would occur above and outside of the San Diego riverbed and would not affect biological resources. Draining, cleaning, and filling the existing pipe with concrete also would not impact biological resources. As such, construction impacts would be limited to developed and landscaped areas that lack native vegetation communities and aquatic habitats. Noise would be temporary, generally consistent with the nature of the area, consistent with normal construction practices, limited by the local noise ordinance, and would not significantly alter the overall noise environment found in the project areas. Any bird species passing through the project areas, including species protected under the MBTA, would likely fly over the pipeline and would be unaffected by pipeline construction. Since bats do not occur at the Pacific Highway Bridge, no bats would be affected by project construction, and operations would not affect potential bat habitat. The only threatened or endangered species with the potential to occur within the project area is the least Bell's vireo.	Impacts from Alternative 2 would be similar to those described for Alternative 1. Removal of the pipeline in the La Playa area would require obtaining a Section 401 RWQCB permit as well as a Section 404/Section 10 permit from the USACE for all construction activities occurring within jurisdictional wetlands and/or waters of the U.S. All jurisdictional wetlands and other waters of the U.S. would need to be fully restored, if impacted. As such, implementation of Alternative 2 would affect the habitat found at the La Playa waterfront area, but these impacts would be temporary. With implementation of the avoidance and minimization measures, implementation of Alternative 2 would have less than significant impacts to biological resources.	Impacts from Alternative 3 would be similar to those described for Alternative 1. Habitat at the Santa Fe Railroad is similar to habitat at the Pacific Highway Bridge. Alternative 3 would have less than significant impacts to biological resources.	Existing conditions would remain unchanged and there would be no impact to biological resources. The Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability. Therefore, there would be no impacts to biological resources under the No-Action Alternative.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Biological Resources (continued)	However, the nearest documented least Bell's vireo occurrence is approximately 0.8 mile upstream from (i.e., to the east of) the project area and potential habitat within the project area is of very limited extent and would not be affected. Therefore, the implementation of Alternative 1 would not affect any threatened or endangered species, and no significant impacts would occur. Implementation of Alternative 1 would provide a beneficial impact to the biota found at the San Diego Bay and San Diego River by reducing the risk and potential volume of a fuel spill during operations. As such, impacts to biological resources associated with implementation of Alternative 1 would be less than significant.	**Avoidance and Minimization Measures/ SCMs:** In addition to the SCMs provided for Alternative 1, Alternative 2 also includes: Estuary seablite and woolly seablite along the La Playa waterfront area would be flagged and avoided to the maximum extent possible. If avoidance is not possible, the project revegetation plan would be amended to include the planting of these two rare and native plant species commensurate with the level of impact in appropriate habitat along the La Playa waterfront area.	**Avoidance and Minimization Measures/ SCMs:** Avoidance and Minimization Measures/ SCMs under Alternative 3 are the same as those for Alternative 1.	**Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Biological Resources (continued)	**Avoidance and Minimization Measures/ SCMs:** • All construction activities would occur outside of the San Diego riverbed, and barriers such as a silt fence or sand bags would be placed where appropriate to prevent debris, sediment, or other materials from entering the San Diego Bay or the San Diego River during construction. • Project-related activities would not be permitted to cause the removal or failure of an active nest of any MBTA-protected species. To that end, prior to construction during the avian breeding season (1 February - 31 August), a qualified biologist would survey the affected area to confirm that no nests are present or to ensure avoidance of any active nests that are present. • Where appropriate to discourage nesting on structures that are subject to construction, those structures may be screened or covered. • Another bat survey would be performed within 30 days prior to commencing construction activities that would disturb the bridge structure. If bat species are found during the pre-construction survey effort, then an avoidance and/or relocation effort would be developed and implemented.			

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Water Resources	Alternative 1 would result in no impacts to surface water and would not result in significant impacts to groundwater, water quality, or floodplains. Compliance with applicable regulations and engineering requirements and use of erosion control measures and BMPs would further reduce any potential impacts that could occur. In addition, the reduced risk due to pipeline damage would result in a beneficial impact to surface water, groundwater, and water quality. **Avoidance and Minimization Measures/ SCMs:** • Compliance with the Construction General Permit, including implementation of erosion control measures and BMPs. • Dewatering activities would comply with *General Waste Discharge Requirements for Discharges from Groundwater Extraction*, if necessary. • Monitoring and sampling the pipeline excavation and closure corridors for potential contamination and proper characterization and disposal of any contaminated soil and groundwater encountered. • Compliance with applicable federal, state, and county regulations for pipeline construction.	Under Alternative 2, water resources impacts would be similar to those described under Alternative 1, and no significant impacts to water resources would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 2 would be the same as for Alternative 1.	Under Alternative 3, water resources impacts would be similar to those described under Alternative 1, and no significant impacts to water resources would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 3 would be the same as for Alternative 1.	Under the No-Action Alternative, the new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, the No-Action Alternative would result in less than significant impacts to water resources. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Hazardous Materials and Wastes	No increase in human health risk or environmental exposure to hazardous materials or hazardous wastes would result from construction and operation of Alternative 1. Implementation of avoidance and minimization measures would further reduce any potential impacts that could occur. Therefore, implementation of Alternative 1 would have a less than significant impact with respect to hazardous materials and hazardous wastes. Implementation of Alternative 1 at the location of geohazards 1 and 2 would reduce the potential for release of fuel during an earthquake; this would be a beneficial impact. **Avoidance and Minimization Measures/ SCMs:** • Proper management of hazardous materials and waste during trenching and construction of the new pipeline, and closure of the existing pipeline. • Monitoring and sampling the pipeline excavation and closure corridors for potential contamination and proper characterization and disposal of any contaminated soil and groundwater encountered. • Compliance with applicable federal, state, and county regulations for pipeline construction.	Under Alternative 2, hazardous materials or hazardous wastes impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 2 would be the same as for Alternative 1.	Under Alternative 3, hazardous materials or hazardous wastes impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 3 would be the same as for Alternative 1.	Under the No-Action Alternative, the new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, implementation of the No-Action Alternative would not have a significant impact with respect to hazardous materials and wastes. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Public Health and Safety/Protection of Children	The pipeline would be constructed and operated in compliance with all applicable federal, state, and county regulations, and in accordance with Navy policies and procedures. Implementation of all applicable safety procedures would prevent and minimize potential risk to human health and the environment associated with construction and operation of the new pipeline sections; therefore, no significant impacts would occur. Alternative 1 would enhance the overall safety, reliability and integrity, and increase public and environmental safety by minimizing the potential for future pipe leaks or breaks; thus long-term impacts are considered beneficial. No disproportionate risk of injury or hazardous substances exposure to children per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs would be the same as described under *Hazardous Materials and Wastes* above.	Under Alternative 2, public health and safety impacts would be similar to those described for Alternative 1, and no significant impacts would occur. Alternative 2 would enhance the overall safety, reliability and integrity, and increase public and environmental safety by minimizing the potential for future pipe leaks or breaks; thus long-term impacts are considered beneficial. No disproportionate risk of injury or hazardous substances exposure to children per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs would be the same as described under *Hazardous Materials and Wastes* above.	Under Alternative 3, public health and safety impacts would be similar to those described for Alternative 1, and no significant impacts would occur. Alternative 3 would enhance the overall safety, reliability and integrity, and increase public and environmental safety by minimizing the potential for future pipe leaks or breaks; thus long-term impacts are considered beneficial. No disproportionate risk of injury or hazardous substances exposure to children per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* would occur. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs would be the same as described under *Hazardous Materials and Wastes* above.	Under the No-Action Alternative, there would be no change from the existing conditions. Although the pipeline does not currently pose a risk to public or environmental health and safety, under the No-Action Alternative the beneficial safety features associated with the proposed project would not be implemented. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, the No-Action Alternative would result in less than significant impacts to public health and safety. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Noise	Construction generated noise associated with Alternative 1 would be compliant with City of San Diego's noise ordinance, temporary, and generally consistent with the developed nature of the area; therefore, there would be no significant noise impacts. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 2, noise impacts would be similar to those described under Alternative 1, and no significant noise impacts would occur. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 3, noise impacts would be similar to those described under Alternative 1, and no significant noise impacts would occur. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under the No-Action Alternative, no construction activities would occur, and the existing noise environment would not change. Therefore, there would be no noise impacts. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.
Air Quality	Estimated emissions associated with Alternative 1 would be below the *de minimis* thresholds for CAA conformity; therefore, there would be no significant impacts to air quality. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Estimated emissions associated with Alternative 2 would be below the *de minimis* thresholds for CAA conformity; therefore, there would be no significant impacts to air quality. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Estimated emissions associated with Alternative 3 would be below the *de minimis* thresholds for CAA conformity; therefore, there would be no significant impacts to air quality. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under the No-Action Alternative, no construction activities would occur, and existing air quality would not be affected. Therefore, there would be no impacts to air quality from implementation of the No-Action Alternative. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Socioeconomics and Environmental Justice	Beneficial economic impacts would occur from construction with no significant impacts identified. There would be less than significant impacts on the environment and health of populations, related to noise and transportation. These impacts would not be high or adverse nor would they disproportionately affect minority or low-income populations. Therefore, there would be no impact to environmental justice. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 2, socioeconomic and environmental justice impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 3, socioeconomic and environmental justice impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Implementation of the No-Action Alternative would have no socioeconomic or environmental justice impacts. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Transportation and Circulation	The Proposed Action would not have any significant effect on peak hour commuting within and through the ROI because: (1) construction would be scheduled to avoid the peak hour and peak direction on Rosecrans Street to the extent feasible; (2) open trenches would be covered while construction is suspended, and (3); trenchless construction would be expedited to minimize construction duration. In addition, because the impacts are temporary, localized, and occur primarily during non-peak periods, the transportation and circulation impacts are less than significant.	Under Alternative 2, transportation and circulation impacts would be similar to those described under Alternative 1, and no significant impacts would occur.	Under Alternative 3, transportation and circulation impacts would be similar to those described under Alternative 1, and no significant impacts would occur.	Under the No-Action Alternative, no construction activities would occur, and existing traffic conditions would not change. Therefore, there would be no impact relative to transportation and circulation.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Transportation and Circulation (continued)	**Avoidance and Minimization Measures/ SCMs:** • Notify residents and businesses of upcoming road work and preclusion of access to their driveways. • Minimize the duration which access is precluded by adhering to the City of San Diego's standard maximum open trench length of 500 feet. • Construct in a manner, through phasing and construction techniques, to minimize the duration of closure of Nichols Street (east leg), Qualtrough Street (east leg), Tennyson Street, Udall Street, Voltaire Street, Whittier Street, and Yonge Street to the extent feasible. • Strategically phase construction to limit the number of cross-streets that will be closed and detour traffic traveling to/from or along side streets blocked by the construction trench to the next available side street. • Through the use of traffic control, modify existing roadway geometrics to best maintain vehicular and bicycle access and provide capacity during the construction period within the available roadway right-of-way.	**Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 2 would be the same as for Alternative 1.	**Avoidance and Minimization Measures/ SCMs:** • Alternative 3 would be designed to incorporate measures to avoid or minimize impacts to transportation and circulation during construction along the portion of the alignment located east of Pacific Highway. • Other avoidance and minimization measures/ SCMs for Alternative 3 would be the same as for Alternative 1.	**Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Transportation and Circulation (continued)	• For locations with temporary roadway closures or limitations on allowed turning movements during construction, sign detour routes to direct detoured traffic to collector or arterial streets to discourage cut-through traffic on residential streets. • Where the project crosses high volume roadways, use trenchless construction techniques to reduce or eliminate effects to the crossing roadway. • Where trenchless construction is required, the launch and receiving pits should be protected by temporary railing, and the construction activity should be expedited to complete this stage of construction as quickly as feasible. • Nighttime construction should be implemented in selected nonresidential areas to minimize construction duration, which would in turn reduce both traffic and economic effects. • Notify surrounding land uses of upcoming loss of on-street parking prior to beginning construction. • Provide guidance for bicyclists to maneuver around the construction zone through use of traffic control or detour routes.			

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Transportation and Circulation (continued)	• Coordinate with MTS prior to construction to identify changes to bus stops or bus routes. • Provide public notification of changes to bus stops or bus routes prior to construction. • During closure in place, locate pipeline access pits outside of major streets and high traffic areas to the extent possible.			
Utilities	The proposed replacement pipeline would not intersect any existing utility, and no temporary interruption of utility service would result from construction activities (i.e., installation of the replacement pipeline and removal of portions of the existing pipeline). Installation of the replacement pipeline would have no effect on access to existing utilities for the purposes of maintenance or repair. Therefore, there would be no significant impacts to utilities. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 2, utilities impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.	Under Alternative 3, utilities impacts would be similar to those described under Alternative 1, and no significant impacts would occur. **Avoidance and Minimization Measures/ SCMs:** Alternative 3 would be designed to avoid potential conflicts with existing utilities (i.e., avoidance of temporary utility service interruption and maintaining access to existing utilities for maintenance) along the portion of the proposed alignment located east of Pacific Highway and south of Friars Road.	Under the No-Action Alternative, the new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. Therefore, implementation of the No-Action Alternative would have no impact with respect to utilities. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Cultural Resources ***(not carried forward for detailed analysis)***	In the absence of known historic properties in most of the Alternatives' APE, but with the identified archaeological potential, assessing effect in conformance with Stipulation VIII of the NBPL PA here requires that Section 106 compliance be for a conditional finding of "no adverse effect" under 36 CFR 800.4(d)(1). As such, the demonstration of Section 106 compliance here is provisional, pending results of the monitoring to be conducted during the ground disturbance phase for any project alternatives (see below). **Avoidance and Minimization Measures/ SCMs:** • Under Stipulation IX.A of the NBPL PA, the Navy "will provide for archaeological monitoring of ground disturbing activities within areas of known or provisional archaeological sensitivity" for identifying the presence or absence of any sub-surface archaeological deposits of features during construction.	Impacts for Alternative 2 would be similar to those described for Alternative 1. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 2 would be the same as for Alternative 1.	Impacts for Alternative 3 would be similar to those described for Alternative 1. **Avoidance and Minimization Measures/ SCMs:** Avoidance and minimization measures/ SCMs for Alternative 3 would be the same as for Alternative 1.	No impacts to cultural resources would occur with implementation of the No-Action Alternative. **Avoidance and Minimization Measures/ SCMs:** No avoidance and minimization measures/ SCMs are proposed.

Table 2-1. Summary of Potential Impacts and Avoidance and Minimization Measures/Special Conservation Measures (SCMs)

Resource	Alternative 1	Alternative 2	Alternative 3	No-Action Alternative
Cultural Resources (continued)	• In accordance with the NBPL PA, the Pipeline Relocation Project would therefore be required to retain qualified contracted archaeological monitoring support to identify, and assist in quickly dealing with, any such features or deposits encountered during the excavation of trenches for relocating the pipeline and installing isolation valve stations. • The NBPL Cultural Resources Program Archaeologist would review and approve the project's choice for contracted archaeological monitoring support to ensure that the individuals involved meet the Secretary of the Interior's Professional Standards for qualified prehistoric and historic archaeologist. • In consultation with the NBPL Cultural Resources Program Archaeologist, the contracted archaeological consultant would, prior to construction monitoring, prepare a Monitoring and Discovery Plan that would lay out monitoring protocols, historic context, eligibility thresholds, and other required procedures for approval by the Navy.			

Notes: Best Management Practices (BMPs), Clean Air Act (CAA), Executive Order (EO), Regional Water Quality Control Board (RWQCB), Special Conservation Measures (SCMs).

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CHAPTER 3
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the existing environmental conditions within the project area between NBPL DFSP in the NBPL Complex (south end of the pipeline) and the first five miles of pipeline extending out into the City of San Diego, for resources potentially affected by implementation of the action alternatives discussed in Chapter 2. Information presented in this chapter represents baseline conditions and against which the potential impacts of Alternative 1, Alternative 2, Alternative 3, and the No-Action Alternative are evaluated.

In compliance with NEPA and CEQ regulations, and the Navy procedures for implementing NEPA, the description of the affected environment and environmental consequences focuses only on those resources potentially subject to impacts. In addition, the level of analysis presented in the EA is commensurate with the anticipated level of impact. Accordingly, the discussion of the affected environment (and associated environmental analyses) focuses on: geological resources, biological resources, water resources, hazardous materials and wastes, public health and safety/protection of children, noise, air quality, socioeconomics and environmental justice, transportation and circulation, and utilities. Conversely, the following resources were not carried forward for analysis in this EA, as potential impacts were considered to be negligible or non-existent:

Airspace. The action alternatives would include pipeline relocation and construction activities and would not affect airspace. Therefore, no impacts to airspace would occur. Similarly, under the No-Action Alternative no impacts to airspace would occur.

Land Use. The project area where the existing pipeline runs from NBPL to Lytton Street consists of the La Playa waterfront area, and the Bayside Trail. The Bayside Trail is designated as "Open Space" in the Unified Port of San Diego's Master Plan. This designation allows for and supports passive recreational uses. The current land use at and near the pipeline location is residential (the La Playa neighborhood) and recreational (along the Bayside Trail). At this location, the existing pipeline would either be closed in place (Alternatives 1 and 3) or portions of the pipeline removed (Alternative 2), and the area restored to its current land use condition (Alternatives 1, 2, and 3). This segment of the pipeline would be relocated underneath Rosecrans Street; the current land use surrounding Rosecrans Street is urban residential and commercial. No land use modifications would occur within this area with implementation of any of the action alternatives.

No land use modifications would occur within the area proposed for pipeline relocation to address geohazard 1 (San Diego River), since the project consists of closing the pipeline in place where the pipeline crosses the San Diego River and relocating the pipeline underneath existing road infrastructure. The current land uses in the area would remain unchanged. Similarly, the installation of valve stations to address geohazard 1 and geohazard 2 would not affect existing land uses and existing infrastructure. None of the action alternatives would change or modify

existing land uses within the project area; therefore, no significant impacts to land use would occur.

Under the No-Action Alternative, no pipeline relocation or construction activities would occur. There would be no changes to the existing land use. Therefore, no impacts to land use would occur.

Coastal Zone Management (CZMA Compliance). The Navy considered its effects as part of its determination of the action's effects for purposes of federal consistency review under the CZMA. This was done to factually determine whether the action alternatives would affect any coastal use or resource. The determination found that the action alternatives would: have no long-term effects on public access to coastal areas or boater recreation; have no long-term effects on biological productivity, water quality and sensitive biological species; not increase human health risk or environmental exposure to hazardous materials or hazardous wastes; not disturb archaeological sites or other cultural resources; not alter the visual character of the area; and not generate regionally significant air emissions. Therefore, the action alternatives would have no significant impact to coastal uses and resources. The Navy has prepared a CCND (refer to Appendix A) and has initiated a consultation with the CCC. The CCC concurred with the Navy's CCND and found the project to be consistent, to the maximum extent practicable, with the California Coastal Management Program (refer to Appendix A).

Under the No-Action Alternative, no pipeline relocation or construction activities would occur. There would be no changes to the existing coastal zone uses. Therefore, no impacts with respect to CZMA compliance would occur.

Aesthetics. The proposed pipeline relocation under Alternatives 1, 2, or 3 would not alter the visual character of the project area. As previously described, the project area consists of residential, recreational, commercial, and transportation infrastructure, all of which would remain essentially unchanged with implementation of the action alternatives. The new pipeline segments would be placed underground or along existing bridge infrastructure consistent with existing utility lines. The existing views of the San Diego Bay from the La Playa waterfront area and the Bayside Trail would also remain unchanged following relocation of the existing pipeline to Rosecrans Street. Since the visual character would not be altered, there would be no significant aesthetics impacts from implementation of Alternatives 1, 2, or 3.

Under the No-Action Alternative, no pipeline relocation or construction activities would occur. There would be no changes to the existing views of the project area. Therefore, there would be no significant aesthetics impacts from implementation of the No-Action Alternative.

Recreation. Within the project area, recreational activities occur along the Bayside Trail in the La Playa waterfront area. Because no other areas within the project footprint support recreational use, this discussion of Recreation impacts is focused only on the La Playa waterfront area and the Bayside Trail. Recreational use of the La Playa waterfront area and the Bayside Trail includes but is not limited to hiking, running, biking, dog walking, bird watching, sightseeing, fishing, swimming, kayaking, paddle boarding, and boating. Under the action alternatives, temporary closure of portions of the Bayside Trail may be required while the

pipeline is prepared for closure (defueling, cleaning, disposal of waste, and filling with concrete). Pits would be excavated approximately every 1,500 feet to expose the out of service pipeline, so that concrete can be pumped into the pipe. Those pits (approximately 4 square feet) would be backfilled and the finish surface restored to match existing conditions. Because public recreational access would be only temporarily limited and the portions of the Bayside Trail where disturbance would occur during pipeline closure (Alternatives 1 and 3) or pipeline removal (Alternative 2), would be restored to its current condition, no significant recreation impacts would occur with implementation of the action alternatives. As described in Section 2.3, under Alternative 2, portions of the pipeline would be removed and recreational access to the Bayside Trail would be temporarily limited or closed for a longer period than under Alternative 1 or Alternative 3 due to pipeline removal and shoreline restoration activities. However, impacts to recreation access to the Bayside Trail would still be temporary. In addition, following removal of portions of the pipeline (Alternative 2) along the La Playa waterfront area, the Navy would implement a Port of San Diego approved landscape and irrigation system design. This would entail installation of below-grade irrigation systems and planting of native and non-native species appropriate to the waterfront environment. Therefore, no significant impacts to recreation would occur with implementation of the Alternatives 1, 2, or 3.

Under the No-Action Alternative, no pipeline relocation or construction activities would occur. Recreational use of the Bayside Trail would not be affected. Therefore, there would be no impacts to recreational uses of the area from implementation of the No-Action Alternative.

Cultural Resources. For Alternatives 1, 2, and 3 analyzed in this EA, compliance with Section 106 of the National Historic Preservation Act (NHPA) and 36 CFR 800 has been previously accomplished under the Naval Base Point Loma Programmatic Agreement (NBPL PA) executed in May 2014 between the Commanding Officer NBPL, Advisory Council on Historic Preservation (ACHP) and the California State Historic Preservation Officer (CASHPO). The NBPL PA provides for Commander Navy Region Southwest (CNRSW) determinations of an undertaking's area of potential effect (APE), identification of potentially affected historic properties, and assessment of "no historic properties affected" and "no adverse effect" without the further consultations with CASHPO normally required under 36 CFR 800. The City of San Diego's Environmental Analysis Section in the Development Services Department earlier confirmed the use of the NBPL PA's authorities for demonstrating compliance with Section 106 for the majority of the project areas off federal land (Herrmann 2014).

Under Stipulation IV.C of the NBPL PA for compliance with 36 CFR 800.4(a)(1) and 36 CFR 800.16(d), the NBPL Cultural Resources Management Plan (CRMP) defines the APE for the collective alternatives as the discrete, linear project alignment, including lay down or staging areas and a 30-m buffer around each area of ground disturbance, within which the proposed project could directly or indirectly affect historic properties, including considerations of expected ground disturbance, potential visible and audible effects, and possible indirect effects. If any part of a known archaeological site falls within an APE, the entire documented site will be included in the APE. Accordingly, the project's APE is specifically defined as 60-meter-wide

corridors along the axis of the three proposed pipeline relocation segments and the portions of the existing pipeline within the Bayside Trail (also called as Bessemer Path) proposed for removal, and a 30 meter arc surrounding the five proposed isolation valve stations, as shown on Figures 2-1, 2-2a, 2-2b 2-2c and 2-3, and eventually those lay down or staging areas identified during the project design stage. The general vicinities of these collective Project Alternatives' segments and sub-areas do contain a few known archaeological deposits or features, and have some potential to harbor unidentified buried archaeological deposits. However, nearly all the existing Miramar pipeline alignment and the entirety of the realignments and installations proposed under Alternatives 1, 2, and 3, lie under developed street hardscape, so are inaccessible to systematic archaeological inventory prior to the trenching or other ground disturbance required to affect each alternative. These paved streets run through or near a number of neighborhoods important to the early history on Point Loma and San Diego, including La Playa, Roseville, and San Diego's Old Town.

The southern terminus and initial 1,000 feet of the pipeline segment proposed for relocation to address pipeline anomalies lies within the boundaries of NBPL. This segment and the next approximately 2,000 foot segment running north up Rosecrans Street transect a part of Point Loma's San Diego Bay shoreline that was the site of the originally mapped extent of the mid-19th-century town site plan for the historic community of La Playa (California State Historic Landmark No. 61). As variously mapped by Couts (1850) and others, the axis of the La Playa town site block plan was oriented to Magnetic North and roughly parallel to the bay shore. The shallow gradient terrain along During the Mexican Period (1820-1848) and well into the early American Period, this margin of the San Diego Bay to Ballast Point was the only stretch of northern Bay shoreline with beaches suitable for landing cargo to be hauled inshore to San Diego's Old Town. This was essentially the Port of San Diego, used by American and English ships in the hide trade for the storage and processing of cattle hides. This is where William Henry Dana landed at San Diego Bay during the 1830s and later wrote about in *Two Years Before the Mast*. During the Gold Rush, the small La Playa community became the port of entry for San Diego Bay, with hundreds of immigrants camped there on their way to the gold fields.

The military reservation lands south of the NBPL-City of San Diego boundary encumber approximately two thirds of this original La Playa town site plan and development of the overlying NBPL fuel storage facility through the early 20th century removed or compromised any potential for surviving historic deposits. CASHPO concurred (USN050110A) in this determination in conjunction with a 2005 consultation for the replacement of all the storage facility's tanks. North of the NBPL boundary, the rectangular street grid in the La Playa neighborhood still reflects the original, 1850 block plan.

Following on north from La Playa, the pipeline's relocation alignment and the existing pipeline's course along the Bayside Trail transect the neighborhood of the Roseville, the other oldest settled part of Point Loma. This area is named for its developer, Louis Rose, an early San Diego pioneer and entrepreneur. Rose bought the area in 1866, laid out streets, in 1870 built a wharf, which did good service as a separate city from San Diego, but this was eventually not sufficient to overcome the Horton's development of New Town San Diego and draw population

away (Smythe 1908). Roseville continued to function as a secondary port, with Portuguese fishermen and fishing boat owners settled in the area, and is still a focus of San Diego's large Portuguese community. Some refer to the area as "Tunaville" because of its association with the tuna-fishing fleet. Before the Portuguese, an immigrant Chinese fishing community had resided at Roseville and apparently constructed their junks there.

Beyond Roseville, the segment of pipeline for relocation to address pipeline anomalies would be adjacent to the existing pipeline's alignment north along Rosecrans Street to its intersection with Lytton Street and Barnett Blvd. Rosecrans Street here and along its course north to San Diego Old Town and back south to NBPL approximates the historic route of the Bayside Trail, the historic bayside route that connected Old Town San Diego and the settled inland areas with the commercial anchorage at La Playa. The trail was already established by the time the Spanish colonized in 1769; used by the aboriginal Kumeyaay Indians to access Point Loma and northern San Diego Bay. It was extended and improved in 1770s to reach Old Town and up Mission Valley to the Mission San Diego de Alcalá. The Bayside Trail remained the primary transportation route for imports and exports to San Diego's establishments in 1769 until the development in the 1870s of a better port at New Town, what is now Downtown San Diego. The southern portion of the trail retained its commercial character and role for access to the Point Loma Military Reservation, to become known as Rosecrans Boulevard, and now Rosecrans Street.

These street routes' associations with early-established transportation corridors can both accentuate and condition expectations for both historic and prehistoric buried archaeological deposits and features. This an especially important consideration for the potential of early historic features being buried within the narrow portion of the APE actually being directly affected by the trenching required to install the relocated pipeline. Essentially all the streetscapes affected by the different alternatives' ground disturbance have existed as streets or trails since the earliest historic-period residence and development on Point Loma. So there is a provisional expectation that historic-period deposits and features will be largely absent from within these long-term road alignments, where such evidence will be more likely to have accumulated along the margins of these transportation routes.

One known exception occurs under the section of Rosecrans Street in both directions from its intersection with Keats Street where both the existing pipeline and the pipeline relocation route turns west from Scott Street and then on Rosecrans. Based on a City of San Diego schematic for an earlier underground utilities project on Keats, there is a segment of railroad tracks buried immediately under Rosecrans Street pavement. Sources assessed it to be a spur line of a San Diego Electric Railways system. Referenced citations from The San Diego Union and Daily Bee indicate that this Rosecrans Street spur, which on a 1930 USGS maps is shown running to the boundary of then Fort Rosecrans Military Reservation, was constructed in 1907-08 (Smythe 1908; U.S. Geological Survey [USGS] 1930). Other available information suggests this spur line persisted until the late 1930s until Rosecrans was redeveloped as a "modern, 4-lane divided highway" (Scott 1940), which process apparently simply buried this segment rather than tearing it out.

Of course, such considerations do not easily apply to the potential for encountering previously unidentified prehistoric deposits. Even here, portions of Rosecrans Street where it runs adjacent to the former Naval Training Center were very early artificially straightened in conjunction with the 1923 establishment of Naval Training Center. The 1940 redevelopment this portion of Rosecrans then expanded it into a four-lane divided highway, with associated cutting into its rising terrain margins to the west and filling to the east. Similarly, the segment of the proposed relocation along Scott Street in the Roseville neighborhood has likely had its grade raised through filling to level with the bay filling associated with the development of Shelter Island. These kinds of improvements over time will have differentially removed or more deeply buried original landscape surfaces, correspondingly affecting the potential to encounter aboriginal deposits along some indeterminate portions of these alignments. These working assumptions do not preclude the need to monitor some improvements over others with more expected integrity in the underlying soil profile. The assumptions are designed to meet the required protocol to address anticipated anomalies in the buried stratigraphy that may either reduce or enhance the probability of buried cultural resources.

Similar issues also apply with geohazard Alternatives 1 and 2 involving two options for relocating the pipeline and the installation of four isolation valve stations near the San Diego River west and northwest of San Diego Old Town. Here objective concerns regarding the potential for buried historic or prehistoric deposits and features may be generally obviated by the geomorphological context of the locations for these various ground disturbing activities. Despite the proximity to the inherently historically significant San Diego Old Town area, the alternative locations for relocating the pipeline and for installation of isolation valve stations generally lie in fill that overlies the historic channel and active flood plain of the San Diego River. Early maps and photos show this zone as a principal channel of the rivers alternative drainage into San Diego Bay.

This location was a focus for the earliest attempts in the San Diego region to curbing the silting of the river that was affecting the navigability of San Diego Bay (Papageorge 1971). A U.S. Coast Survey report of 1851 warned that the bay may be destroyed by the silting action of the river. The proposed remedy for this was to turn the river permanently into False Bay (now Mission Bay), its alternative outlet to the sea. Lt. George Horatio Derby, of the U.S. Army Corps of Engineers, was sent to San Diego in 1853 to build what was to become known as Derby's Dike. Derby wanted to create a straight channel and levees for the river but he was ordered to deepen the old channel and build a levee from a point at the foot of the Presidio hill to the foot of Point Loma. Derby complained that the plan was not sound, and funds were insufficient, and indeed, the first wet season flow took out part of the dike, and heavy rains in 1855 sent the river back into San Diego Bay. Subsequent flood control efforts have now fully channelized the San Diego River so that it flows directly to the sea, avoiding both San Diego and Mission bays. This diking and filling also deeply filled the former river channel in front of Old Town, so it can be anticipated that the trenching through this zone will encounter this fill, absent of much potential for historic deposits. One of the required archaeological monitoring goals can be to identify any evidence for surviving remnants of Derby's Dike.

In a similar vein, there has been conjecture over time the Old Town and environs was the location of the ethnographic Kumeyaay village of Cosoy (also Kosoi or Kos'aay), who's inhabitant were among the first converted when the Spanish colonists and missionaries establish themselves on Presidio Hill in 1769 (Sampson 2009). Even if this was the case, the geomorphological factors discussed above make it unlikely that prehistoric deposits would be present. However, recent archaeological work further up Mission Valley near the west end of Hotel Circle suggests a large archaeological deposit there is the most likely candidate for the actual site for the village of Cosoy (La Rose 2009).

All this considered, the existence of some potential for buried historic or prehistoric deposits or features along most segments of the Project Alternatives would require the application of an archaeological monitoring protocol for the initial ground disturbing phases of all Alternatives. Under Stipulation IX.A of the NBPL PA, the Navy "will provide for archaeological monitoring of ground disturbing activities within areas of known or provisional archaeological sensitivity" for identifying the presence or absence of any sub-surface archaeological deposits of features during construction.

In accordance with the NBPL PA, the Pipeline Relocation Project would therefore be required to retain qualified contracted archaeological monitoring support to identify, and assist in quickly dealing with, any such features or deposits encountered during the excavation of trenches for relocating the pipeline and installing isolation valve stations. The NBPL Cultural Resources Program Archaeologist would review and approve the project's choice for contracted archaeological monitoring support to ensure that the individuals involved meet the Secretary of the Interior's Professional Standards for qualified prehistoric and historic archaeologist. In consultation with the NBPL Cultural Resources Program Archaeologist, the contracted archaeological consultant would, prior to construction monitoring, prepare a Monitoring and Discovery Plan that would lay out monitoring protocols, historic context, eligibility thresholds, and other required procedures for approval by the Navy.

In the absence of known historic properties in most of the Alternatives' APE, but with the identified archaeological potential, assessing effect in conformance with Stipulation VIII of the NBPL PA here requires that Section 106 compliance be for a conditional finding of "no adverse effect" under 36 CFR 800.4(d)(1). As such, the demonstration of Section 106 compliance here is provisional, pending results of the monitoring to be conducted during the ground disturbance phase for any project alternatives.

If no historic-period deposits or features are identified during monitoring, or if those observed do not possess content or integrity sufficient to recommend their National Register of Historic Places eligibility, then the effects assessment under Stipulation VIII would be "no historic properties affected". If eligible deposits or features are found, but the project work would not adversely affect these, then the current "no adverse effect" would stand and the EA could remain unchanged.

However, if newly-identified deposits or features are found eligible and would be adversely affected by project activities, then the project work affecting the deposits or features would stop for a period sufficient to provide for an expedited consultation to define resolution of the

adverse effect, in accordance with 36 CFR 800.6, with this EA then amended to reflect this change. This would require execution of a Memorandum of Agreement with the CASHPO, and possibly the Advisory Council on Historic Preservation, stipulating actions required for resolving the adverse effect, which would then still support this EA's finding of no significant impact (FONSI) to cultural resources. Project work would continue following completion of the stipulated actions.

Under the No-Action Alternative, no pipeline relocation or construction activities would occur. Therefore, implementation of the No-Action Alternative would not have a significant impact to cultural resources.

3.1 GEOLOGICAL RESOURCES

3.1.1 Definition of Resource

Geological resources include the topography, geology, and soils of a given area. Topography is typically described with respect to the elevation, slope, aspect, and surface features found within a given area. Long-term geological, seismic, erosional, and depositional processes typically influence the topographic relief of an area. The geology of an area includes the geologic formations and geologic hazards of an area. The principal geologic factors influencing the stability of structures are soil stability and seismic properties. Soil refers to unconsolidated earthen materials overlying bedrock or other parent material. Geologic hazards are types of adverse geologic conditions capable of causing damage or loss of property and life. This includes adverse results of seismic activity such as earthquakes or liquefaction. In very general terms, liquefaction is the conversion of soil into a fluid like mass during an earthquake.

3.1.2 Regulatory Framework

Public health and safety in regards to earthquake-related hazards are addressed by the Alquist-Priolo Earthquake Fault Zoning Act (California Public Resource Code §§ 2621-2630 1972 amended 1994) and State Seismic Hazards Mapping Act (California Public Resource Code §§ 2690-2699 1990); and the California Building Code (California Seismic Safety Commission 2005). The State Seismic Hazards Mapping Act addresses other earthquake-related hazards, including liquefaction and seismically induced landslides. The State Geologist is in the process of providing a complete set of statewide seismic hazard maps that identify areas susceptible to strong ground shaking, landslides, and/or liquefaction, or other ground failure and seismic hazards caused by earthquakes. Through a national program, the United States is divided into four seismic hazard zones (Zones 1 through 4) based on the likelihood of strong ground shaking. The National Seismic Zone Map is published by the International Code Council in the California Building Code (California Seismic Safety Commission 2005). Construction plans are reviewed for conformance with provisions of the Alquist-Priolo Act, the State Seismic Hazards Mapping Act, and the California Building Code.

3.1.3 Affected Environment

The region of influence (ROI) for geological resources is the proposed project area. This includes the existing pipeline alignment along the La Playa waterfront area and the proposed new Scott Street-Rosecrans Street segment (Figure 2-2a); the existing alignment from Kurtz Street

northward crossing under the San Diego River, and the new Rosecrans Street-Pacific Highway Bridge segment (Figure 2-2b); the locations of the two proposed valve stations on the existing pipeline to address geohazard 2 (Figure 2-2c); and the proposed Alternative 3 alignment along Rosecrans Street to the Santa Fe Railroad Bridge (Figure 2-3).

3.1.3.1 Existing Conditions

Topography

The ROI is in urban areas and along existing roadways where topography has been highly modified. There are some areas of relief adjacent to the project area in La Playa waterfront area but the roadways in the project corridor are relatively flat to gently sloping. The project area along the sandy beach at La Playa is inside San Diego Bay. The beach has topography typical of beaches in the North eco-region of the Bay and consists of 20:1 slopes with the upper end terminating in a head cut (Navy 2009a). Elevations range from approximately 0 to 30 feet in the area of geohazard 1; 20 to 40 feet in the area of geohazard 2; and 0 to 40 feet in the project area in La Playa waterfront area (U.S. Geological Society [USGS] 2012a, b).

Geology

The following descriptions are from the *Geologic Map of San Diego County* (Kennedy and Tan 2008). The area of pipeline relocation in the La Playa waterfront area is underlain by the Cabrillo Formation and old paralic deposits. The Cabrillo Formation consists of mostly massive medium-grained sandstone. Old paralic deposits consist of poorly sorted, moderately permeable, reddish-brown, interfingered strandline, beach, estuarine and colluvial deposits composed of siltstone, sandstone, and conglomerate.

The area of geohazard 1 is underlain by artificial fill and young alluvial flood-plain deposits at the San Diego River crossing. Artificial fill consists of materials backfilled from human construction, mining, or quarrying activities. Young alluvial flood-plain deposits consist of poorly consolidated, poorly sorted, permeable flood-plain deposits of sandy, silty or clay-bearing alluvium, naturally deposited by rivers and streams. The area of geohazard 2 is underlain by young alluvial flood-plain deposits, as described above.

The geologic hazards in the project area include several faults, as shown in Figure 3.1-1. As discussed in Section 1.3.4, a geohazard assessment of the pipeline was performed (Navy 2008a) and two sections of pipeline were identified as requiring modifications to address these geohazards.

The area identified as geohazard 1 in Figure 3.1-1 was identified as the most vulnerable section of the Miramar Pipeline (Navy 2011a). The concerns associated with the 1,000-foot section of pipeline that runs below the San Diego River include liquefaction and lateral spread of the soil surrounding the pipe. Lateral spreading is a form of liquefaction that results in the horizontal movement of the soil due to a slightly sloped ground surface or the presence of a nearby river bank. Based on a magnitude 6.9 earthquake and a 475 year return period peak horizontal ground acceleration, this section of the pipeline has the potential to be subjected to 5 to 15 feet of soil displacement and it is expected that this would result in a loss of pipeline integrity

(Navy 2008a). The 475 year return period event equates to a 10 percent probability of exceeding the event in 50 years and is the most common standard used to assess seismic risk, and it is also the basis for many building codes for seismic design. It is estimated that the existing pipe is capable of 3.3 feet of movement in this area (Navy 2008a).

The pipeline in the area identified as geohazard 2 in Figure 3.1-1 crosses the Rose Canyon Fault Zone east of Mission Bay and is intersected by three inferred fault traces (the Mission Bay Fault, the Rose Canyon Fault, and the Old Town Fault). It is estimated that the Mission Bay Fault, the Rose Canyon Fault, and the Old Town Fault are all capable of producing an earthquake of moment magnitude 6.9. An earthquake of this magnitude could produce a horizontal surface rupture or offset in excess of 6 feet (Navy 2008a).

Soils

The soils in the project area are either previously disturbed urban soils or the Mariana loamy coarse sand and Reiff fine sandy loam (U.S. Department of Agriculture Natural Resources Conservation Service [USDA NRCS] 2014). Both the Mariana loamy coarse sand and Reiff fine sandy loam have low shrink-swell potential and severe erodibility (Bowman 1973). Erosion along the beach at La Playa is typical in this setting and is the result of Santa Ana, winter storms, and vessel wake (Navy 2009a). There is also erosion of soils in this area due to irrigation.

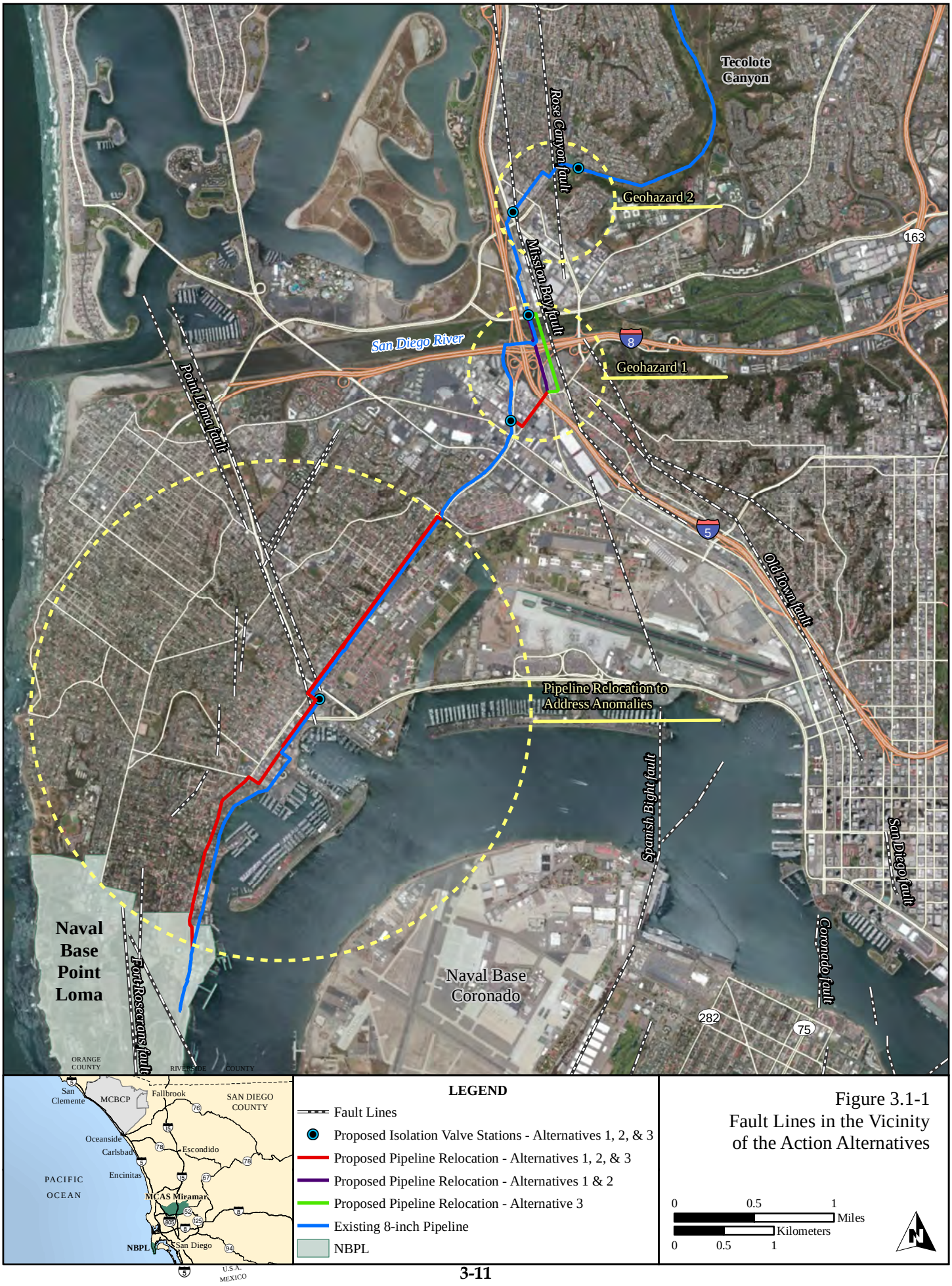

Figure 3.1-1
Fault Lines in the Vicinity of the Action Alternatives

3.1.4 Environmental Consequences

3.1.4.1 Approach to Analysis

The analysis of potential impacts to geology and soils considers both direct and indirect impacts. Direct impacts result from topographic alterations or physical soil disturbances, while indirect impacts include risks to individuals from geologic hazards, as well as impacts to water and biological resources away from the construction/operation site. Quantitative thresholds for impact assessment are not available for most components of geological resources analysis. Therefore, the significance of potential project impacts was evaluated subjectively based on the degree of project-induced change in a particular factor relative to existing conditions, as well as by regulatory standards, where applicable.

3.1.4.2 Alternative 1

Construction

Open-cut trenching would be performed, except at major highway and roadway crossings where trenchless technology would be used (NAVFAC SW 2014). Open-cut trenching generally includes saw-cutting and removing pavement, excavating, and backfilling with suitable trench backfill material (NAVFAC SW 2014). The existing pipeline runs within the City of San Diego right-of-way along the southern side of Rosecrans Street. The new Rosecrans segment would be placed in the City of San Diego right-of-way on the northern side of Rosecrans Street, approximately 80 feet away from the existing pipeline (NAVFAC SW 2014).

The pipeline would be buried at depths as required by 49 CFR 195.248, *Cover Over Buried Pipeline*. The pipeline depth would also comply with City of San Diego design guidelines for minimal burial depths for utilities. Petroleum lines are required to cross below waterlines and have a minimum of 12 inches of vertical separation and 10 feet horizontal separation. The City has also requested that the pipeline pass below the public drainage systems and be where possible a minimum of 5 feet from the curb, gutter, and existing storm drain system. In most cases, the pipeline excavation would pass below other existing underground utilities in the proposed pipeline corridor, such as the San Diego Gas and Electric (SDG&E) natural gas transmission line and primary electric line, Cox Communication and Warner Cable television lines, and American Telegraph and Telephone (AT&T) lines (NAVFAC SW 2014; Enterprise Engineering Inc. 2014a).

At the end of each workday, trench areas would be trench-plated or backfilled such that the excavation may be driven on by vehicular traffic. As per the San Diego Municipal Code, permanent pavement would be restored within 7 days where there are more than two travel lanes and within 30 days where there are two or fewer lanes of travel (City of San Diego 2008b). Upon completion of the new pipeline sections, pavement surfaces would be restored by placing new base course and pavement, or full depth bituminous pavement in accordance with the City of San Diego Standard Specifications and Drawings for Public Works Construction (NAVFAC SW 2014).

Topography

As discussed above, the majority of the earthwork required for Alternative 1 would consist of excavating below ground to lay pipelines. Most of the excavation would be along existing roadways where topography has already been altered and slope is gentle to facilitate vehicle traffic. The installation of valve stations would also require excavation and occur on relatively level ground. Following construction, topography would be returned to preexisting elevations and there would be no substantial alteration to existing topography. Therefore, construction of Alternative 1 would not result in significant impacts to topography.

Geology

The excavation associated with installation of pipeline and valves would occur in previously disturbed areas and would not substantially alter the underlying geologic formations. The types of construction activities proposed (below-grade excavation, trenching to depths of less than 16 feet below the surface backfilling, grading, installation of valves, and repaving) are not of the type that would potentially make the ROI more sensitive to the effects of seismic activity (i.e., blasting or large-scale slope modification). Therefore, construction of Alternative 1 would not result in significant impacts to geology.

Soils

Construction activities such as excavation and trenching would directly impact soils. Soils would be temporarily removed and stockpiled during excavation associated with installation of the new pipeline and valves. As described in Section 3.4.4.2, *Hazardous Materials and Wastes-Construction*, continuous monitoring for evidence of petroleum-contaminated soil would be conducted during trenching activities (NAVFAC SW 2014). The construction plans and specifications would outline requirements and protocols for sampling and analysis if contaminated soils are encountered. There would also be requirements for removal and proper disposal of contaminated soil. Monitoring and sampling would confirm the extent of contamination within the trench excavation, all contaminated soil in the trench would be removed, and the excavation would be backfilled with clean soil.

While exposed during construction, impacts to soils (i.e., erosion and sedimentation) would be minimized through compliance with the Construction General Permit (see Section 3.3, *Water Resources*) and implementation of an Erosion Control Plan. As part of the Construction General Permit, a Stormwater Pollution Prevention Plan (SWPPP) would be implemented along with associated erosion control measures and BMPs for proposed construction activities. Once implemented, these control measures and BMPs would be monitored and maintained to ensure their effectiveness.

With implementation of BMPs, compliance with established plans and policies, and incorporation of standard erosion control measures into project design and construction, erosion and sedimentation would be minimized. Following installation, clean soils would be returned to trenches and compacted and the area would be repaved, to minimize post-construction erosion. Therefore, construction of Alternative 1 would not result in significant impacts to soils.

Operation

Topography

During operations, no alterations of surface topography would take place. Therefore, operation of Alternative 1 would not result in significant impacts to topography.

Geology

During operations, no alterations of geology would take place. Through addressing the geological hazard concerns at geohazards 1 and 2, the pipeline would be operated with a reduced risk due to pipeline damage caused by seismic activity. The installation of remotely activated isolation valves would allow for the emergency shutdown of the pipeline and limit the amount of potential fuel spill. In addition, the relocation of the pipeline out of the San Diego riverbed would reduce the risk of pipeline rupture due to liquefaction in the event of an earthquake. Therefore, operation of Alternative 1 would not result in significant impacts to geology and would result in beneficial impacts associated with geological hazards.

Soils

During operations, no disturbance of soils would take place. Therefore, operation of Alternative 1 would not result in significant impacts to soils.

3.1.4.3 Alternative 2

Construction

The pipeline corridor and valve locations and associated construction activities for Alternative 2 would be the same as those described for Alternative 1. The difference under Alternative 2 is that the portions of the existing pipeline along the La Playa waterfront area from McCall Street to Talbot Street would be removed. Construction activities for Alternative 2 would comply with the same regulations and engineering requirements and use all the same erosion control measures and BMPs as described for Alternative 1.

The removal of the existing pipeline along the La Playa waterfront area from McCall Street to Talbot Street would have potential to impact topography and soils. However, once the existing pipeline has been removed, the area would be backfilled with clean native material from the trench excavation or clean soil as described in Section 3.1.4.2, and the ground surface would be restored to maintain the original pathway condition. Disturbed areas beyond the footpath would be stabilized through revegetation with non-invasive, native plant species. Where the trench excavation disturbs the waterfront bank, it would be restored to its original/pre-disturbed shoreline/bank condition, utilizing a biodegradable jute mesh fabric or similar erosion control blanket to prevent bank erosion until the new plant materials have been re-established. This would act to protect soils and maintain topography of the restored area.

The approach to restoring the La Playa waterfront area described above would actually benefit coastal zone management by restoring the shoreline to its original condition and minimizing and possibly preventing further erosion. Therefore, construction of Alternative 2 would not result in significant impacts to geological resources.

Operation

Operation of the pipeline under Alternative 2 would be the same as described under Alternative 1. Therefore, operation of Alternative 2 would not result in significant impacts to topography, geology, or soils and would result in beneficial impacts associated with geological hazards.

3.1.4.4 Alternative 3

Construction

Alternative 3 would consist of the same project components as described under Alternative 1, with the exception that to address geohazard 1 under Alternative 3, the pipeline would be suspended from the Santa Fe Railroad Bridge over the San Diego River and have a slightly different route, as shown in Figures 2.3 and 3.1-1. The topography, geology, and soils along the different pipeline route are similar, and the same construction techniques would be used, as described for Alternative 1. Alternative 3 would also comply with the same regulations and engineering requirements and use all the same erosion control measures and BMPs, as described for Alternative 1. Therefore, construction of Alternative 3 would not result in significant impacts to geological resources.

Operation

Operation of the pipeline under Alternative 3 would be the same as described under Alternative 1. The different pipeline relocation route out of the San Diego riverbed would have the same reduced risk of pipeline rupture due to liquefaction in the event of an earthquake. Therefore, operation of Alternative 3 would not result in significant impacts to topography, geology, or soils and would result in beneficial impacts associated with geological hazards.

3.1.4.5 No-Action Alternative

Under the No-Action Alternative, the proposed new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. The pipeline in area of geohazards 1 and 2 would continue to be vulnerable to failure during a major seismic event, as described in Section 1.3.4. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, the No-Action Alternative would result in less than significant impacts associated with geologic hazards.

3.2 BIOLOGICAL RESOURCES

3.2.1 Definition of Resource

Biological resources include native and naturalized (i.e., non-native species that have become established) plants and animals and the habitats in which they occur in areas that may be affected by the proposed project. The vast majority of the La Playa and geohazard 1 project areas, and the entirety of the geohazard 2 project area, are fully developed or landscaped for residential or commercial purposes. This analysis focuses on species or habitats that are important to ecosystem function; are recognized as rare, threatened, or endangered by federal,

state, or local agencies; or are legally protected. As such, the discussion focuses on the two portions of the project area that are not fully developed: the La Playa waterfront area and the San Diego River. For purposes of this EA, biological resources are divided into three categories: vegetation communities and aquatic habitats, wildlife, and threatened and endangered species.

3.2.2 Regulatory Framework

Natural resources are protected by a variety of laws, regulations, Executive Orders (EOs), and policies, including but not limited to the following:

- CWA, 33 USC §§ 1251-1387. Under Section 404 of the CWA, the USACE has jurisdiction over waters of the U.S., including jurisdictional wetlands, and has the authority to issue permits for the discharge of dredged or fill material into waters of the U.S.
- CZMA, 16 CFR §§ 1451-1466. The CZMA is described at the beginning of this chapter as it relates to the proposed project.
- Endangered Species Act (ESA), 16 USC §§ 1531-1599. The federal ESA protects federally threatened and endangered plant and animal species and their associated designated critical habitat.
- EO 11990 – *Protection of Wetlands*.
- EO 13112 – *Invasive Species*.
- EO 13186 – *Responsibilities of Federal Agencies to Protect Migratory Birds*.
- Migratory Bird Treaty Act (MBTA), 16 USC §§ 703-712.
- Section 10 of the Rivers and Harbors Act, 33 USC § 403, requires authorization from the USACE for the construction of any structure in or over any water of the U.S. that is deemed to be navigable. Navigable waters of the U.S. are those subject to the ebb and flow of the tide shoreward to the mean high water mark and/or presently used, or have been used in the past, or are susceptible for use to transport interstate or foreign commerce. The term includes coastal and inland waters, lakes, rivers and streams that are navigable, and the territorial seas.
- Sikes Improvement Act, 16 USC §§ 670-670f, which requires the development of Integrated Natural Resources Management Plans for regulated natural resources on military installations.

3.2.3 Affected Environment

Information provided in this section is based primarily on biological surveys of the fuel pipeline from NBPL to MCAS Miramar conducted in 2010 and 2011 (Navy 2011d), bat surveys performed in 2014 (ECORP 2014), and other sources (as cited). The 2010 and 2011 surveys assessed vegetation, wetlands, and wildlife within 50 feet of the existing pipeline. The 2014 bat surveys assessed bat habitat and use of the Pacific Highway Bridge and the Santa Fe Railroad Bridge that span the San Diego River. Appendix C provides the relevant maps from biological surveys as well as the bat survey report.

3.2.3.1 Vegetation Communities and Aquatic Habitats

Vegetation was mapped and classified according to the Manual of California Vegetation, Second Edition (Sawyer et al. 2009), based on dominant and/or characteristic species. Map 2-5

in Appendix C shows vegetation communities found at the La Playa waterfront area, which include two vegetation communities. One community is dominated by a native species (salt grass [*Distichlis spicata*]); the other community is dominated by a non-native species, (ice plant [*Carpobrotus edulis*]). A local resident reported a second occurrence of salt grass near the northern end of the Bayside Trail (refer to Comment BN-2 in Appendix B of this EA). Landscaping is also present, as are two planted Torrey pines (*Pinus torreyana* ssp. t*orreyana*). Insets C and D of Map 3-10 in Appendix C shows the jurisdictional wetland and non-wetland waters of the U.S.: salt marsh, intertidal riprap, sandy beach, mudflat/salt marsh complex, and marine open water (i.e., San Diego Bay). Figure 3.2-1 provides views from the La Playa waterfront area.

Map 2-4 in Appendix C shows vegetation communities found at or near the San Diego River. Native vegetation communities include cattail (*Typha domingensis*), mulefat (*Baccharis salicifolia*), sandbar willow (*Salix exigua*), and arroyo willow (*Salix lasiolepis*). Non-native vegetation communities include annual brome, crown daisy (*Chrysanthemum coronarium*), and giant reed (*Arundo donax*). Landscaping and a restoration area are also present. Inset B of Map 3-10 in Appendix C shows the two types of jurisdictional waters of the U.S.: riparian and open channel (i.e., the San Diego River). Figure 3.2-1 also provides views from the San Diego River Channel.

Rare plant species that could occur within the project area were considered prior to commencing the 2010-2011 surveys. The La Playa waterfront area contains about 3.2 acres (1.3 hectares) of potential habitat for a small number of special status plant species such as southwestern spiny rush (*Juncus acutus* ssp. *Leopoldia*, California Native Plant Socity [CNPS] rank 4.2), Nuttall's lotus (*Acmispon prostratus*, CNPS rank 1B.1), estuary seablite (*Suaeda esteroa*, CNPS rank 1B.2), and woolly seablite (*Suaeda taxifolia,* CNPS rank 4.2). Rare plants that could occur in the San Diego River area include Brand's star phacelia *(Phacelia stellaris*, CNPS rank 1B.1) and variegated dudleya *(Dudleya variegata*, CNPS rank 1B.2) (Navy 2011d, CNPS 2014). Survey results indicated that only estuary seablite and woolly seablite, found along the La Playa waterfront area, occur within the proposed project area (Navy 2011d).

Figure 3.2-1. Views from the San Diego Bay Shoreline (Top Left and Top Right) and the San Diego River Channel (Bottom)
Source: Navy 2011d

3.2.3.2 Wildlife

La Playa Waterfront

The La Playa waterfront area is located in northwestern San Diego Bay and includes man-made structures, nearshore habitat, and adjacent open water habitat. A total of 30 bird species were observed in the La Playa waterfront area during the 2010-2011 surveys. Observed species that commonly occur in urban development in the San Diego region include Anna's hummingbirds (*Calypte anna*), house sparrows (*Passer domesticus*), American crows (*Corvus brachyrhynchos*), black phoebes (*Sayornis nigricans*), and mourning doves (*Zenaida macroura*) (Navy 2011d).

San Diego Bay is part of a major bird migratory pathway, known as the Pacific Flyway, and supports large populations of over-wintering birds traveling between northern breeding grounds and southern wintering sites. More than 300 migratory and resident bird species have been

documented to use San Diego Bay, including shore birds, gulls, marsh birds, and other waterfowl (NAVFAC SW and Port of San Diego 2013).

Bird abundance in the project area is relatively low due to the past stabilization and modification of the shoreline combined with the high number of people and dogs that use a walking path that runs through the area (Navy 2011d). Bird abundance and species richness along the shoreline in or adjacent to the project area ranges from 1-20 birds per hectare (0.4-8.1 per acre) per month and 1-25 unique species per survey cell, respectively. Bird abundance and species richness in adjacent open-water areas ranges from 1-5 birds per hectare (0.4-3.2 per hectare) per month and 1-10 bird species per survey cell, respectively (NAVFAC SW and Port of San Diego 2013).

Common bird species observed along the shoreline or in the water during the 2010-2011 surveys include bufflehead (*Bucephala albeola*), Clark's grebe (*Aechmophorus clarkii*), eared grebe (*Podiceps nigricollis*), elegant tern (*Sterna elegans*), great blue heron (*Ardea herodias*), mallard (*Anas platyrhynchos*), osprey (*Pandion haliaetus carolinensis*), and western gull (*Larus occidentalis*) (Navy 2011d). Other common waterfowl and seabird species in the bay include surf scoter (*Melanitta perspicillata*), scaup species, California brown pelican (*Pelecanus occidentalis californicus*), Heermann's gull (*Larus heermanni*), double-crested cormorant (*Phalacrocorax auritus*), Forster's tern (*Sterna forsteri*), and California least tern (*Sternula antillarum browni*) (NAVFAC SW and Port of San Diego 2013; Tierra Data, Inc. 2011). A local resident provided a list of additional bird species observed along the Bayside Trail (refer to Comment BN-1 in Appendix B of this EA).

Federal or state bird species of concern with the potential to occur in or adjacent to the project area include the double-crested cormorant, harlequin duck (*Histrionicus histrionicus*), California gull (*Larus californicus californicus*), common loon (*Gavia immer*), American merlin (*Falco columbiarus columbiarus*), osprey, California brown pelican, black oystercatcher (*Haematopus bachmani*), elegant tern, great blue heron, black-crowned night heron (*Nycticorax nycticorax*), American peregrine falcon (*Falco peregrinus anatum*), and Forster's tern. Most of these species are considered sensitive only where breeding or nesting occurs, and there are no breeding seabirds in the project area. These birds use intertidal flats, shallow water habitat, or man-made structures for breeding or resting, similar to areas adjacent to the project area. However, the San Diego Bay National Wildlife Refuge, located at the southeast end of the bay, contains the greatest amount of intertidal mud flats and is well removed from the project area (NAVFAC SW and Port of San Diego 2013).

<u>San Diego River</u>

The San Diego River provides important habitat for a variety of wildlife, and the portion of the pipeline that crosses the San Diego River is in the San Diego Multiple Species Conservation Program Multi-Habitat Planning Area. Amphibian and reptile species found in the river include Bullfrogs (*Rana catesbeiana*), African clawed frogs (*Xenopus laevis*), western toads (*Bufo boreas*), Pacific treefrogs (*Pseudacris regilla*), two-striped garter snakes (*Thamnophis hammondii*), and Southwestern pond turtles (*Clemmys marmorata pallida*). Southwestern pond turtles are a California Species of Special Concern, are protected under the San Diego Multiple Species

Conservation Program, and were the only reptile detected in the area during the 2010-2011 surveys (Navy 2011d).

Avian species found in this area include the urban species mentioned previously as well as species that utilize riparian and wetland areas. During the 2010-2011 surveys, 20 bird species were observed at the Pacific Highway, including mallards (*Anas platyrhychos*) and snowy egrets (*Egretta thula*) foraging in the river, abundant song sparrows (*Melospiza melodia*) in the thick riparian vegetation, and bushtits (*Psaltriparus minimus*) in the upland vegetation.

Surveys for potential bat habitat and occurrence at the Pacific Highway Bridge and the Santa Fe Railroad Bridge were performed in June 2014. Survey results indicate both bridges contain habitat suitable for bat use, but that bats do not occur at either bridge (ECORP 2014, see Appendix C).

3.2.3.3 Threatened and Endangered Species

Five federally or state threatened or endangered species are known to occur along the lower San Diego River or the La Playa waterfront. Their potential occurrence in areas affected by the project is summarized in Table 3.2-1 and discussed in detail below. There is no designated critical habitat for these species in the project area.

Least Bell's Vireo

The federally endangered least Bell's vireo is a riparian species occurring primarily along watercourses where vegetation is dense and structurally complex. The former range of the least Bell's vireo included most of the Central Valley and southern coastal areas of California, as well as northern Baja, Mexico. Listed as endangered in 1986 (51 Federal Register [FR] 16474-16482), the species is currently restricted to the southern extent of this range due to habitat modification (United States Fish and Wildlife Service [USFWS] 2009).

The least Bell's vireo nests in areas with dense vegetation approximately 3 feet above the ground in many forest types, including willow, cottonwood, oak woodlands, and mulefat scrub. They are often found in early successional habitat in riparian areas. The least Bell's vireo will also use areas outside of the riparian zone, particularly for foraging and in dispersal late in the breeding season (USFWS 1998, Lynn and Kus 2010).

Habitat for the least Bell's vireo is present along the margins of the San Diego River project area, but none were detected during the 2010-2011 surveys (Navy 2011d). As shown on Figure 3.2-2, the nearest documented least Bell's vireo occurrence is approximately 0.8 mile upstream from (i.e., to the east of) the San Diego River crossing (California Natural Diversity Database [CNDDB] 2014). As such, least Bell's vireos could occur seasonally within the immediate vicinity of the proposed San Diego River crossing.

Southwestern Willow Flycatcher

The federally endangered southwestern willow flycatcher was listed in 1995 (60 FR 10695-10715). Similar to the least Bell's vireo, they occur in riparian habitat. Within the U.S., the breeding range of the southwestern willow flycatcher is limited to disjunct breeding sites

primarily occurring in southern California, southern Nevada, New Mexico, and Arizona, with small populations persisting in extreme southern Utah and Colorado.

Table 3.2-1. Federally Threatened and Endangered Species Known from the San Diego River and/or La Playa Waterfront

Species	*Status*	*Habitat*	*Potential Occurrence in the Project Area*
Least Bell's vireo (*Vireo bellii pusillus*)	Endangered	Willow dominated riparian; some nesting occurs in upland scrub adjacent to streams	San Diego River. Habitat is only available along the margins of the San Diego River. No least Bell's vireos were detected during the 2010-2011 surveys (Navy 2011d), although vireos are known to occur upstream from the proposed San Diego River crossing. Least Bell's vireos could occur seasonally within the immediate vicinity of the project area.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	Willow dominated riparian	San Diego River. The nearest occurrence is from 14 miles to the east. Due to the degraded habitat found at the river crossing, there is little to no potential for southwestern willow flycatchers to occur in the project area.
Light-footed Clapper Rail (*Rallus longirostris levipes*)	Endangered	Salt marsh	San Diego River. Occurs downstream from the San Diego River crossing. The section of the river traversed by the pipeline route is dominated by freshwater riparian species that are not subject to tidal influences, and there is no potential for light-footed clapper rails to occur in the immediate vicinity of the river crossing (Navy 2011d).
California gnatcatcher (*Polioptila californica californica*)	Threatened	Sage scrub, particularly sage brush and/or buckwheat	Habitat does not occur in any project area. The nearest occurrence is from nearly one mile to the northeast of the proposed geohazard 2 eastern shutoff valve, in Tecolote Canyon. Does not occur in any project area.
California least tern (*Sterna antillarum browni*)	Endangered	Bays, estuaries, lagoons, shoreline, river mouths, sandy unvegetated strips. Spring-summer breeding resident.	La Playa waterfront area. Locally common spring-summer resident, feeding in bay and ocean waters. Nesting colonies occur around San Diego Bay. The nearest foraging areas are in San Diego Bay, 0.4 mile south and east of the proposed La Playa pipeline relocation area. Expected to occur seasonally in San Diego Bay waters and shores adjacent to the La Playa project area.

Notes: Endangered = Listed as endangered under the federal Ecological Society of America (ESA). Threatened = Listed as threatened under the federal ESA.

Figure 3.2-2
Rare Plants and Wildlife within 1 Mile of the Proposed Project

Sources: NAVFAC Southwest 2004; Navy 2011; CNDDB 2014

Southwestern willow flycatchers are riparian obligates. Breeding sites are typically characterized by dense, patchy riparian vegetation within or adjacent to surface water or saturated soil. Vegetation structure has been shown to be an important factor in breeding site choice. Occupied sites are generally composed of dense tree or shrub cover that is at least 10 feet (3 meters) tall. High twig density and high levels of green foliage are also important components. Patches with tall canopies tend to include dense mid-story vegetation (Sogge and Marshall 2000; USFWS 2002; Sogge et al 2010). Southern California breeding habitat is often characterized by a defined overstory of cottonwood or willow, with distinct subcanopy layers, and a dense understory of mixed riparian species, including exotics. At some breeding sites in California, riparian oaks replace cottonwood and willow as the dominant overstory species (Kus and Sogge 2003). However, southwestern willow flycatchers show a high level of habitat adaptability as demonstrated by a large variability in dominant plant species, canopy height, and size and shape of vegetation patches (USFWS 2002).

The only project area where southwestern willow flycatchers might occur is the San Diego River. No southwestern willow flycatchers were observed during the 2010-2011 surveys, nor have they ever been recorded in the vicinity; the nearest known occurrence is from 14 miles to the east (Navy 2011d, CNDDB 2014). Furthermore, habitat at the San Diego River project area is of poor quality relative to the species' requirements (Navy 2011d). Therefore, there is no potential for southwestern willow flycatchers to occur in the project area.

Light-footed Clapper Rail

The federally endangered light-footed clapper rail is endemic to salt marshes and is known to occur 0.5 mile downstream from the San Diego River proposed project location, as shown on Figure 3.2-2 (Navy 2011d, CNDDB 2014). The section of the river traversed by the pipeline route, however, is dominated by freshwater riparian species such as willows and mulefat that are not subject to tidal influences. As such, there is no potential for light-footed clapper rails to occur in the immediate vicinity of the proposed San Diego River crossing (Navy 2011d).

California Gnatcatcher

In southern California, the federally threatened California gnatcatcher is almost completely restricted to sage scrub habitat, reaching highest densities in areas dominated by California sagebrush and/or California buckwheat (Navy 2011d). The nearest such habitat, however, is located in Tecolote Canyon, outside of the project area, and the nearest known occurrence is nearly a mile northeast of, and upstream from, the geohazard 2 project area, as shown on Figure 3.2-2. As such, California gnatcatchers do not occur in any project area.

California Least Tern

The California least tern was listed as endangered in 1970; there is currently no designated critical habitat for this species (USFWS 2006). It is the smallest North American tern and is found along seacoasts, beaches, bays, estuaries, lagoons, lakes, and banks of rivers and lakes.

California least terns are residents in San Diego Bay during spring and summer, with the breeding season beginning 1 April and ending 15 September (NAVFAC SW 2004). There are at

least six California least tern nesting colonies in the bay, spanning from an area near the San Diego International Airport at the northern portion of the bay to the Sweetwater Marsh National Wildlife Refuge in the southern portion of the bay. Central portions of the bay support the largest nesting populations (California Department of Fish and Wildlife [CDFW] 2013). The nearest nesting colony is approximately 0.5 mile to the east of the project (see Figure 3.2-2; CDFW 2013).

Five key foraging areas exist in the San Diego Bay region. Two are located outside of the Bay in the shallow ocean waters off Coronado and Silver Strand Beach; a third is at the mouth of the bay; the fourth is inside the Bay along the Silver Strand; and the fifth is in southern San Diego Bay, in the Sweetwater Marsh National Wildlife Refuge. The nearest foraging areas are 0.4 mile south and east, respectively, of the proposed La Playa pipeline relocation area (see Figure 3.2-2). As such, California least terns are expected to occur seasonally in San Diego Bay waters and shores adjacent to the La Playa project area.

3.2.4 Environmental Consequences

3.2.4.1 Approach to Analysis

The analysis identifies the potential significance of impacts to biological resources based on: 1) the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource; 2) the proportion of the resource that would be affected relative to its occurrence in the region; 3) the sensitivity of the resource to proposed activities; and 4) the duration and ecological ramifications of the impact. For example, an impact would be considered significant if it would permanently reduce the population size or distribution of a protected species.

Avoidance and minimization measures incorporated into the analysis for all alternatives include the prevention of debris, sediment, or other materials from entering the San Diego Bay or the San Diego River during construction. Additionally, under Alternative 2, all jurisdictional wetlands and waters of the U.S. would be fully restored, if impacted. Moreover, estuary seablite and woolly seablite along the La Playa waterfront area would be flagged and avoided to the maximum extent possible. If avoidance is not possible, the project revegetation plan would be amended to include the planting of these two rare and native plant species commensurate with the level of impact in appropriate habitat along the La Playa waterfront area.

3.2.4.2 Alternative 1

<u>Vegetation Communities and Aquatic Habitats</u>

Construction activities at the San Diego River crossing would occur above the San Diego riverbed and would not affect vegetation communities or aquatic habitats. Barriers such as a silt fence or sand bags would be placed where appropriate to prevent debris, sediment, or other materials from entering the San Diego River during construction. Draining, cleaning, and filling the existing pipe with concrete would not impact any vegetation communities or aquatic habitats. As such, construction impacts to vegetation would be limited to developed and landscaped areas that lack native vegetation communities and aquatic habitats.. Implementation of the proposed project would provide a beneficial impact to the native vegetation communities and aquatic habitats found at the San Diego Bay and San Diego River by reducing the risk and

potential volume of a fuel spill during operations. As such, impacts to vegetation communities and aquatic habitats associated with implementation of Alternative 1 would be less than significant.

Wildlife

As described in Section 3.6, *Noise*, noise associated with pipeline construction would primarily result from excavation and trenching activities. This noise would be temporary, generally consistent with the nature of the area (e.g., a highly developed urban environment, the industrial San Diego Bay, and the heavily used Pacific Highway), consistent with normal construction practices, limited by the local noise ordinance, and would not significantly alter the overall noise environment found in the project areas. No noise would occur during pipeline operation. As such, noise associated with the proposed action would not significantly affect wildlife.

Any bird species passing through the project areas, including species protected under the MBTA, would likely fly over the pipeline and would be unaffected by pipeline construction. Neither construction in developed and landscaped areas, nor draining, cleaning, and filling the existing pipe with concrete, would have a significant impact to wildlife. Alternative 1 would not affect the La Playa waterfront area, no construction activities or equipment operations would occur in the San Diego riverbed, and barriers such as a silt fence or sand bags would be placed where appropriate to prevent debris, sediment, or other materials from entering the San Diego River during construction. Since bats do not occur at the Pacific Highway Bridge, no bats would be affected by project construction, and operations would not affect potential bat habitat. Another bat survey would be performed within 30 days prior to commencing construction activities that would disturb the bridge structure. If bat species are found during the pre-construction survey effort, then an avoidance and/or relocation effort would be developed and implemented.

Project-related activities would not be permitted to cause the removal or failure of an active nest of any MBTA-protected species. To that end, prior to construction during the avian breeding season (1 February - 31 August), a qualified biologist would survey the affected area to confirm that no nests are present or to ensure avoidance of any active nests that are present. Where appropriate to discourage nesting on structures that are subject to construction, those structures may be screened or covered.

Implementation of the proposed project would provide a beneficial impact to the wildlife found at the San Diego Bay and San Diego River by reducing the risk and potential volume of a fuel spill during operations. As such, impacts to wildlife associated with implementation of Alternative 1 would be less than significant.

Threatened and Endangered Species

The only threatened or endangered species with the potential to occur within the project area is the least Bell's vireo. However, the nearest documented least Bell's vireo occurrence is approximately 0.8 mile upstream from (i.e., to the east of) the project area and potential habitat within the project area is of very limited extent and would not be affected. Therefore the

implementation of Alternative 1 would not affect any threatened or endangered species, and no significant impacts would occur.

3.2.4.3 Alternative 2

Vegetation Communities and Aquatic Habitats

Alternative 2 would consist of the same project components as described under Alternative 1, except the existing pipe in the La Playa waterfront area from McCall Street to Talbot Street would be removed. The pipeline removal would require obtaining a Section 401 San Diego RWQCB permit as well as a Section 404/Section 10 permit from the USACE for all construction activities occurring within jurisdictional wetlands and/or waters of the U.S. All jurisdictional wetlands and other waters of the U.S. would need to be fully restored, if impacted. As such, implementation of Alternative 2 would affect the habitat found at the La Playa waterfront area, but these impacts would be temporary. Additionally, estuary seablite and woolly seablite along the La Playa waterfront area would be flagged and avoided to the maximum extent possible. If avoidance is not possible, the project revegetation plan would be amended to include the planting of these two rare and native plant species commensurate with the level of impact in appropriate habitat along the La Playa waterfront area. Moreover, implementation of Alternative 2 would provide a beneficial impact to the vegetation communities and aquatic habitats found at the San Diego Bay and San Diego River by reducing the risk and potential volume of a fuel spill during operations. Therefore, impacts to vegetation communities and aquatic habitats associated with implementation of Alternative 2 would be less than significant.

Wildlife

Alternative 2 would consist of the same project components as described under Alternative 1, except the existing pipe in the La Playa waterfront area from McCall Street to Talbot Street would be removed. The pipeline removal would affect habitat found at the La Playa waterfront area, which could affect wildlife, but these impacts would be temporary. Wildlife found in the project areas are highly mobile and could temporarily relocate to similar, nearby habitat if disturbed by construction activities. Moreover, implementation of Alternative 2 would provide a beneficial impact to the habitat and wildlife found at the San Diego Bay and San Diego River by reducing the risk and potential volume of a fuel spill during operations. As such, impacts to wildlife associated with implementation of Alternative 2 would be less than significant.

Threatened and Endangered Species

Alternative 2 would consist of the same project components as described under Alternative 1, except the existing pipe in the La Playa waterfront area from McCall Street to Talbot Street would be removed. Since this construction work would occur on land, and noise associated with construction activities would generally be consistent with the developed nature of the site, adjacent to an industrial waterway near Naval Base Point Loma (see Section 3.6.4.3) the California least tern would not be affected. Moreover, implementation of Alternative 2 would provide a beneficial impact to threatened and endangered species found at the San Diego Bay and San Diego River by reducing the risk and potential volume of a fuel spill during operations.

Therefore, impacts to threatened and endangered species with implementation of Alternative 2 would be less than significant, similar to those for Alternative 1.

3.2.4.4 Alternative 3

Vegetation Communities and Aquatic Habitats

Alternative 3 would consist of the same project components as described under Alternative 1, with the exception that to address geohazard 1 under Alternative 3, the pipeline would be suspended from the Santa Fe Railroad Bridge over the San Diego River and have a slightly different route, as shown in Figure 2-3.

Vegetation communities and aquatic habitats at the Santa Fe Railroad Bridge are similar to that found at the Pacific Highway Bridge. As with Alternative 1, no construction activities would occur in the San Diego riverbed. Moreover, implementation of Alternative 3 would provide a beneficial impact to vegetation communities and aquatic habitats found at the San Diego Bay and San Diego River by reducing the risk and potential volume of a fuel spill during operations. Therefore, implementation of Alternative 3 would not result in significant impacts to vegetation comminutes in aquatic habitats.

Wildlife

Alternative 3 would consist of the same project components as described under Alternative 1, with the exception that to address geohazard 1 under Alternative 3, the pipeline would be suspended from the Santa Fe Railroad Bridge over the San Diego River and have a slightly different route, as shown in Figure 2-3.

Habitat and wildlife at the Santa Fe Railroad Bridge are similar to that found at Pacific Highway Bridge. As with Alternative 1, no construction activities would occur in the San Diego riverbed. Moreover, implementation of Alternative 3 would provide a beneficial impact to the habitat and wildlife found at the San Diego Bay and San Diego River by reducing the risk and potential volume of a fuel spill during operations. As such, impacts to wildlife associated with implementation of Alternative 3 would be less than significant.

Threatened and Endangered Species

Alternative 3 would consist of the same project components as described under Alternative 1, with the exception that to address geohazard 1 under Alternative 3, the pipeline would be suspended from the Santa Fe Railroad Bridge over the San Diego River and have a slightly different route, as shown in Figure 2-3.

Like Alternative 1, implementation of Alternative 3 would also provide a beneficial impact to threatened and endangered species found at the San Diego Bay and San Diego River by reducing the risk and potential volume of a fuel spill during operations. Therefore, impacts to threatened and endangered species with implementation of Alternative 3 would be similar to those for Alternative 1 and would be less than significant.

3.2.4.5 No-Action Alternative

Under the No-Action Alternative, existing conditions would remain unchanged and there would be no impacts to biological resources. The Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability. Therefore, there would be no impacts to biological resources under the No-Action Alternative.

3.3 WATER RESOURCES

3.3.1 Definition of Resource

Water resources include surface water, groundwater, water quality, and floodplains. Surface water includes lakes, ponds, rivers, streams, impoundments, nearshore waters, and wetlands. Groundwater is water that is located below the ground surface. Water quality describes the chemical and physical composition of water as affected by natural conditions and human activities. Floodplains are relatively flat areas adjacent to rivers, streams, watercourses, bays, or other bodies of water subject to inundations during flood events. A 100-year floodplain is an area that is subject to a 1 percent chance of flooding in any particular year, or, on average, once every 100 years.

3.3.2 Regulatory Framework

Water resource regulations focus on the right to use water and protection of water quality. The principal federal laws enforced by the U.S. Environmental Protection Agency (USEPA) to protect water quality are the CWA, as amended (33 USC § 1251 et seq.), and the Safe Drinking Water Act (42 USC § 300f et seq.). The CWA provides protection of surface water quality and preservation of wetlands. The Safe Drinking Water Act is directed at protection of drinking water supplies. At the state level, the Porter-Cologne Water Quality Control Act (California Water Code §§ 13000-13999.10) gives the State Water Resources Control Board (SWRCB) and nine RWQCBs responsibilities for protection of the waters within their regions. The regional boards are also responsible for implementing provisions of the CWA delegated to states, such as the National Pollutant Discharge Elimination System, which regulates point and non-point discharges of pollutants to waters.

In the Water Quality Control Plan for the San Diego Basin (Basin Plan) the San Diego RWQCB designated beneficial uses for the surface and groundwaters in the San Diego Region. Beneficial uses are defined as the uses of water necessary for the survival or well-being of man, plants, and wildlife; and are protected against degradation of their quality under the state Porter-Cologne Act (San Diego RWQCB 1994). Examples of beneficial uses include drinking, swimming, industrial, and agricultural water supplies, and the support of fresh and saline aquatic habitats. The Basin Plan sets objectives for water quality that must be maintained to protect the designated beneficial uses of water resources in the San Diego Region and conform to the state's antidegradation policy. The California Ocean Plan establishes limits or levels of water quality characteristics for ocean waters to ensure the reasonable protection of beneficial uses and the prevention of nuisance (California SWRCB 2005).

EO 11988 directs all federal agencies to refrain from conducting, supporting, or allowing any activity that would significantly encroach into a floodplain, or impact floodplain resources, unless it is the only practicable alternative. If the lead agency finds that the only practicable alternative requires siting in a floodplain, the agency shall either design or modify its action to minimize harm to or within the floodplain and circulate a notice explaining why the action is proposed to be located in a floodplain.

3.3.3 Affected Environment

The ROI for water resources is the proposed project area and any potential downstream receiving waters. The project area includes the existing pipeline alignment along the La Playa waterfront area and the proposed new Scott Street-Rosecrans Street segment (Figure 2-2a); the existing alignment from Kurtz Street northward crossing under the San Diego River, and the new Rosecrans Street-Pacific Highway Bridge segment (Figure 2-2b); the locations of the two proposed valve stations on the existing pipeline to address geohazard 2 (Figure 2-2c); and the proposed Alternative 3 alignment along Rosecrans Street to the Santa Fe Railroad Bridge (Figure 2-3). Potential downstream receiving waters include the San Diego River, Tecolote Creek, Mission Bay, and San Diego Bay (Figure 3.3-1).

3.3.3.1 Existing Conditions

Surface Water

The ROI includes crossings of Tecolote Creek and San Diego River, which flow into to Mission Bay (Figure 3.3-1). The project area along the La Playa waterfront area, including the existing pipeline, borders and drains to nearshore waters of San Diego Bay.

Groundwater

Groundwater at the San Diego River crossing is at a depth ranging from 11 to 22 feet and has beneficial uses for agricultural, industrial process, and industrial service supplies. Groundwater along the La Playa pipeline relocation is at a depth ranging from 6 to 13 feet and is exempted from municipal supply beneficial use. Groundwater levels can fluctuate due to seasonal variations, groundwater withdrawal or injection, and other factors (Ninyo & Moore 2013).

Water Quality

The sub-watersheds that contribute runoff to Mission Bay are developed with primarily open space/parks, residential, freeway/road/transportation, and office/institutional (San Diego RWQCB 2014). Specific beneficial uses established for Mission Bay include industrial service supply; contact water recreation; non-contact water recreation; commercial and sport fishing; estuarine habitat; wildlife habitat; rare, threatened, or endangered species; marine habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting (San Diego RWQCB 1994).

Figure 3.3-1
Water Resources in the Vicinity of the Action Alternatives

The San Diego River and Tecolote Creek contribute runoff to Mission Bay. Specific beneficial uses established for the San Diego River include agricultural supply; industrial process supply; contact water recreation; non-contact water recreation; preservation of biological habitats of special significance; warm freshwater habitat; wildlife habitat; and rare, threatened, or endangered species (San Diego RWQCB 1994). Specific beneficial uses established for the Tecolote Creek include contact water recreation (potential benefit); non-contact water recreation; warm freshwater habitat; and wildlife habitat (San Diego RWQCB 1994).

Three sub-watersheds that contribute runoff to San Diego Bay are developed with primarily agricultural, residential, commercial, and industrial uses. Resulting surface water quality in these watersheds reflects the impacts of these uses with the following noted as concerns in the San Diego Bay sub-watersheds: pesticides; turbidity; bacteria; copper; and zinc (Port of San Diego 2007). Specific beneficial uses established for San Diego Bay include industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; estuarine habitat; wildlife habitat; rare, threatened, or endangered species; marine habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting (San Diego RWQCB 1994).

Floodplains

The San Diego River is a 100-year floodplain and the project area around geohazard 2 is located in the 100-year floodplain of Tecolote Creek with a flood depth of 3 feet (Figure 3.3-1) (Federal Emergency Management Agency [FEMA] 2012a). The area of the new pipeline relocation in the La Playa waterfront area is outside any 100-year floodplain, but portions of the existing pipeline adjacent to San Diego Bay are located within the 100-year coastal floodplain (Figure 3.3-1) (FEMA 2012b).

3.3.4 Environmental Consequences

3.3.4.1 Approach to Analysis

The environmental consequences evaluation for water resources includes a qualitative and quantitative analysis of surface water, groundwater, water quality and floodplains to the extent possible given available project data. The analysis of potential impacts considers both direct and indirect impacts. Direct impacts result from disturbance of surface waters or removal or alternation of groundwater, while indirect impacts include effects to water quality away from the construction/operation site. The following factors are also considered in evaluating potential impacts to water resources:

- Degrading the quality of surface waters by introducing pollutants that pose a risk to human health, agricultural use, or ecological conditions.
- Decreasing existing and/or future beneficial uses of surface waters.
- Depleting or contaminating a groundwater source that is usable for municipal, private, or agricultural purposes.
- Increasing the risk of flooding.

In this evaluation, BMPs and engineering controls (e.g., erosion control, runoff reduction, and sediment removal measures) are assessed for their ability to avoid, minimize, or reduce/eliminate potential impacts to water resources, in compliance with local, state, or federal regulations. For each of the four water resource categories, the impact analysis is further broken down by construction (short-term impacts) and operations (long-term impacts).

3.3.4.2 Alternative 1

Construction

Surface Water

Construction under Alternative 1 would not occur directly in surface waters. The new pipeline would be suspended from the Pacific Highway Bridge over the San Diego River, but disturbance of the river would not occur, as all construction activities would occur outside of the river channel. The portion of the existing pipeline in the San Diego River would be closed in place and taken out of service by filling the pipe with concrete, which would be pumped into the pipe from the cut ends where the new pipeline is tied into the existing pipeline at both the north and south ends of the Pacific Highway Bridge. Excavation of the pits to make the pipe tie-in welds would be conducted outside of wetlands. The existing pipeline in the La Playa area would also be closed in place after defueling, cleaning, disposing of waste, and filling the pipe with concrete. The closure of both segments of pipeline would be done in accordance with all applicable regulatory requirements. Therefore, construction activities associated with implementation of Alternative 1 would result in no impacts to surface water.

Groundwater

Trenching and excavation to install the pipeline and valves under Alternative 1 is not expected to exceed depths of 16 feet below the surface, and therefore, is unlikely to encounter groundwater. However, if groundwater is encountered, dewatering wells or sumps may be used to lower the water table a few feet below the impacted construction area. This lowering of the water table would be temporary, and water levels affected by construction dewatering would return to normal levels when construction is completed. All groundwater encountered in the trench excavation would be captured, sampled, and pretreated before discharge in accordance with the project specific SWPPP (see *Water Quality* discussion below for details). The construction plans and specifications would outline requirements and protocols for sampling and analysis if contaminated groundwater is encountered; requirements for removal and proper disposal of contaminated groundwater would be followed (see Section 3.4, *Hazardous Materials and Wastes*). Therefore, construction of Alternative 1 would not result in significant impacts to groundwater.

Water Quality

Construction activities associated with Alternative 1 may result in the generation of pollutants including sediment and other construction-related constituents (e.g., nutrients, trace metals, oil and grease, miscellaneous waste, and other toxic chemicals). Without controls, the pollutants could potentially enter receiving waters. Because the combination of construction activities associated with the project would disturb more than 1 acre of land, Alternative 1 would be

subject to the requirements of the Construction General Permit. The project would qualify as a as Linear Utility Project under the Construction General Permit requirements.

In compliance with the Construction General Permit, the construction contractor would prepare and implement a SWPPP and all applicable BMPs, in accordance with the Permit from initiation through completion of construction activities. Appropriate construction BMPs would be implemented in accordance with the Construction General Permit that meet requirements for Best Available Technology and Best Conventional Pollutant Control Technology to reduce or eliminate pollutants from entering the receiving waters. These BMPs generally fall into four main categories: erosion control, soil stabilization, sediment control, and non-stormwater management. BMPs may include but not be limited to the following:

- Avoid and/or minimize soil disturbing during the rainstorms.
- Temporary stockpile of excavated soil.
- Control of stockpiled soil through covering and temporary erosion perimeter and sediment control (e.g., silt fences, fiber rolls, gravel bag berms, and sediment traps).
- Protection of storm drains along construction route with sediment control (e.g., fiber rolls and sediment traps).
- Storage of hazardous materials with proper secondary containment, and establishment of designated vehicle and equipment maintenance areas.
- Management of spills and leaks from vehicles and equipment through inspections and use of drip pans, absorbent pads, and spill kits.

Implementation of a SWPPP and these BMPs would minimize the potential for pollutants to enter receiving waters during construction. If trenching or excavation associated with construction encounters groundwater in portions of the pipeline alignment or isolation valves, dewatering would be required. If necessary, dewatering activities would comply with extracted groundwater discharge requirements to either (1) surface waters except for San Diego Bay (San Diego RWQCB 2008) or (2) San Diego Bay and its tributaries (San Diego RWQCB 2007), as applicable. Therefore, construction activities associated with implementation of Alternative 1 would not result in significant impacts to water quality.

Floodplains

Alternative 1 construction in 100-year floodplains would only occur at the location of the isolation valves to address geohazard 2. However, construction activities would cease if flooding were a concern. Therefore, construction activities associated with implementation of Alternative 1 would not result in significant impacts to floodplains.

Operation

Surface Water

During operations, no disturbance of surface waters would occur. Through addressing the geological hazard concerns at geohazards 1 and 2, the pipeline would be operated with a reduced risk due to pipeline damage caused by seismic activity. This would result in reduced potential of fuel leaks/spills that could affect surface water. Therefore, operational activities

associated with implementation of Alternative 1 would result in beneficial impacts to surface waters.

Groundwater

During operations, no further disturbance of sub-surface ground would take place, aside from minor excavation that may be required for maintenance of pipelines. Should excavation be required, similar temporary effects to groundwater may occur and dewatering would be done, as described under construction. Therefore, operational activities associated with implementation of Alternative 1 would not result in significant impacts to groundwater. In addition, the reduced risk due to pipeline damage would result in a beneficial impact to groundwater.

Water Quality

During operations, no further ground disturbance would take place, aside from minor excavation that may be required for maintenance of pipelines. Should excavation be required, similar erosion control measures and BMPs would be implemented, as described under construction, to minimize the potential for pollutants to enter receiving waters during maintenance operations. Therefore, operational activities associated with implementation of Alternative 1 would not result in significant impacts to water quality. In addition, the reduced risk due to pipeline damage would result in a beneficial impact to water quality.

Floodplains

The isolation valves to address geohazard 2 would be located in the 100-year floodplain of Tecolote Creek. For development in a floodplain, the primary concern is that the development would result in an increase in base flood elevation due to decreased flood storage volume. However, the isolation valves would not result in a change to topography or subsequent decrease in storage volume. Therefore, operational activities associated with implementation of Alternative 1 would comply with EO 11988 and would not result in significant impacts to floodplains.

3.3.4.3 Alternative 2

Construction

The pipeline corridor and isolation valve locations and associated construction activities for Alternative 2 would be the same as those described for Alternative 1. The difference under Alternative 2 is that portions of the existing pipeline along the La Playa waterfront area from McCall Street to Talbot Street would be removed. Construction activities for Alternative 2 would comply with the same regulations and engineering requirements and use all the same erosion control measures and BMPs as described for Alternative 1.

The removal of the existing pipeline along the La Playa waterfront area from McCall Street to Talbot Street would have potential to impact surface waters and water quality of San Diego Bay and portions would occur within the 100-year floodplain of the bay. However, any impacts to surface waters would be temporary, as the beach area would be restored once the existing pipeline has been removed. Where the trench excavation disturbs the surface waters along the

waterfront bank, the area would be restored to its original/pre-disturbed bank condition, utilizing a biodegradable jute mesh fabric or similar erosion control blanket to prevent bank erosion until the new plant materials have been re-established. This, along with implementation of other erosion control measures and BMPs, would minimize the potential for pollutants to enter San Diego Bay during removal of portions of the existing pipeline. Construction activities within the 100-year floodplains would cease if flooding were a concern. Therefore, construction activities associated with implementation of Alternative 2 would not result in significant impacts to water resources.

Operation

Operation of the pipeline under Alternative 2 would be the same as described under Alternative 1. Therefore, operational activities associated with implementation of Alternative 2 would result in no impacts to surface waters and would not result in significant impacts to groundwater, water quality, or floodplains. In addition, the reduced risk due to pipeline damage would result in a beneficial impact to surface water, groundwater, and water quality.

3.3.4.4 Alternative 3

Construction

Alternative 3 would consist of the same project components as described under Alternative 1, with the exception that to address geohazard 1 under Alternative 3, the pipeline would be suspended from the Santa Fe Railroad Bridge over the San Diego River, and the pipeline realignment would follow a slightly different route, as shown in Figures 2-3 and 3.3-1. However, disturbance of the San Diego River would not occur, as all construction activities would occur outside of the riverbed. Construction techniques used for this pipeline route would be the same as described for Alternative 1. Alternative 3 would also comply with the same regulations and engineering requirements and use all the same erosion control measures and BMPs, as described for Alternative 1. Therefore, construction activities associated with implementation of Alternative 3 would not result in significant impacts to water resources.

Operation

Operation of the pipeline under Alternative 3 would be the same as described under Alternative 1. Therefore, operational activities associated with implementation of Alternative 3 would result in no impacts to surface waters and would not result in significant impacts to groundwater, water quality, or floodplains. In addition, the reduced risk due to pipeline damage would result in a beneficial impact to surface water, groundwater, and water quality.

3.3.4.5 No-Action Alternative

Under the No-Action Alternative, the proposed new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, the No-Action Alternative would result in less than significant impacts to water resources.

3.4 HAZARDOUS MATERIALS AND WASTES

3.4.1 Definition of Resource

3.4.1.1 Hazardous Materials

Hazardous materials addressed in this EA are chemical substances that pose a substantial hazard to human health or the environment. For purposes of this EA, a hazardous material is any item or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, by itself or through interaction with other factors. Types of hazardous materials include extremely hazardous substances, hazardous chemicals, and toxic chemicals. Hazardous materials are characterized by their ignitability, corrosiveness, reactivity, and toxicity. In general, these materials pose hazards because of their quantity, concentration, physical, chemical, or infectious characteristics.

3.4.1.2 Hazardous Wastes

A hazardous waste may be a solid, liquid, semi-solid, or contained gaseous material that alone or in combination may: 1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or 2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Hazardous wastes are regulated by the Solid Waste Disposal Act; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); and Resource Conservation and Recovery Act (RCRA) (42 19 USC § 6901 *et seq.*). Hazardous wastes are also controlled under the California Code of Regulations (CCR) and these regulations are implemented by the California Department of Toxic Substances Control (DTSC) and the local Certified Unified Program Agency. Under CCR Title 22, petroleum-contaminated media (i.e., soil and water) are regulated as hazardous waste in California (DTSC 2014). The Navy is required to comply with these acts and all DoD requirements, as well as management plans specific to NBPL.

3.4.2 Regulatory Framework

Hazardous substances are controlled in the U.S. primarily by laws and regulations administered by the USEPA, the U.S. Occupational Safety and Health Administration (OSHA), and the USDOT. Each agency incorporates hazardous substance safeguards according to its unique Congressional mandate. USEPA regulations focus on the protection of human health and the environment. OSHA regulations primarily protect employee and workplace health and safety. The USDOT regulations promote the safe transportation of hazardous substances used in commerce, including the transportation of petroleum products in pipelines.

Federal laws and regulations regarding hazardous substances that DoD installations must comply with include, but are not limited to, those listed below:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Under the CERCLA of 1980, as amended by the Superfund Amendments and Reauthorization Act, a hazardous substance is defined as one that poses a potential hazard to human health or the environment by virtue of its quantity, concentration, or physical/chemical characteristics.

CERCLA has established a national process to identify, characterize, and cleanup hazardous waste sites. In 1980, the DoD established the Installation Restoration program to comply with CERCLA to investigate and cleanup sites on Navy and Marine Corps installations that were contaminated by past military activities. In 2012, the Installation Restoration program was renamed the Environmental Restoration program, combining cleanup of CERCLA sites and sites with residual military munitions. There are 40 Environmental Restoration sites associated with NBPL (i.e., within NBPL or at other Navy properties in the San Diego area). Of these, 28 sites have received or have requested regulatory closure status, meaning that all necessary investigation and cleanup has been completed. The remaining 12 Environmental Restoration sites are in various stages of assessment or cleanup (NRSW 2013). There are no open Environmental Restoration program sites within the footprint of the Miramar pipeline replacement project. Two Environmental Restoration sites are adjacent to the project footprint: Environmental Restoration Sites 3 and 4. Site 3 (NEX Gas Station on the corner of Rosecrans Street and Nimitz Boulevard) will receive closure by the end of calendar year 2014. Site 4 (NAVSUP FLC SD fuel farm tank sludge spreading area on the hillside west of the NBPL end of the pipeline) received closure in 2014.

Resource Conservation and Recovery Act (RCRA)

RCRA requires that all hazardous waste be systematically tracked from cradle-to-grave. This hazardous waste tracking system mandates the collection and retention of key information including: the generator of the waste, how the waste is routed to the receiving facility, a description of the waste, the quantity of the waste, identification of the facility that receives the waste, and other relevant data.

RCRA grants the USEPA and the states the authority to regulate hazardous waste management facilities that treat, store, or dispose of hazardous waste. Furthermore, the RCRA Corrective Action Program compels responsible parties of active facilities to investigate and cleanup hazardous waste releases.

Emergency Planning and Community Right-to-Know Act (EPCRA)

The EPCRA of 1986 requires businesses and governments to report the use of hazardous and toxic chemicals in amounts greater than the applicable thresholds. In addition, EPCRA requires that state and local communities be prepared to respond to potential chemical accidents through the development of emergency response plans and other measures. Facilities that maintain Extremely Hazardous Substances on-site in quantities greater than corresponding threshold planning quantities must cooperate in emergency plan preparation. Facilities must immediately report accidental releases of Extremely Hazardous Substances chemicals and "hazardous substances" in quantities greater than corresponding Reportable Quantities defined under the Comprehensive Act CERCLA to state and local officials (USEPA 2014a).

Toxic Substances Control Act

The Toxic Substance Control Act of 1976 addresses concerns regarding chemical substances and mixtures whose manufacturing and use may pose an unreasonable risk of injury, adverse

health, or adverse environmental consequences. The Toxic Substance Control Act is designed to regulate these substances and mixtures used in interstate commerce.

The Toxic Substance Control Act requires that prior to the manufacturing of a new substance(s), a pre-manufacture notice be filed with the USEPA. This notice provides information describing the toxicity of the substance(s). Toxic chemical substances regulated under the Toxic Substance Control Act include asbestos, lead, polychlorinated biphenyls (PCBs) and radon as well as numerous other substances.

Asbestos was once widely used in building construction as a fire retardant and noise barrier, but was linked to several diseases. Since the 1970s, its use has been restricted by federal regulation under the Clean Air Act (CAA) (e.g., Asbestos National Emission Standards for Hazardous Air Pollutants) rules, and the Toxic Substances Control Act (e.g., Asbestos Ban and Phase out) asbestos rules. Friable (brittle) asbestos becomes hazardous when fibers become airborne and are inhaled. Friable asbestos-containing material (ACM) is any material containing more than one percent asbestos that, when dry, *may be* crumbled, pulverized, or reduced to powder by hand pressure. Non-friable ACM is any material containing more than one percent asbestos that, when dry, *cannot be* crumbled, pulverized, or reduced to powder by hand pressure (NAVFAC SW 2014). Under the Asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) (40 CFR 61, Subpart M), non-friable ACM is divided into two categories. Category I non-friable ACM include asbestos-containing resilient floor coverings (commonly known as vinyl asbestos tile, asphalt roofing products, packaging and gaskets). These materials rarely become friable. All other non-friable ACM are considered Category II non-friable ACM. USEPA has determined that the asbestos-impregnated tar or asbestos paper coating used on pipelines is considered Category II ACM. Typically, if the coating is left undisturbed, it would remain non-friable.

Additional pertinent laws, rules, and regulations include, but are not limited to:

- General Industry Safety and Health Standards, 29 CFR Part 1910.
- Safety and Health Standards for the Construction Industry, 29 CFR Part 1926.
- OSHA Standards for Asbestos, 29 CFR Parts 1910.1001 and 1926.1101.
- The USEPA National Emission Standard for Asbestos (NESHAP), Title 40 CFR Part 61(a) and (m).
- OSHA Standards for respiratory protection, 29 CFR Part 1910.134.
- CCR, Title 8, Section 1529, Asbestos in Construction.
- The Transportation Safety Act, Hazardous Material Transportation Act, Title 49 CFR Parts 106, 107, 171-179.
- The Asbestos Hazard Emergency Response Act, 40 CFR Part 763.

Lead, which was used as an additive and pigment in paints, has been associated with central nervous system disorders, particularly among children and other sensitive populations. The use of lead-based paint in residential settings was banned in 1978.

Polychlorinated Biphenyls (*PCBs*) are highly stable organic chemical compounds with low flammability, high heat capacity, and low electrical conductivity. In the past, PCBs were

extensively used as a component of many materials, most notably as heat insulating materials and as dielectric fluids used in electrical transformers and capacitors. In addition, PCBs may be present in certain pre-1978 building materials (e.g., concrete, caulk, paint). PCBs are known to cause skin irritation and cancer and are highly persistent in the environment. In 1979, the USEPA banned most uses of PCBs.

Radon is a naturally occurring, colorless, odorless, radioactive gas produced by the decay of uranium in rock and soil. Radon is a known carcinogen responsible for increasing the risk of lung cancer when inhaled. Typically, outside air contains very low levels of radon, but radon tends to accumulate in enclosed indoor spaces in buildings that have little outside air exchange.

Clean Water Act (CWA)

The Federal CWA of 1973 is the primary federal law that protects the nation's waters, including lakes, rivers, wetlands, and coastal areas. The CWA addresses the problems of oil pollution by mandating regulations for the prevention of oil spills into navigable waters of the U.S. (Regional Response Team IV). These regulations came to be known as the Spill Prevention, Control, and Countermeasures regulations. They provide a basic framework for operational procedures, containment requirements, and response needs of certain facilities that have the potential to discharge oil into navigable waters of the U.S. or adjoining shorelines (Regional Response Team IV).

Oil Pollution Act (OPA)

The OPA of 1989 requires bulk oil storage facilities and vessels to develop plans describing how spills or releases would be addressed. Specifically, OPA requires that facilities prepare and implement facility response plans. These plans specify how these facilities would assess and respond to spills/releases. The DoD is subject to OPA requirements to report spills and releases to applicable regulators. OPA also obligates DoD to properly contain, control, and remediate all spills/releases.

Pollution Prevention Act

The Pollution Prevention Act focuses on pollution source(s) reduction and promotes implementation of new and innovative practices to conserve and protect natural resources. These measures may include, but are not limited to, reducing pollution through process modifications and the use of different, less toxic materials and substances.

Occupational Safety and Health Administration (OSHA)

OSHA requirements are designed to protect workers and prevent workplace accidents, injuries, or illnesses. One such requirement is the Hazard Communication Regulation (29 CFR 1910.1200), which defines a hazardous chemical as one that poses a physical or health hazard and requires that workers are trained and notified of specific hazards associated with hazardous workplace substances. The definition includes:

- carcinogens, toxins, toxic agents, irritants, corrosives, and sensitizers;
- agents which act on the hematopoietic system;
- agents that damage the lungs, skin, eyes, or mucous membranes;

- chemicals that are combustible, explosive, flammable, unstable (reactive), or water-reactive;
- oxidizers;
- pyrophorics; and
- chemicals, which in the course of normal handling, use, or storage may produce or release dusts, gases, fumes, vapors, mists, or smoke that may have any of the previously mentioned characteristics.

Currently, OSHA regulates workplace exposure to approximately 400 substances, including dusts, mixtures, and common materials such as paints, fuels, and solvents.

The contractor would be required to obtain their own permit and comply with the following State and County Programs:

- California DTSC regulates hazardous waste, cleans-up existing contamination, and pursues for ways to reduce the hazardous waste produced in California. The USEPA authorizes DTSC to carry out the RCRA program in California.
- The County of San Diego Department of Environmental Health Hazardous Materials Division regulates hazardous materials business plans and chemical inventories, hazardous waste and tiered permitting, underground storage tanks, aboveground storage tanks, and aboveground petroleum storage and risk management plans. The Hazardous Materials Division also regulates medical waste in San Diego County. The goal of the Hazardous Waste Division is to protect human health and the environment by ensuring that hazardous waste, medical waste, and underground storage tanks are properly managed.

Bulk pipelines and fuel transfer operations are regulated by multiple federal and state agencies. Some of these include the following:

- **USEPA**
    - 40 CFR Part 112, *Oil Pollution Prevention and Response; Non-Transportation-Related Facilities*
    - 40 CFR Part 300, *The National Oil and Hazardous Substances Pollution Contingency Plan,* (National Contingency Plan)
    - 40 CFR Part 302, CERCLA
    - 40 CFR Part 355, EPCRA
    - 40 CFR Part 264, *Subpart D,* RCRA
    - 40 CFR Part 68, *Chemical Accident Prevention Provisions*
    - Public Law 101-380 (33 USC 2701 et seq.;104 Stat. 484) OPA
- **OSHA**
    - 29 CFR 1910.38(a), *Employee Emergency Plans and Fire Prevention Plans*, 1910.120, *Hazardous Waste Operations and Emergency Response,* and 1910.165, *Employee Alarm*

- **USDOT PHMSA**
    - Direct Final Rule as Amended, 49 CFR Part 194, *Response Plans for On Shore Oil Pipelines*
    - 49 CFR Part 195, *Transportation of Hazardous Liquids by Pipeline*
- **State of California, Office of Oil Spill Prevention and Response**
    - Title 14 CCR Sections 815-820, *Oil Spill Contingency Plans*
- **State of California**
    - Office of the State Fire Marshall Pipeline Safety Division, California Government Code Sections 51010-51019.1: *exclusive safety; regulatory; and enforcement authority over intrastate hazardous liquid pipelines*.

The following regulations and requirements apply to the construction of bulk fuel pipelines:

- **USEPA Regulations on Oil Pollution Prevention**
    - 49 CFR Part 195, *Transportation of Hazardous Liquids by Pipeline,* is a federal regulation generally applicable to interstate oil and hazardous substance pipelines. The following subparts in particular would apply to the proposed project: Subpart C Design Requirements, Subpart D Construction, Subpart E Pressure Testing, Subpart F Operations and Maintenance, Subpart G Qualifications of Personnel, and Subpart H Corrosion Control.
    - 40 CFR Part 112, *Oil Pollution Prevention and Response*; *Non-Transportation Related Onshore and Offshore Facilities,* is the EPA federal regulation covering oil pollution prevention applicable to all non-transportation related on-shore facilities. It establishes requirements for Spill Prevention, Control, and Countermeasure Plans, and covers processes, methods, equipment, and other requirements to prevent the discharge of oil.
- **State of California Government Code**
    - Government Code Section 51010-51019.1, authorizes the Office of the State Fire Marshall to enforce 49 CFR 195, Subparts A to F, and those regulations on pipelines under their jurisdiction.
- **City of San Diego**
    - The project is located in San Diego, California. The new pipeline is planned to be, for the most part, constructed via open cut trenching in existing roads that are in the City of San Diego rights-of-way. As such, the construction would need to meet City of San Diego standards for public works construction.
- **U.S. Military Fuel Facility Criteria**
    - Unified Facilities Criteria (UFC) 3-460-01, *Unified Facilities Criteria, Petroleum Fuel Facilities*, is the uniform military standard that applies to all DoD petroleum fuels and lubricants facilities.
    - UFC 1-300-09N, *Design Procedures*, provides requirements for preparing construction contract drawings and specifications.
- **American Society of Mechanical Engineers (ASME) Design Standards for Petroleum Piping**
    - ASME B31.4, *Pipeline Transportation Systems for Liquid Hydrocarbon and Other Liquids,* is the industry standard, or design code, most applicable to the

engineering design of buried petroleum piping, transferring or transporting oil over any significant distance.

- **American Petroleum Institute Recommended Practices**
  - American Petroleum Institute Recommended Practices 570, *Piping Inspection Code* generally used to determine anomalies.
  - American Petroleum Institute Recommended Practices 1110, *Pressure Testing of Liquid Petroleum Pipelines*, provides procedures for hydrostatic pressure tests of pipelines.
  - American Petroleum Institute Recommended Practices 1104, *Pipeline Welding Standards*, provides applicable standards and requirements for welding procedures on hazardous liquid pipelines.

3.4.3 Affected Environment

The ROI for hazardous materials and waste is the proposed project area. This includes:

- The existing pipeline alignment along the La Playa waterfront area and the proposed new Scott Street-Rosecrans Street segment (Figure 2-2a);
- The existing alignment from Kurtz Street northward crossing under the San Diego River, and the proposed Rosecrans Street-Pacific Highway Bridge segment (Figure 2-2b);
- The locations of the two proposed valve stations on the existing pipeline to address geohazard 2 (Figure 2-2c); and
- The proposed Alternative 3 alignment along Rosecrans Street to the Santa Fe Railroad Bridge (Figure 2-3).

3.4.3.1 Existing Conditions

For the purposes of this EA, discussion of existing conditions focuses on the pipeline condition, operations, and conditions in the immediate area of the existing and proposed pipeline alignment.

Pipeline Conditions and Operations

The total capacity of the Miramar pipeline is 226,107 gallons (5,283 barrels) of fuel (NAVFAC 2009). The line is always fully packed with fuel.

The existing pipeline was constructed and is maintained in compliance with the applicable federal and state regulations, which specify measures for preventing and containing leaks and spills. The pipeline is an 8-inch diameter, standard-weight carbon steel pipeline with a design pressure of 1,880 pounds per square inch (NAVFAC SW 2014). For most of its approximately 17-mile length, the pipeline is buried approximately 4 to 6 feet underground. The underground piping has protective wrapping (coal tar enamel, asphalt-saturated felt, or polyvinyl) to protect against corrosion. The pipeline is pressure-tested during each fuel transfer operation, and is hydrostatically checked every five years.

The existing pipeline is inspected and maintained using remotely operated devices known as "pigs" that travel through the inside of the pipeline. Many areas of the pipeline have minimal

slope and low points without drains that require regular use of the "pigs" to remove water and sediment.

The existing pipeline has been protected from corrosion with cathodic protection since its date of construction. Annual cathodic protection performance surveys are conducted and corrective actions are taken as needed. As part of the proposed project, the survey report from February 2012 was reviewed. The 2012 test results found that the majority of the pipeline has effective cathodic protection. Lower than desired levels of protection were found on the pipe near the NBPL tank farm. The low protection levels were attributed to grounded contacts between the pipeline and structures within the tank farm. The February 2012 report included recommendations to be implemented to clear the grounded contacts (NAVFAC SW 2014).

According to Fuel Operations Personnel at NBPL, all of the underground piping within the tank farm was replaced in 2013, except where it passes beneath roads. This included sections of electrically grounded piping. With the underground piping at the tank farm replaced, cathodic protection for the Miramar pipeline is fully effective. No significant measures are required to address the effect of the existing piping on the new sections of pipe, as it relates to cathodic protection. A minor number of additional anodes will be included on the new piping sections to assist in protecting the older pipes that will remain in service (NAVFAC SW 2014).

NBPL operates the pipeline (i.e., pumps fuel through it) for 10-12 hours per day, on average 4 days per week. While fuel is being pumped, the flow is continuous unless there is a need to shut down for an emergency or unforeseen maintenance (NAVSUP FLC SD 2014). The fuel is pumped at a flow rate calculated to prevent spills (Navy 2011a). Five motor-operated valve stations along the pipeline allow segments to be isolated so flow can be stopped for various reasons such as inspection and maintenance. Block valves on the pipeline are kept closed unless a transfer is taking place. The pipeline is monitored by a Vista static leak detection system at MCAS Miramar and is protected with thermal pressure-relief valves and pressure gauges at various locations (NAVFAC SW 2014). Through the leak detection system, daily inventory control procedures, required maintenance actions, and routine facility inspections, discharges are prevented and/or minimized.

Three personnel are involved during fuel transfer operations. One operator serves as a line rider to check the transfer line continuously for leaks or unusual conditions. The Fuel Distribution Operator monitors the transfer at the operations control room at DFSP Point Loma. The third operator is provided by MCAS Miramar and controls the operation at that end of the transfer operation. While any transfer operation is being made, routine checks of pumps, valves, manifolds, and pipes are carried out to ensure the systems are in proper working order. A pipeline rider also patrols the entire length of the line, five days a week and monitors the activities of contractors and residents that might encroach on the pipeline right of way (NAVSUP FLC SD 2014).

NAVSUP FLC SD also subscribes to a national Dig Alert program that provides NAVSUP FLC SD with a list of contractors planning excavation or other work in the area of the pipeline; marks the location of the pipeline before the contractors' work begins; and monitors them as they work to ensure that the pipeline is not damaged (NAVSUP FLC SD 2014).

As stated in Section 1.3.1, pipeline does not fall under the jurisdiction of PHMSA and 49 CFR 195 for hazardous liquids. However, the Navy chooses to follow the requirements of 49 CFR Part 195 in operating and maintaining the pipeline.

NAVSUP FLC SD is required to meet all Federal and State requirements for training standards of personnel involved in spill prevention and response operations as outlined and discussed on DESC's *Environmental Guide for Fuel Terminals* (NAVFAC 2014). DFSP Point Loma must also comply with the training requirements established by the Navy Supply Systems Command, NAVSUP-E Office, and COMNAVREGSW. These training standards meet all regulatory requirements (NAVFAC 2014). The Terminal Site Director is responsible for developing and implementing the training program at DFSP Point Loma (NAVFAC 2014). It is described in the FLC San Diego, Defense Fuel Supply Center, *Facilities Operations and Maintenance Manual,* Volume I.

Because NAVSUP FLC SD is a bulk fuel storage and transfer facility, Defense Energy Support Center, Navy policy, and government regulations require that a contingency plan is in place to respond to oil and hazardous substance spills. The Integrated Contingency Plan for Oil and Hazardous Substance Spill Prevention and Response serves as the single operational document used for responding to any spill occurring at NBPL (NAVFAC 2014). In the event of a spill or release of fuel from the pipeline, the procedures discussed in the Emergency Response Action Plan, and particularly the Red Plan sections of the Integrated Contingency Plan are followed to contain the release and properly dispose of any spilled materials in compliance Title 14 CCR, *Oil Spill Contingency Plans*, as enforced by the State of California, Office of Oil Spill Prevention and Response. The Emergency Response Action Plan and the Red Plan include specific measures such as securing pumps and closing valves, blocking drains, and deploying booms. Additional booms are deployed as quickly as possible to prevent the spill from moving into the bay or affecting sensitive areas. Additional military and civilian contractor personnel and equipment are mobilized as needed to expedite cleanup operations, and procedures are reviewed to address the cause of the spill and prevent its recurrence (NAVFAC 2009).

Hazardous Materials and Hazardous Wastes in the Project Area

The project area is commercially developed with numerous businesses that use hazardous materials and generate hazardous waste. Along the 3.5-mile segment of the project area that encompasses the La Playa waterfront area and Rosecrans Street to Lytton Street, there are 3 large quantity generators of hazardous waste and 17 small-quantity generators. As defined by USEPA, small-quantity generators generate between 100 and 1,000 kilograms of hazardous waste per month; large quantity generators generate more than 1,000 kilograms of hazardous waste or more than 1 kilogram of acutely hazardous waste per month. Within the geohazard 1 portion of the project area there is one large-quantity and 16 small quantity generators of hazardous waste. A SDG&E natural gas transmission pipeline also runs along Pacific Highway and the Pacific Highway Bridge. In the geohazard 2 area, there are 4 small quantity hazardous waste generators, and no large quantity generators. The only difference between the alternatives with respect to hazardous waste generators in the project area is that for Alternative 3, the SDG&E natural gas transmission line would only parallel a short segment of the proposed

oil pipeline alignment on the north side of Friars Road, on the north side of the San Diego River (Ninyo & Moore 2013).

Electrical Equipment Containing PCBs

Electrical equipment such as transformers and switchgear within the proposed project area are owned and operated by SDG&E. SDG&E is responsible for ensuring that its equipment complies with USEPA regulations regarding PCBs. According to SDG&E, the company has not specified PCB-containing transformers or other equipment for its electrical distribution system. However, some older, pre-1980 mineral transformers could have inadvertently been contaminated with PCBs by the manufacturer. Based on SDG&E's statistical sampling program, it is unlikely that its transformers contain PCBs. However, there is no way to know whether a particular unit contains PCBs without sampling (Ninyo & Moore 2013).

Lead-Based Paint

Painted curbs, poles, and roadway striping were noted along roadways in the project area during the visual inspection conducted by Ninyo & Moore. Although lead-based paint is no longer used for residential settings, it is possible that lead-based paint may be used for industrial applications such as for street improvements (Ninyo & Moore 2013).

County of San Diego Unauthorized Release Sites and SWRCB Underground Storage Tank Sites

The County of San Diego and the SWRCB oversee investigation and cleanup of sites where releases of petroleum products and/or hazardous wastes from storage tanks have taken place. There are 43 properties in the project area where unauthorized releases of oil or hazardous materials have occurred and assessment and/or cleanup activities have been completed, and regulatory agencies have issued closure for the sites (Ninyo & Moore 2013). There have been no further leaks from the pipeline (NAVSUP FLC SD 2014). Within the project area, there are 13 properties where releases of oil or hazardous materials have occurred where assessment and/or cleanup activities have not been completed (i.e., the regulatory agencies have not issued closure for the sites) (Ninyo & Moore 2013). All the historical fuel leaks associated with the existing pipeline alignment along the La Playa waterfront area have been cleaned up, and regulatory closure has been issued for the sites, as discussed in Section 1.3.3 (California SWRCB 2014).

3.4.4 Environmental Consequences

3.4.4.1 Approach to Analysis

Federal, state, and county regulations govern the storage, disposal, and transportation of hazardous materials and wastes. Similar federal and state laws regulate the construction and operation of hazardous liquid pipelines. These laws and specifications have been established to protect human health and the environment from potential impacts. The significance of impacts associated with hazardous materials and wastes is based on the toxicity of the substance, the quantity of the substance involved, the risk of exposure, and the method of disposal. Impacts are considered significant if the storage, use, transportation, or disposal of these substances increase human health risks or environmental exposure.

3.4.4.2 Alternative 1

Construction

Hazardous materials associated with proposed construction activities would include potential lead-based paint on roadways; coal-tar coating on the piping; oily waste water from cleaning pipelines; fuel and hydraulic fluid contained in heavy equipment and construction vehicles; epoxy coating for the new pipeline; and paints to be used in re-marking the replaced pavement. Contractors involved with construction for all components of Alternative 1 would be subject to all federal, state, and San Diego County requirements for hazardous materials and hazardous waste management. Any hazardous materials generated by the contractor during construction would be subject to EPCRA 312 and 313 reporting requirements based on City and County Certified Unified Program Agency thresholds. The construction contractor would be required to submit a Hazardous Materials Business Plan to County of San Diego Environmental Health Hazardous Materials Division. The Hazardous Materials Business Plan would include the types and volumes of hazardous materials and wastes to be used by the construction contractor, and plans and procedures to prevent and minimize accidental releases (County of San Diego 2014a). The contractor would also be required to comply with the Waste Management Plan for the San Diego Metro Area, which establishes policy, procedures, control, and responsibility for the proper management of hazardous wastes on Naval facilities and projects in the San Diego Metro Area (Navy Region Southwest [NRSW] 2007). Any hazardous waste generated during construction would be subject to Chapter California Health and Safety Code Chapter 6.5 Hazardous Waste Control Law and corresponding regulations under Title 22 CCR, Division 4.5. Compliance with federal, state, and county regulations, and adherence to the Hazardous Materials Business Plan and the NRSW Waste Management Plan would minimize potential risk to human health and the environment from fuels and hazardous materials and wastes associated with contractors' equipment and activities.

Before starting excavation, the contractor would be required to obtain a Public Right-of-Way permit, which includes preparing a Traffic Control Plan, and providing proper notice to the underground service alert (Dig Alert) and the City of San Diego Engineering Department. Coordination with these agencies would ensure that underground utilities in the project area are identified and marked (NAVFAC SW 2014). This procedure would prevent accidental damage to potential underground oil, natural gas, and wastewater pipelines in the project area and inadvertent releases of hazardous materials and wastes.

To maintain mission readiness, the existing pipeline must remain fully operational and continue to transfer fuel between NBPL, the breakout station, and MCAS Miramar. Therefore, all segments of the existing pipeline would remain in service while the new pipe is being constructed. Once the new segments are tied into the existing pipeline and made operational, the old segments would be disconnected, emptied of remaining fuel, cleaned, and closed in place. The process for achieving this is described more fully below.

Trenching Construction

For the most part, excavation for the installation of the proposed replacement pipeline would be completed using open cut trenching, as described in Section 3.1.4.2. At four high-traffic intersections, trenchless excavation technology would be used to minimize construction impacts to traffic congestion (refer to Section 3.9.3). The new pipeline segments would either be constructed in alignments that are in different locations than the existing pipeline or in the same road (Rosecrans Street) but approximately 80 feet away from the existing pipeline (NAVFAC SW 2014). Thus, accidental damage to the existing pipeline and potential release of fuel during excavation and construction would not be a concern.

At the end of each workday, trench areas would be trench-plated or backfilled such that the excavation may be driven on by vehicular traffic. As per the San Diego Municipal Code, permanent pavement would be restored within 7 days where there are more than two travel lanes and within 30 days where there are two or fewer lanes of travel (City of San Diego 2008b, NAVFAC SW 2014). Preventing the excavation from presenting a hazard to surface traffic would minimize the potential for accidental releases of fuel or other hazardous materials due to vehicle accidents.

The pipeline would be buried at depths as required by 49 CFR 195.248, *Cover Over Buried Pipeline*. The pipeline depth would also comply with City of San Diego design guidelines for minimal burial depths for utilities. Petroleum lines are required to cross below waterlines and have a minimum of 12 inches of vertical separation and ten feet horizontal separation. The City has also requested that the pipeline pass below the public drainage systems and be a minimum of 5 feet from the curb, gutter, and existing storm drain system. In most cases, the pipeline excavation would pass below other existing underground utilities in the proposed pipeline corridor, such as the SDG&E natural gas transmission line and primary electric line; Cox Communication and Warner Cable television lines; and AT&T lines (NAVFAC SW 2014; Enterprise Engineering Inc. 2014a). The separation distances between the pipeline excavation and the existing utilities would prevent damage to the existing utilities during the pipeline construction. The required burial depth and separation between the pipeline and existing utilities such as water and sewer mains would prevent damage to the pipeline from surficial activities (i.e., road repairs) and accidental release of fuel into water mains or other utility trenches that could act as conduits for the spread of contamination.

An SDG&E natural gas transmission line runs along Pacific Highway and crosses the San Diego River using the underside of the Pacific Highway Bridge, the same method as proposed for Alternative 1. The pipeline trench would be excavated to the required depth of separation below the natural gas line along Pacific Highway. The Pacific Highway Bridge has three longitudinal bays beneath its concrete deck. The east bay contains the SDG&E natural gas pipeline and the west bay contains electrical conduits. The center bay is vacant and is proposed for relocating the pipeline. Based on engineering reports of the bridge structure and the proposed pipeline design, the additional weight of the pipeline would not have an adverse effect on the Pacific Highway Bridge structure (NAVFAC SW 2014). Thus, placing the pipeline in the same corridor as the existing natural gas pipeline would not present a risk to human health or the environment.

For lead-containing surfaces (e.g., roadway paint striping, pipe coatings), all work would conform to the standards set by applicable federal, state, and local laws, regulations, ordinances, and guidelines in such form in which they exist at the time of the work on the contract and as may be required by subsequent regulations. The contractor would comply with the requirements of the California General Industry Safety and Health Standards; the Safety and Health Regulations for Construction, Title 8, California Code of Regulations; the USEPA Regulations pertaining to handling and disposal of lead-containing materials; as well as the State of California and any local governmental agencies, which have delegated responsibility for the administration and enforcement of federal regulations.

Should suspect lead-based paint surfaces be uncovered during the project: (a) samples of suspect surfaces would be collected for laboratory analysis and/or X-ray fluorescence testing, and all activities that impact the suspect surfaces would cease until laboratory analytical results are reviewed and/or X-ray fluorescence testing results become available; or (b) the surfaces should be assumed to contain concentrations of lead greater than or equal to 1.0 milligram per square centimeter or 0.5 percent by weight, and handled as such. Compliance with applicable regulations and adherence to the protective measures described above would minimize potential risk to human health and the environment from lead-based paint associated with construction of Alternative 1.

In summary, through management of hazardous materials and wastes by contractors in compliance with applicable federal, state, and county regulations and safe construction practices with regard to trenching, utility avoidance, and pipeline burial, potential risk to human health and the environment from fuels, hazardous materials, and hazardous wastes would be minimized during the trenching portion of the construction project.

Excavation

There may be potential to encounter contaminated soils during the trenching activities, due to the multiple properties within the proposed project area where there have been historic releases of oil or hazardous materials. The contractor would be required to conduct continuous monitoring for evidence of petroleum-contaminated soil during trenching activities (NAVFAC SW 2014). The construction plans and specifications would outline requirements and protocols for the contractor to properly store potentially contaminated soil as detected by monitoring at an off-site location, while sampling and analysis are conducted according to California RWQCB requirements. The contractor would also be required to properly dispose of contaminated soil as determined by analytical testing.

In some areas, the trench may require dewatering. The contractor would be required to capture, sample, and pretreat all groundwater encountered in the trench excavation before discharge in accordance with the project specific SWPPP (NAVFAC SW 2014).

Soil with petroleum contamination that exceeds State of California regulatory thresholds cannot be returned to the excavated area. Therefore, the Construction Contract would provide an estimated quantity of petroleum-contaminated soil that must be removed and transported to an appropriately permitted disposal facility (NAVFAC SW 2014). Monitoring and sampling would

confirm the extent of petroleum contamination within the trench excavation, all contaminated soil in the trench would be removed, and the excavation would be backfilled with clean soil.

In summary, monitoring and testing soil and groundwater during excavation, properly characterizing soil and groundwater for proper disposal as indicated by analytical results, and using clean soil to backfill the trench would minimize the potential risk to human health and the environment from potential contamination associated with historic releases on properties in the project area.

Pipeline Construction

The pipeline would be required to be constructed in compliance with the following federal and state regulations, military criteria, and engineering standards as listed in Section 3.4.2 (NAVFAC SW 2014).

Construction Details

The new pipeline would be constructed of carbon steel that would be compatible for connection with existing pipe sections. Per applicable regulations, the new pipeline would also have a high-quality pipe coating as part of the corrosion prevention system. The underground sections of the new pipeline would have a cathodic protection system to prevent leaks as well that would be compatible with the existing cathodic system. The new sections would also be connected to the existing leak-detection system (NAVFAC SW 2014). Once the new pipeline sections are constructed, they would be strength-tested (hydrostatic pressure test) before being tied into the existing pipeline and filled with fuel. Hydrostatic pressure testing would ensure that there would be no weak points or leaks in the new sections of the pipeline and the connections before the line is loaded with fuel.

The existing pipeline must remain operational except during certain pre-arranged shutdown periods for the new segments to be connected (the "tie-in" phase). To meet NAVSUP FLC SD operational requirements, shutdown periods can be about one week in length but may not exceed 10 calendar days. NAVSUP FLC SD requires a minimum of three weeks between shutdowns to resupply the storage tanks. These shutdown periods must be coordinated well in advance with NAVSUP FLC SD to prevent conflicts with specific fueling needs.

In summary, the pipeline would be constructed in compliance with all applicable federal, state, and city regulations, military requirements, and engineering standard practices for safety, integrity, and durability. Compliance with these regulations and standards would ensure that the new pipeline is compatible with the materials it contains, is structurally sound, is constructed with leak prevention and detection features, and is pressure-tested and certified by an independent professional engineer before use. Thus, risk to human health and the environment from releases of petroleum products from the new pipeline would be minimized.

Pipeline closure

Closure of the old pipeline sections would include emptying the pipe of fuel, cleaning the pipe interior, proper disposal of waste, filling the pipe with concrete, and sealing the ends of the sections.

To address the potential for unknown contamination in the existing pipeline alignment, the project would include providing sampling and testing of the soils for petroleum contamination at 1,500 feet intervals along the existing pipeline that is to be closed. The soil samples would be taken at the same location where the existing pipe is planned to be excavated and exposed for injecting the concrete into the pipeline. Sampling, testing, and documenting protocols would be based on the California RWQCB San Diego Region, Order No. R9-2002-0342 (NAVFAC SW 2014).

If, during decommissioning of specific sections of the pipeline, it is determined that a significant unauthorized release of petroleum hydrocarbons has occurred (i.e., greater than 42 gallons), the contractor would immediately notify the National Response Center, the California Office of Emergency Services, and the County of San Diego Department of Environmental Health Site Assessment and Mitigation Division. The contractor would also notify the project proponent, who would notify NAVSUP, the Navy contracting officer, and the appropriate Navy Environmental subject matter experts. The Navy and state and local regulators would work together to assess and clean up the release and any associated contamination.

Due to the age of the pipeline (60 years), there is the potential to encounter ACM and/or lead-containing materials and/or components during decommissioning activities. If the coating is exposed to activities that cause at least 260 linear feet of the coating to become friable, the job would be regulated and all applicable regulations under the asbestos NESHAP. However, NAVSUP FLC SD has reported that they have not encountered asbestos coating along the existing fuel pipeline for the areas that have been most recently repaired (NAVFAC SW 2014). If ACM or lead-containing materials are identified on the pipeline during its excavation, the NBPL Asbestos Program Manager would coordinate with the MCAS Miramar S-4, Installations & Logistics Facilities Management Public Works Division Asbestos and Lead Program Manager to ensure appropriate actions and notifications are completed.

If suspect ACM are uncovered during the project: (a) samples of suspect materials would be collected for laboratory analysis, and all activities that may impact the materials would cease until laboratory analytical results are reviewed; or (b) the materials would be assumed to be ACM and handled as such (NAVFAC SW 2014). Any work involving the disturbance of materials containing asbestos would be performed using appropriate work practices, and be conducted by, and under the supervision of, properly trained, experienced, and certified personnel. If more than 260 linear feet of ACM were found, an asbestos abatement permit would be filed with the San Diego County Air Pollution Control District (SDAPCD) in coordination with the NBPL Asbestos Program Manager. The project would comply with latest applicable requirements of federal, state, and local regulations governing removal and disposal of ACM. The SDAPCD would be notified in writing of the planned removal of friable (brittle) ACM per regulations.

Compliance with the asbestos National Emission Standards for Hazardous Air Pollutants regulation, the above-listed regulations, and following the procedures described in this paragraph would ensure that any ACM associated with closure of the existing pipeline are properly managed, and would minimize potential risk to human health and the environment from construction of Alternative 1.

No increase in human health risk or environmental exposure to hazardous materials or hazardous wastes would result from construction of Alternative 1. Implementation of the preventive measures described above (proper management of hazardous materials and waste during trenching and construction of the new pipeline, and closure of the existing pipeline), and compliance with regulations for pipeline construction and operational safety, would further minimize impacts. Therefore, construction of Alternative 1 would have a less than significant impact with respect to hazardous materials and hazardous wastes.

Operation

The pipeline would continue to be operated in compliance with all applicable federal, state, and county regulations, and in accordance with Navy policies and procedures for safe storage and transfer of bulk fuels. These include the regulations and procedures described in Section 3.4.2. Pressure testing of the pipeline during each transfer would continue, as would regular five-year hydrostatic tightness testing. The interior of the pipeline would be regularly inspected with "pigs."

Three personnel would continue to be involved during fuel transfer operation through the pipeline. One operator would serve as a line rider to check the transfer line continuously for leaks or unusual conditions. The Fuel Distribution Operator would monitor the transfer at the operations control room at NAVSUP FLC SD at NBPL. The third operator from MCAS Miramar would control the operation at that end of the transfer operation. While any transfer operation is being made, routine checks of pumps, valves, manifolds, and pipes would be carried out to ensure the systems are in proper working order. A pipeline rider would also patrol the entire length of the line five days a week and monitor the activities of contractors and residents that might encroach on the pipeline right-of-way (NAVSUP FLC SD 2014).

NAVSUP FLC SD would continue to participate in the national Dig Alert program to coordinate with contractors planning excavation or other work in the areas not affected within the five mile construction zone, marking the location of the pipeline before the contractors' work begins, and monitors them as they work to ensure that the pipeline is not damaged (NAVSUP FLC SD 2014). NAVSUP FLC SD would also coordinate with the City of San Diego and Caltrans as needed regarding any maintenance to the pipeline that might require excavation in the City or Caltrans right-of-way.

The Contractor would provide NAVSUP FLC SD with required changes to the operations manual to include construction records, maps, and operating history as necessary for safe operations and maintenance (NAVFAC SW 2014). These records would be maintained for the life of the pipeline facility per 49 CFR 195.266 (a-f). The Integrated Contingency Plan for Oil and Hazardous Substance Spill Prevention and Response would be updated and revised to include the new pipeline alignments and isolation valves.

The new remotely activated isolation valve stations would be controlled by operators at NAVSUP FLC SD, and would also provide the capability for the pipeline operators at NAVSUP FLC SD to monitor pipeline pressure at the new valve stations. In the event of an earthquake or other potential threat of damage to the pipeline, operators would be able to close the valves and

limit potential releases of fuel. NAVSUP FLC SD personnel would follow the procedures in the Integrated Contingency Plan to quickly contain, cleanup, and properly dispose of any accidental releases of fuel.

In summary, the procedures described above would prevent and minimize potential risk to human health and the environment associated with operation of the new pipeline sections, as well as the entire pipeline when the new sections have been incorporated. Therefore, operation of Alternative 1 would have a less than significant impact with respect to hazardous materials and hazardous wastes. The potential for release of fuel during an earthquake would be reduced at the location of the existing geohazards; this would be a beneficial impact.

3.4.4.3 Alternative 2

Construction

The pipeline corridor for Alternative 2 would be the same as that described for Alternative 1, thus trenching and construction would occur in the same locations as described for Alternative 1. The difference under Alternative 2 is that the portions of the existing pipeline along the La Playa waterfront area from McCall Street to Talbot Street would be removed. Construction activities for Alternative 2 would use the same trenching and construction methods, and comply with the same regulations and engineering requirements as described for Alternative 1. Alternative 2 would also use all the same preventive measures as described for Alternative 1. The same procedures would be followed with regard to monitoring soil and groundwater for contamination and backfilling the trench with clean soil. The same procedures would also be followed with regard to defueling and cleaning the existing pipeline, and monitoring soil in the existing pipeline corridor for potential contamination. The only difference between Alternative 1 and Alternative 2 is that under Alternative 2, a portion of the existing pipeline along the La Playa waterfront area would be removed rather than closed in place.

Should suspect ACM be uncovered during closure of the pipeline under Alternative 2, the same procedures described for Alternative 1 would be followed. Compliance with applicable regulations would ensure that any ACM associated with closure of the existing pipeline are properly managed to minimize potential risk to human health and the environment from construction of Alternative 2.

The coatings on the sections of the piping to be removed would also be tested for other potential hazardous constituents, such as polycyclic aromatic hydrocarbons in coal tar and asphalt coatings. Depending on the analytical results, the contractor would be required to characterize the coatings and determine proper management and disposal for the coatings and pipeline sections according to all applicable federal and state regulations (NRSW 2007).

Salvageable metal would be loaded in dumpsters and transported to a local recycling facility. This work would occur concurrently with the hazardous material abatement.

In summary, no increase in human health risk or environmental exposure to hazardous materials or hazardous wastes would result from construction of Alternative 2. Implementation of the preventive measures and proper management of hazardous materials and waste during

trenching and construction of the new pipeline, closure of the existing pipeline; and compliance with regulations for pipeline construction and operational safety, would further minimize impacts. Therefore, construction of Alternative 2 would not have a significant impact with respect to hazardous materials and hazardous wastes.

Operation

Under Alternative 2, the pipeline would continue to be operated in compliance with all applicable federal, state, and county regulations, and in accordance with Navy policies and procedures for safe storage and transfer of bulk fuels as described for Alternative 1. The same procedures for monitoring fuel transfers and inspection and maintenance would be followed. NAVSUP FLC SD would also coordinate with the City of San Diego and Caltrans as needed regarding any maintenance to the pipeline that might require excavation in the City right-of-way or working beneath the Pacific Highway Bridge.

As with Alternative 1, operators at NAVSUP FLC SD would have the capability to monitor pipeline pressure at the new valve stations and close the valves in the event of an earthquake or other potential threat of damage. NAVSUP FLC SD personnel would follow the procedures in the Integrated Contingency Plan to quickly contain, cleanup, and properly dispose of any accidental releases of fuel.

In summary, as with Alternative 1, implementation of the procedures described above and under Alternative 1, would prevent and minimize potential risk to human health and the environment associated with operation of the new pipeline sections, as well as the entire pipeline when the new sections have been installed. Therefore, operation of Alternative 2 would have a less than significant impact with respect to hazardous materials and hazardous wastes. The potential for release of fuel during an earthquake would be reduced at the location of the existing geohazards; this would be a beneficial impact.

3.4.4.4 Alternative 3

Construction

As stated in Section 2.4, Alternative 3 would have all the same project components as Alternative 1, with the exception that Alternative 3 would follow a different alignment to address geohazard 1. Under Alternative 3, the new pipeline corridor would continue east along Taylor Street to the Santa Fe Railroad tracks, run alongside the tracks in the railroad right-of-way to the Santa Fe Railroad Bridge where it would be suspended below the bridge to cross over the San Diego River, then turn westward and along Friars Road and reconnect to the existing pipeline (Figure 2-3).

Although it is not typical for commercial or public utilities to be located in railroad rights-of-way, before starting excavation, similar to Alternative 1 the contractor would be required to provide proper notice to the underground service alert (Dig Alert) and the City of San Diego Engineering Department to identify and mark all utilities in the project area, as described for Alternative 1. The construction contractor would also be required to coordinate with the Santa

Fe Railroad regarding schedules and operations of their trains through the work area and the bridge.

Alternative 3 would use the same trenching and construction methods, and comply with the same regulations and engineering requirements as described for Alternative 1. Alternative 3 would also use all the same preventive measures as described for Alternative 1. The same procedures would be followed with regard to monitoring soil and groundwater for contamination and backfilling the trench with clean soil. The same procedures would also be followed with regard to defueling, cleaning, and closing the existing pipeline, and monitoring soil in the existing pipeline corridor for potential contamination.

No increase in human health risk or environmental exposure to hazardous materials or hazardous wastes would result from construction of Alternative 3. Implementation of the preventive measures described above (proper management of hazardous materials and waste during trenching and construction of the new pipeline, and closure of the existing pipeline), and compliance with regulations for pipeline construction and operational safety, would further minimize impacts. Therefore, construction of Alternative 3 would not have a significant impact with respect to hazardous materials and hazardous wastes.

Operation

Under Alternative 3, the pipeline would continue to be operated in compliance with all applicable federal, state, and county regulations, and in accordance with Navy policies and procedures for safe storage and transfer of bulk fuels as described for Alternative 1. The same procedures for monitoring fuel transfers and inspection and maintenance would be followed. NAVSUP FLC SD would also coordinate with the City of San Diego, Caltrans, and the Santa Fe Railroad as needed regarding any maintenance to the pipeline that might require excavation in the City or Caltrans rights-of-way or working in the railroad right-of way or beneath the Railroad Bridge.

In summary, as with Alternative 1, the procedures described above would prevent and minimize potential risk to human health and the environment associated with operation of the new pipeline sections, as well as the entire pipeline when the new sections have been incorporated. Therefore, operation of Alternative 3 would have a less than significant impact with respect to hazardous materials and hazardous wastes. The potential for release of fuel during an earthquake would be reduced at the location of the existing geohazards; this would be a beneficial impact.

3.4.4.5 No-Action Alternative

Under the No-Action Alternative, the proposed new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. Therefore, implementation of the No-Action Alternative would not have a significant impact with respect to hazardous materials and wastes.

3.5 PUBLIC HEALTH AND SAFETY/PROTECTION OF CHILDREN

3.5.1 Definition of Resource

Public health and safety concerns addressed in this EA include: risks of public exposure to hazardous materials and wastes; local/regional emergency response capacity; and disproportionate health or environmental risks to children. The evaluation of public health and safety in this EA addresses issues related to the capacity of emergency response organizations (police, fire, medical) to respond to emergencies as needed in the project area.

The terms "*hazardous materials*" and "*hazardous waste*" refer to substances defined as hazardous by the CERCLA and the Solid Waste Disposal Act, as amended by the RCRA. Hazardous materials and wastes are discussed in detail in Section 3.4, *Hazardous Materials and Wastes.* This public health and safety analysis addresses hazardous materials and wastes in the context of human exposure risks to these substances and refers the reader to Section 3.4 as appropriate.

Children are considered sensitive receptors in terms of exposure to environmental hazards and health/safety risks. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* addresses the potential for children to be disproportionately exposed to such hazards and safety risks.

Additional information relevant to public health and safety is contained in the following sections of this EA: Section 3.4, *Hazardous Materials and Wastes*, Section 3.6, *Noise,* Section 3.7, *Air Quality,* Section 3.8, *Socioeconomics and Environmental Justice,* Section 3.9, *Transportation and Circulation*.

3.5.2 Regulatory Framework

Hazardous Materials and Wastes. Please refer to Section 3.4.2 for a detailed description of the Federal laws and regulations regarding hazardous substance that DoD installations must comply with. Also included in this section are a listing of the multiple federal and state regulations with respect to bulk pipelines and fuel transfer operations.

Emergency Response. Police protection at NBPL is provided by a military police force. City of San Diego Police Department tour, guard, or watch the communities surrounding the installation. City Police officers work with installation police and have the authority to arrest individuals on the installation; however, they usually will not do so unless requested by the Navy. Fire Protection is provided by the City of San Diego and the Point Loma Federal Fire Department. The communities on the Point Loma Peninsula are served entirely by the San Diego Fire Department. The installation fire department operates under mutual aid and automatic response agreements with all local fire agencies. In addition, other agencies will respond to fires on installation property if requested to do so by the Navy.

Disproportionate Risks to Children. Children may suffer negative environmental influences, disproportionately compared to adults. To address these environmental health and safety risks, EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, was introduced in 1997. EO 13045 helps to ensure that federal agencies' policies, programs, activities, and standards address environmental risks and safety risks to children. EO 13045 defines "environmental health risks and safety risks" [to] "mean risks to health or to safety that are

attributable to products or substances that the child is likely to come in contact with or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to)."

3.5.3 Affected Environment

The ROI for public health and safety is the proposed project area. This includes the existing pipeline alignment along the La Playa waterfront area and the proposed new Scott Street-Rosecrans Street segment (Figure 2-2a); the existing alignment from Kurtz Street northward crossing under the San Diego River, and the new Rosecrans Street-Pacific Highway Bridge segment (Figure 2-2b); the locations of the two proposed valve stations on the existing pipeline to address geohazard 2 (Figure 2-2c); and the proposed Alternative 3 alignment along Rosecrans Street to the Santa Fe Railroad Bridge (Figure 2-3).

3.5.3.1 Existing Conditions

The existing pipeline was constructed and is maintained in compliance with the applicable federal and state regulations, which specify measures for preventing and containing leaks and spills. Because public health and safety is of utmost importance to the Navy, NAVSUP FLC SD conducts daily inspections of the pipeline and internal pipeline inspections every five years (or more often, if necessary). The most recent in-line inspection commenced in August 2013 and preliminary data results were reported in October 2013. Confirmation digs were completed in July 2014 and analysis is ongoing. An internal pipeline inspection was also conducted in 2008.

As described in Section 1.3.3 there have been several historical pipeline leaks (1994, 1995, 1996) along the La Playa waterfront area that have been cleaned up and repaired per state and federal regulations and USACE permitting requirements. Erosion is also a concern along the La Playa waterfront area, and portions of the pipeline are exposed. Exposed pipe presents a greater safety risk than buried pipe because exposed pipe is subject to a greater risk of damage or public tampering.

However, the pipeline does not currently pose a risk to public or environmental health and safety. The pipeline currently meets all operational requirements, with the exception of the pipeline coverage in the La Playa area. However, the section of exposed pipe is protected with a temporary cover of sand bags, and a pipeline rider inspects the pipeline and easement daily for pipeline disturbance. In addition, the Navy has an Integrated Contingency Plan that includes an emergency action plan and identifies the Navy's facility response team. There are automatic sensors to detect a pressure drop on the fuel line, and there are pipeline valves that can shut off the flow of fuel automatically.

Section 3.3, *Water Resources,* discusses water quality issues that could potentially affect public health. The USEPA and San Diego Department of County Environmental Health enforce Safe Drinking Water Act standards and related legislation to protect public health. Currently, the City's water quality meets Safe Drinking Water Act standards (City of San Diego 2013). San Diego County Department of Environmental Health monitors water quality at beaches to help the public avoid contact with water when unhealthy conditions are present (County of San Diego 2014b).

Section 3.6, *Noise,* discusses the current noise environment associated with the proposed project areas in San Diego. Currently, there are various sources of noise in the city; these activities include (depending on the location) military and civilian aircraft; traffic, construction, and general industrial activities. These activities are generally conducted in accordance with applicable regulations and city ordinances to protect the general population and workers from excessive noise exposure.

Section 3.7, *Air Quality,* discusses the stationary and mobile source air emissions that can potentially affect public health. USEPA and SDAPCD set and enforce these standards to protect public health.

3.5.4 Environmental Consequences

3.5.4.1 Approach to Analysis

Federal, state, and county regulations govern the storage, disposal, and transportation of hazardous materials and wastes. Similar federal and state laws regulate the construction and operation of hazardous liquid pipelines. These laws and specifications have been established to protect human health and the environment from potential impacts.

Factors considered in determining whether an alternative would have a significant public health and safety impact include the extent or degree to which implementation of the alternative would subject the public to increased risk experiencing personal injury or exposure to hazardous materials or waste. The significance of impacts associated with hazardous substances is based on the toxicity of the substance, the quantity of the substance involved, the risk of exposure, and the method of disposal. Impacts are considered significant if the storage, use, transportation, or disposal of these substances increase human health risks or environmental exposure or cause a disproportionate risk of exposure to children per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.

3.5.4.2 Alternative 1

Construction

Although the pipeline does not currently pose a risk to public safety or the environment, repairing and relocating the pipeline would enhance its overall safety, reliability and integrity, and increase public and environmental safety by minimizing the potential for future pipe leaks or breaks. Safety regulations and procedures as described in Section 3.4.2 would be followed during repair and relocation of the pipeline to minimize the chance of a leak or spill during construction activities. The Navy would work closely with local agencies to ensure all requirements are adhered to during construction activities.

Additionally, the Navy would work closely with emergency responders (City of San Diego Police and Fire Department) as needed to ensure safety procedures are followed and contingency plans are in place in the event of a fuel spill or leak detected during construction activities. The Navy would adhere to existing inspection protocols to ensure pipeline safety before, during, and after project implementation.

Under Alternative 1, the same procedures would be followed with regard to monitoring soil and groundwater for contamination and backfilling the trench with clean soil as described in

Section 3.4.4.2. The same procedures would also be followed with regard to defueling, cleaning, and closing the existing pipeline, and monitoring soil in the existing pipeline corridor for potential contamination. Furthermore, safety of construction workers would be conducted in accordance with OSHA guidelines to ensure a safe work environment. During construction activities, a health and safety program would be implemented by the construction contractors, based on industry standards for accident prevention. At a minimum, the construction health and safety program would comply with federal and local health and safety regulations. Elements of the safety program would include but would not be limited to the following key components:

- Responsibilities of construction workers and subcontractors
- Job site rules and regulations
- Emergency response procedures
- Safety inspections and audits
- Location of medical services and first aid
- Safety meetings, employee training, and hazard communications
- Personal protective equipment
- Standard construction procedures
- Accident investigation and reporting

Because a health and safety program would be implemented for construction activities and the public would be excluded from entering construction areas, potential construction impacts on public health and safety would not result in a significant safety risk. Therefore, no impact to public health and safety related to construction activities would occur.

In the long-term, proposed repair and relocation of the pipeline would increase public and environmental safety by minimizing the potential for future pipeline leaks or ruptures. Implementation of Alternative 1 would also alleviate the safety hazards associated with the exposed pipeline located in the La Playa waterfront area. Therefore, construction of Alternative 1 would not result in significant impacts to public health and safety.

Operation

The pipeline would continue to operate in compliance with all applicable federal, state, and county regulations, and in accordance with Navy policies and procedures for safe storage and transfer of bulk fuels. These include the regulations and procedures described in Section 3.4.2. Pressure-testing of the pipeline before and after each fuel transfer would continue, as would regular five-year hydrostatic tightness testing. The interior of the pipeline would be regularly inspected and maintained.

In the event of an earthquake or other potential threat of damage to the pipeline, operators would close the isolation valves and limit potential releases of fuel. NAVSUP FLC SD personnel would follow the procedures in the Integrated Contingency Plan to quickly contain, cleanup, and properly dispose of any accidental releases of fuel and would coordinate with local emergency responders as required.

The procedures described above and described in further detail in Section 3.4, *Hazardous Materials and Wastes*, would prevent and minimize potential risk to human health and the environment associated with operation of the new pipeline sections, as well as the entire pipeline when the new sections have been installed. Therefore, operation of Alternative 1 would not result in significant impacts to public health and safety. In the long-term, implementation of Alternative 1 would enhance the pipeline's overall safety, reliability and integrity, and increase public and environmental safety by minimizing the potential for future pipe leaks or breaks; thus long-term impacts are considered beneficial.

Protection of Children

Per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, potential impacts to children as a result of implementation of Alternative 1 have been evaluated. No schools, day care centers, or areas where large numbers of children would likely congregate are located within the area of potential affect. Implementation of Alternative 1 would not result in the creation of hazardous substances or contamination that would potentially affect children. Estimated air quality emissions associated with construction activities would be in compliance with federal air quality standards (see Section 3.7, *Air Quality*), and any hazardous waste generated during construction activities would be disposed of offsite in accordance with all applicable federal and state regulations. In addition, in the event that ACM are encountered during pipeline decommissioning activities, all friable and non-friable ACM that has the potential to become friable would be handled in accordance with applicable asbestos regulations.

Once the new pipeline segments are installed, operation of the pipeline would not expose or cause a disproportionate risk of exposure of hazardous substances to children because the pipeline would continue to be operated in accordance with all applicable federal, state, county, and Navy regulations and procedures for the safe storage and transfer of bulk fuels. In addition, inspection, testing, and monitoring procedures would continue to be implemented as required. Therefore, implementation of Alternative 1 would not result in significant environmental health and safety risks to children.

3.5.4.3 Alternative 2

Construction

Under Alternative 2, the same procedures would be followed with regard to monitoring soil and groundwater for contamination and backfilling the trench with clean soil as described in Section 3.4.2. The same procedures would also be followed with regard to defueling, cleaning, and closing the existing pipeline, and monitoring soil in the existing pipeline corridor for potential contamination.

No increase in human health risk or environmental exposure to hazardous materials or hazardous wastes would result from construction of Alternative 2. Implementation of monitoring and preventive measures (e.g., proper management of hazardous materials and waste during construction of the new pipeline and closure of the existing pipeline), and compliance with regulations for pipeline construction and operational safety, would further

minimize impacts. Therefore, construction of Alternative 2 would not result in significant impacts to public health and safety.

Operation

Under Alternative 2, the pipeline would continue to be operated in compliance with all applicable federal, state, and county regulations, and in accordance with Navy policies and procedures for safe storage and transfer of bulk fuels as described for Alternative 1. The same procedures for monitoring fuel transfers and inspection and maintenance would be followed; therefore, no significant impacts would occur. Implementation of the applicable safety procedures would prevent and minimize potential risk to human health and the environment associated with operation of the new pipeline sections, as well as the entire pipeline when the new sections have been incorporated. Therefore, operation of Alternative 2 would not result in significant impacts to public health and safety. In the long-term, implementation of Alternative 2 would enhance the pipeline's overall safety, reliability and integrity, and increase public and environmental safety by minimizing the potential for future pipe leaks or breaks; thus long-term impacts are considered beneficial.

Protection of Children

Per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, potential impacts to children as a result of implementation of Alternative 2 have been evaluated and would be similar to those described for Alternative 1. No disproportionate risk of injury or hazardous substances exposure to children would occur; therefore no significant impacts would occur.

3.5.4.4 Alternative 3

Construction

Under Alternative 3, the same procedures would be followed with regard to monitoring soil and groundwater for contamination and backfilling the trench with clean soil as described in Section 3.4.4.2. The same procedures would also be followed with regard to defueling, cleaning, and closing the existing pipeline, and monitoring soil in the existing pipeline corridor for potential contamination.

No increase in human health risk or environmental exposure to hazardous materials or hazardous wastes would result from construction of Alternative 3. Implementation of monitoring and preventive measures (e.g., proper management of hazardous materials and waste during construction of the new pipeline and closure of the existing pipeline), and compliance with regulations for pipeline construction and operational safety, would further minimize impacts. Therefore, construction of Alternative 3 would not result in significant impacts to public health and safety.

Operation

Under Alternative 3, the pipeline would continue to be operated in compliance with all applicable federal, state, and county regulations, and in accordance with Navy policies and procedures for safe storage and transfer of bulk fuels as described for Alternative 1. The same

procedures for monitoring fuel transfers and inspection and maintenance would be followed. Implementation of the applicable safety procedures would prevent and minimize potential risk to human health and the environment associated with operation of the new pipeline sections, as well as the entire pipeline when the new sections have been incorporated. Therefore, operation of Alternative 3 would not result in significant impacts to public health and safety. In the long-term, implementation of Alternative 3 would enhance the pipeline's overall safety, reliability and integrity, and increase public and environmental safety by minimizing the potential for future pipe leaks or breaks; thus long-term impacts are considered beneficial.

Protection of Children

Per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, potential impacts to children as a result of implementation of Alternative 3 have been evaluated and would be similar to those described for Alternative 1. No disproportionate risk of injury or hazardous substances exposure to children would occur. Therefore, no significant impacts would occur.

3.5.4.5 No-Action Alternative

Under the No-Action Alternative, the proposed new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. There would be no change from the existing conditions. However, the Navy would continue to inspect and monitor the pipeline to ensure its safety and reliability; therefore, the No-Action Alternative would result in less than significant impacts to public health and safety.

3.6 NOISE

3.6.1 Definition of Resource

Noise is defined as unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment. It may be intermittent or continuous, steady or impulsive, stationary or transient. There is wide diversity in responses to noise that not only vary according to the type of noise and the characteristics of the sound source, but also according to the sensitivity and expectations of the receptor, time of day, and distance between the noise source (e.g., a bulldozer) and the receptor (e.g., a person or animal).

Noise levels are measured in decibels (dB), which are represented on a logarithmic scale of about 20 to 120 dB. On this scale, everyday noises range from 30 dB for a quiet room to 90 dB for a power lawn mower at close range (Noise Pollution Clearinghouse 2008). At a constant level of 70 dB, noise can be irritating and disruptive to speech; at louder levels, hearing losses can occur. A difference of three dB represents a doubling of sound levels in terms of energy. However, because of how we hear, it is necessary to have a 10 dB increase to be perceived as a doubling in sound (USEPA 1974). Noise measurements are usually on an "A-weighted" scale that filters out very low and very high frequencies in order to replicate human sensitivity. It is common to add the "A" in order to identify that the measurement has been made with this filtering process (dBA).

Because noise levels vary widely during the day, it is customary to average noise levels over a period of time. Time-averaged noise levels form the basis for land use compatibility guidelines. For instance, the term Day-Night Average Level (Ldn) is used to describe the average noise level during a 24-hour day with a penalty of 10 dBA added to nighttime sound levels (10 p.m. to 7 a.m.). Community Noise Equivalent Levels (CNEL) add a five dBA penalty for noise events that occur in the evening (7:00 p.m. to 10:00 p.m.), as well as a 10 dBA penalty for noise events at night (10:00 p.m. to 7:00 a.m.). Shorter measurement durations (typically one hour) are described as Energy Equivalent Levels (Leq) indicating the total energy contained by the sound over a given sample period. The Leq for one hour is the energy average noise level during the hour; specifically, the average noise based on the energy content (acoustic energy) of the sound. It can be thought of as the level of a continuous noise that has the same energy content as the fluctuating noise level. The Leq for a 24-hour period (Leq24) is the Ldn CNEL without the penalties.

3.6.2 Regulatory Framework

Land use compatibility with differing noise levels is regulated at the local level, although the federal government has established suggested land use compatibility criteria for different noise zones. Based on the Land Use Guidelines contained in the Federal Interagency Committee on Urban Noise (FICUN) criteria (FICUN 1980): residential areas and schools are considered compatible where the Ldn is up to 65 dBA; outdoor recreational activities such as fishing and golfing are compatible with noise levels up to 70 dBA; and parks are compatible with noise levels up to 75 dBA.

The City of San Diego has a noise ordinance that limits construction noise, such as the effect of any construction noise that reaches residentially zoned property. This limit is an average sound level (Leq) of 75 dBA or less during the 12 hour period from 7 a.m. to 7 p.m. The ordinance also limits construction activity outside of these hours and during certain days (i.e., Sundays and major holidays) where it may create an excessive impact on neighboring sites (City of San Diego 2008a).

3.6.3 Affected Environment

This section provides information on airborne noise, including characterization of existing noise conditions in the general vicinity of the proposed project. No site-specific noise data is available for this project, but information is available for the general San Diego Bay area.

3.6.3.1 Existing Conditions and Sensitive Receptors

Ambient noise levels in the Point Loma and San Diego Bay area communities are associated with a variety of activities. The primary noise sources are, roadway repair and construction, vehicular traffic, and air traffic associated with Naval Air Station North Island (NASNI), the USCG Air Station, and San Diego International Airport. The ambient noise levels typical of urban areas such as the Point Loma and San Diego Bay area communities typically range from 65-75 dB CNEL.

A majority of the proposed project site is within the 60 dB CNEL noise contour for airport activities associated with NASNI. The southernmost portion of the project site is in the 65 dB

CNEL noise contour for NASNI (Naval Base Coronado 2011). In addition to noise generated from NASNI aircraft operations, some of the proposed project site is within the 65-70 dB CNEL noise contours from the San Diego County International Airport (San Diego County Regional Airport Authority 2009).

The proposed project site includes four distinct portions; relocation of NBPL to Lytton Street pipeline segment to Rosecrans Street to address pipeline anomalies, valve station installation at Scott Street and Keats Street, pipeline relocation and valve station installation to address geohazard 1 at the San Diego River Crossing, and Valve Station Installation to address geohazard 2 east of Mission Bay. At each site, there are a number of land uses that could be adversely affected by the construction noise that could reach levels of 75 dBA CNEL. Within close proximity of each site are residential, industrial, commercial, recreational, and educational land uses. Industrial and commercial land uses contribute to the noise environment; therefore, these uses would not be affected by the temporary, intermittent increase in noise levels. Parks and certain recreational activities will also be unaffected by noise generating construction activities, as they are considered to be compatible with land uses where the Ldn is up to 75 dBA. However, the residential units and schools, whose maximum compatible Ldn is up to 65 dBA, may be temporarily impacted at each portion of the project site (FICUN 1980).

Sensitive receptors in the area include: schools, hospitals, places of worship, and certain recreational activities to a greater extent when compared with other adjacent land uses. A total of 12 sensitive receptors have been identified within close proximity to the three major portions of the project area; relocation along the La Playa waterfront area, geohazard 1, and geohazard 2. Four schools are located through the three distinct portions of the project site: Cabrillo Elementary School, High Tech High School complex, Dewey Elementary, and St. Charles Borromeo Academy. The County of San Diego Health and Human Services and County Psychiatric Center is close to geohazard 1. Six places of worship are within close proximity to each portion of the project site: Christian Science Church, the Rock Church, New Gensis Southern Baptist, St. Charles Borromeo Catholic Church, Korean United Presbyterian Church, and the Resolved Church. In addition, golf courses, such as the Sail Ho Golf Club, at Rosecrans Street and Lytton Street, are also considered to be sensitive to noise levels greater than 70 dB CNEL.

3.6.4 Environmental Consequences

3.6.4.1 Approach to Analysis

This section evaluates potential noise impacts from proposed repair and relocation activities associated with the action alternatives. Potential changes in the noise environment can be beneficial (i.e., if noise level are reduced), negligible (i.e., if the total area exposed to unacceptable noise levels is essentially unchanged), or adverse (i.e., if noise level result in increased exposure to sensitive noise receptors to unacceptable noise levels).

Operation of the action alternative would not add any new noise to the existing environment, and all ambient noise levels would be restored to their existing levels following project construction. Therefore, the project would have no effect on noise levels during operations, and

the impact analysis described in this section discusses only temporary impacts resulting from construction.

3.6.4.2 Alternative 1

Noise generating construction activities for Alternative 1 would primarily involve excavation and trenching activities that use typical construction equipment. This equipment may include excavators, loaders, compactors, multiple heavy-duty trucks, paving equipment, concrete trucks, water trucks, dump trucks, welding truck, excavation shoring equipment, and air compressors. Construction activities that use this noise generating equipment would be expected to occur only on weekdays, during the daylight hours.

Construction generated noise would be temporary and generally consistent with the developed nature of the site, and would not significantly alter the overall noise environment in the long-term. In addition, excavating and trenching activities would comply with the City of San Diego's noise ordinance that would further limit the impacts to sensitive receptors in the surrounding area. Therefore, given that construction related noises would be consistent with the nature of the site and would be limited based on the local noise ordinance, no significant noise impacts would occur with implementation of Alternative 1.

3.6.4.3 Alternative 2

Under Alternative 2 construction noise would be similar to Alternative 1, but would also include noises associated with the removal of portions of the pipeline from the Bayside Trail. Only visible portions of the existing pipeline along the La Playa waterfront area would be removed. Portions that are not visible because they are under streets or structures, or that are buried deep, would not be removed; these portions would be closed in place by filling the pipe with concrete. Similar to noise impacts discussed under Alternative 1, the noise generated from the removal of the existing visible pipe would be temporary and generally consistent with the developed nature of the site adjacent to an industrial waterway near Naval Base Point Loma and Naval Base Coronado, and would not significantly alter the overall noise environment. Therefore, no significant noise impacts would occur with implementation of Alternative 2.

3.6.4.4 Alternative 3

Alternative 3 would consist of the same project components as described under Alternative 1, but would address geohazard 1. To address geohazard 1, the pipeline would be suspended from the Santa Fe Railroad Bridge over the river where the existing pipeline crosses beneath the San Diego River. The noise generated from the suspension of the pipeline from the Santa Fe Railroad Bridge would be temporary and generally consistent with the developed nature of the site, and would not significantly alter the overall noise environment in the long-term. Therefore, no significant noise impacts would occur with implementation of Alternative 3.

3.6.4.5 No-Action Alternative

Under the No-Action Alternative, the proposed new pipeline sections and isolation valves would not be constructed. Fueling transfer operations would continue using the existing alignment and valves. Therefore, there would be no significant noise impacts from implementation of the No-Action Alternative.

3.7 AIR QUALITY

3.7.1 Definition of Resource

3.7.1.1 Criteria Pollutants and Air Quality Standards

Air quality in a given location is defined by pollutant concentrations in the atmosphere and is generally expressed in units of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). One aspect of significance is a pollutant's concentration in comparison to a national and state ambient air quality standard. These standards represent the maximum allowable atmospheric concentrations that may occur and still protect public health and welfare with a reasonable margin of safety. The national standards, established by the USEPA, are termed the National Ambient Air Quality Standards (NAAQS). The NAAQS represent maximum acceptable concentrations that generally may not be exceeded more than once per year; the annual standards are never allowed to be exceeded. State standards, established by the California Air Resources Board (CARB), are termed the California Ambient Air Quality Standards (CAAQS). As shown in Table 3.7-1, the CAAQS are at least as restrictive as the NAAQS and include pollutants for which national standards do not exist (CARB 2014a).

Areas that violate ambient air quality standards are designated as nonattainment areas. Nonattainment designations for ozone (O_3) and carbon monoxide (CO) include subcategories indicating the severity of the air quality problem (e.g., the classifications range from marginal to severe for O_3 and moderate to serious for CO). Areas that comply with federal air quality standards are designated as attainment areas. Areas that have been redesignated from nonattainment to attainment are designated as maintenance areas. Areas that lack monitoring data to demonstrate attainment or nonattainment status are designated as unclassified and are considered to be in attainment for regulatory purposes.

The air pollutants that are considered in this analysis include: O_3; CO; nitrogen dioxide (NO_2); sulfur dioxide (SO_2); particulate matter less than or equal to 10 microns in diameter (PM_{10}); and particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$).

Emissions are often characterized as being "primary" or "secondary" pollutants. Primary pollutants are those emitted directly into the atmosphere such as: CO; SO_2; PM_{10}; and $PM_{2.5}$. Secondary pollutants are those formed through chemical reactions in the atmosphere such as O_3 and NO_2. SO_2 and NO_2 are commonly referred to and reported as oxides of sulfur (SO_x) and oxides of nitrogen (NO_x), respectively, as SO_2 and NO_2 constitute the majority of their respective oxides. Although volatile organic compounds (VOCs) (also referred to as hydrocarbons or reactive organic gases) and NO_x (other than nitrogen dioxide) have no established ambient standards, they are important as precursors to O_3 formation.

Table 3.7-1. California and National Ambient Air Quality Standards

Pollutant	*Averaging Time*	*California Standards*	*National Standards*[a]	
			Primary[b, c]	*Secondary*[b, d]
O_3	1-hour	0.09 ppm (180 µg/m³)	–	–
	8-hour	0.070 ppm (137 µg/m³)	0.075 ppm (147 µg/m³)	Same as primary
CO	1-hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	–
	8-hour	9 ppm (10 mg/m³)	9 ppm (10 mg/m³)	–
NO_2	1-hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	–
	Annual	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	Same as primary
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm (655 µg/m³)	75 ppb (196 µg/m³)	–
	3-hour	–	–	0.5 ppm (1300 µg/m³)
PM_{10}	24-hour	50 µg/m³	150 µg/m³	Same as primary
	Annual	20 µg/m³	–	–
$PM_{2.5}$	24-hour	–	35 µg/m³	Same as primary
	Annual	12 µg/m³	12 µg/m³	15 µg/m³
Lead	30-day average	1.5 µg/m³	–	–
	Calendar Quarter	–	1.5 µg/m³	Same as primary
	Rolling 3-month average	–	0.15 µg/m³	Same as primary

Notes: [a] Standards other than the 1-hour O_3, 24-hour PM_{10}, 24-hour $PM_{2.5}$, and those based on annual averages are not to be exceeded more than once a year.
[b] Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parenthesis.
[c] Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the USEPA.
[d] Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
Source: CARB 2014a.

In addition to criteria pollutants, the USEPA has defined 187 substances as hazardous air pollutants (HAPs). HAPs are substances that have been determined to present some level of acute or chronic health risk (cancer or non-cancer) to the general public. These pollutants may be emitted in trace amounts from various types of sources, including combustion sources. HAPs are regulated for specific source categories under the USEPA's National Emission Standards for Hazardous Air Pollutants regulations.

3.7.1.2 Greenhouse Gas Emissions (GHGs)

GHGs are gases that trap heat in the atmosphere. These emissions occur from natural processes as well as human activities. The accumulation of GHGs in the atmosphere regulates, in part, the earth's temperature. Scientific evidence suggests a trend of increasing global temperature over the past century is potentially due to an increase in GHG emissions from human activities.

Potential climate change associated with GHGs may produce negative economic and social consequences across the globe.

The most common GHGs emitted from natural processes and human activities include: carbon dioxide (CO_2); methane (CH_4); and nitrous oxide (N_2O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydro fluorocarbons and perfluorocarbons) and sulfur hexafluoride. Each GHG is assigned a global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which has a value of one. For example, CH_4 has a GWP of 21, which means that it has a global warming effect 21 times greater than CO_2 on an equal-mass basis. Total GHG emissions from a source are often reported as a CO_2 equivalent (CO_{2e}). The CO_{2e} is calculated by multiplying the emission of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. On a national scale, federal agencies are addressing emissions of GHGs by reductions mandated in federal laws and EOs. Most recently, EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management,* and EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance,* were enacted to address GHG in detail, including GHG emissions inventory, reduction, and reporting. Several states have promulgated laws as a means to reduce statewide levels of GHG emissions. In particular, the California Global Warming Solutions Act of 2006 (Assembly Bill 32) directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020.

In an effort to reduce energy consumption, reduce dependence on petroleum, and increase the use of renewable energy resources in accordance with the goals set by EO 13123 and the Energy Policy Act of 2005, the Navy has implemented a number of renewable energy projects. The types of projects currently in operation within the Navy Region Southwest (NRSW) include: thermal and photovoltaic solar systems; geothermal power plants; and wind generators. The military also purchases one-half of the biodiesel fuel sold in California. The Navy continues to promote and install new renewable energy projects within NRSW.

The potential effects of proposed GHG emissions are by nature global and cumulative impacts, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, the impact of GHG emissions to global climate change that is associated with the project is discussed in the context of cumulative impacts in Section 4.2.7 of this EA. Appendix D presents estimates of GHG emissions generated by each action alternative.

3.7.2 Regulatory Framework

3.7.2.1 Federal Requirements

Section 176(c) of the CAA, as amended, requires federal agencies to ensure that actions undertaken in nonattainment or maintenance areas are consistent with the CAA and with federally enforceable air quality management plans. The USEPA general conformity rule applies to federal actions occurring in nonattainment or maintenance areas, if the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds and conformity determination is required. The emission thresholds that trigger

requirements for a conformity determination are called *de minimis* levels. *De minimis* levels (in tons per year) vary from pollutant to pollutant and are subject to the severity of the nonattainment status. The applicable *de minimis* levels for the project area are described in Section 3.7.3.3.

The USEPA conformity rule establishes a process that is intended to demonstrate that a proposed federal action would not: 1) cause or contribute to new violations of federal air quality standards; 2) increase the frequency or severity of existing violations of federal air quality standards; and 3) delay the timely attainment of federal air quality standards. Compliance is presumed if the net increase in direct and indirect emissions from a federal action would be less than the relevant *de minimis* level. However, if the increase in emissions for a nonattainment or maintenance pollutant exceeds *de minimis* levels, a formal conformity determination must be implemented. For the purposes of this air quality analysis, project emissions would be potentially significant if they exceed federal *de minimis* levels. If emissions exceed their respective *de minimis* levels, further analysis of the emissions and their consequences would be performed to assess whether there is a likelihood of a significant impact to air quality.

3.7.2.2 State Requirements

The CAA requires each state to develop, adopt, and implement a State Implementation Plan (SIP) to achieve, maintain, and enforce federal air quality standards throughout the state. SIPs are developed on a pollutant-by-pollutant basis whenever one or more air quality standards are being violated. State standards, established by the CARB, are termed the CAAQS. The CAAQS are at least as restrictive as the NAAQS and include pollutants for which national standards do not exist (CARB 2014a) (refer to Table 3.7-1). Local governments and air pollution control districts have had the primary responsibility for developing and adopting the regional elements of the California SIP. In the San Diego region, the SDAPCD is responsible for governing air quality and reports to CARB.

3.7.2.3 Local Regulations

The SDAPCD is responsible for regulating stationary sources of air emissions in the San Diego Air Basin (SDAB). The SDAPCD Rules and Regulations (SDAPCD 2009) establish emission limitations and control requirements for stationary sources, based on their source type and magnitude. In addition, SDAPCD Conformity Rule 1501 provides general conformity guidance to ensure that Federal actions are consistent with the efforts of the SDAPCD to achieve its NAAQS attainment goals.

The SDAPCD is responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The 2009 Triennial RAQS Revision is the most recent plan to bring the SDAB into compliance with the CAAQS. This plan includes all feasible control measures that can be implemented for the reduction of O_3 precursor emissions. To be consistent with the RAQS, a project must conform to emission growth factors outlined in this plan. Control measures for

stationary sources proposed in the RAQS and adopted by the SDAPCD are incorporated into the SDAPCD Rules and Regulations.

The SDAPCD has also developed the air basin's input to the SIP. The SIP includes the SDAPCD's plans and control measures for attaining the O_3 NAAQS. The SIP is also updated on a triennial basis. The CARB adopted its 2007 State Strategy for California's State Implementation Plan on 27 September 2007 (CARB 2014b). The State Strategy was submitted to the USEPA on 16 November 2007 for their review and approval, and the USEPA approved the SIP in 2012. As part of that State Strategy, the SDAPCD developed its *Eight-Hour Ozone Attainment Plan for San Diego County*, which provides plans for attaining and maintaining the 8-hour NAAQS for O_3. In 2009 and 2011, CARB adopted revisions to the 2007 State Strategy (CARB 2014b).

Air Quality Permitting Requirements

Air quality permits are required for activities or equipment that emit air contaminants. The SDAPCD requires air permits prior to construction or installation and again before any operational activities begin. An "Authority to Construct" permit is used to authorize construction or installation activities. A "Permit to Operate" is used to authorize operation of specific equipment. All necessary construction or operationally-related permits must be authorized by the SDAPCD before project implementation occurs.

3.7.3 Affected Environment

The ROI for air quality includes the 4,260-square mile SDAB, which encompasses all of San Diego County.

3.7.3.1 Climate and Meteorology

The climate of the project region is classified as Mediterranean, characterized by dry summers and wet winters. The major influences on the regional climate are the Eastern Pacific high-pressure system, topography, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the high-pressure system are a key factor in area weather changes.

The Eastern Pacific High is a persistent anticyclone that attains its greatest strength and most northerly position during summer, when it is centered west of northern California. In this position, the Eastern Pacific High effectively shelters southern California from the effects of polar storm systems. As winter approaches, the Eastern Pacific High weakens and shifts to the south, allowing polar storm systems to pass through the region. Subsiding air associated with the Eastern Pacific High warms the upper levels of the atmosphere and produces an elevated temperature inversion (temperature increases with height) along the west coast.

The base of this temperature inversion is generally from 1,000 to 3,000 feet above mean sea level during the summer. The subsidence inversion acts like a lid on the lower atmosphere and traps air pollutants near the surface of the earth by limiting vertical dispersion.

Mountain ranges in eastern San Diego County constrain the horizontal movement of air and also inhibit the ventilation of air pollutants out of the region. These two factors, combined with

the emission sources of over three million people, help to create the high pollutant conditions sometimes experienced in San Diego County.

During the colder months, the Eastern Pacific High can combine with high pressure over the continent to produce extended periods of light winds and low-level inversion conditions in the region. These atmospheric conditions can produce adverse air quality. Excessive build-up of high pressure over the continent can produce a "Santa Ana" condition, characterized by warm, dry, northeast winds. Santa Ana winds help to ventilate the air basin of locally generated emissions. However, Santa Ana conditions can also transport air pollutants from the Los Angeles metropolitan area into the project region. When stagnant atmospheric conditions occur during a weak Santa Ana, local emissions combined with pollutants transported from the Los Angeles area can lead to significant O_3 impacts in the project region.

Marine air trapped below the base of the subsidence inversion is often condensed into fog and stratus clouds by the cool Pacific Ocean. This is a typical weather condition of coastal San Diego County during the warmer months of the year. Marine stratus usually forms offshore and moves into the coastal plains and valleys during the evening hours; when the land heats up the following morning, the clouds burn off to the immediate coastline and reform the following evening.

3.7.3.2 Regional and Local Air Pollutant Sources

An emission rate represents the mass of a pollutant released into the atmosphere by a given source over a specified period of time. Emission rates can vary considerably depending on type of source, time of day, and schedule of operation. The SDAPCD periodically updates emissions for the entire SDAB for purposes of forecasting future emissions, analyzing emission control measures, and for use in regional air quality modeling. The largest regional sources of air emissions are on-road vehicles. The 2012 inventory determined that on-road vehicles emitted 24 percent of the VOCs, 64 percent of the NOx, and 60 percent of the CO emissions within the SDAB (CARB 2014c). Another large source of VOCs is the use of surface coatings and solvents. Combustion sources produce both primary fine particulate matter and fine particulate precursor pollutants, such as NOx, which react in the atmosphere to produce secondary fine particulates. Coarser particles mainly occur from soil-disturbing activities such as construction, mining, agriculture, and vehicular road dust.

3.7.3.3 Baseline Air Quality

The USEPA designates all areas of the U.S. as having air quality better than or equal to (attainment), or worse than (nonattainment), the NAAQS. The criteria for nonattainment designation vary by pollutant. An area is in nonattainment for O_3 if its NAAQS has been exceeded more than three discontinuous times in three years and an area is generally in nonattainment for any other pollutant if its NAAQS have been exceeded more than once per year. Former nonattainment areas that have attained the NAAQS are designated as maintenance areas. The SDAB is in marginal nonattainment for the O_3 NAAQS (VOCs and NO_x are precursors to the formation of O_3), while it is considered a maintenance area for the CO NAAQS, and is in attainment of the NAAQS for all other criteria pollutants. The SDAB is in

nonattainment of the O_3, PM_{10} and $PM_{2.5}$ CAAQS (CARB 2014d; USEPA 2014b). The applicable General Conformity *de minimis* thresholds for the SDAB are listed in Table 3.7-2.

Table 3.7-2. Applicable General Conformity *de minimis* Thresholds (tons per year)

VOCs[1]	NO_x[1]	CO[2]	SO_2[3]	PM_{10}[3]	$PM_{2.5}$[3]
100	100	100	NA	NA	NA

Notes: [1] San Diego Air Basin (SDAB) is a marginal nonattainment area for the 8-hour O_3 NAAQS; VOCs and NO_x are precursors to the formation of O_3.
[2] SDAB is considered a maintenance area for the CO NAAQS.
[3]NA = Not Applicable. *De minimis* thresholds are not applicable because the SDAB is in attainment of the SO_2, PM_{10} and $PM_{2.5}$ NAAQS.
Sources: CARB 2014d; USEPA 2014b.

Representative air quality data for the project area for the period 2011 - 2013 are shown in Table 3.7-3.

Table 3.7-3. Representative Air Quality Data for the Project Area (2011-2013)

Air Quality Indicator	2011	2012	2013
Ozone (O_3)[(1)]			
Peak 8-hour value (ppm)	0.061	0.065	0.053
Days above federal standard (0.075 ppm)()	0	0	0
Days above state standard (0.070 ppm)	0	0	0
Carbon monoxide (CO)[(1)]			
Peak 8-hour value (ppm)	2.44	1.81	NA
Days above federal standard (9.0 ppm)	0	0	NA
Days above state standard (9.0 ppm)	0	0	NA
Particulate matter less than or equal to 10 microns in diameter (PM_{10})[(1)]			
Peak 24-hour value ($\mu g/m^3$)	48.0	45.0	90.0
Days above federal standard (150 $\mu g/m^3$)	0	0	0
Days above state standard (50 $\mu g/m^3$)	0	0	0
Particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$)[(1)]			
Peak 24-hour value ($\mu g/m^3$)	34.7	39.8	37.4
Days above federal/state standard (35 $\mu g/m^3$)	0	1	1
Sulfur Dioxide (SO_2)[(1)]			
Peak 24-hour value (ppm)	0.003	NA	NA
Days above federal standard (0.14 ppm)	0	NA	NA
Days above state standard (0.04 ppm)	0	NA	NA
Nitrogen Dioxide (NO_2)[(1)]			
Peak 1-hour value (ppm)	0.067	0.065	0.072
Days above state standard (0.18 ppm)	0	0	0

Notes: [(1)] Data from the San Diego-1110 Beardsley Street Monitoring Station. ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; NA = not available.
Source: CARB 2014e.

3.7.4 Environmental Consequences

3.7.4.1 Approach to Analysis

Estimated emissions from a proposed federal action are typically compared with the relevant national and state standards to assess the potential for increases in pollutant concentrations.

Impacts would occur if the action alternatives directly or indirectly produce emissions that would be the primary cause of, or would significantly contribute to, a violation of state or federal ambient air quality standards. Emission thresholds associated with CAA conformity requirements are another means of assessing the significance of air quality impacts. A formal conformity determination is required for federal actions occurring in nonattainment or maintenance areas when the total direct and indirect stationary and mobile source emissions of nonattainment or maintenance pollutants or their precursors exceed *de minimis* thresholds.

The air quality analysis estimated the magnitude of emissions that would occur from proposed repair and relocation activities for the action alternatives. The analysis compared emissions from proposed construction activities to the *de minimis* thresholds identified in Table 3.7-2 to determine their significance. For air pollutants designated as nonattainment or maintenance with the NAAQS, and therefore subject to General Conformity requirements, if the estimated total of direct and indirect emissions caused by a project alternative exceed a conformity *de minimis* threshold a Conformity Determination would be conducted to determine whether impacts were significant. In such cases, if emissions conform to the approved SIP, then proposed impacts would be determined to be less than significant. For those air pollutants in SDAB which are in attainment of the NAAQS, the general conformity requirements and thresholds do not apply.

Construction emissions were estimated using the California Emissions Estimator Model (CalEEMod), which is the current air quality model for land use projects in California. The emissions calculations, assumptions, and references used in this analysis are included in Appendix D.

Operation of the pipeline would not generate an increase in air quality emissions; therefore only estimated emissions associated with construction activities are discussed in this section.

The potential effects of GHG emissions are by nature global and cumulative, as individual sources of GHG emissions are not large enough to have any appreciable effect on climate changes. Therefore, the potential impacts of GHG emissions associated with the project are discussed in the context of cumulative impacts in Section 4.2.7 of this EA.

3.7.4.2 Alternative 1

Table 3.7-4 summarizes the estimated emissions that would occur from pipeline repair and relocation activities proposed under Alternative 1. The project schedule estimates that construction activities would occur from calendar years 2015 to 2017. For purposes of air quality emission modeling, it was assumed that construction activities would take approximately two years and one month (one month in 2015, 12 months in 2016, and 12 months in 2017). Trenching would consist of excavation and backfilling using existing material onsite, with the exception of bedding material that would be imported to the site. Excess excavated soil from the space needed to accommodate the new pipe and bedding materials would be hauled offsite to a contractor-determined approved disposal site. The estimated excess quantity of soil for the pipeline relocation to Rosecrans Street is approximately 4,400 cubic yards. The estimated excess quantity of soil for the pipeline relocation for geohazard 1 (San Diego River crossing) is

approximately 915 cubic yards. The data in Table 3.7-4 show that annual VOCs, CO, and NOx emissions from proposed construction activities would be minimal and would not exceed *de minimis* thresholds for CAA conformity. Emissions would be below the *de minimis* levels for CAA conformity; therefore, no avoidance and minimization measures/special conservation measures (SCMs) are proposed. However, as a standard BMP to minimize fugitive dust emissions, watering of exposed soils twice daily during construction activities is recommended. No significant impacts to air quality would occur with implementation of Alternative 1.

Table 3.7-4. Estimated Emissions Resulting from Implementation of Alternative 1

Construction Activity Per Year	*Air Pollutant Emissions (tons)*					
	VOCs	***CO***	***NO_x***	***SO_2***	***PM_{10}***	***$PM_{2.5}$***
2015 Total Emissions	0.12	0.84	1.15	0.001	2.02	1.13
2016 Total Emissions	1.32	9.15	12.29	0.001	2.70	1.73
2017 Total Emissions	4.81	7.01	9.19	0.009	2.50	1.56
Conformity *de minimis* threshold	100	100	100	NA	NA	NA
Exceeds Conformity *de minimis* threshold?	No	No	No	NA	NA	NA

Note: NA = not applicable.

Project construction equipment would emit minor amounts of HAPs that could potentially impact public health. The main source of HAPs would occur in the form of particulates from the combustion of diesel fuel. However, all equipment would be operated in compliance with State Diesel Air Toxic Control measures, to minimize particulate emissions. Due to the mobile and intermittent operation of proposed diesel-powered construction equipment over a large construction area and the lack of sensitive receptors in the immediate vicinity of the construction, they would produce minimal ambient impacts of HAPs in a localized area. As a result, less than significant impacts to public health would occur.

3.7.4.3 Alternative 2

Alternative 2 would consist of the same project components as described under Alternative 1, except that portions of the existing pipeline along the La Playa waterfront area from McCall Street to Talbot Street would be removed instead of closed in place after relocating the pipeline to Rosecrans Street. Additionally, the La Playa waterfront area would be restored following pipeline removal in accordance with the Port of San Diego approved landscape and irrigation design. The overall duration of construction activities and pipeline replacement activities would be similar to Alternative 1, albeit slightly longer for Alternative 2. Therefore, the air quality emissions under Alternative 2 would be slightly higher but similar to those described for Alternative 1 (refer to Table 3.7-4). Although air emissions under Alternative 2 would be expected to be slightly higher than Alternative 1, *de minimis* thresholds would not be exceeded; therefore, no significant impacts to air quality would occur.

3.7.4.4 Alternative 3

Alternative 3 would consist of the same project components as described under Alternative 1, with the exception that to address geohazard 1 under Alternative 3, the pipeline would be suspended from the Santa Fe Railroad Bridge over the river. The overall duration of

construction activities and pipeline replacement activities would be very similar to Alternative 1; therefore, the air quality emissions under Alternative 3 would be essentially the same as those described for Alternative 1 (refer to Table 3.7-4). Therefore, no significant impacts would occur with implementation of Alternative 3.

3.7.4.5 Conformity Application Analysis

The estimated emissions associated with the action alternative would be below the *de minimis* threshold levels for CAA Conformity (refer to Table 3.7-4). Therefore, the action alternatives would conform to the SDAB SIP and would not trigger a Conformity Determination under Section 176(c) of the CAA. The Navy has prepared a Record of Non-Applicability (refer to Appendix D) for CAA Conformity in accordance with OPNAVINST 5090.1, and the Navy Guidance for compliance with CAA General Conformity Rule, dated 30 July 2013.

3.7.4.6 No-Action Alternative

Under the No-Action Alternative, no construction, trenching, pipeline closure, or pipeline removal activities would occur. Project related emissions would not be generated and baseline air quality conditions would remain unchanged. Therefore, there would be no significant impacts to air quality from implementation of the No-Action Alternative.

3.8 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

3.8.1 Definition of Resource

Socioeconomics is a social science discipline that focuses on the attributes of human social and economic interactions within an area. Socioeconomic analyses typically address issues such as population demographics, business activity, employment and income, and environmental justice. Impacts to these fundamental socioeconomic components can also influence other systemic issues such as the availability and affordability of housing, the provision of public services (e.g., emergency services, education, health services, etc.), and the general quality of life in a community.

The primary focus of the socioeconomic analysis in this EA is on the net economic effect on employment, income, and business activity (measured by economic output) in San Diego County, related to the repair and relocation of the Miramar pipeline. The Proposed Action would involve no change in housing supply and only potentially very minimal changes in population, demand for housing, and public services during construction; therefore, these issues are not addressed.

In 1994, EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued to focus the attention of federal agencies on human health and environmental conditions in minority and low-income communities. In addition, EO 12898 aims to ensure that the environmental effects of federal actions do not fall disproportionately on low-income and minority populations.

3.8.2 Regulatory Framework

The general regulatory framework for examining the environmental impacts of the proposed action on the socioeconomic character of a community or communities is NEPA itself. One of the fundamental purposes of the Act is to consider the environmental consequences of a proposed federal action on the natural and human environment; socioeconomics is part of the human environment. Two executive orders deal directly with the socioeconomic conditions and concerns of potentially affected communities. EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* requires federal agencies to assess whether their actions could have disproportionately high and adverse environmental and health impacts on minority or low-income populations. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks,* required a similar analysis for children, which is described in greater detail in Section 3.5, *Public Health and Safety/Protection of Children*.

In addition, the DoD prepared a "Strategy on Environmental Justice" in 1995 (DoD 1995) that views the environmental justice analysis as integral to NEPA analysis. Five principles that foster environmental justice are:

- Promote partnerships with all stakeholders
- Identify the impacts of DoD activities on minority and low-income populations
- Streamline government
- Improve the day-to-day operations of installations
- Foster nondiscrimination in DoD programs

Provisions of the strategy that relate to the NEPA process include improving data collection, assessing how operations and activities affect local communities, and improving outreach efforts. On December 10, 1997, the CEQ published "*Environmental Justice: Guidance Under the National Environmental Policy Act"* (CEQ 1997).

3.8.3 Affected Environment

The ROI for socioeconomic impacts is defined as San Diego County. Socioeconomic data are provided in this section to establish baseline conditions. Data consist primarily of publicly-available information about San Diego County and, to provide perspective, the State of California and the United States.

To support an evaluation of environmental justice issues, this section includes geographic information systems (GIS) maps that use 2010 U.S. Census Bureau (Census) data to identify the presence of minority and low-income populations in the vicinity of the project area that could potentially be disproportionately affected. The proportion of minority and low income populations, within each census block group in the ROI, is calculated using the following criteria:

- Minority is defined as the following racial and ethnic groups: Black or African American, Hispanic or Latino, Asian, American Indian or Alaska Native, and Native Hawaiian or other Pacific Islander.

- Low-income is defined as individuals that the Census identifies as living below the poverty line.

Populations that could potentially be disproportionately affected in this analysis are assumed to live in census block groups where 50 percent or more of the population are minority and/or 20 percent or more of the population live below the poverty line.

3.8.3.1 Existing Conditions

Socioeconomics

Population Trends

Table 3.8-1 shows population in San Diego County, the State of California, and the United States from 1990 to 2010. In 2010 San Diego County had a population of 3,095,313, making it the second most populous county in California (behind Los Angeles County). Similar to the national and statewide trend, population growth in San Diego County has slowed since 1990, as population growth from 1990 to 2000 exceeded population growth from 2000 to 2010. Over the 20-year period from 1990 to 2010, San Diego County grew at a slower rate than California and the nation overall; however, in the more recent period, 2000 to 2010, population growth in San Diego County did exceed population growth in the nation overall.

Table 3.8-1. Population, 1990-2010

Location	*1990*	*2000*	*2010*	*Percent (%) Change 1990 - 2000*	*Percent (%) Change 2000 - 2010*	*Percent (%) Change 1990 - 2010*
San Diego County	2,498,016	2,813,833	3,095,313	12.6%	10.0%	23.9%
California	29,760,021	33,871,648	37,253,956	13.8%	10.0%	25.2%
USA	248,709,873	281,421,906	308,745,538	13.2%	9.7%	24.1%

Sources: United States Census Bureau (Census) 1990, 2000, 2010a.

Table 3.8-2 displays population projections, for 2020 and 2030, for San Diego County, the State of California, and the United States. From 2010 to 2020, population in San Diego County is expected to increase by 7.7 percent, lower population growth than was experienced from 2000 to 2010 (see Table 3.8-1). For the 20-year period from 2010 to 2030 population in San Diego County is expected to increase by 14.1 percent, slightly less than growth expected in California (18.9 percent) and the nation overall (16.1 percent). Projections suggest that by 2030 there will be 3.5 million residents of San Diego County.

Table 3.8-2. Population, 2010 and Population Projections, 2020-2030

Location	*2010*	*2020*	*2030*	*Percent (%) Change 2010 - 2020*	*Percent (%) Change 2020 - 2030*	*Percent (%) Change 2010 - 2030*
San Diego County	3,095,313	3,333,995	3,530,896	7.7%	5.9%	14.1%
California	37,253,956	40,643,643	44,279,354	9.1%	8.9%	18.9%
USA	308,745,538	333,896,000	358,471,000	8.1%	7.4%	16.1%

Sources: Caltrans 2013; Census 2012, 2010a.

Demographics

As shown in Table 3.8-3, the population of San Diego County in 2010 was 68.3 percent White, 14.8 percent Hispanic or Latino, 13.2 percent Asian, 6.3 percent Black or African American, 1.7 percent American Indian or Native Alaskan, and 1 percent Native Hawaiian or Other Pacific Islander. Compared to the population of the state of California, the population of San Diego County was more White, less Hispanic or Latino, and had a similar proportion of Black or African Americans, American Indian or Native Alaskans, and Native Hawaiian or Other Pacific Islanders. In comparison to the population of the nation overall, San Diego County was less White, more Hispanic or Latino, less Black or African American, more Native Hawaiian or Other Pacific Islander, and had a similar proportion of American Indian or Alaska Natives.

Table 3.8-3. Race, Alone or in Combination[1], 2010

Location	*White (percent)*	*Hispanic or Latino (percent)*	*Asian (percent)*	*Black or African American (percent)*	*American Indian or Alaska Native (percent)*	*Native Hawaiian or Other Pacific Islander (percent)*
San Diego County	68.3%	14.8%	13.2%	6.3%	1.7%	1.0%
California	61.6%	18.4%	14.9%	7.2%	1.9%	0.8%
USA	74.8%	6.7%	5.6%	13.6%	1.7%	0.4%

Note: [1] Respondents were able to identify themselves as one or more races so percentage totals may exceed 100 percent.
Source: Census 2010a.

Table 3.8-4 presents data on educational attainment for San Diego County, the state of California, and the nation overall, as of 2010. Of the population aged 25 or older, 15 percent of San Diego residents had not completed high school, 20 percent had completed high school but not attended college, 31 percent had attended some college or received an Associate degree, and 34 percent had earned a Bachelor's degree or advanced degree. In general, San Diego County had a higher level of educational attainment in comparison to California and the nation overall. As of 2010, a higher percentage of the population of San Diego County had completed some college or received an Associate degree than the populations of California and the nation overall; also, a greater proportion of San Diego County residents had earned a Bachelors or advanced degree. San Diego County had a lower proportion of its population that had either not completed high school or had completed high school but not attended college than California and the nation overall.

Table 3.8-4. Educational Attainment[1], 2010

Education Attainment	*San Diego County (percent)*	*California (percent)*	*U.S. (percent)*
Did not complete high school	15%	19%	15%
High school or equivalent, no college	20%	21%	29%
Some college or Associate degree	31%	29%	28%
Bachelor's degree or advanced degree	34%	30%	28%

Note: [1] Educational attainment for individuals aged 25 or older.
Source: Census 2010b.

Table 3.8-5 provides household characteristics data for San Diego County, the state of California, and the nation overall. As of 2010, San Diego County had a household population of 2,918,121 (94 percent of total population) and 1,061,789 total households. The average household size was 2.75 persons per household, fewer than California but greater than the nation overall. San Diego County had a higher median household income and a higher income per household member than California and the nation overall. The number of San Diego County households with incomes below the poverty line totaled 113,963, or 10.7 percent, a rate lower than California and the nation overall.

Table 3.8-5. Household Characteristics

Location	*Population in HH's[1]*	*Total Households*	*Avg. HH Size*	*Percent of Family HH's*	*Median HH Income*	*Income Per HH Member*	*HH's Below Poverty Level*	*Percent HH's Below Poverty Level*
San Diego County	2,918,121	1,061,789	2.75	66.3%	$63,069	$22,934	113,963	10.7%
California	35,810,593	12,392,852	2.89	68.6%	$60,883	$21,067	1,493,426	12.1%
USA	295,968,252	114,235,996	2.59	66.8%	$51,914	$20,044	14,865,322	13.0%

Note: [1] By definition, population in households consists of the resident population excluding people living in group quarters (i.e., 9 or more people living together who are unrelated to the householder).
HH = households
Source: Census 2010b.

Employment and Income

Table 3.8-6 provides labor force statistics for San Diego County, the state of California, and the nation overall. In 2013, the labor force of San Diego County was 1,559,038. Of the total labor force, 1,470,029 individuals were employed and 120,009 were unemployed implying an unemployment rate of 7.5 percent. The unemployment rate in San Diego County in 2010 was lower than California's (8.9 percent) but higher than the nation overall (7.4 percent). From 1990 to 2013, the labor force, the number of employed, and the number of unemployed in San Diego expanded at a greater rate than California and the nation overall; the number of individuals who were employed in San Diego County increased by 27 percent, while the number of unemployed more than doubled (increasing by 113 percent).

Table 3.8-6. Labor Force, Employment, and Unemployment, 1990, 2000, and 2013

Location	*Years*	*Labor Force*	*Employed*	*Unemployed*	*Unemployment Rate[1] (percent)*
San Diego County	1990	1,215,650	1,159,268	56,382	4.6%
	2000	1,376,008	1,322,244	53,764	3.9%
	2013	1,590,038	1,470,029	120,009	7.5%
	Percent Change 1990 to 2013	31%	27%	113%	2.9%
California	1990	15,168,531	14,294,115	874,416	5.8%
	2000	16,857,578	16,024,341	833,237	4.9%
	2013	18,596,818	16,933,321	1,663,497	8.9%
	Percent Change 1990 to 2013	23%	18%	90%	3.1%
USA	1990	125,840,000	118,793,000	7,047,000	5.6%
	2000	142,583,000	136,891,000	5,692,000	4.0%
	2013	155,389,000	143,929,000	11,460,000	7.4%
	Percent Change 1990 to 2013	23%	21%	63%	1.8%

Note: [1] Changes in the unemployment rate, from 1990 to 2013, are expressed in terms of percentage points.
Source: U.S. Bureau of Labor Statistics (BLS) 2014a, 2014b.

Table 3.8-7 shows data on employment by industry in San Diego County for the years 2000 and 2010. In terms of employment, the largest industry in San Diego County in 2010 was the Educational, Health, and Social Services industry, which employed 175,905 people (21.4 percent of industry employment). Other large industries in 2010, in terms of employment, included the Retail Trade industry (12.7 percent of employment) and the Manufacturing industry (10.4 percent of industry employment). The fastest growing industries in San Diego County from 2000 to 2010, in terms of employment, include the Construction industry (43 percent increase in employment from 2000 to 2010), the Arts, Entertainment, Recreation, Accommodation, and Food Services industry (37 percent increase), and the Transportation, Warehousing, and Utilities industry (35 percent increase). From 2000 to 2010, overall industry employment in San Diego County increased by 25 percent.

Table 3.8-8 provides data on average annual salary for San Diego County, the state of California, and the nation overall for 2001 and 2012. Average annual pay in San Diego County in 2012, was $54,022. Average annual pay in San Diego County was lower than the California average ($56,784) but greater than the national average ($49,289). From 2001 to 2010, average annual pay in San Diego County increased at a faster pace than California and the nation overall, increasing 41 percent compared to a 37 percent increase for California and a 36 percent increase for the nation overall.

Table 3.8-8. Average Annual Pay[1], 2001-2012

Location	*2001*	*2012*	*Percent (%) Change*
San Diego County	$38,418	$54,022	41%
California	$41,327	$56,784	37%
USA	$36,219	$49,289	36%

Note: [1] Average annual pay for all employees covered by unemployment insurance.
Source: BLS 2012c.

Table 3.8-7. Employment by Industry in San Diego County 2000 and 2010

Industry	*2000 Employment (persons employed)*	*Share of Total 2000 Employment (percent)*	*2010 Employment (persons employed)*	*Share of Total 2010 Employment (percent)*	*Growth Rate 2000 to 2010 (percent)*
Agriculture, forestry, fishing, hunting, and mining	5,934	0.9%	6,256	0.8%	5%
Construction	49,517	7.5%	70,951	8.6%	43%
Manufacturing	84,166	12.7%	85,943	10.4%	2%
Wholesale trade	27,174	4.1%	33,179	4.0%	22%
Retail trade	84,460	12.8%	104,614	12.7%	24%
Transportation, warehousing, and utilities	46,776	7.1%	63,024	7.6%	35%
Information	14,961	2.3%	14,762	1.8%	-1%
Finance, insurance, real estate, rental, and leasing	36,860	5.6%	46,496	5.6%	26%
Professional, scientific, management, administrative, and waste management services	50,726	7.7%	68,024	8.3%	34%
Educational, health, and social services	140,063	21.2%	175,905	21.4%	26%
Arts, entertainment, recreation, accommodation, and food services	49,494	7.5%	67,563	8.2%	37%
Other services (except public administration)	34,428	5.2%	40,190	4.9%	17%
Public administration	36,713	5.6%	47,003	5.7%	28%
Total Industry Employment	**661,272**		**823,910**		**25%**

Sources: Census 2000, 2010b.

Environmental Justice

Figure 3.8-1 shows environmental justice low-income population areas, and Figure 3.8-2 shows environmental justice minority population areas near the project area. There are numerous low-income or minority population areas located near the project area. Most of the environmental justice areas that are near the project area are located near to the proposed pipeline relocation, and there are also two proposed valve stations that would be located in low-income population areas.

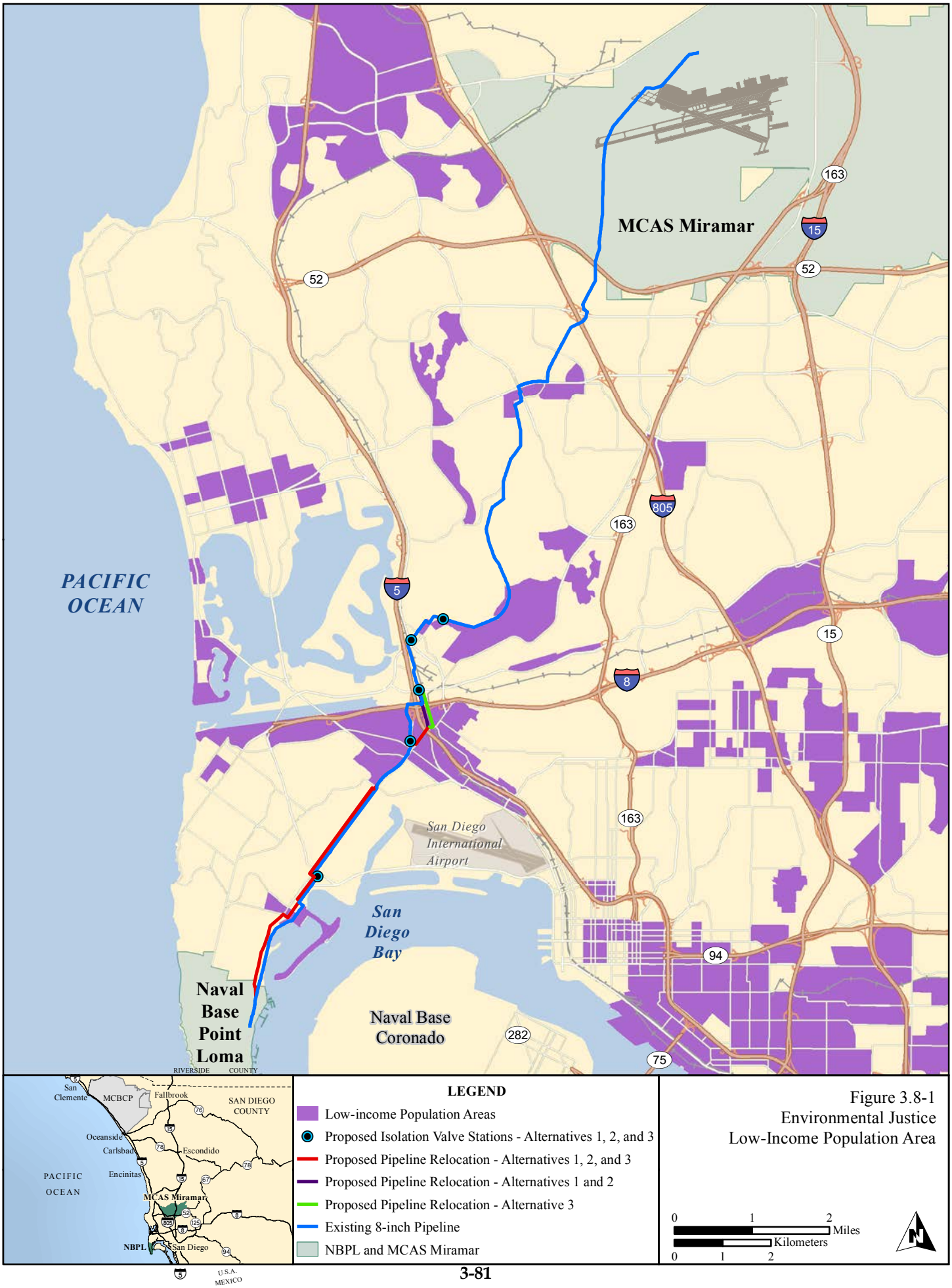

Figure 3.8-1
Environmental Justice
Low-Income Population Area

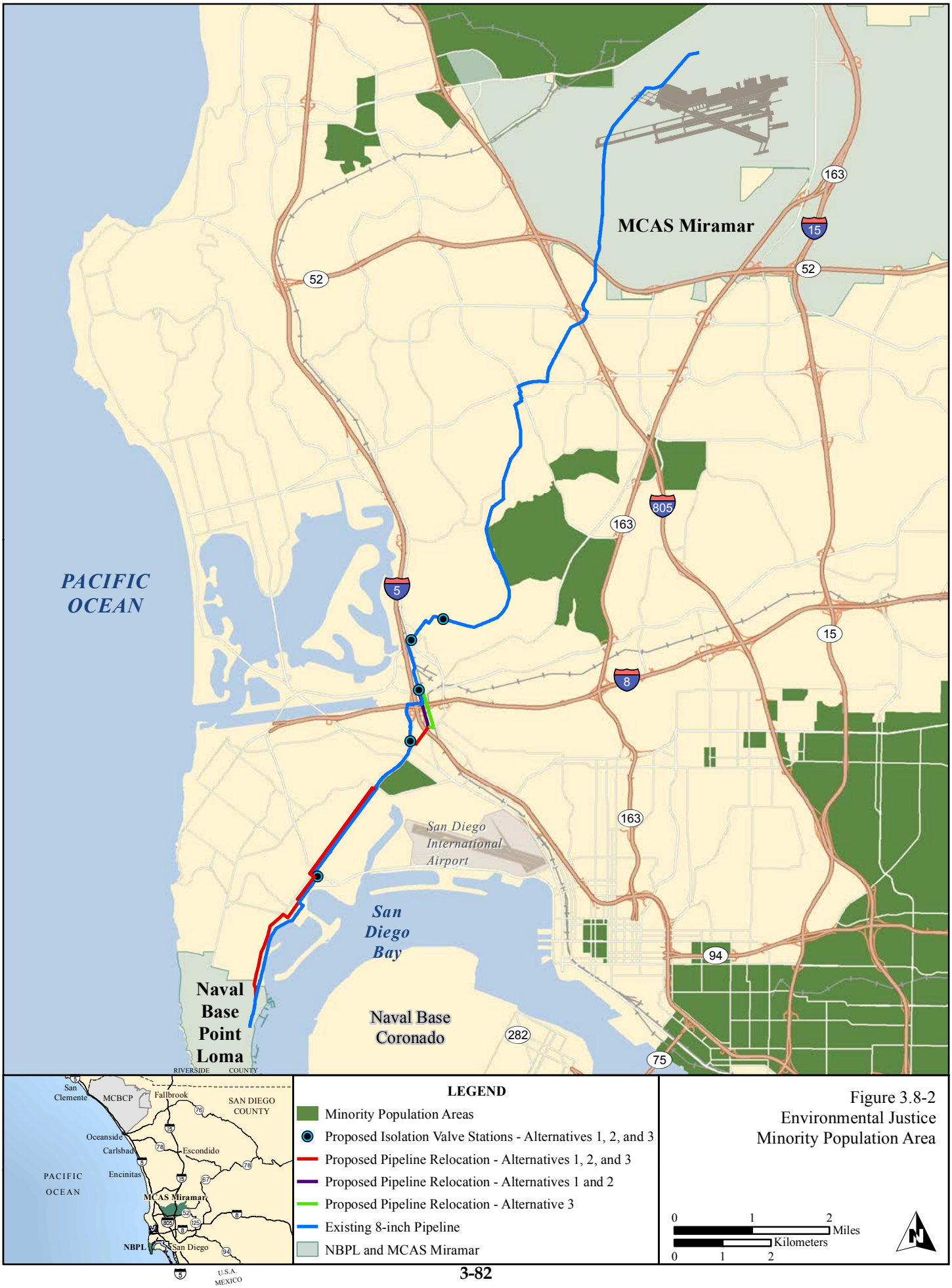

Figure 3.8-2
Environmental Justice
Minority Population Area

3.8.4 Environmental Consequences

3.8.4.1 Approach to Analysis

As part of the Proposed Action, the Navy would engage in a construction project to repair and relocate portions of the Miramar Pipeline. The socioeconomic analysis measures the economic impact of construction on the economy of San Diego County, by modeling the potential increase in expenditures in the construction sector. The Impact Analysis for Planning (IMPLAN) economic model, with 2010 data for San Diego County, was used to estimate direct, indirect, and induced impacts.

Planned construction expenditures were estimated by NAVFAC SW in its pre-final design submittal (NAVFAC SW 2014). This estimate was used as the basis for socioeconomic analysis; however, certain expenditures in the pre-final design submittal were categorized as contractor markups and, as such, were excluded from analysis. Data in Table 3.8-9 show total construction expenditures for material, labor, equipment, and unit costs, the markups associated with each, and the expenditures that were applied in analysis (total expenditures excluding markups).

Table 3.8-9. Miramar Pipeline Repair Direct Construction Expenditures in San Diego County, by Type of Expenditure, 2015-2017

Type of Expenditure	*Materials*	*Labor*	*Equipment*	*Unit Cost*	*Total*
Estimated Total Cost	$4,739,341	$5,312,063	$3,207,004	$6,214,707	$19,473,115
Markup Rates	40.4%	30.3%	40.7%	30.3%	
Markups	$1,363,742	$1,235,269	$927,683	$1,445,170	$4,971,864
Estimated Expenditures[1]	$3,375,599	$4,076,794	$2,279,321	$4,769,537	$14,501,251

Source: NAVFAC SW 2014.

Note: Estimated expenditures are equal to the estimated total cost excluding markups. Values are input into IMPLAN economic model.

The direct construction expenditures identified in Table 3.8-9 would contribute to the number of jobs, the amount of income earned by San Diego County residents, and the overall level of economic activity in the county. To determine how much of an impact would occur, the expenditures were input into the IMPLAN model, which uses direct expenditures to estimate changes in employment, labor income, and economic output. For purposes of economic modeling, it was assumed that construction activities would take approximately 25 months (1 month in 2015 and 12 months in 2016 and 2017).

Economic impacts are expressed in terms of jobs, labor income, and economic output, defined as follows:

- Jobs represent the number of jobs, including part-time jobs, currently located in San Diego County that can be attributed to the Proposed Action.
- Labor income represents the income generated through the jobs generated by the proposed action; includes proprietor income (profits).
- Economic Output represents the value of industry production.

Jobs, labor income, and economic output are measured in three ways – direct effects, indirect effects, and induced effects, defined as follows:

- Direct effects are associated with the construction project itself. Direct jobs include onsite construction jobs. Direct labor income is the incomes earned by onsite construction workers. Direct economic output is associated with initial purchases of local materials and supplies needed for construction.
- Indirect effects are the jobs, income, and economic output generated by the businesses that would supply goods and services needed for construction. Indirect jobs include jobs at companies that supply goods and services to construction firms. Indirect jobs can extend to include jobs related to the manufacture of products/equipment used in construction (if the manufacture is in San Diego County). Indirect labor income includes the income earned by people working indirect jobs. Indirect output includes the total sales volume related to the supply of goods and services to suppliers.
- Induced effects are the result of spending of the wages and salaries of the direct and indirect employees on items such as food, housing, transportation, and medical services. This spending creates induced employment in nearly all sectors of the economy, especially service sectors.

3.8.4.2 Alternative 1

Socioeconomics

Table 3.8-10 shows the estimated number of jobs, in San Diego County, that would result from Alternative 1. Over the construction period, a total of 147 jobs would be associated with Alternative 1. Most of those jobs (76) would be direct, while 27 jobs would be indirect and 44 would be induced jobs. Because jobs impacts would be beneficial, there would be no significant impact to jobs from implementation of Alternative 1.

Table 3.8-10. Jobs[1] Impact, 2015-2017

Jobs Impact	*2015*	*2016*	*2017*	*Total[2]*
Direct Effect	3	36	36	**76**
Indirect Effect	1	13	13	**27**
Induced Effect	2	21	21	**44**
Total Effect[2]	**6**	**70**	**70**	**147**

Note: [1] Jobs are not Full Time Equivalent; some part-time jobs may be included in results.
[2] Some totals may not sum exactly due to rounding.

Table 3.8-11 shows the estimated labor income impact, in San Diego County, that would result from Alternative 1. Over the construction period, a total of $9.4 million in labor income would be associated with the proposed action. Most of that income ($5.6 million) would be direct, while $1.7 million would be indirect income and $2 million would be induced income. Because

labor income impacts would be beneficial, there would be no significant impact to labor income from implementation of Alternative 1.

Table 3.8-11. Labor Income Impact, 2015-2017, Constant 2014 Dollars

Labor Income Impact	*2015*	*2016*	*2017*	*Total[1]*
Direct Effect	$224,519	$2,694,227	$2,694,227	**$5,612,974**
Indirect Effect	$68,905	$826,861	$826,861	**$1,722,628**
Induced Effect	$82,623	$991,477	$991,477	**$2,065,576**
Total Effect[1]	**$376,047**	**$4,512,565**	**$4,512,565**	**$9,401,177**

Note: [1] Some totals may not sum exactly due to rounding.

Table 3.8-12 shows the estimated labor income impact, in San Diego County, that would result from Alternative 1. Over the construction period, a total of $24.8 million in economic output would be associated with the proposed action. Most of that output ($14.5 million) would be direct, while $4.25 million would be indirect output and $6 million would be induced output. Because economic output impacts would be beneficial, there would be no significant impact to labor income from implementation of Alternative 1.

Table 3.8-12. Economic Output Impact, 2015-2017, Constant 2014 Dollars

Economic Output Impact	*2015*	*2016*	*2017*	*Total[1]*
Direct Effect	$580,050	$6,960,600	$6,960,600	**$14,501,251**
Indirect Effect	$170,113	$2,041,361	$2,041,361	**$4,252,836**
Induced Effect	$242,634	$2,911,604	$2,911,604	**$6,065,841**
Total Effect[1]	**$992,797**	**$11,913,566**	**$11,913,566**	**$24,819,928**

Note: [1] Some totals may not sum exactly due to rounding.

Environmental Justice

The Proposed Action would have some impacts, related to noise and transportation and circulation, on the environment and health of populations. These potential impacts were determined to be less than significant and to affect all population segments. Since potential effects on the health and environment of populations are not expected to be high and adverse and would not disproportionately affect minority or low-income populations, the proposed action would have no impact on environmental justice.

3.8.4.3 Alternative 2

The overall duration of construction activities and pipeline replacement activities would be similar to Alternative 1, albeit slightly longer for Alternative 2 due to the removal of the

pipeline along the La Playa waterfront. Therefore, the socioeconomic and environmental justice impacts under Alternative 2 would be slightly greater but similar to those described for Alternative 1. Therefore, no significant socioeconomic and environmental justice impacts would occur with implementation of Alternative 2.

3.8.4.4 Alternative 3

The overall duration of construction activities and pipeline replacement activities would be very similar to Alternative 1; therefore, the socioeconomic and environmental justice impacts under Alternative 3 would be essentially the same as those described for Alternative 1. Therefore, no significant socioeconomic and environmental justice impacts would occur with implementation of Alternative 3.

3.8.4.5 No-Action Alternative

Under the No-Action Alternative, no construction, trenching, pipeline closure, or pipeline removal activities would occur. Socioeconomic and environmental justice impacts would not be generated, and baseline conditions would remain consistent with ongoing trends. Therefore, there would be no significant socioeconomic and environmental justice impacts from implementation of the No-Action Alternative.

3.9 TRANSPORTATION AND CIRCULATION

3.9.1 Definition of Resource

For the purpose of this EA, transportation and circulation refer to the movement of people and goods on a surface transportation network. A surface transportation network may include many different types of facilities that serve a variety of transportation modes, such as vehicular traffic, public transit, and non-motorized travel (e.g., pedestrians and bicycles). The relative importance of various transportation modes is influenced by development patterns and the characteristics of transportation facilities. In general, compact areas that contain a mixture of land uses tend to encourage greater use of public transit and/or non-motorized modes, especially if pedestrian, bicycle, and transit facilities provide desired connections and are well operated and well maintained. More dispersed and segregated land uses tend to encourage greater use of passenger cars and other vehicles, particularly if extensive parking is provided. Travel patterns on a transportation network may vary by time of day, day of week, and direction of travel. Peak travel demand often coincides with morning and afternoon weekday commuting periods, and transportation impact studies frequently focus on effects that may occur during these peak periods. Commuting also has a directional component (e.g., work trips originating in a residential area will be concentrated in the outbound direction in the morning and in the inbound direction in the afternoon).

3.9.2 Regulatory Framework

Streets in the ROI are classified based on the intended function of the roadway, in terms of travel speed, trip distance, and access to and from adjacent land uses. Arterial streets are intended to accommodate traffic moving at a relatively high speed over a long distance. Access to arterial streets (e.g., via driveways, on-street parking, etc.) is generally limited. Collector

streets accommodate traffic moving over shorter distances and at lower speeds than arterials. The intended function of a collector street is to provide a linkage between local and arterial streets. Local streets provide access to land uses and do not accommodate a substantial amount of through traffic. Speed and trip distance on local streets is lower than for arterials and collectors. The City of San Diego has established sub-classifications for both arterials and collectors based on the number of lanes, the type of adjacent land use, and design considerations. The City has established a maximum capacity for each sub-classification of arterial and collector streets, which is expressed in terms of a daily traffic volume. Traffic volume is the total number of vehicles passing a given point during a specific time interval. Traffic volumes on roadway segments are commonly described in terms of the number of vehicles moving over the midpoint of the segment in both directions of travel over the course of a day (City of San Diego 1998).

The proposed repair and replacement activities would take place almost entirely within the boundaries of the City of San Diego. Therefore, various permits would be required from the City for construction within their right-of-way, including a Traffic Control Permit. The Traffic Control Permit requires preparation and submittal of a Traffic Control Plan to the City of San Diego. The Traffic Control Plan is required to conform to the latest edition of the City of San Diego Standard Drawings, Appendix "A"; the California Manual on Uniform Traffic Control Devices; and Standard Specifications for Public Works Construction (including Regional Supplemental Amendments and the City of San Diego Supplement Amendments). A Traffic Analysis (Appendix E) has been prepared in conjunction with the Traffic Control Plan. As discussed in Section 2.2, the goals of the Traffic Control Plan/Traffic Analysis effort are to reduce impacts to the local community, businesses, churches, and schools in the area, especially along Rosecrans Street, while maintaining standard traffic control geometries and operations during construction.

3.9.3 Affected Environment

The ROI for transportation and circulation includes the roadway segments, intersections, bicycle facilities, bus stops, and bus route alignments that may be affected by the construction of the proposed replacement pipeline (Appendix E, Figures C-1 through C-42). This includes streets lying along the alignment of the replacement pipeline that may experience direct impacts, and roadways near the alignment that may experience indirect effects, such as traffic detours.

The ROI is located in an urbanized area of the City of San Diego. Most of the land near the ROI has been fully developed, although in many instances at a comparatively low density (e.g., single-family residences, low-rise multi-family developments, specialty retail centers, etc.). Vehicle parking is accommodated by a combination of on-street spaces and off-street lots. Although the ROI accommodates non-motorized travel (i.e., sidewalks and bicycle lanes and paths) and public transit, the primary mode of travel is by passenger car or other vehicles (American Association of State Highway and Transportation Officials 2010).

3.9.3.1 Existing Conditions

The following paragraphs, excerpted from Appendix E, summarize the existing characteristics of roadway segments that coincide with the replacement pipeline alignment. Roadway classification data was obtained from the Peninsula Community Plan (City of San Diego 1987) and the Midway-Pacific Highway Corridor Community Plan (City of San Diego 1991). Existing street characteristics, including the number of lanes, posted speed limit, and the presence of sidewalks and bicycle facilities, were observed during field reconnaissance conducted in May 2014. Data on existing transit service was assembled from bus maps and timetables published by MTS (San Diego MTS 2014).

Rosecrans Street

Strothe Road to Talbot Street

Rosecrans Street between Strothe Road and Talbot Street functions as a two-lane collector roadway. Existing land use adjacent to this segment of Rosecrans Street include single- and multi-family residences. This segment has a speed limit of 30 miles per hour. Bicycle lanes are provided on both sides of the street for the extent of the segment. Sidewalks are present on both sides of the road for the entirety of the segment, with the exception of the west side of the street, between Owen Street and Qualtrough Street, where no sidewalk is provided.

Keats Street to Roosevelt Road

Rosecrans Street between Keats Street and Roosevelt Road is classified as a four-lane major arterial with a capacity of 40,000 vehicles per day. A speed limit of 35 miles per hour is posted along this segment of Rosecrans Street, which is fronted by commercial and retail land uses on both sides. No bicycle facilities are present along the south side of the segment between Keats Street and Poe Street. From Poe Street to Roosevelt Road, bicycle lanes are provided on both sides of the street. Sidewalks are present on both sides of the street for the entirety of this segment.

Roosevelt Road to Lytton Street

Between Roosevelt Road and Lytton Street, Rosecrans Street is a five-lane major arterial with a capacity of 45,000 vehicles per day and a speed limit of 40 miles per hour. The land uses on both sides of this segment consist primarily of residential and civic uses. Bicycle lanes and sidewalks are provided on both sides of the street.

Lytton Street to Sports Arena Boulevard

This segment of Rosecrans Street is classified as a major arterial with a capacity of 50,000 vehicles per day. This six-lane street has a speed limit of 40 miles per hour and runs through an area containing commercial, retail, and office land uses. Sidewalks are provided on both sides of the road for the entirety of the segment, but no bicycle facilities are present along this segment.

Sports Arena Boulevard to Pacific Highway

Rosecrans Street between Sports Arena Boulevard and Pacific Highway is a major arterial with four lanes and a capacity of 40,000 vehicles per day. This portion of Rosecrans Street passes

through commercial, retail and office uses, and has a posted speed limit of 35 miles per hour. Sidewalks are provided on both sides of the road, but no bicycle facilities are present along this segment.

Talbot Street

Talbot Street between Rosecrans Street and Scott Street is classified as a two-lane major arterial. This segment of Talbot Street has a speed limit of 25 miles per hour and is fronted on both sides by residential land uses. Sidewalks are provided on both sides of the road along this segment, but no bicycle facilities are present.

Keats Street

Keats Street between Scott Street and Rosecrans Street is classified as a local street. This two-lane road provides access to a variety of land uses including residential, commercial and office use, and has a posted speed limit of 25 miles per hour. Sidewalks are provided on both sides of the street for the entirety of the segment, but no bicycle facilities are present.

Scott Street

Talbot Street to Garrison Street

Scott Street between Talbot Street and Garrison Street is classified as a major arterial and has a posted speed limit of 25 miles per hour. This two-lane segment of Scott Street provides access to a limited number of residential land uses on the southern portion of the segment and a variety of commercial land uses along the remainder of the segment. No bicycle facilities are present along this segment from Talbot Street to Shelter Island Drive. Sidewalks are provided on both sides of the roadway.

Garrison Street to Keats Street

Scott Street between Garrison Street and Keats Street is classified as a local street and has a posted speed limit of 25 miles per hour. This two-lane segment provides access primarily to commercial land uses. Sidewalks are provided on both sides of the road, but no bicycle lanes are present.

Pacific Highway

North of Rosecrans Street and south of the San Diego River Bridge, Pacific Highway is classified as a major arterial with a capacity of 27,000 vehicles per day. This two-lane segment of Pacific Highway provides access to commercial and industrial land uses on both sides of the roadway, and has a posted speed limit of 45 miles per hour. Bicycle lanes and sidewalks are provided on both sides of this segment of road.

Transit Service

MTS operates the following bus routes along the project alignment:

- Route 84 operates along Rosecrans Street between NBPL and Shelter Island Drive and along Scott Street between Shelter Island Drive and Canon Street;

- Route 28 operates along Rosecrans Street between Canon Street and Old Town Transit Center;
- Route 35 operates along Rosecrans Street between Midway Drive and Old Town Transit Center; and
- Routes 8 and 9 operate along Rosecrans Street between Sports Arena Boulevard and Old Town Transit Center.

MTS also operates Route 923 along North Harbor Drive, which crosses the project alignment at Scott Street.

3.9.4 Environmental Consequences

3.9.4.1 Approach to Analysis

Construction of the action alternatives may result in the following impacts to transportation and circulation:

1. Temporary access restrictions due to:
    a. Closure of some residential and commercial driveways
    b. Closure of intersections providing access to some residential streets
2. Traffic detours due to temporary closure of some roadways
3. Traffic detours and traffic congestion due to a temporary reduction in the number of lanes on some streets and intersections
4. Temporary loss of on-street parking spaces on some streets
5. Temporary modification of some bicycle lanes and routes
6. Temporary modification of transit services and facilities

Operation of the action alternatives would not add any new traffic to the existing street network on a recurring basis, and all roadways, bicycle routes and paths, and transit service would be restored to their existing configuration following project construction. Because several roadways would be fully or partially resurfaced as the result of the Proposed Action, both action alternatives would have beneficial long-term impacts relative to transportation and circulation. Therefore, because the project would have no adverse effect on transportation and circulation during operations, the impact analysis described in this section discusses only temporary impacts resulting from construction.

3.9.4.2 Alternative 1

<u>Open-trench Construction</u>

In accordance with the City of San Diego Standard Specifications for Public Works Construction, Section 306, open trench construction would be limited to a maximum of 500 linear feet each day or the amount which can be constructed within a day, whichever is greater. Based on the number of utility crossings and limitations on working hours, at most a few hundred feet of pipe is expected to be constructed each day. Therefore, the proposed replacement pipeline would be installed in a series of segments, with the open trench area at any one time being less than 500 linear feet. In general, open trench construction activities (including trenching, pipeline installation, and backfilling) would be completed between the

hours of 7:00 a.m. and 7:00 p.m. on weekdays. The Proposed Action may also involve nighttime construction activities in selected nonresidential areas in order to minimize both traffic and economic effects at these locations. Construction activities on Rosecrans Street would be scheduled to avoid traffic congestion during the peak hour and in the peak direction of travel. At the end of each construction day, trench areas will be trench-plated, or backfilled and paved, so that the excavated area can be crossed by vehicle traffic.

Roadway Resurfacing

Following the completion of open-trench construction along a specific roadway segment, temporary paving would be installed to cover the trench. After all construction activities are complete, the installation of the permanent pavement surface would occur. The area to be resurfaced includes the width of the trench, plus an additional width as specified by the City of San Diego Municipal Code and the City of San Diego Standard Drawings and Specifications for Public Works Construction. This additional width ranges from 62 inches for arterial streets to 82 inches for collector streets (NAVFAC SW 2014).

Permanent resurfacing that includes grinding away a portion of the existing roadway surface (referred to as "milling") beyond the initial open pavement cut area, and filling the milled surface with asphalt concrete pavement. Per City of San Diego Standard Specifications for Public Works Construction, permanent paving should be completed within 30 days after initial pavement disturbance. Installation of new pavement involves placing a tack coat on the milled surface, laying down the new pavement, and compacting the new surface using rollers. Installation of permanent pavement would be accomplished in segments between the hours of 7:00 a.m. to 7:00 p.m. to the extent feasible. Resurfacing would be phased so that a portion of the road will be kept open to traffic, or detours would be provided during construction as outlined in Appendix E.

The City has imposed a moratorium on open trench construction and other types of excavation for several roadway segments in the ROI, including portions of Rosecrans Street, Scott Street, Kurtz Street, and Pacific Highway. A moratorium waiver is necessary to accommodate the proposed pipeline replacement on these segments. If the waiver is granted, the entire roadway must be resurfaced from curb to curb (or from curb line to median, if a median is present) following construction (NAVFAC SW 2014).

Slurry Seal

The City of San Diego requires that all roadways that are not under an excavation moratorium be slurry sealed. Where required, slurry seal would be accomplished in sections. Slurry seal would be phased so that a portion of the road will be kept open to traffic, or appropriate detours provided during construction.

Trenchless Construction

Trenchless construction uses specialized tunneling methods to install a pipeline below ground without requiring an open trench to install the pipeline. Two pits, called a launch pit and a receiving pit, are dug at each end of a pipeline segment. The pipe is then lowered into the

launch pit and then moved underground toward the receiving pit using a specialized boring machine. Trenchless construction has been specified to avoid temporary traffic impacts at the following high traffic volume intersections:

- Scott Street/North Harbor Drive
- Rosecrans Street/Keats Street
- Rosecrans Street/Lytton Street
- Camino del Rio/Kurtz Street

As part of the Traffic Analysis/Traffic Control Plan process, the following additional locations have been identified for trenchless construction:

- Rosecrans Street/Nimitz Boulevard
- Rosecrans Street/Taylor Street/Pacific Highway

Trenchless construction at each location would take approximately one week to complete. Where trenchless construction is required, closing of the launch and receiving pits would not be feasible; therefore, the pits would be protected by temporary railing and the construction activity would be expedited to complete this stage of construction as quickly as feasible. As discussed above, the Proposed Action may involve nighttime construction activities in selected nonresidential areas in order to minimize both traffic and economic effects at these locations.

Construction Staging

Installation of the proposed replacement pipeline on the underside of the Pacific Highway Bridge over the San Diego River would necessitate temporary storage of construction equipment and materials on the surface of the bridge. Therefore, construction staging would cause one lane to be closed for approximately 2 months. Since the bridge accommodates three full traffic lanes, temporary traffic control would be implemented on this segment, maintaining 2-way traffic by accommodating one travel lane in each direction during construction as outlined in Appendix E.

Closure In Place

As discussed above in Section 2.2.1, the existing pipeline would be closed in place after the replacement pipeline is put into service. This would involve defueling and cleaning the existing pipeline, and then filling the pipeline with inert concrete slurry. During closure, pits would be excavated 12 inches below the existing pipeline at maximum intervals of 1,500 feet. These pits would be used for soil sampling, and may also be used to inject concrete slurry into the existing pipeline. The pits would be located outside of major streets and high traffic areas to the extent possible. Pits within paved traffic areas would be resurfaced in accordance with City of San Diego requirements (NAVFAC SW 2014).

Summary of Impacts

The Traffic Analysis (Appendix E) describes the temporary transportation and circulation impacts caused by the construction activities discussed in the paragraphs above. Section 4.1 and Appendix C of the Traffic Analysis provide specific measures organized by roadway segment to avoid and/or minimize temporary traffic effects. Table 3.9-1 summarizes temporary effects on specific transportation facilities based on the impact categories described above in Section 3.9.4.1. As shown in this table, transportation impacts from Alternative 1 would be short-term and localized.

As shown in Table 3.9-1, construction of Alternative 1 would involve impacts to vehicular traffic, pedestrian and bicycle circulation, and transit facilities and services. These temporary impacts include access restrictions; reduction in capacity and traffic detours resulting from roadway and lane closure; loss of on-street parking; and modification of bicycle and transit facilities. The impacts would be caused by construction activities within a given segment for trenching and at the launch and receiving pits for trenchless construction. Therefore, impacts within the ROI would be concentrated in a specific area during each day of project construction. The Proposed Action would not have any significant effect on peak hour commuting within and through the ROI because: (1) construction would be scheduled to avoid the peak hour and peak direction on Rosecrans Street to the extent feasible; (2) open trenches would be covered while construction is suspended, and (3); trenchless construction would be expedited to minimize construction duration. In addition, because the impacts are temporary, localized, and occur primarily during non-peak periods, the transportation and circulation impacts are less than significant.

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Table 3.9-1. Summary of Traffic Impacts and Traffic Control Plan Measures, Alternative 1

Location of Temporary Impact		*Nature of Temporary Impact*	*Impact Significance*	*Traffic Control Plan Measures*	*Significance*
Segment Map(s) [1]	*Affected Street(s) or Transit Services*				
Impact 1: Temporary Access Restrictions					
C-1 through C-42	Segments of Rosecrans St., Talbot St., Scott St., Keats St., Kurtz St., and Pacific Hwy.	Driveway closure (75 single-family residences, 12 multi-family residences and 29 commercial buildings)	LTS	- Advance notification of closure - Minimize duration of closure [2] - Minimize number of street closures and detour traffic to alternate routes	LTS
C-3, C-5, C-23, C-24, C-25, and C-26	Segments of Nichols St., Qualtrough St., Tennyson St., Udall St., Voltaire St., Whittier St., and Yonge St.	Intersection closure (47 single-family residences)	LTS	- Advance notification of closure - Minimize duration of closure [2] - Minimize number of street closures and detour traffic to alternate routes	LTS
Impact 2: Temporary Roadway Closure					
C-8	Talbot St. at Rosecrans St.	Traffic detour to Upshur St.	LTS	None recommended. [3]	LTS
C-10	Cañon St. at Scott St.	Traffic detour to Shelter Island Dr. or Talbot St. (WB) and Rosecrans St. (EB)	LTS	None recommended. [3]	LTS
C-11	Shelter Island Dr. at Scott St.	Traffic detour to Cañon St. (WB) and Rosecrans St. (EB)	LTS	None recommended. [3]	LTS
C-15 through C-17	Scott St. (SB) between Keats St. and N. Harbor Dr.	Traffic detour to Rosecrans St.	LTS	None recommended. [3]	LTS
C-17 and C-18	Rosecrans St. (SB) between Nimitz Bl. and Keats St.	Traffic detour to Nimitz Bl. and N. Harbor Dr.; possible cut-through traffic on Scott St., Locust	LTS	- Schedule trenching to begin after 1:00 p.m. each day - Place signs along detour route to direct traffic to collector or arterial streets	LTS

Table 3.9-1. Summary of Traffic Impacts and Traffic Control Plan Measures, Alternative 1

Location of Temporary Impact		*Nature of Temporary Impact*	*Impact Significance*	*Traffic Control Plan Measures*	*Significance*
Segment Map(s) [1]	*Affected Street(s) or Transit Services*				
		St., Keats St., Jarvis St., and Ingelow St.			
C-35	Rosecrans St. (SB) between Hancock St. and Kurtz St.	Traffic detour to Hancock St. and Camino del Rio	LTS	- Schedule construction to begin before 11:00 a.m., and after 1:00 p.m. each day	LTS
Impact 3: Temporary Reduction in Lanes					
C-11 and C-12	Scott St. between Shelter Island Drive and Carleton St.	Reduction in capacity due to removal of one SB lane	LTS	None recommended. [5]	LTS
C-13 and C-14	Scott St. between Carleton St. and Garrison St.	Reduction in capacity due to removal of one SB lane and one NB lane	LTS	None recommended. [5]	LTS
C-15	Scott St. at N. Harbor Dr.	Reduction in capacity due to removal of one SB lane	LTS	None recommended. [5]	LTS
C-18	Rosecrans St. at Nimitz Blvd.	Reduction in capacity due to removal of one or two SB lanes	LTS	- Expedite trenchless construction [4]	LTS
C-19 through C-22	Rosecrans St. between Macaulay St. and Sterne St.	Reduction in capacity and traffic detour to Locust St. and N. Harbor Dr. due to removal of one SB lane	LTS	- Schedule construction between the hours of 9:00 a.m., and 3:00 p.m. each day	LTS
C-23 through C-30	Rosecrans St. between Sterne St. and Freeman St.	Reduction in capacity and traffic detour to Truxtun Rd. due to removal of one SB lane during trenching, and	LTS	- Schedule construction between the hours of 9:00 a.m., and 3:00 p.m. each day	LTS

Table 3.9-1. Summary of Traffic Impacts and Traffic Control Plan Measures, Alternative 1

Location of Temporary Impact		*Nature of Temporary Impact*	*Impact Significance*	*Traffic Control Plan Measures*	*Significance*
Segment Map(s) [1]	*Affected Street(s) or Transit Services*				
		one SB lane plus one NB lane during resurfacing			
C-31 through C-34	Rosecrans St. between Freeman St. and Lytton St.	Reduction in capacity and traffic detour to Locust St. and Truxtun Rd. due to removal of one SB lane	LTS	- Schedule trenching to avoid lane closures between the hours of 6:00 and 9:00 a.m. and between the hours of 3:00 and 6:00 p.m.	LTS
C-34	Rosecrans St. at Lytton St.	Reduction in capacity due to removal of one SB lane	LTS	- Expedite trenchless construction. [4]	
C-35	Kurtz St. at Camino del Rio	Reduction in capacity due to removal of northern receiving lane along Kurtz St.	LTS	None recommended. [5]	LTS
C-36	Rosecrans St. between Hancock St. and Moore St.	Reduction in capacity due to removal of one SB lane	LTS	None recommended. [5]	LTS
C-37	Rosecrans St. between Moore St. and Jefferson St.	Reduction in capacity due to removal of one SB and one NB lane	LTS	None recommended. [5]	LTS
C-37 through C-39	Rosecrans St./Taylor St. at Pacific highway	Reduction in capacity due to removal of one SB and one NB lane	LTS	- Expedite trenchless construction. [4]	
Impact 4: Temporary Loss of On-Street Parking Spaces					
C-1 through C-42	Segments of Rosecrans St., Scott St., Keats St., Kurtz St., and Pacific Hwy.	Loss of on-street parking in both northbound and southbound directions	LTS	- Advance notification of parking loss	LTS

Table 3.9-1. Summary of Traffic Impacts and Traffic Control Plan Measures, Alternative 1

Location of Temporary Impact		*Nature of Temporary Impact*	*Impact Significance*	*Traffic Control Plan Measures*	*Significance*
Segment Map(s) [1]	*Affected Street(s) or Transit Services*				
Impact 5: Temporary Modification of Bicycle Lanes and Routes					
C-1 through C-8, and C-39 through C-42	Segments of Rosecrans St., Scott St. and Pacific Hwy.	Realignment or closure of existing routes, and removal of striped bicycle lanes [6]	LTS	- Provide guidance for bicyclists to maneuver around the construction zone through the use of traffic control and/or detour routes	LTS
Impact 6: Temporary Modification of Transit Services and Facilities					
C-1 through C-11 (Route 84) and C-1 through C-38 (Route 28)	MTS Routes 84 and 28	Fifteen bus stops would be affected, with one stop to be closed at a time. Alternative routing will be required during construction	LTS	- Coordinate with MTS before construction to identify changes to bus stops and routes - Advance notification of changes to transit service	LTS
C-35 through C-38 (all routes)	MTS Routes 8, 9, and 35	Temporary closure of one bus stop, and alternative routing during construction	LTS	- Coordinate with MTS before construction to identify changes to bus stops and routes - Advance notification of changes to transit service	LTS
C-38	Bus only lane on Rosecrans St. NB to Taylor St. EB	Lane would be shared with passenger cars and other vehicles, increasing trip duration for Routes 8, 9, 28, and 35.	LTS	- Advance notification of changes to transit service	LTS

Notes: [1] Refer to Figures C-1 through C-42 of Appendix E.
[2] Driveways and side streets that have no secondary access would be closed for no longer than two hours at any one time.
[3] Because traffic volumes are comparatively light, no additional SCMs are recommended.
[4] Trenchless construction to be expedited to minimize duration of closure. Nighttime work would be implemented at selected nonresidential locations to minimize both traffic and economic effects.
[5] Even with a lane reduction, there is sufficient capacity to accommodate existing traffic during both peak and non-peak periods.
[6] In most instances where striped bicycle lanes would be removed, signs will be posted advising motorists to share the road with bicyclists.
EB = eastbound; LTS = less than significant; NB = northbound; SB = southbound; WB = westbound

Traffic Control Plan

The following additional avoidance and minimization measures/SCMs have been developed as part of the Traffic Analysis/Traffic Control Plan process, and would be adopted to further reduce temporary transportation impacts due to Alternative 1:

- Notify residents and businesses of upcoming road work and preclusion of access to their driveways.
- Minimize the duration which access is precluded by adhering to the City of San Diego's standard maximum open trench length of 500 feet.
- Construct in a manner, through phasing and construction techniques, to minimize the duration of closure of Nichols Street (east leg), Qualtrough Street (east leg), Tennyson Street, Udall Street, Voltaire Street, Whittier Street, and Yonge Street to the extent feasible.
- Strategically phase construction to limit the number of cross-streets that will be closed and detour traffic traveling to/from or along side streets blocked by the construction trench to the next available side street.
- Through the use of traffic control, modify existing roadway geometrics to best maintain vehicular and bicycle access and provide capacity during the construction period within the available roadway right-of-way.
- For roadways that will experience congestion due to reduced capacity during construction, limit the hours of construction (and corresponding effects on capacity) to avoid peak periods of traffic on that roadway.
- For locations with temporary roadway closures or limitations on allowed turning movements during construction, sign detour routes to direct detoured traffic to collector or arterial streets to discourage cut-through traffic on residential streets.
- Where the project crosses high volume roadways, use trenchless construction techniques to reduce or eliminate effects to the crossing roadway.
- Where trenchless construction is required, the launch and receiving pits should be protected by temporary railing, and the construction activity should be expedited to complete this stage of construction as quickly as feasible.
- Nighttime construction should be implemented in selected nonresidential areas to minimize construction duration, which would in turn reduce both traffic and economic effects.
- Notify surrounding land uses of upcoming loss of on-street parking prior to beginning construction.
- Provide guidance for bicyclists to maneuver around the construction zone through use of traffic control or detour routes.
- Coordinate with MTS prior to construction to identify changes to bus stops or bus routes.
- Provide public notification of changes to bus stops or bus routes prior to construction.
- During closure in place, locate sampling/pipeline access pits outside of major streets and high traffic areas to the extent possible.

3.9.4.3 Alternative 2

Under Alternative 2, the alignment of the proposed replacement pipeline would be the same as Alternative 1. Therefore, the transportation and circulation impacts for this portion of

Alternative 2 would be identical to those of Alternative 1. As described in the preceding section, Alternative 2 would also remove a portion of existing pipeline in the La Playa waterfront community. However, the proposed pipeline removal would not occur beneath any existing roadway. Therefore, there would be no lane closures or other temporary transportation-related effects associated with this activity. Accordingly, Alternative 2 would not cause any incremental additional impacts as compared to Alternative 1 and the additional avoidance and minimization measures/SCMs developed as part of the Traffic Analysis/Traffic Control Plan process would be applicable and would further reduce Alternative 2's temporary traffic impacts. Therefore, implementation of Alternative 2 would not result in significant impacts to transportation and circulation.

3.9.4.4 Alternative 3

Under Alternative 3, the proposed replacement pipeline would follow the same alignment as Alternatives 1 and 2 from the southern end of the alignment through the intersection of Rosecrans Street/Taylor Street/Pacific Highway. Accordingly, along this segment, Alternative 3 would not cause any incremental additional impacts as compared to Alternatives 1 and 2, and the additional avoidance and minimization measures/SCMs developed as part of the Traffic Analysis/Traffic Control Plan process would be applicable and would further reduce Alternative 3's temporary traffic impacts in this portion of the alignment.

From the Rosecrans Street/Taylor Street/Pacific Highway intersection, the alignment would continue east along Taylor Street, before proceeding north to cross the San Diego River on the Santa Fe Railroad Bridge. Alternative 3 would be designed to incorporate measures to avoid or minimize impacts to transportation and circulation during construction along the portion of the alignment located east of Pacific Highway. These measures would address all modes of travel, including traffic along Taylor Street, and Light Rail Transit, commuter rail, and freight rail service in the corridor to the north of Taylor Street. With the implementation of this additional measure, Alternative 3 would not result in any significant impact relative to transportation and circulation.

3.9.4.5 No-Action Alternative

Under the No-Action Alternative, the Miramar Pipeline would be maintained in its existing alignment, and none of the replacement and repair activities described in Sections 2.2 through 2.4 would occur. Therefore, the No-Action Alternative would have no impacts to transportation and circulation as the result of construction activities.

3.10 UTILITIES

3.10.1 Definition of Resource

This section describes the potential temporary and permanent effects the action alternatives may have on existing utility service near the proposed repair and relocation activities. For the purpose of this EA, a utility is defined as a linear facility (such as a pipe or a cable) used to convey water, electricity, fuel, telecommunications data (e.g., telephone, cable television, etc.), stormwater, gas, sewer, or steam. Utilities may be placed aboveground (e.g., mounted on utility poles or suspended on bridges), or they may be installed in underground conduits. Utilities fulfill a critical function in developed areas by supplying water, power and telecommunications data to public and private users, removing wastewater for treatment, and managing the flow of stormwater over impervious surfaces, such as roads and parking lots.

3.10.2 Regulatory Framework

The design and construction of the proposed replacement pipeline are governed by federal, state, and local regulations, which are described in Section 3.4.2, *Hazardous Materials and Wastes, Regulatory Framework.*

3.10.3 Affected Environment

The ROI for utilities includes existing and planned future utility lines that are located near the proposed replacement and repair activities. Specifically, this includes utilities that run parallel to, or pass through, the alignment of the proposed replacement pipeline and the footprint of the proposed valve stations. The ROI also includes existing utilities near the segments of existing pipe that would be removed under Alternative 2. Utility service providers in the ROI include the City of San Diego (water, sewer, and stormwater), SDG&E (gas and electricity), AT&T (telephone), Cox Communications (cable television), and Time Warner Cable (cable television). The existing pipeline and the proposed pipeline alignment are located entirely within the City of San Diego, and project construction would require permits from the City of San Diego, Caltrans, and the Port of San Diego.

3.10.3.1 Existing Conditions

The alignment of the proposed replacement pipeline is located in an urbanized area of the City of San Diego. The pipeline would be installed beneath several existing paved roadways, including segments of Rosecrans Street, Talbot Street, Scott Street, Keats Street, Camino del Rio, Kurtz Street, Pacific Highway, and Friars Road. Many existing utility lines are present beneath these roadways. These include water, electricity, fuel, telecommunications data, stormwater, gas, and sewer lines. These utilities are buried at varying depths below the existing grade, although most are no more than four feet below the surface. The existing utilities have a wide range of pipe diameters, but most are between one and eight inches in diameter. In general, the larger diameter pipes run parallel to the roadway alignment, while smaller diameter pipes run perpendicular to the roadway, extending service to surrounding land uses. One of the more significant existing utilities is an 87-inch sewer main that runs beneath portions of Rosecrans Street, Talbott Street, and Scott Street. This sewer main is located more than four feet below the existing grade, and the proposed replacement alignment would pass over the sewer main below

the intersection of Rosecrans Street and Nichols Street. Aboveground electricity and gas utilities are attached to the underside of the Pacific Highway Bridge, where it passes over the San Diego River (NAVFAC SW 2014).

The proposed valve stations would be installed below ground at the following locations:

1. At the intersection of Scott Street and Keats Street
2. At the intersection of Camino del Rio and Kurtz Street
3. On Pacific Highway, to the east of Friars Road
4. At the southern end of Knoxville Street, north of Morena Boulevard
5. Adjacent to the Tecolote Nature Center, south of Tecolote Road

Several existing utilities, including water, electricity, fuel, and sewer, are located near the valve stations; however, the proposed replacement pipeline is the only utility that would pass through the footprint of these facilities.

A portion of the existing Miramar Pipeline that would be removed under Alternative 2 (i.e., within the La Playa waterfront area) is buried below San Antonio Avenue and runs along the western shore of San Diego Bay to Talbot Street. Other existing utilities in this area consist of sewer and stormwater facilities. The density of existing utilities in this area is substantially less than in other portions of the existing pipeline alignment (e.g., along Rosecrans Street).

Alternative 3 would be constructed along portions of Kurtz Street, Rosecrans Street, Taylor Street, and within existing railroad right-of-way to the north of Taylor Street. Existing aboveground utilities are located along the rail right-of-way north of Taylor Street. These include one overhead power line and two overhead catenary lines that supply power to San Diego Trolley Light Rail Transit vehicles.

3.10.4 Environmental Consequences

3.10.4.1 Approach to Analysis

This section evaluates potential impacts to utilities associated with implementation of the action alternatives and the No-Action Alternative. A potential temporary impact may occur if the Proposed Action causes an interruption of existing utility service during construction. A potential permanent impact may occur if the proposed replacement pipeline is constructed in a way that substantially constrains access to existing utilities (e.g., for the purposes or maintenance, repair, etc.). The significance of a temporary impact depends on the scope and duration of a potential temporary service interruption. A significant permanent impact would occur if project construction precludes the future maintenance, repair, and/or replacement of any existing utility.

3.10.4.2 Alternative 1

For the most part, excavation for the installation of the proposed replacement pipeline would be completed using open cut trenching, as described in Section 3.1.4.2. At six high-traffic intersections, trenchless excavation technology would be used to minimize construction impacts to traffic congestion (refer to Section 3.9.3). The replacement pipeline would not intersect any existing utilities, and all existing utilities would remain active during trenching (Enterprise

Engineering Inc. 2014b). Where excavation would expose an existing utility, the construction contractor would be required to excavate by hand and to support the uncovered utility line until the trench is filled (NAVFAC SW 2014). The proposed valve stations would not coincide with any existing utility; therefore, no potential conflict would occur. As discussed above, a portion of the replacement pipeline would pass over the 87-inch sewer main near the intersection of Rosecrans Street and Nichols Street. The proposed replacement pipeline would be located approximately two feet above the sewer main. The overlap is not expected to adversely affect the future maintenance of the sewer main (Enterprise Engineering Inc. 2014b). With respect to planned future utilities, the Navy has coordinated with the City of San Diego, the San Diego Association of Governments, and the Port of San Diego to avoid potential future utility conflicts associated with other construction projects (i.e., the future 66-inch Waterline Project, the Mid-Coast Corridor Transit Project, and the North Harbor Drive Realignment) (NAVFAC SW 2014). Therefore, Alternative 1 would not have a significant impact with respect to utilities.

3.10.4.3 Alternative 2

Existing utilities located above the portions of existing pipeline to be removed along the La Playa waterfront would be protected in place and would be kept in service during construction (NAVFAC SW 2014; Enterprise Engineering Inc. 2014b). Therefore, project construction would not cause any temporary utility service interruption. In all other respects, impacts to utilities due to Alternative 2 are identical to those of Alternative 1. Therefore, Alternative 2 would not have a significant impact with respect to utilities.

3.10.4.4 Alternative 3

Under Alternative 3, the proposed replacement pipeline would follow the same alignment as Alternatives 1 and 2 from the southern end of the alignment through the intersection of Rosecrans Street/Taylor Street/Pacific Highway. From this intersection, the alignment would continue east along Taylor Street before proceeding north to cross the San Diego River on the Santa Fe Railroad Bridge. The specific design of the proposed replacement pipeline, and its location relative to existing utilities, would be determined during a subsequent phase of project design, should this alternative be selected for implementation.

As an avoidance and minimization measure/SCM, Alternative 3 would be designed to avoid potential conflicts with existing utilities (i.e., avoidance of temporary utility service interruption and maintaining access to existing utilities for maintenance) along the portion of the proposed alignment located east of Camino del Rio and south of Friars Road. Alternative 3 would not have a significant impact with respect to utilities.

3.10.4.5 No-Action Alternative

Under the No-Action Alternative, the Miramar Pipeline would be maintained in its existing alignment, and none of the replacement and repair activities described in Sections 2.2 through 2.4 would occur. Therefore, the No-Action Alternative would have no impact to utility service.

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CHAPTER 4
CUMULATIVE IMPACT ANALYSIS

Federal regulations implementing NEPA (42 USC 4321 *et seq.*) and California regulations for Implementing NEPA (32 Code of California Regulations 775), as described in OPNAV M-5090.1, Chapter 10, require that the cumulative impacts of a Proposed Action be assessed. CEQ regulations implementing the procedural provisions of NEPA define cumulative impacts as:

> The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR 1507).

To analyze cumulative impacts, the following must be considered:

1) The area in which the effects of the proposed project will be felt;
2) The impacts that are expected in the area from the proposed project;
3) Other actions past, present, and reasonably foreseeable that have had or are expected to have impacts in the same area;
4) The impacts or expected impacts from these other actions; and
5) The overall impact that can be expected if the individual impacts are allowed to accumulate.

Consequently, the region where cumulative impacts may occur includes NBPL in the San Diego Bay, and other key projects expected to occur in the vicinity of the action alternatives. The cumulative projects described in Section 4.1 focus on other military projects and civilian projects. The analysis presented in Section 4.2 considers additional impacts arising from the impacts of implementing the action alternatives combined with the impacts of the other known past, present, and reasonably foreseeable future actions within this region.

4.1 PAST, PRESENT, AND REASONABLY FORESEEABLE PROJECTS

4.1.1 Past Projects

4.1.1.1 Replace Fuel Storage Tanks and Facilities at NBPL (MILCON P-401)

This project consisted of modernizing the existing DFSP Point Loma fuel storage and distribution facility. All existing bulk fuel storage tanks, both above and underground (and their associated pipelines and pumping facilities), were demolished or closed in place. Eight new multi-product, aboveground bulk fuel storage tanks were constructed to provide a total fuel storage capacity of 42 million gallons. Pumping facilities and transfer pipelines were also constructed, as well as access roads within DFSP Point Loma and sedimentation basins for stormwater management. The construction plan was divided into two phases: construction activities followed by the in-place closure of underground storage tanks. No significant impacts to any resource area were identified in the EA prepared for this project. Work on the P-401 project began in March 2009 and was completed in January 2014.

4.1.1.2 Large Displacement Unmanned Undersea Vehicle (LDUUV) EA Shore Infrastructure Modifications

This project consisted of providing necessary modification to the existing infrastructure at Space and Naval Warfare Systems Center Pacific (SSC Pacific) at NBPL to support the testing and evaluation of the LDUUV Program under the Space and Naval Warfare System Command (SPAWAR). The project consisted of the construction of launch and recovery lifts, and modification to existing facilities to support storage, maintenance, and transportation for the LDUUV.

The project required modification to four NBPL facilities: Pier 160; Building 9; Building 68; and a Flume Bridge including temporary shelter, transport, and barge/floating dock options. An EA was prepared for this project, and a FONSI was signed in August 2013. To date, only the temporary shelter and floating dock elements of the proposed project have been constructed. The other elements of the project have been placed on-hold.

4.1.2 Present Projects

4.1.2.1 NBPL Fuel Pier Replacement

The Navy proposes to demolish the aging and seismically deficient Fuel Pier (Pier 180) at NBPL, construct a new enhanced Fuel Pier with optimum capability to support current and projected fueling needs of the Navy and Department of Homeland Security, and perform associated dredging. Project demolition, construction, and dredging would occur simultaneously during an approximately 4-year period starting in September 2013 and ending in January 2017.

The project consists of five key elements: Temporary Relocation of the Navy Marine Mammal Program; Phased Demolition and Removal of the Existing Fuel Pier; Phased Construction of a Replacement Fuel Pier; Regulated Navigation Zones; Dredging and Sediment Disposal; and temporary relocation of the Everingham Brothers San Diego Bay bait barges. An EA was prepared for this project, and a FONSI was signed in August 2013. Construction of the project is currently underway.

4.1.2.2 University of California San Diego (UCSD) Nimitz MarFac Pier Replacement

Most of the replacement pier will be placed on submerged property owned by the Navy, while the replacement wharf would be on UCSD property. This project is needed to continue operations provided on the MarFac pier in support of oceanographic research throughout the world. The original pier and wharf were constructed in 1965. In 1973, the wharf was expanded and the pier was replaced. Since then, there have been few improvements. Structural deficiencies in the pier's concrete and steel were first documented in 1983. In 2009, an inspection confirmed widespread degradation, such that load capacity for the structure was reduced to less than 25 percent of its original capacity. Due to this deterioration, the facility can no longer meet the needs for which it was designed. Continued operation will become increasingly unsafe and use restrictions will become necessary. An EA/Negative Declaration was prepared for this project, and a FONSI was signed in December 2013. Construction of the project is currently underway.

4.1.3 Reasonably Foreseeable Projects

4.1.3.1 U.S. Coast Guard (USCG) Boat Ramp

The USCG, in coordination with NAVFAC SW, proposes to extend the existing boat launch ramp at the USCG Complex, south of Pier 5002 at NBPL. The extension is necessary to accommodate loading and unloading of boats during lower tides. The project would extend the existing boat ramp 32 feet bayward as well as improve the conditions of the roadway leading up to the boat ramp. The boat ramp shall be available for joint use between the USCG and the Navy. The Navy determined that the proposed action conforms to the requirements of a categorical exclusion. Construction is expected to begin in September 2014.

4.1.3.2 Pier 160 Moorings Improvements

SSC Pacific proposes to improve Finger C of Pier 160 by installing floating walkways to provide safe mooring, loading, and unloading of small boats. The current mooring system in place sustained damage from winter storms and must be improved in order to accommodate small boat activities. The proposed project would provide two gangways and two floating platforms attached to floating walkways running parallel to Finger C adding approximately 4,800 square feet of new walkway. Once complete, Finger C will be able to moor approximately 8 small boats. In January 2014, the Navy determined that, as proposed, the project conforms to the requirements of a categorical exclusion. The projected start date for this project is September 2014.

4.1.3.3 Mobile Support Facility Range Maintenance

Naval Sea Systems Command (NAVSEA) proposes upgrading the existing Type 5 Magnetic Measurement Range to a new Type 6 Electric Magnetic Measurement Range to meet the Chief of Naval Operations requirements to magnetically range all classes of Navy ships/submarines, and to meet the magnetic signature limits specified in OPNAVINST 8950.2. The project lies on State owned lands, but the Navy has a designated Restricted Zone over the area. The proposed project would replace/install new sensor cables, replace the existing junction box platform, and replace the sensors in the existing sensor tubes. The Navy determined that the project conforms to the requirement of a categorical exclusion. Construction activities are expected to last 5-7 months and are projected to start in September 2014.

4.1.3.4 NBPL Piers Dredging and Fender Repair

The Navy proposes to dredge and repair Piers 5000 and 5002 to eliminate depth restrictions and increase weapons handling capability. Currently the shallow approach creates tidal restrictions for Seawolf and Ohio Class subs. The dredging and repairs would increase efficiencies by reducing black out days and overtime days as well as improve the approach area minimizing the risk of damage to these vessels. The scope is not fully developed but will include: dredging, utilities upgrades, fender repairs, and permanent back up power. The Navy is awaiting confirmation that a portion of the project can be added to an existing Navy dredging project in the San Diego Bay and will submit the remainder of the project for Program Objective

Memorandum (POM) 18. POM 18 is the memorandum that would allow adding a portion of the project to an existing Navy dredging project in the San Diego Bay.

4.1.3.5 North Harbor Drive Realignment

This Project proposes improvements to the existing North Harbor Drive four-lane road roadway dedicated to the City of San Diego, located between Scott Street and Nimitz Boulevard in Shelter Island. The existing North Harbor Drive right-of-way is 162.5 feet wide, comprised of two travel lanes in each direction, a center median with left-turn pockets, parking at the curb along each side, as well as an adjacent frontage road. The City of San Diego Peninsula Community Plan classifies the road as a 4-lane major with a 98-foot right-of-way.

The Project includes reconfiguration of the North Harbor Drive cross-section and intersection geometry, conversion of the existing south-side frontage road to the parking areas; the addition of a new mid-block pedestrian-activated crossing, landscaped medians, and improvements to crosswalks and ramps to meet current Americans with Disabilities Act standards. Additionally, the proposed project will install light-emitting diode (LED) street lighting along North Harbor Drive. Construction of the Project is anticipated to begin in November 2014 and last for approximately 12 months.

4.1.3.6 Shelter Island Boat Launch Facility Improvements Project

The project site is located at 2210 Shelter Island Drive. The Project includes the repair, maintenance, and replacement of several elements comprising the Shelter Island Boat Launch Facility. The purpose of the Project is to provide accessibility for users with disabilities, to provide more water area within the breakwater (basin) to launch and retrieve boats, to improve boat maneuverability, to reduce boat congestion, and to improve boat safety and operations at the Shelter Island Boat Launch Facility.

The Project includes the following components: replacement of the existing ten-lane boat launching ramp; replacement of the existing jetties with concrete sheet pile (bulkhead) walls; installation of publicly accessible walking platforms with viewing areas atop the bulkhead walls; replacement of the existing floating docks; installation of new gangways to the floating docks; reconstruction of kayak launching area; construction of a sidewalk with curb and gutter; re-grading and re-paving of the vehicle/trailer maneuvering area to raise the elevation of the upper area of the launch ramp to comply with anticipated future sea level rise elevations; installation of signage; minor re-grading of the beach area to re-instate the pre-construction beach profile; completion of rock slope protection measures within the basin; and installation of updated launch ramp lighting. It is anticipated that the mitigated negative declaration for this project will be available for public review in the fall of 2014. Construction is anticipated to begin in early 2016 and take approximately 10 months to complete.

4.2 CUMULATIVE IMPACTS

This section addresses the additive effects of the action alternatives evaluated in this EA in combination with the relevant actions described above. Due to the short-term nature of the

proposed construction and pipeline relocation activities, impacts are typically not cumulative, nor do they cause offsite impacts.

4.2.1 Geological Resources

As discussed in Section 3.1, implementation of Alternative 1, Alternative 2, or Alternative 3 would not result in significant impacts to geological resources. Other cumulative projects would comply with the same regulations and engineering requirements and use similar erosion control measures and BMPs as described for the Proposed Action. Other future projects will be required through applicable environment regulations (i.e., NEPA and/or California Environmental Quality Act [CEQA]) to consider the cumulative effects of these proposals, and to implement measures to avoid or minimize significant impacts to geological resources. Therefore, implementation of Alternative 1, Alternative 2, or Alternative 3 in conjunction with other projects listed in Section 4.1, would not result in significant cumulative geological resources impacts.

4.2.2 Biological Resources

Implementation of Alternative 1, Alternative 2, or Alternative 3 would have little to no impact on vegetation communities, wildlife, or threatened and endangered species. As a result, there is no potential for Alternative 1, Alternative 2, or Alternative 3 to add to the cumulative effects that may occur elsewhere, and cumulative impacts would not be significant. Therefore, implementation of Alternative 1, Alternative 2, or Alternative 3 in conjunction with other projects listed in Section 4.1, would not result in significant cumulative biological resources impacts.

4.2.3 Water Resources

As discussed in Section 3.3, implementation of Alternative 1, Alternative 2, or Alternative 3 would not result in significant impacts to water resources. Other cumulative projects would comply with the same regulations and engineering requirements and use similar erosion control measures and BMPs as described for the Proposed Action. Other future projects will be required through applicable environment regulations (i.e., NEPA and/or CEQA) to consider the cumulative effects of these proposals, and to implement measures to avoid or minimize significant impacts to water resources. Therefore, implementation of Alternative 1, Alternative 2, or Alternative 3 in conjunction with other projects listed in Section 4.1, would not result in significant cumulative water resources impacts.

4.2.4 Hazardous Materials and Wastes

With implementation of Alternative 1, Alternative 2, or Alternative 3 hazardous materials and wastes would be properly managed according to applicable federal, state, and county regulations. Fuels and hazardous materials/wastes associated with construction contractors' activities would be required to be properly managed according to the contractors' Hazardous Materials Business Plan filed with the County of San Diego Environmental Health Hazardous Materials Division. Any contaminated soil or groundwater encountered during excavation for the new pipeline trench or closure of the old pipeline sections would also be sampled and

characterized for proper disposal. In the event that hazardous wastes such as asbestos-containing materials, polycyclic aromatic hydrocarbons, or lead-based paint coated surfaces are found, these materials would also be characterized for proper disposal at a facility with sufficient receiving capacity. Oily wastewater resulting from closure of the old pipeline sections would be captured and treated for proper disposal. The new pipeline would be built and operated in compliance with all applicable federal and state regulations, military criteria, and engineering standards. These preventive measures would minimize potential risk to human health and the environment, and the impact with respect to hazardous materials and wastes would be less than significant. Therefore, implementation of Alternative 1, Alternative 2, or Alternative 3 in conjunction with other projects listed in Section 4.1, would not result in significant cumulative hazardous materials and wastes impacts.

4.2.5 Public Health and Safety/Protection of Children

As described in Section 4.2.4 above, hazardous materials and wastes would be properly managed according to applicable federal, state, and county regulations. The new pipeline would be built and operated in compliance with all applicable federal and state regulations, military criteria, and engineering standards. These measures would minimize potential risk to human health and the environment and the impact with respect to hazardous materials and wastes would be less than significant. In addition, no disproportionate risk of injury or hazardous substances exposure to children would occur per EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. Other cumulative projects would comply with the same regulations and EOs and would be required through applicable environment regulations (i.e., NEPA and/or CEQA) to consider the cumulative effects of these proposals, and to implement measures to avoid or minimize significant impacts to public health and safety. Therefore, implementation of Alternative 1, Alternative 2, or Alternative 3 in conjunction with other projects listed in Section 4.1, would not result in significant cumulative public health and safety impacts.

4.2.6 Noise

Noise impacts from pipeline repair and relocation would be less than significant since construction generated noise would be temporary and generally consistent with the nature of the area, would be consistent with normal construction practices, and would not significantly alter the overall noise environment in the long-term. In addition, excavating and trenching activities would comply with the City of San Diego's noise ordinance that would further limit noise. The pipeline repair and relocation related noise when combined with reasonably foreseeable projects, would be temporary and generally consistent with the nature of the area, so potential impacts would be moderated over space or time. Therefore, implementation of Alternative 1, Alternative 2, or Alternative 3 in conjunction with other projects listed in Section 4.1, would not result in significant cumulative noise impacts.

4.2.7 Air Quality

Criteria Pollutants

The ROI considered in this air quality cumulative analysis for criteria pollutants includes the SDAB. This ROI is consistent with the basin-wide scope of ambient air quality and attainment status. Cumulative impacts resulting from the action alternatives, in conjunction with impacts from other present and reasonably-foreseeable future projects, would potentially occur during proposed construction activities. Emissions from past projects are evident in ambient air quality in the SDAB.

Air quality impacts from proposed construction activities would occur from combustive emissions due to the use of fossil fuel-powered construction equipment and fugitive dust (PM_{10} and $PM_{2.5}$) emissions due to the use of vehicles on bare soils. Proposed construction activities under the action alternatives would produce emissions that would remain well below applicable conformity *de minimis* thresholds. Any concurrent emissions-generating action that occurs in the vicinity of proposed construction activities would potentially contribute to the ambient impact of these emissions. However, because proposed construction would produce minor amounts of emissions, the combination of proposed construction and future project air quality impacts would not contribute to an exceedance of an ambient air quality standard. Implementation of recommended fugitive dust control measures would ensure that air emissions from proposed construction activities would produce less than significant cumulative air quality impacts. Accordingly, there would be no significant cumulative impact relative to air quality.

Greenhouse Gases (GHGs)

The potential effects of GHG emissions are by nature global and cumulative impacts, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when GHG emissions associated with the action alternatives are combine with GHG emissions from other man-made activities on a global scale.

Currently, there are no formally adopted or published NEPA thresholds of significance for GHG emissions. Therefore, in the absence of a formally-adopted thresholds of significance for GHGs, this EA compares GHG emissions that would occur from implementation of the action alternatives to the U.S. net GHG baseline inventory of 2012 (USEPA 2014c) to determine the relative increase in proposed GHG emissions. Cumulative GHG emissions from past projects are included within this inventory.

As described in Section 3.7, emissions associated with Alternatives 2 and 3 would be similar to those estimated for Alternative 1, therefore, estimated GHG emissions represent all three action alternatives. Table 4.2-1 presents the maximum annual estimates of the GHG emissions generated by the action alternatives (additional details are shown in Appendix D). These calculations show that the CO_2e emissions associated with the action alternatives would amount to, at most, approximately 0.000017% per year of the total CO_2e emissions generated from all sources in the U.S. in 2012 (the most recent data available) (USEPA 2014c).

Table 4.2-1. Estimated Maximum Annual GHG Emissions upon Implementation of the Action Alternatives

Scenario/Activity	*Metric Tons*			
	CO_2	*CH_4*	*N_2O*	*CO_2e[(b)]*
Proposed Action Emissions[(a)]	**1,087.7**	**0.26**	**0.00**	**1,093.1**
U.S. 2012 Baseline Emissions (10^6 metric tons)[(c)]	-	-	-	6,525.6
Proposed Emissions as a % of U.S. Emissions	-	-	-	0.000017%

Notes: [(a)] Maximum annual emissions during the Proposed Action, anticipated during the construction phase in 2016.

[(b)] $CO_2e = (CO_2 * 1) + (CH_4 * 21) + (N_2O * 310)$

Sources: [(c)]USEPA 2014c.

Although implementation of the action alternatives would not result in any significant cumulative impact relative to global climate change, this important topic warrants discussion of DoD and Navy leadership in broad-based programs to reduce energy consumption and shift to renewable and alternative fuels, thereby reducing emissions of carbon dioxide and other greenhouse gases.

EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, was adopted in October 2009, and provides early strategic guidance to federal agencies in the management of GHG emissions. The early strategy directs the agencies to increase renewable energy use to achieve general GHG emission reductions. According to the provisions of EO 13514, federal agencies would be required to develop a 2008 baseline for scope 1 and 2 GHG emissions, and to develop a percentage reduction target for agency-wide reductions of scope 1 and 2 GHG emissions by Fiscal Year 2020. As part of this effort, federal agencies would evaluate sources of GHG emissions, and develop, implement, and annually update an integrated Strategic Sustainability Performance Plan that would prioritize agency actions based on lifecycle return on investment. The intent is to evaluate GHG emissions on a lifecycle basis and to identify feasibility of sustainability strategies on that basis.

As part of its efforts to encourage the development of alternative fuels, on 22 January 2010 the Navy and the Department of Agriculture signed a Memorandum of Understanding to encourage the development of advanced biofuels and other renewable energy systems. As part of its programs to meet the federal sustainability goals, the Navy is developing and implementing energy conservation programs, as well as participating in the development of renewable energy projects designed to reduce dependence on fossil fuels.

Climate Change Adaptation

In addition to assessing the GHG emissions that would come from the action alternatives and the potential, albeit negligible, impact on climate change, the analysis must also assess how climate change might impact the Proposed Action and what adaptation strategies could be developed in response. This is a global issue for DoD. As is clearly outlined in the Quadrennial Defense Review Report of March 2014 (DoD 2014), the DoD would need to adjust to the impacts of climate change on facilities and military capabilities should such change occur. DoD already provides environmental stewardship at hundreds of installations throughout the U.S. and around the world, working diligently to meet resource efficiency and sustainability goals as set

by relevant laws and executive orders. Although the U.S. has significant capacity to adapt to potential climate change, it would pose challenges for civil society and DoD alike, particularly in light of the nation's extensive coastal infrastructure (Center for Naval Analyses 2007). DoD's operational readiness hinges on continued access to land, air, and sea training and test space. Consequently, the DoD must complete a comprehensive assessment of all installations to assess the potential impacts of predicted climate change on its missions and adapt as required.

The Quadrennial Defense Review Report goes on to illustrate that DoD would work to foster efforts to assess, adapt to, and mitigate the impacts of climate change (DoD 2014). Within the U.S., the DoD would leverage the Strategic Environmental Research and Development Program, a joint effort among the DoD, Department of Energy, and USEPA, to develop climate change assessment tools.

Climate change has the potential to impact the Proposed Action. The primary impact on the project from climate change would result from sea level rise. Along the California coast, sea level has risen an average total of 7 inches from 1900 to 2005; this rate is predicted to accelerate in coming years (USGCRP 2014). Inundation associated with sea level rise could result in increased pipeline access and maintenance challenges. Furthermore, the rising sea level would similarly raise the coastal water table. As the water table rises to submerge a buried pipe, buoyant forces begin to stress the pipe as well. Larger pipelines are more vulnerable from the buoyancy stress, as are empty pipelines or those with compressible gases (Strategic Environmental Research and Development Program [SERDP] 2014).

The State of California provides recommended sea level rise ranges for planning analysis, derived from published work by the National Research Council. The State recommends a range of 0.39-2.0 feet rise for the period from 2000 through 2050, and 1.38-5.48 feet rise for the period from 2000-2100 (State of California 2013). While these ranges are based on current available models, a study prepared by SPAWAR Systems Center Pacific for SERDP emphasizes the uncertainty regarding the magnitude of sea level rise in Southern California. That study evaluated risk associated with sea level rise along the San Diego coastline of between 1.6 and 6.6 feet by the year 2100 (SERDP 2014).

Using the National Oceanic and Atmospheric Administration's (NOAA) Sea Level Rise and Coastal Flooding Impacts (v2.0) online tool, from a low level of confidence perspective, two feet of sea level rise would be required before a portion of the project area would have the potential to be impacted. The impact would be limited to a small section of the pipeline to the southwest of the Scott Street and North Harbor Drive intersection. From a high level of confidence perspective, the NOAA tool predicts inundation of more than four feet of sea level rise (NOAA 2015). However, under either the low or high confidence scenarios, the new pipeline buried approximately five feet below grade on Rosecrans Street would not be within an area subject to surface inundation from sea level rise. Sea level rise may impact the pipeline if the rise contributes to a rise in the water table, which may cause increased pressure and buoyancy forces on the pipeline.

As predictions for sea level rise in the project area become more refined, the Navy may wish to consider developing improved access infrastructure and/or protocols to be better able to

maintain the pipeline if it is both buried underground and submerged in several feet of sea water. Furthermore, stress-testing the pipe materials and designing the material to withstand buoyancy forces would have the potential to lengthen the lifespan of the pipe network.

As climate science advances, the Navy would regularly reevaluate climate change risks and opportunities at the bases in order to develop policies and plans to manage its effects on the operating environment, missions, and facilities. Managing the national security effects of climate change would require the Navy to work collaboratively with local, state, and federal agencies.

Therefore, implementation of Alternative 1, Alternative 2, or Alternative 3 in conjunction with other projects listed in Section 4.1 would not result in significant cumulative climate change impacts.

4.2.8 Socioeconomics and Environmental Justice

With implementation of Alternative 1, Alternative 2 or Alternative 3 there would beneficial impacts to the economy of San Diego County. Relative to the overall economy of the County, the impacts would be very small and would not lead to a change in economic trends that are generated, cumulatively, by the numerous other economic activities in the County. Also, the action alternatives would not have any disproportionate impact on minority or low-income populations. Therefore, implementation of Alternative 1, Alternative 2, or Alternative 3 in conjunction with other projects listed in Section 4.1, would not result in significant cumulative socioeconomic or environmental justice impacts.

4.2.9 Transportation and Circulation

As discussed in Section 3.9, implementation of Alternative 1, Alternative 2, or Alternative 3 is not expected to result in any significant impact to transportation and circulation. Impacts to vehicular traffic, pedestrian and bicycle circulation, and transit facilities and services would be localized, would occur outside of peak commuting periods, and would be limited to the duration of construction. Operation of the action alternatives would not add any new traffic to the existing street network on a recurring basis, and all roadways, bicycle routes and paths, and transit service would be restored to their existing configuration following project construction. Because several roadways would be fully or partially resurfaced as the result of the Proposed Action, and therefore all action alternatives would have beneficial long-term impacts relative to transportation and circulation. A potential cumulative impact may occur if any of the projects described in Section 4.1 contribute additional traffic to street segments that would be affected by the Proposed Action during the period construction is under way (i.e., during non-peak periods along a given segment). As previously discussed, construction of the Proposed Action is scheduled to occur between 2015 and 2017 (1 month in 2015 and 12 months in 2016 and 2017). Several of the cumulative projects have the potential to be either under construction or operational during this period. For example, the NBPL Fuel Pier Replacement is currently under construction, and is expected to be complete by January 2017. Construction and operations traffic associated with cumulative projects is expected to coincide with peak commuting periods, which accommodate the highest concentration of work trips. Given that

the Proposed Action would be scheduled to avoid construction during the peak hour and in the peak direction of travel on Rosecrans Street, no significant cumulative impact is expected. Moreover, other future projects will be required through applicable environmental regulations (i.e., NEPA and/or CEQA) to consider the cumulative effects of these proposals, and to implement measures to avoid or minimize significant transportation and circulation impacts. Therefore, implementation of Alternative 1, Alternative 2, or Alternative 3 in conjunction with other projects listed in Section 4.1, would not result in significant cumulative transportation and circulation impacts.

4.2.10 Utilities

As discussed above, implementation of Alternative 1, Alternative 2, or Alternative 3 would not result in significant impacts to existing utilities that were constructed as a part of past projects. Further, as described in Section 3.10, the Navy has coordinated with various agencies to incorporate changes to the planning and design of the Proposed Action as necessary to avoid potential utility conflicts with present and reasonably foreseeable future projects (i.e., the 66-inch Waterline Project, the Mid-Coast Corridor Transit Project, and the North Harbor Drive Realignment). Other future projects will be required through applicable environmental regulations (i.e., NEPA and/or CEQA) to consider the cumulative effects of these proposals, and to implement measures to avoid or minimize significant utility impacts. Therefore, implementation of Alternative 1, Alternative 2, or Alternative 3 in conjunction with other projects listed in Section 4.1, would not result in significant cumulative utilities impacts.

4.3 CUMULATIVE IMPACTS CONCLUSION

Cumulative impacts to the environmental resource areas evaluated herein from the action alternatives, in conjunction with other past, present, and reasonably foreseeable actions, would not be significant.

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CHAPTER 5
OTHER NEPA CONSIDERATIONS

5.1 POSSIBLE CONFLICTS BETWEEN THE ACTION AND THE OBJECTIVES OF FEDERAL, REGIONAL, STATE, AND LOCAL PLANS, POLICIES, AND CONTROLS

Implementation of the action alternatives would be consistent with federal, regional, state and local plans, policies, and controls to the extent required by federal law and regulation. No potential conflicts have been identified. Table 5-1 provides a summary of environmental compliance with implementation of the action alternatives.

5.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Resources that are irreversibly or irretrievably committed to a project are those that are used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal and fuel, and other natural or cultural resources. These resources are irretrievable in that they would be used for this project when they could have been used for other purposes. Human labor is also considered an irretrievable resource. Another impact that falls under this category is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

Although proposed construction and pipeline relocation activities would result in the consumption of fuel, oil, and lubricants, the action alternatives would not result in a significant irreversible or irretrievable commitment of resources at NBPL.

5.3 RELATIONSHIP BETWEEN SHORT-TERM ENVIRONMENTAL IMPACTS AND LONG-TERM PRODUCTIVITY

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This refers to the possibility that choosing a single development option reduces future flexibility in pursuing other options, or that giving over a parcel of land or other resource to a certain use often eliminates the possibility of other uses being performed at that site.

The action alternatives would, reversibly, dedicate parcels of land, equipment, and other resources to a particular use during a limited period of time. These resources would not be available for other productive uses throughout the duration of the action alternatives. However, these impacts are considered negligible, as the facilities and geographic areas associated with the action alternatives are designated for and have historically accommodated the types of uses proposed. Therefore, the action alternatives would not result in any impacts that would reduce environmental productivity or permanently narrow the range of beneficial uses of the environment.

Table 5-1. Status of Compliance with Relevant Land Use Plans, Policies, and Controls

Plans, Policies, and Controls	Responsible Agency	Status of Compliance
National Environmental Policy Act (NEPA) (42 USC § 4321 *et seq*.) U.S.Department of the Navy (Navy) Procedures for Implementing NEPA (32 Code of Federal Regulations [CFR] 775)	Navy	This EA has been prepared in accordance with the Council on Environmental Quality (CEQ) Regulations implementing NEPA and United States (U.S. Navy NEPA procedures.
Coastal Zone Management Act (CZMA) (16 CFR § 1451 *et seq*.)	Navy	The CZMA of 1972 (16 USC Section 1451) encourages coastal states to be proactive in managing coastal zone uses and resources. CZMA established a voluntary coastal planning program and participating states submit a Coastal Management Plan to the National Oceanic and Atmospheric Administration for approval. Under the CZMA, federal agency actions within or outside the coastal zone that affect any land or water use or natural resource of the coastal zone shall be carried out in a manner that is consistent to the maximum extent practicable with the enforceable policies of the approved state management programs. Each state defines its coastal zone in accordance with the CZMA. The Navy conducted an effects analysis as part of its determination of the action's effects for purposes of federal consistency review under the CZMA. This was done to factually determine whether the action (even if conducted entirely within a federal enclave) would affect any coastal use or resource. The Navy prepared a CCND and initiated a consultation with the California Coastal Commission (refer to Appendix A). The CCC concurred with the Navy's CCND and found the project to be consistent, to the maximum extent practicable, with the California Coastal Management Program (refer to Appendix A).
Clean Water Act (CWA) (§§ 401-402 and 404, 33 USC § 1251 *et seq*.)	USEPA, U.S. Army Corps of Engineers (USACE)	The action alternatives would not involve dredging or the release of chemicals requiring a discharge permit and would be in compliance with the CWA. No in-water construction activities are proposed, thus a CWA Section 404 and Rivers and Harbors Act Section 10 permit from the USACE would not be required.
Clean Air Act (CAA), as amended (42 USC § 7401 *et seq*.)	USEPA	Per CAA regulations, the action alternatives would not compromise the SDAB's air quality attainment status or conflict with attainment status and maintenance goals established in the South Coast Air Quality Management District (SCAQMD) SIP. A formal CAA conformity determination is not required. The action alternatives would be in compliance with the CAA and would comply with all applicable SDAPCD Rules and Regulations.
Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986, 42 USC §§ 11001-11050.	Navy	The Navy would inform Local Emergency Planning Committees of the action alternatives as required to assist them in developing plans to prepare for and respond to chemical emergencies.
Executive Order (EO) 11990, *Protection of Wetlands* (42 Federal Register [FR] 26961)	Navy	The action alternatives would not impact wetlands (none are present in the project area), and would be in compliance with EO 11990.
Endangered Species Act (ESA) (16 USC § 1531)	NMFS/USFWS	The action alternatives are not likely to adversely affect any federally listed endangered or threatened species or critical habitat, and formal consultation with USFWS is not required. The action alternatives would be in compliance with the federal ESA.
Marine Mammal Protection Act (MMPA) of 1972 (16 USC	NMFS	The action alternatives would not take (harass or kill) marine mammals, and no effect on endangered or threatened marine

Plans, Policies, and Controls	Responsible Agency	Status of Compliance
§ 1361-1407)		mammals would occur; therefore, the action alternatives would be in compliance with the MMPA.
EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (59 FR 7629)	Navy	There would be no disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. The action alternatives would be in compliance with EO 12898.
EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (62 FR 19885)	Navy	The action alternatives would not disproportionately expose children to environmental health risks or safety risks and would be in compliance with EO 13045.
EO 13089, *Coral Reef Protection* (63 FR 32701)	Navy	The action alternatives would not affect any coral reef ecosystem and would be in compliance with EO 13089.
Magnuson-Stevens Fishery Conservation and Management Act 16 U.S.C § 1801, et. Seq. as amended by the Sustainable Fisheries Act of (Public Law 104-267)	NMFS	The action alternatives would have no adverse effects on EFH for federally managed fish species within the Coastal Pelagic Species and Pacific Coast Groundfish. Therefore, the action alternatives would be in compliance with the Magnuson-Stevens Fishery Conservation and Management Act.
EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* (66 FR 3853)	Navy	The action alternatives would not have a measurable negative effect on migratory bird populations and would be in compliance with EO 13186.
National Historic Preservation Act (Section 106, 16 USC 470 et seq.)	Advisory Council in Historic Preservation, California State Historic Preservation Office	The action alternatives would not affect National Register of Historic Places or eligible properties. The action alternatives would not have direct or indirect effects to historic properties. In addition, construction laydown areas would be staged outside the Historic Districts' 100-meter APE buffer. The action alternatives would be in compliance with the National Historic Preservation Act.
Sikes Act Improvement Act (16 USC § 670a *et seq.*)	Navy	The action alternatives would be in compliance with the Sikes Act Improvement Act.

5.4 PROBABLE ADVERSE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED AND MITIGATED

No probable adverse environmental effects that cannot be avoided and are not amenable to mitigation were identified.

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CHAPTER 6
AGENCIES, ENTITIES AND PERSONS CONTACTED

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CHAPTER 8
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