Final Draft
Site-Specific Environmental Assessment

for

Miramar National Cemetery
Phase 2 Expansion

San Diego, California

June 2020

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EXECUTIVE SUMMARY

In this Site-specific Assessment (SEA), the U.S. Department of Veterans Affairs (VA), National Cemetery Administration (NCA) identifies, analyzes, and documents the potential physical, environmental, cultural, and socioeconomic impacts associated with the Proposed Action to implement the Phase 2 Expansion as described in the 2007 Environmental Impact Statement (EIS) and Master Plan at the Miramar National Cemetery located at 5795 Nobel Drive, San Diego, California.

Miramar National Cemetery contains approximately 323 acres, of which 214 acres were approved to be developed in six phases over a 30-year planning period during the 2007 EIS process. Remaining lands, primarily in biologically sensitive areas, are protected from disturbance according to agreements made with agencies during the 2007 EIS process. Phase 1 development of approximately 45 acres was completed in 2010 and consists of an administration complex, a maintenance complex, two committal service shelters, two columbaria plazas, fourteen interment sections, a Prisoner of War plaza, two memorial plazas, a memorial walk and ossuary, and a flag assembly area. Phase 1 also implemented mitigation requirements as determined by the 2007 EIS for the overall cemetery build-out. This included wetland restoration, vernal pool restoration, and removal of exotic invasive plant species (see Sections 1.2 and 1.3 of the SEA for additional information on the development background and regulatory history).

NCA identified a need for additional burial space for San Diego area military veterans. Prior to the establishment of the Miramar National Cemetery, Fort Rosecrans served as the only national cemetery in the region which has also been closed to casketed burials since 1966 and to burials of cremated remains since. The two other national cemeteries in southern California include: Los Angeles National Cemetery, located in western Los Angeles approximately 130 miles from San Diego, and Riverside National Cemetery, located adjacent to March Air Reserve Base approximately 90 miles from San Diego. These two cemeteries do not meet the NCA's definition of reasonable distance for burial benefits for San Diego veterans (within 75 miles of the veteran's place of residence).

Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to ensure there is sufficient burial capacity available at the Miramar National Cemetery to enable the NCA to continue providing interment benefits to eligible Veterans and their families by further extending the longevity of the Miramar National Cemetery in the San Diego / Southern California region.

The Proposed Action is needed because the current interment capacity at the Miramar National Cemetery is limited to the Phase 1 development, and this is not large enough to allow NCA to continue meeting its goal of providing eligible Veterans and their families with reasonable access to VA burial options in southern California over the next few decades.

Alternatives

VA prepared this SEA to evaluate the potential impacts of implementing the Proposed Action. This SEA also evaluates the potential impact of a "No Action" alternative, defined as not implementing the Proposed Action and maintaining conditions at Miramar National Cemetery as they currently exist. These two alternatives are summarized below:

- The *Proposed Action* is to implement the Phase 2 expansion as described in 2007 EIS and Master Plan. Under the Proposed Action, Phase 2 would be constructed over the next approximately 24 months. The Phase 2 expansion would provide new burial sections, new roadways, expansion of the irrigation system, incorporation of site drainage (including a basin), incorporation of landscaping and site furnishings following construction, connection of the existing memorial walk

to the existing flag assembly area, Administration Building and parking expansion, construction of a new Honor Guard building along with a covered vehicle parking structure, and placement of additional asphalt paving between the covered structure and the existing asphalt within the existing maintenance complex parking. Phase 2 expansion also includes a deacceleration lane along Nobel Drive to the cemetery entrance.

- The *No Action* alternative is to maintain Miramar National Cemetery as it presently exists and not implement the Phase 2 expansion. Under the No Action alternative, VA would not add new burial capacity or complete infrastructure improvements described for the Phase 2. The longevity of Miramar National Cemetery would not be extended, and future generations of eligible Veterans and their families increasingly would not have long-term, reasonable access to burial benefits at a National Cemetery in the San Diego / Southern California region. Accordingly, the No Action alternative does not meet the purpose and need for the action.

Affected Environment and Environmental Consequences

The following tables summarizes the potential environmental impacts associated with implementing the Proposed Action or the No Action alternative.

Resource / Issue	Proposed Action	No Action
Meets Purpose of and Need for Action	Yes.	No.
Air Quality	Short-term, less-than-significant, adverse impact from particulate emissions during construction; this and all other criteria pollutants would be below *de minimis* thresholds. Long-term, less-than-significant beneficial impacts during operation by extending the longevity of Miramar National Cemetery and reducing travel outside of the region for visitors. Less-than-significant adverse impact from expanded maintenance equipment emissions.	No impact.
Cultural Resources	No cultural resources identified in the expansion area. VA would implement Inadvertent Discovery Plan should artifacts or remains be encountered during construction, following proper management procedures to ensure short-term, less- than-significant adverse impacts.	No impact.
Geology, Topography, and Soils	No impact on geology. Negligible long-term adverse impact on topography due to grading/modifying existing slopes to meet NCA design standards for burial areas and roadways. Short-term, less-than-significant, adverse impact on soil due to potential for erosion and accidental release of petroleum-based operating fluids during construction.	No impact.
Hydrology and Water Quality	Minor impact to Rose Creek surface water quality from construction and stormwater from development and operations. Adherence to conditions within an approved stormwater pollution prevention plan to manage construction runoff and approved stormwater management plan to manage stormwater from Phase 2 expansion development would minimize potential for impact.	No impact.
Land Use and Aesthetics	Negligible impacts to land use and short-term, minor, adverse impact to aesthetics from presence of heavy equipment during construction.	No impact.

Resource / Issue	Proposed Action	No Action
Wildlife and Habitat	Short- and long-term, less-than-significant, adverse impact due to loss of habitat from clearing existing habitat and converting to professionally maintained landscape. Impacts to the federally-listed species and habitat would be avoided through adherence to the existing Natural Resources Management Plan which contains guidance on protecting on-site and adjacent natural and biological resources from unplanned and indirect impacts associated with the development and operation of Miramar National Cemetery. The plan outlines specific management elements/tasks that must occur during all applicable phases of cemetery development and those related to cemetery operations, including quarterly monitoring and reporting.	No impact.
Noise	Short-term, less-than-significant, adverse impacts due to heavy machinery associated with clearing and grading during construction. Receptors are limited to visitors within Miramar National Cemetery. Long- term, negligible adverse impacts due to grounds maintenance equipment in the expansion area.	No impact.
Floodplains, Wetlands, and Coastal Zone Management	Development of the Phase 2 expansion is located outside of the regulated 100-year floodplain and coastal zone. Minor permanent impacts to approximately 600 feet (0.07 acres) of ephemeral stream and 0.04 acres of wetland to accommodate the Phase 2 cemetery expansion. Impacts to these resources, however, have been previously mitigated through compensatory mitigation completed in 2012 which included permitted impacts to 0.477 acre of waters of the U.S.	No impact.
Socioeconomics and Environmental Justice	Short-term, negligible localized beneficial impacts through construction worker hiring and material/supply purchases from local or regional vendors. No adverse impacts to environmental justice populations are anticipated.	No impact.
Community Services	Long-term, beneficial impact by extending the longevity of Miramar National Cemetery, benefiting Veterans and their families and visitors throughout the Southern California / San Diego region. No significant adverse impact on other community services.	Long-term adverse impact because Miramar National Cemetery longevity will not be extended, requiring Veterans and their families in the San Diego area to travel longer distances for burial and visitation. Not in compliance with *Service Members Civil Relief Act*.
Solid and Hazardous Materials	Short-term, less-than-significant adverse impact due to increase in solid waste generation (excess construction materials that cannot be recycled). Negligible impact during operation; no new types of wastes, and only minimal quantities of memorial markers (floral arrangements, sanitary waste) would be generated.	No impact.
Transportation and Parking	Short-term, less-than-significant adverse impact from increased construction traffic traveling on roads leading to and from, and within, Miramar National Cemetery. Beneficial impact during operation, as addition of a deacceleration lane along Nobel Drive would improve traffic flow and increase safety along Nobel Drive for funeral processions.	No impact.

Resource / Issue	Proposed Action	No Action
Utilities	Minor impact during construction, as the proposed Nobel Drive deacceleration lane would require relocation of existing streetlights, traffic signals, electrical transformer electrical boxes, and irrigation equipment. Operation would have a long-term, negligible adverse impact on the existing irrigation water utility, due to increased utilization of reclaimed water to irrigate the new expansion area. No impact to other utilities, as their use would not substantively increase during operation.	No impact.
Potential for Generating Substantial Controversy	The Phase 2 expansion is part of the larger master plan effort for the Miramar National Cemetery reviewed by agencies, other interested parties and the public during the 2007 EIS process. No controversy was generated for development of the cemetery.	Potential for adverse reaction by Veterans and their families in the Southern California / San Diego region if expansion is not implemented due to a decrease in longevity of Miramar National Cemetery.

The impacts from the Proposed Action, when considered on a cumulative basis with impacts from past projects and probable future projects at and in vicinity of Miramar National Cemetery, remain at less-than-significant adverse levels for all the environmental resources analyzed in this SEA.

Agency and Public Involvement

Both agency and public involvement activities for development of the entire Miramar National Cemetery was performed during the development of the 2007 EIS. As part of this SEA process, the VA has coordinated with the landowner, Marine Corps Air Station Miramar, along with federal permitting and approving regulatory agencies (U.S. Fish and Wildlife Service [USFWS] and U.S. Army Corps of Engineers [USACE]) involved in the 2007 EIS to review any differences between the current Proposed Action and the Phase 2 cemetery development concept presented in the 2007 EIS. Additionally, the VA has been actively coordinating with the City of San Diego and utility companies which easements would be affected by the Proposed Action. Chapter 6 of this SEA (Environmental Permits, Approvals, and Determinations Potentially Required) highlights additional approvals required for the proposed Phase 2 cemetery expansion.

Conclusion

[placeholder text] The VA has completed this Final SEA without requiring substantive changes relative to the Draft SEA. As previously concluded in the Draft SEA and reiterated in this Final SEA, the Proposed Action would not cause significant adverse impacts on the environmental resources presented herein.

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ACRONYMS

Acronym	Definition
BMP	best management practice
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CENL	Community Noise Equivalent Level
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CWA	Clean Water Act
CWA	Clean Water Act
CY	cubic yard
dB	decibel
dBA	A-weighted sound decibel
DoN	Department of the Navy
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act of 2007
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
GHG	greenhouse gas
GWP	global warming potential
HU	hydrologic unit
IGC	In-Ground Cremain
L_{dn}	day-night average sound level
$L_{eq(24)}$	equivalent sound level over 24 hours
MBTA	Migratory Bird Treaty Act

Acronym	Definition
MCAS	Marine Corps Air Station
MCO	Marine Corps Order
NAAQS	National Ambient Air Quality Standards
NCA	National Cemetery Administration
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NO_x	nitrogen oxide
N_2O	nitrous oxide
NPDES	National Pollution Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRMP	Natural Resources Management Plan
O_3	ozone
OCFM	Office of Construction and Facility Management
OPNAVINST	Office of the Chief of Naval Operations Instruction
Pb	lead
PM_{10}	fine particulate matter
$PM_{2.5}$	very fine particulate matter
POL	petroleum, oil, and lubricant
POW	Prisoner of War
PPC	Pre-Placed Crypt
PSD	Prevention of Significant Deterioration
ROI	region of influence
RWQCB	Regional Water Quality Control Board
SDGE	San Diego Gas & Electric
SEA	Site-specific Environmental Assessment
SIP	State Implementation Plan
SO_2	sulfur dioxide
SWMP	Stormwater Management Plan
TMDL	total maximum daily load

Acronym	Definition
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VA	U.S. Department of Veterans Affairs
WDR	Waste discharge requirements

CHAPTER 1 INTRODUCTION

1.1 BACKGROUND AND EXISTING SITE DETAILS

The U.S. Department of Veterans Affairs (VA) National Cemetery Administration (NCA) honors Veterans and their families with final resting places in national shrines and with lasting tributes that commemorate their service and sacrifice to the nation. NCA maintains 141 National Cemeteries and 33 soldiers' lots and monument sites in 40 states and Puerto Rico (VA 2020). The VA Office of Construction and Facility Management (OCFM) mission is to advance VA's larger mission in support of the nation's Veterans by planning, designing, constructing, and acquiring major facilities and setting design and construction standards. This document addresses a proposal to expand the Miramar National Cemetery, located at 5795 Nobel Drive, San Diego, California.

1.1.1 Location

The Miramar National Cemetery is located in the City of San Diego, California at the northwest corner of Marine Corps Air Station Miramar (MCAS Miramar) and approximately 12 miles northeast of downtown San Diego (see Figure 1-1). The entire cemetery property covers approximately 323 acres. Two ravines associated with Rose Canyon impact developability of the overall 323-acre site, one at the northwest corner of the site, and the other along the southern portion of the site. The overall master plan recommends a smaller developable area of 214 acres within the portions of the 323-acre site that are relatively flat, avoiding steep terrain and biologically sensitive areas.

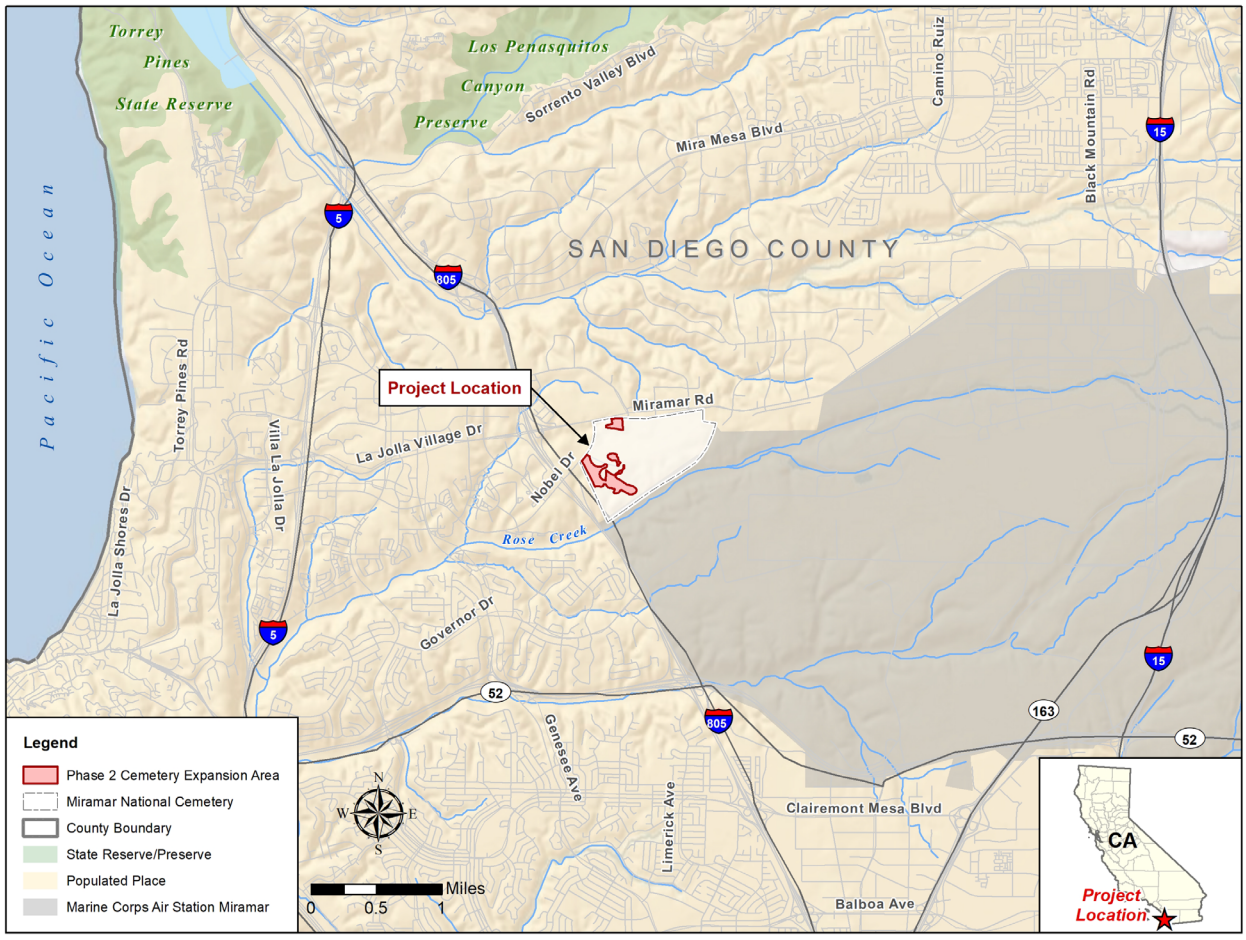


Figure 1-1. Project Location Map

1.1.2 Development History

Phase 1 of the Miramar National Cemetery (approximately 45 acres) was completed in 2010 and consists of an administration complex, a maintenance complex, two committal service shelters, two columbaria plazas, fourteen interment sections, a Prisoner of War (POW) plaza, two memorial plazas, a memorial walk and ossuary, and a flag assembly area. The remainder of the site is characterized by both flat and rolling terrain with sage scrub, chaparral, mixed scrub-chaparral, scrub oak chaparral, willow scrub and non-native grassland. Phase 1 also implemented mitigation requirements as determined by the 2007 Environmental Impact Statement (EIS) for the overall cemetery build-out. This included wetland restoration, vernal pool restoration and removal of exotic invasive plant species (see Sections 1.2 and 1.3 for additional information on the development background and regulatory history).

The approximate 26.7-acre footprint for Phase 2 cemetery expansion extends south of Phase 1 development to the southern extent of the recommended 214-acre development area. A majority of Phase 2 lands have been previously disturbed and graded during the construction of Phase 1.

1.2 CURRENT STATUS

NCA identified a need for additional burial space for San Diego area military veterans. Prior to the establishment of the Miramar National Cemetery, Fort Rosecrans served as the only national cemetery in the region which has also been closed to casketed burials since 1966 and to burials of cremated remains since. The two other national cemeteries in southern California include: Los Angeles National Cemetery, located in western Los Angeles approximately 130 miles from San Diego, and Riverside National Cemetery, located adjacent to March Air Reserve Base approximately 90 miles from San Diego. These two cemeteries do not meet the NCA's definition of reasonable distance for burial benefits for San Diego veterans (within 75 miles of the veteran's place of residence).

The NCA chose the Miramar National Cemetery site as part of a site identification and master planning process to address the need for additional burial space for San Diego area military veterans. The 2007 Fort Rosecrans National Cemetery Annex EIS (referred to as 2007 EIS) identified four potential sites at MCAS Miramar for the construction and operation of an annex to the Fort Rosecrans National Cemetery as the cemetery has no additional land available for expansion (DoN and VA 2007). The current 323-acre site was selected for establishment of the new cemetery to be developed in six phases over a 30-year planning period (see Figure 1-2). During the 2007 EIS process, 214 acres of the 323-acre site were approved for an overall cemetery development area. Remaining lands, primarily in biologically sensitive areas, are protected from disturbance according to agreements made with agencies during the 2007 EIS process.

Because there have been some changes to the overall layout of the cemetery within the established 214-acre developable area, the VA is preparing this site-specific environmental assessment (SEA) to assist in the Federal decision-making process concerning the proposed Phase 2 expansion at Miramar National Cemetery.

Source: JG&A 2019

Note: The Phase 2 boundary depicted in orange within the figure highlights the original Phase 2 area analyzed within the 2007 EIS. The actual Phase 2 footprint for proposed expansion analyzed within this SEA includes additional areas required for temporary construction staging and contractor access and areas of proposed improvements within the existing Phase 1 portion of the cemetery. Section 2.1 of this SEA provides additional information on activities and locations analyzed as part of the proposed Phase 2 expansion.

Figure 1-2. Phase Map

1.3 MIRAMAR NATIONAL CEMETERY REGULATORY PLANNING HISTORY

A Final EIS was completed by the U.S. Department of the Navy (DoN) and the VA in July 2007 to evaluate the physical, biological, and cultural resources effects of developing a new National Cemetery at one of four sites identified on MCAS Miramar. The VA selected the existing 323-acre site alternative; of which 214 acres were identified by the EIS process for the development area of the overall cemetery. The U.S. Fish and Wildlife Service's (USFWS) Biological Opinion and stipulations in U.S. Army Corps of Engineers (USACE) Individual Permit for cemetery development (further discussed below) resulted in determining a maximum 144-acre cemetery footprint (within the 214-acre development area) necessary to meet cemetery requirements outlined in the 2007 EIS (see Figure 1-3). Areas outside of the approved development area and cemetery footprint include a large vernal pool complex along the northern site boundary, a canyon supporting riparian vegetation in the northwestern corner, steep slopes along the southern parcel boundary, and several small vernal pool "islands" that would be surrounded by cemetery development (Helix 2009a).

As part of previous efforts involving the 2007 EIS and Phase 1 approval, the VA prepared the following documentation:

- **Fort Rosecrans National Cemetery Annex at MCAS Miramar Natural Resources Management Plan (NRMP) (2009)**. The NRMP was prepared in accordance with mitigation requirements identified in the 2007 EIS and Biological Opinion issued by the USFWS (see next bulleted section below regarding regulatory approvals and permits). The purpose of the plan is to provide cemetery staff and the site Resource Manager with guidance on protecting on-site and adjacent natural and biological resources from unplanned and indirect impacts associated with the development and operation of Miramar National Cemetery. The plan outlines specific management elements/tasks that must occur during all applicable phases of cemetery development and those related to cemetery operations, including quarterly monitoring and reporting (Helix 2009a).

- **Fort Rosecrans National Cemetery Annex at MCAS Miramar Vernal Pool Restoration Plan (2009)**. This document provides a detailed vernal pool restoration plan to meet USFWS Biological Opinion requirements and to offset direct impacts to vernal pools and ruts containing San Diego fairy shrimp or vernal pool indicator species resulting from development of the Miramar National Cemetery. The plan identifies a total of 0.492 acres of vernal pool restoration is required for 0.322 acres of natural vernal pool and rut or impoundment pool habitat. Restoration of 0.443 acres occurred with the northeastern portion of the cemetery property in non-native grasslands and clearings adjacent to chaparral habitat and vernal pool and enhancement occurred on 0.067 acres (Helix 2009b).

- **Stormwater Management Plan (SWMP) for Fort Rosecrans National Cemetery Miramar - Annex (2009)**. This document provides project requirements for minimizing the short and long-term impacts on receiving water quality from construction and operations of the Miramar National Cemetery (Burkett & Wong 2009a).

- **Stormwater Pollution Prevention Plan (SWPPP) for Fort Rosecrans National Cemetery, Miramar Annex (2009)**. This document outlines requirements to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction and provides a maintenance schedule for best management practices (BMPs) installed during construction designed to reduce or eliminate pollutants after construction is completed (Burkett & Wong 2009b).

- **Fort Rosecrans National Cemetery Annex at MCAS Miramar Integrated Pest Management Plan (2009)**. This plan was prepared per NCA's pest management requirements and the USFWS's

Biological Opinion requiring a plan be prepared and implemented pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (Helix 2009c).

- **Fort Rosecrans National Cemetery Annex at MCAS Miramar Wetland Restoration Plan (2010)**. This document provides a restoration plan for impacts to USACE jurisdictional waters of the U.S. resulting from development of the Miramar National Cemetery. This includes impact to 0.01 acres of jurisdictional emergent wetland (4:1 mitigation ratio) and 0.24 acres of ephemeral drainage (2:1 mitigation ratio) and 0.52 acres of mitigation requirements. Mitigation occurred on cemetery property through wetland creation (0.9 acres of southern willow scrub and 0.18 acres of baccharis scrub) and enhancement (0.36 acres of hydrological improvements) (Helix 2010).

The VA also obtained the following regulatory approvals and permits:

- **U.S. Army Corps of Engineers Los Angeles District issued an Individual Permit (SPL-2008-00970-PJB)**. The permit issues impacts to a total of 0.477 acres of waters of the U.S. within a 144-acre cemetery footprint (within the 214-acre development area) and stipulates mitigation and protection of resources would be done through agreements in the NRMP, Vernal Pool Restoration Plan, and Wetland Restoration Plan. Remaining acreages outside of the 144 acres would be secured for preservation (USACE 2010).

- **U.S. Fish and Wildlife Service Biological Opinion (1-6-06-F-4652.3).** The Biological Opinion was issued on the federally threatened coastal California gnatcatcher (*Polioptila californica californica*) and the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*) and lists conservation measures for protection and preservation of these species and their habitats, including limiting cemetery development and operations of all six phases to a 144-acre footprint within the overall 214-acre cemetery development area identified in the 2007 SEIS (USFWS 2007).

- **California Historic Preservation Concurrence.** The California Office of Historic Preservation was consulted regarding the potential for historic properties listed or eligible for protection under the National Register of Historic Places. The 2007 SEIS concluded no eligible properties exist in the 323-acre site. The State Historic Preservation Officer concurred with the determination on October 23, 2006 (see Appendix A, letter reference #USCM060815A).

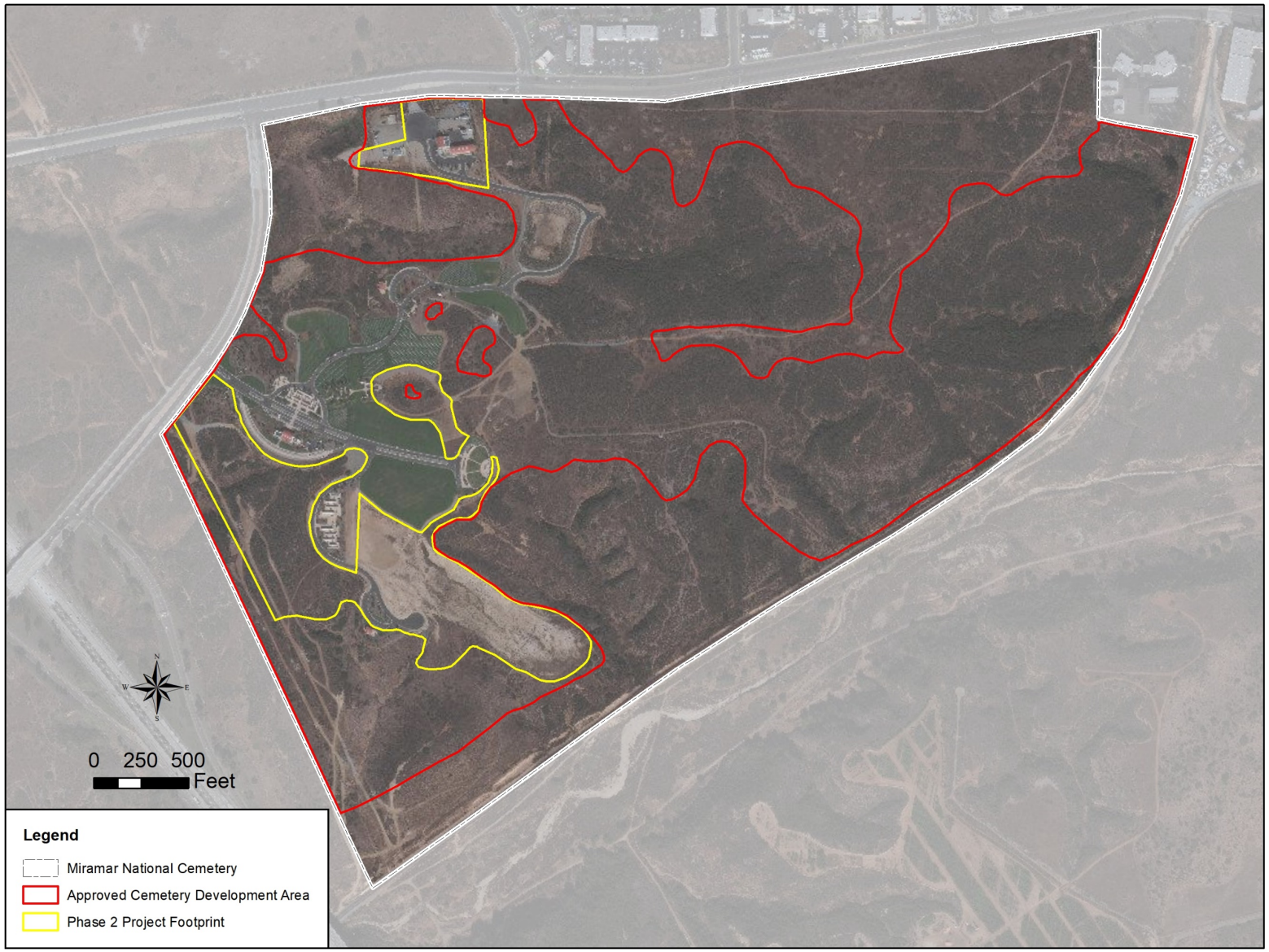


Figure 1-3. Approved Cemetery Development Area and Phase 2 Expansion Area

1.4 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to ensure there is sufficient burial capacity available at the Miramar National Cemetery to enable the NCA to continue providing interment benefits to eligible Veterans and their families by further extending the longevity of the Miramar National Cemetery in the San Diego / Southern California area. The Proposed Action would infill undeveloped areas and create logical connections between existing cemetery Phase 1 development and provide increased pedestrian and vehicular circulation.

The Proposed Action is needed because the current interment capacity at the Miramar National Cemetery is limited to the Phase 1 development, and this is not large enough to allow NCA to continue meeting its goal of providing eligible Veterans and their families with reasonable access to VA burial options in southern California over the next decade. Imminent lack of burial capacity at the Miramar National Cemetery would burden Veterans and their families by requiring them to seek burial benefits at another National Cemetery located outside of the San Diego / Southern California area. The Veterans and their families would be required to travel to the nearest National Cemetery, which is either the Los Angeles National Cemetery, located in western Los Angeles approximately 130 miles from San Diego, or Riverside National Cemetery, located adjacent to March Air Reserve Base approximately 90 miles from San Diego.

1.5 REGULATORY REQUIREMENTS

The National Environmental Policy Act (NEPA) of 1969 established the national policy for the environment and the Council on Environmental Quality (CEQ) and provides for the consideration of environmental issues in Federal agency planning and decision-making. To implement the NEPA policies, CEQ promulgated the Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] 1500-1508) (referred to as the CEQ Regulations).

The VA's procedures to comply with NEPA are set forth in 38 CFR 26, Environmental Effects of the Department of Veterans Affairs Actions. These regulations establish the VA policies and responsibilities to integrate environmental considerations early in the decision-making process. Instructions on preparing NEPA documentation and carrying out public and agency coordination are provided in VA's NEPA Interim Guidance for Projects (VA 2010).

These requirements specify that, prior to taking action, VA must evaluate the potential environmental impacts of VA facilities, operations, and related funding decisions. The evaluation of the potential environmental impacts of the Proposed Action and Alternatives includes direct, indirect, and cumulative effects, as well as qualitative and quantitative (where possible) assessments of the level of significance of these effects. Additionally, as required by NEPA and the implementing regulations from CEQ and VA, the alternative of taking no action is also evaluated, providing a baseline for comparison of potential impacts from the action alternative(s).

Per CEQ regulations, an EA (SEA) should provide sufficient evidence and analysis for determining whether an action would cause significant environmental impacts (requiring an EIS) or whether the agency can issue a Finding of No Significant Impact (FONSI) (40 CFR 1508.9). A FONSI is a decision document that briefly presents the reasons why an action would not have a significant effect on the human environment (40 CFR 1508.13). Conversely, when a SEA finds that an action may have a significant adverse impact on the environment, VA would issue a notice of intent (NOI) to prepare an EIS.

1.6 SCOPE OF THE ANALYSIS

This SEA has been prepared to analyze and evaluate the potential effects of the Proposed Action to implement the Phase 2 expansion at Miramar National Cemetery. Further details of the Proposed Action are provided in Chapter 2.

This SEA tiers and supplements the analyses and findings presented in the 2007 EIS which resulted in the approval and selection of the 323-acre Miramar Nation Cemetery site (DoN and VA 2007). This approach is in full compliance with CEQ Regulations that state that NEPA documents should be "analytic rather than encyclopedic" (40 CFR 1502.2a) and that scoping should be used to "identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (40 CFR 1506.3), narrowing the discussion of these issues in the statement [SEA] to a brief presentation of why they would not have a significant effect on the human environment or providing a reference to their coverage elsewhere" (40 CFR 1501.7(a)(3)). Accordingly, VA is using "Incorporation by Reference" per 40 CFR 1502.21 and "Tiering" per 40 CFR 102.20 to reduce the volume of this SEA and relies on information previously developed and analyzed in the prior 2007 EIS (DoN and VA 2007).

Consistent with CEQ regulations, the analysis in this SEA focuses on topics with the greatest potential for environmental impacts. CEQ regulations encourage NEPA analyses to be concise and focused on resources with the greatest potential impact, consistent with 40 CFR 1500.4 (b) and 40 CFR 1501.7(a)(3). The resource areas evaluated include air quality, noise, soils, biological resources, water resources, traffic and transportation, and cumulative effects. Section 3.1.1 provides a detailed explanation of the resources evaluated and dismissed from detailed analysis.

1.7 DECISION MAKING

This SEA has been prepared to identify, analyze, and document the potential physical, environmental, cultural, and socioeconomic effects associated with the VA's Proposed Action to construct and operate a portion of the Phase 2 expansion within the Miramar National Cemetery, according to the design specified in the 2007 EIS and associated plans and permits summarized in Section 1.3. This SEA tiers to and updates the analyses and findings of the 2007 EIS for the initial siting, construction, and operation of the Miramar National Cemetery (VA 2007). This SEA also includes the necessary analysis to address and support decision making for the site-specific design of the proposed expansion.

The VA, as a Federal agency, is required to incorporate environmental considerations into its decision-making process for the actions it proposes to undertake. This is done according to the regulations and guidance identified in this Section 1.3. As such, this SEA provides VA with the necessary analysis to address and support decision making for the Proposed Action. As part of this process, the VA has coordinated with the landowner, MCAS Miramar, along with federal permitting and approving regulatory agencies (USFWS and USACE) involved in the 2007 EIS to review any differences between the current Proposed Action and the Phase 2 cemetery development concept presented in the 2007 EIS. Additionally, the VA has been actively coordinating with the City of San Diego and utility companies which easements would be affected by the Proposed Action. Chapter 6 (Environmental Permits, Approvals, and Determinations Potentially Required) highlights additional approvals required for the proposed Phase 2 cemetery expansion.

As the decision document for this proposed Federal undertaking, this SEA also identifies the actions to which the VA would commit to minimize environmental effects, as required under NEPA, its implementing regulations from CEQ (40 CFR 1500–1508) and VA (38 CFR 26), and the VA's NEPA guidance (VA 2010). The decision to be made is whether—having considered the potential physical, environmental, cultural, and socioeconomic effects—the VA should implement the Proposed Action including, as appropriate, measures to reduce adverse effects.

CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

NEPA, and the regulations of CEQ and VA for implementing NEPA, require all reasonable alternatives to be rigorously explored and objectively evaluated. Accordingly, this chapter summarizes the process used to develop alternatives and provides a description of the subsequently selected Proposed Action and its Alternatives, as well as alternatives considered but ultimately eliminated from further analysis, and the reasons for elimination.

2.0 DEVELOPMENT OF ALTERNATIVES

The alternatives evaluated in this SEA are the Proposed Action and No Action alternatives. The Proposed Action is described in detail in the following section. The No Action Alternative serves as the baseline for determining the significance of potential effects of the Proposed Action in relation to existing conditions. The Proposed Action must take into account existing cemetery design, NCA cemetery design standards, and overall character of the surrounding area, and serve as guiding considerations in the ultimate expansion design.

Underlying expansion objectives presented in the Phase 2 Preferred Alternative Master Plan Update (JG&A 2019) are listed below:

- Maximize the total amount of gravesites within the identified expansion site.
- Organize burial plots so that the head is located higher than the feet, where possible; primary headstone inscriptions should face the road.
- Propose gravesite development to utilize available acres in keeping with the overall appearance of existing cemetery.
- Provide accessibility to physically disabled persons in compliance with the Americans with Disabilities Act, as amended, and all other applicable policies governing barrier-free access.
- Strive to develop a grading plan that balances cut and fill operations and minimizes off-site soil transport.
- Promote landscape design to conserve water resources yet deliver an acceptable and attractive living landscape memorial to the veterans.
- Design all planting in accordance with the cemetery general scheme and match existing where feasible.
- Provide new irrigation circuits, as necessary, to all new planting areas in providing adequate water to promote healthy plant life.
- Adhere to the Secretary of the Interior's Standards for the Treatment of Historic Properties and associated Guidelines for the Treatment of Cultural Landscapes https://www.nps.gov/tps/standards.htm.

2.1 PROPOSED ACTION

Under the Proposed Action, the VA would implement Phase 2 expansion of the Miramar National Cemetery. Phase 2 expansion includes two components; expansion of the existing Phase 1 cemetery footprint to include an additional 26.7 acres of cemetery (also refer to Figure 1-2) and construction of additional facilities within lands previously disturbed as part of Phase 1 expansion. Figure 2-1 depicts the proposed Phase 2 cemetery footprint and layout in relation to the overall Phase 2 expansion area. Figure 2-1 also includes two projects located in the previously developed Phase 1 area; the proposed connection to the existing memorial walk to the existing flag assembly area, and the proposed Administration Building expansion. Figure 2-2 shows additional projects within the existing maintenance complex parking lot developed as part of Phase 1 including construction of the Honor Building, construction of a covered vehicle parking structure, and placement of additional asphalt paving between the covered structure and the existing asphalt. Figure 2-2 also includes the proposed deacceleration lane along Nobel Drive to the cemetery entrance. Phase 2 would also include expansion of the irrigation system, incorporation of site drainage (including a basin), and incorporation of landscaping and site furnishings following construction. As part of the design, utility easements were identified to minimize cut over existing underground utilities.

2.1.1 Phase 2 Expansion Activities within the Phase 2 Master Plan Area

2.1.1.1 Burial Features

Phase 2 expansion would result in an increase of the following burial features (refer to Figure 2-1):

- 6,000 – 7,000 Pre-Placed Crypts (PPCs) in Phase 2 Sections 22, 23, 24, and 29.
- 9,000 – 10,000 In-Ground Cremains (IGCs) in Phase 2 Sections 25, 26, 27, 28, 30, 31, 33, 34, 35, 36, 37, 38 and 39.
- 10,000 – 11,000 Columbarium Niches in the Columbaria Plaza proposed in Section 32.

Development of these areas would require site clearing and grading designed to achieve desired slopes across burial sections (ranging from 2 to 5 percent) that create a consistent headstone orientation. Slopes for pre-placed crypt burial sections would be graded at 2 and 3 percent while slopes across in-ground cremains sections would be graded between 3 and 5 percent. The design includes a 10-foot-wide area with mild slopes at burial section edges and roadway edges that require steeper grades of 33.3 percent to tie into existing ground.

The VA estimates overall grading for the site is relatively balanced with approximately 84,527 cubic yards (CY) of excavation and 86,612 CY of embankment required.

2.1.1.2 Road Network and Parking

In addition, Phase 2 expansion would extend the existing Miramar National Cemetery road network, with the primary roadway looping around the Phase 2 expansion area and smaller access roads bordering burial sections (see Figure 2-1). The proposed roadway section is a VA NCA Standard 24-feet wide roadway which is consistent with Phase 1 roadway widths. The roadway alignment would follow the original master plan to tie in at the flag assembly area. Designated parallel parking spots would be established along the road network to help alleviate congestion and ensure that emergency vehicles would have enough roadway width free to pass parked cars. The Phase 2 expansion would provide 9 new spaces at the Administration Building (for a total of 18), 48 new parallel spaces provided along burial sections, and 10 new parallel spaces at the Maintenance Area near the proposed Honor Guard Building.

Source: JG&A 2019

Note: The figure provides a sample layout of facilities within the Phase 2 expansion area for context. Actual layout may slightly vary as design progresses, however, location of activities would be consistent with those areas analyzed as part of the Phase 2 expansion.

Figure 2-1. Proposed Phase 2 Expansion Layout

Storm sewer is proposed along the full length of the proposed roadway alignment. Catch basins, storm sewer pipe, and headwalls would follow the City of San Diego design standards similar to Phase 1 construction documents. Storm sewer pipes would discharge into the proposed detention basin (see Section 2.2.1.3).

2.1.1.3 Potable Water and Irrigation

The Phase 2 expansion would involve a proposed 3-inch PVC line extension from the Phase 1 area along the full length of the Phase 2 proposed road which would tie into the existing 3-inch line in front of the flag assembly area. This extension would improve the domestic water service in this area with a looped system. The potable water system would be designed in conjunction with the recycled irrigation system (described below). Potable water would be used solely for the flower water stations and to accommodate quick couplers for washing of hardscape areas where people may come into contact with the water, in keeping with County Department of Environmental Health regulations.

Reclaimed water is used by the cemetery for irrigation. The Cemetery property is divided by an existing 40-foot pipeline easement that zigzags through the middle of the property. The easement is owned by the City of San Diego and it contains an existing 36-inch reclaimed water distribution line. An 8-inch reclaimed water line was installed during Phase 1 construction and extends from the southwest corner of the detention pond to the Avenue of Flags where it turns and runs east to the flag assembly. The 8-inch line tees into a 4-inch reclaimed water line at the flag assembly area. The 4-inch line is capped at the end of the road south of the flag assembly area. As part of the Phase 2 expansion, the 4-inch reclaimed water line at the Avenue of Flags would be replaced with a 6-inch reclaimed water line and extended along proposed Road B to a point of connection for irrigation at burial section 34.

Fire service to the cemetery is provided by an existing 8-inch PVC water line that runs along Phase 1 cemetery roads to the Maintenance Facility and the Administration Building. The fire service line originates at Miramar Road just east of the Maintenance Facility where the fire service line connects to a 16-inch public water main. Phase 2 expansion would extend the line which currently dead ends at the Administration Building to provide a fire water utility line along the new roadway for wildfire control. This would include installation of an 8-inch PVC waterline along the Avenue of Flags from the dead-end at the Administration Building to the flag assembly area and south along the new roadway. The line would then connect back to the proposed 8-inch line on Avenue of Flags to create an internal loop.

2.1.1.4 Water Quality Basin

In keeping with the EIS and approved master plan, the proposed stormwater management strategy for the Phase 2 expansion involves construction of a continuous storm sewer system that would connect the existing storm sewer near Committal Shelter B and the existing storm sewer near the flag assembly area. Drainage would flow into the proposed storm sewer at inlet locations and then into a detention facility behind the proposed columbarium (see Figure 2-1). The detention facility would be designed to mitigate off-site drainage that would otherwise increase with the increase of impervious surface created in the development of the Phase 2 expansion.

2.1.2 Phase 2 Expansion Activities Outside the Phase 2 Master Plan Area

2.1.2.1 Nobel Drive Cortege Lane (Deacceleration Lane)

As part of Phase 2 expansion, the VA is proposing the addition of a deacceleration lane along Nobel Drive (see Figure 2-2) to improve traffic flow and increase safety along Nobel Drive for funeral processions. This would involve construction of a new eastbound right-turn pocket on Nobel Drive approaching Avenue of Flags, spanning approximately 450 linear feet along the cemetery frontage. The right-turn pocket would require widening of Nobel Drive to accommodate a new 12-foot wide lane, as well as the installation of new public curb, gutter, sidewalk, and a pedestrian ramp.

Nobel Drive is a public street which was dedicated to the City of San Diego in an easement in 2000, through the Government (DoN). The easement document reserves rights for the Government, including the right to install the right-turn pocket. A formal letter of request to process and obtain a permit to perform the work within the public right-of-way was sent to the City of San Diego on June 27, 2019.

In addition, the proposed improvements along Noble Drive would be located within existing (separate) private easements that were dedicated over to Government property for the purposes of installing and maintaining power poles and power transmission lines, as well as high pressure fuel pipelines. Existing utilities would be relocated or protected and monitored during construction in cooperation with the utility provider.

2.1.2.2 Access Road and Construction Staging

Temporary construction staging (contractor lay down area) and construction access for Phase 2 expansion activities would require approximately ½ an acre. The proposed location for staging activities (placement of construction trailers and laydown areas) and site access would occur within the approximate 8-acre area located directly to the west and south of the Phase 2 expansion area, inside the approved 214-acre cemetery development area (see Figure 2-3). Construction for Phase 2 expansion activities would utilize entry and staging off Nobel Drive, through an existing curb cut and maintenance easement owned by San Diego Gas & Electric (SDGE) southeast of the cemetery's main entry. The temporary access road would run parallel to the cortege lanes utilizing previously disturbed areas as part of the previous Phase 1 development where a line of boxed trees would be placed temporarily along with construction fencing to help shield views of construction. The temporary access road design would be wide enough to accommodate two trucks. Culvert crossings would be installed as needed to convey drainage from one side of the road to the other. The proposed access route provides enough previously-disturbed flat areas to place construction and Resident Engineer's trailers, parking for construction personnel, and to have space for trucks to pull off to the side just after entering.

2.1.3 Phase 2 Expansion Activities within the Phase 1 Master Plan Area

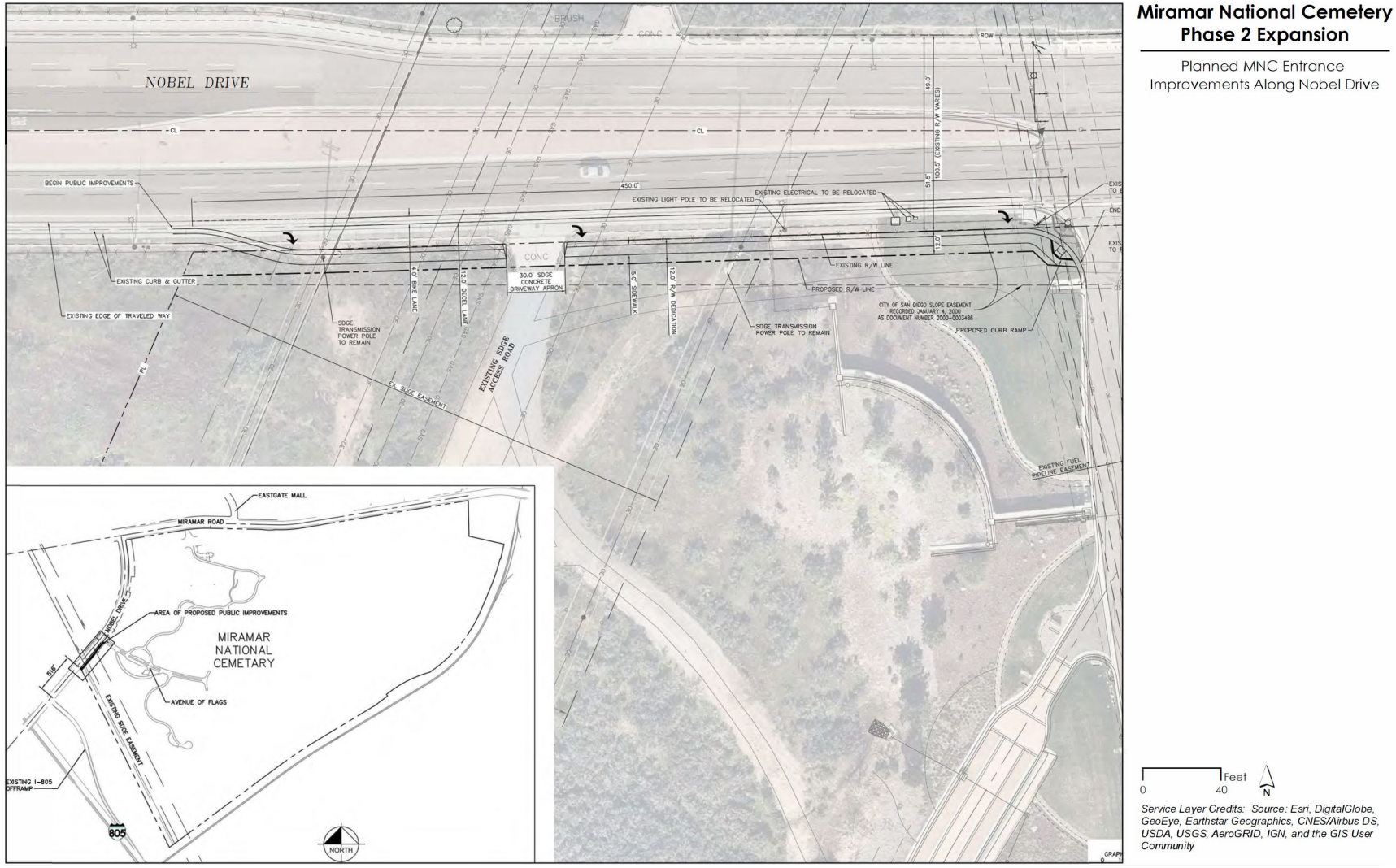
Phase 2 expansion of the Miramar Nation Cemetery also involves projects in the existing Phase 1 Area (see Figures 2-1 and 2-2).

2.1.3.1 Memorial Walk Design (Phase 2 to Flag Assembly)

The proposed Memorial Walk as part of the Phase 2 expansion would consist of 8,800 square feet of concrete walk paving, linking the Memorial Plaza - Ossuary to the Flag Assembly Area (see Figure 2-1). The new walk would incorporate irrigated ornamental plantings within the monument area, transitioning to native and naturalized plantings surrounding the vernal pool loop. Vernal pools within the vernal pool loop would be avoided and protected per the NRMP.

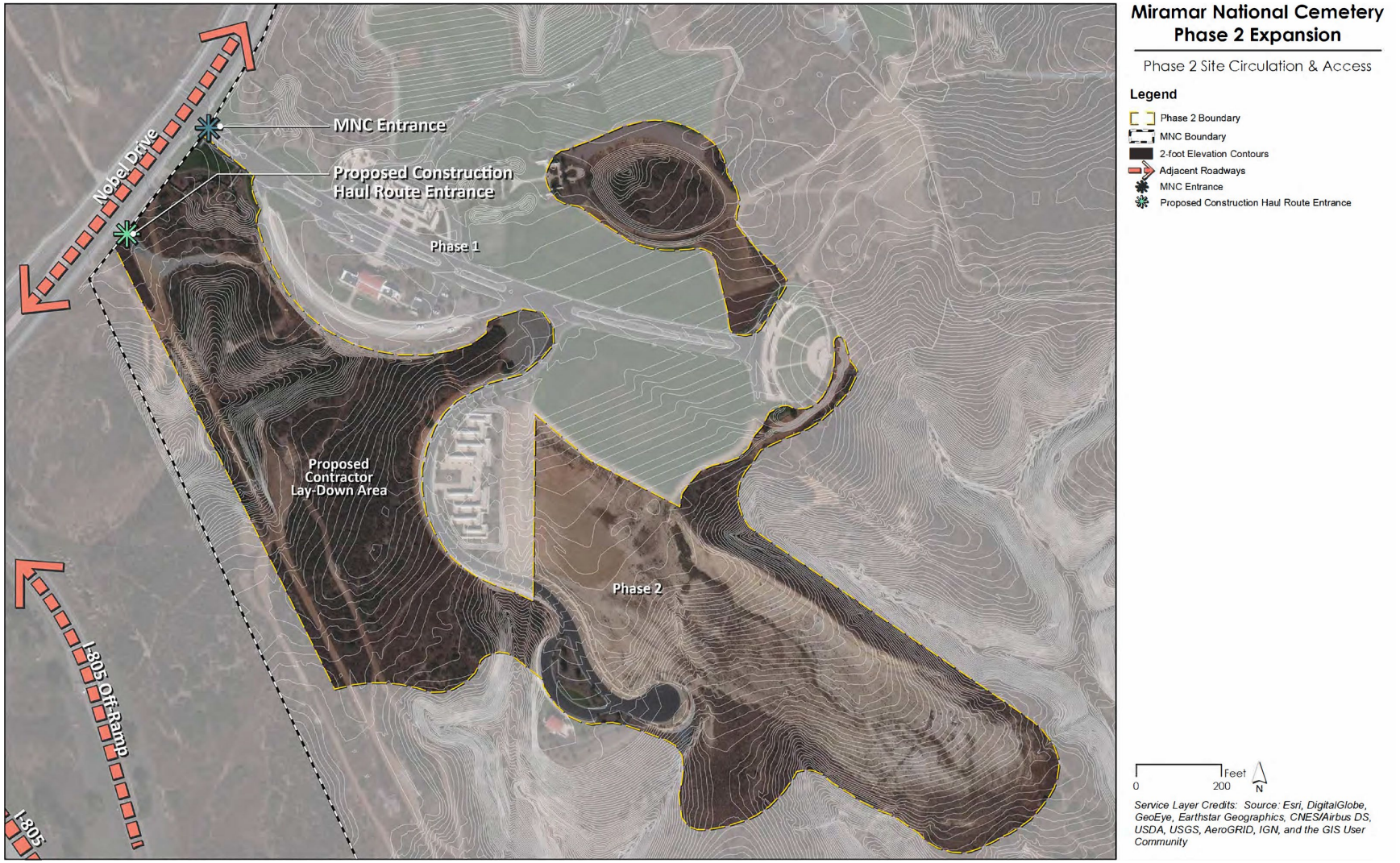
2.1.3.2 Administrative Building Addition and Parking Expansion

A 690 square foot addition to the Administrative Building is proposed as part of the Phase 2 expansion to provide additional office space, improving workplace efficiency, and providing enhanced privacy for cemetery staff. The project would include an additional 9 parking spaces (including 2 accessible spaces) along the eastern side of the Administration Building. The proposed expansion location for the building and parking would occur in existing disturbed locations within the Administrative Building complex (see Figure 2-1).



Source: JG&A 2019

Figure 2-2. Proposed Improvements Along Nobel Drive



Source: JG&A 2019

Note: The figure provides the general 8-acre area west of the Phase 2 expansion cemetery footprint designed for construction access and contractor staging. Actual total acreage of disturbance within this location to accommodate placement of construction trailers, laydown areas and use of existing access routes would be approximately ½ an acre.

Figure 2-3. Proposed Construction Access and Contractor Staging Areas

2.1.3.3 Honor Guard Building and Parking Improvements

The Phase 2 expansion includes construction of a 1,200-square foot Honor Guard building in a portion of the Maintenance Facility complex. The building would include air-conditioning, venting, domestic hot water, fire alarm and sprinklers, lighting and daylighting, audio-visual systems, physical and electronic security (intrusion detection); and secured weapon storage. The preferred site location for the proposed building is the southeast end of the Maintenance Facility parking lot which would eliminate eight parking spaces at the eastern end of the parking lot (see Figure 2-4). Building siting includes a 25-foot security setback from the existing roadway. An additional 10 parallel parking spaces (8 feet wide by 20 feet long) would be provided across the maintenance road to the southwest to make up for the lost parking spaces. Construction of a covered vehicle parking structure and placement of additional asphalt paving between the covered structure and the existing asphalt would also occur.

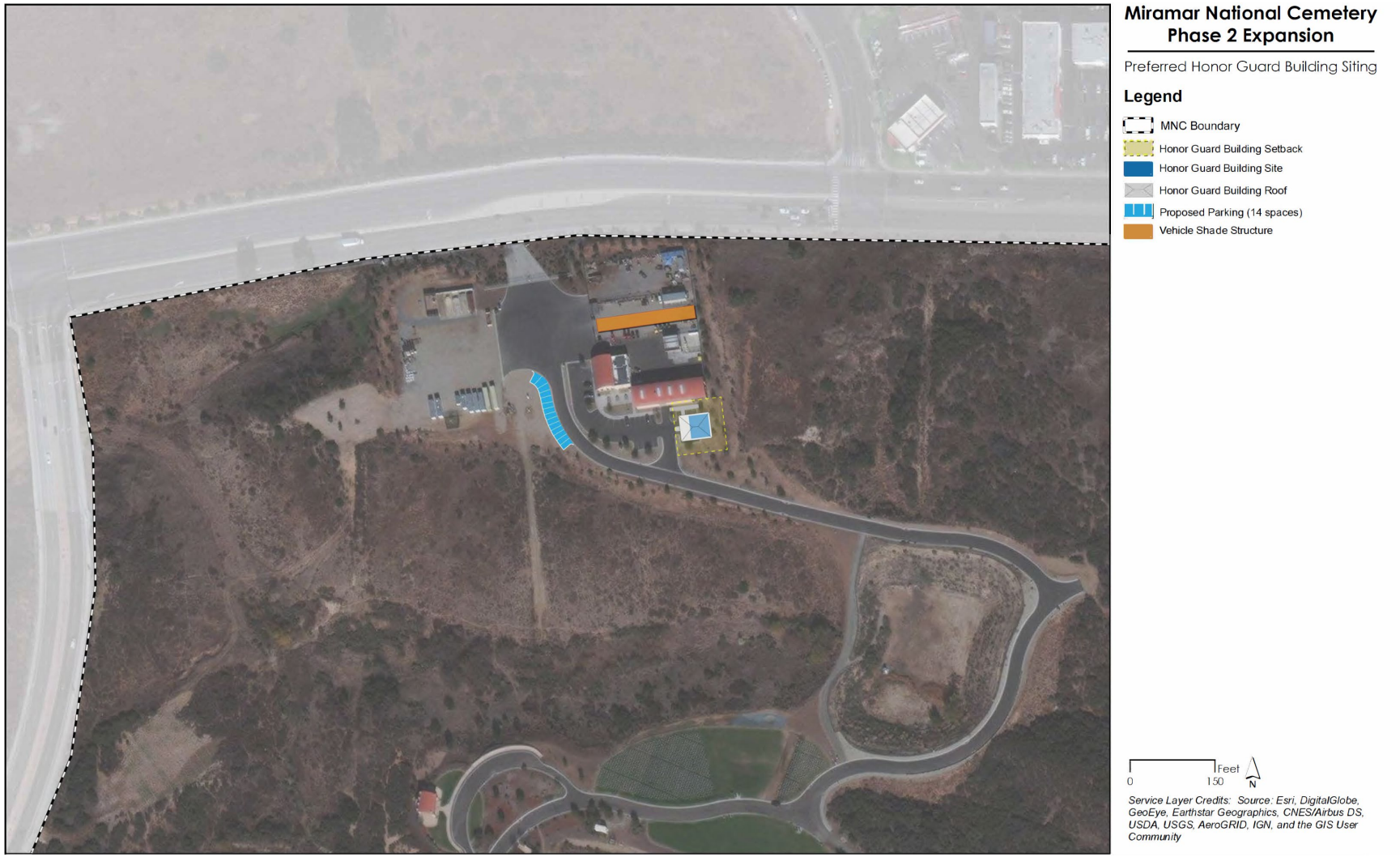
2.1.4 Post-construction Landscaping

Following construction activities, the cemetery would be landscaped in keeping with Phase 1 improvements. Burial areas would be stabilized using natural turfgrass and shrub and groundcover materials would be used for perimeter plantings. Similar to Phase 1 plantings, plant material would consist mainly of low-water and drought tolerant species with some accent plantings near focal areas such as the extension of the Administration Building and adjacent to the Avenue of Flags. Where buffering for noise or visibility is needed, larger or denser shrubs would be strategically placed.

Approximately 200 trees are planned for the Phase 2 expansion area, including some which may be relocated from existing locations within the Phase 2 cemetery footprint. While the majority would occur in the perimeter plantings, several trees have been located adjacent to floral watering stations and in between burial sections to provide shade and visual enhancement. Trees would be spaced along with benches at regular intervals within the columbarium plaza to provide shade as well as the illusion of a pedestrian scale ceiling.

The new Memorial Walk would incorporate irrigated ornamental plantings within the monument area, transitioning to native and naturalized plantings surrounding the vernal pool loop. Perimeter slopes adjacent to undeveloped open space would be treated with a non-irrigated Natural Slope Restoration method which utilizes existing plant duff, soil and seed bank from on-site to re-establish native plants. This treatment would occur in low visibility areas or where it is necessary to avoid application or inadvertent run-off of irrigation water in to protected open space.

Following construction activities, all other Phase 2 expansion areas (e.g., contractor access and staging areas) would be stabilized to prevent erosion and restored to pre-construction conditions.



Source: JG&A 2019

Note: The figure provides a sample layout of facilities within the Phase 2 expansion area for context. Actual layout may slightly vary as design progresses, however, location of activities would be consistent with those areas analyzed as part of the Phase 2 expansion.

Figure 2-4. Preferred Honor Guard Building Siting

2.2 NO ACTION ALTERNATIVE

The No Action Alternative serves as a benchmark against which the effects of the Proposed Action can be evaluated, as required under the CEQ Regulations (40 CFR 1502.14). For this project, No Action is defined as not implementing the Proposed Action (Phase 2 expansion of the Miramar National Cemetery).

The No Action Alternative would challenge NCA's goal of providing eligible Veterans and their family members with reasonable access to VA burial options in the San Diego area of southern California, and therefore, would not meet the purpose of and need for the action.

Under the No Action Alternative, long-term, reasonable access to burial benefits would not be provided to the estimated 253,000 Veterans and their families living in the Sand Diego area of Southern California. The two other nearest national cemeteries in southern California open to interments are the Los Angeles National Cemetery, located in western Los Angeles approximately 130 miles from San Diego, and the Riverside National Cemetery, located adjacent to March Air Reserve Base approximately 90 miles from San Diego. These two cemeteries do not meet the NCA's definition of reasonable distance for burial benefits for San Diego veterans (within 75 miles of the Veteran's place of residence). Therefore, the No Action Alternative would place an undue burden on Veterans, their families, and visitors, by requiring extended travel to reach a National Cemetery outside of the San Diego area. This would result in a hardship for the survivors attending the funerals and for grave visitations of deceased Veterans interred in other National Cemeteries, because of the distances between homes and the burial sites. If Veterans and their families must resort to private burials, they are deprived of the honor and privilege bestowed upon them by a grateful nation for their service to their country. Therefore, under the No Action Alternative, the distribution of open National Cemeteries in the region would be unequal, and the VA would not comply with the requirements of the Service Members Civil Relief Act.

2.3 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION

The 2007 EIS and aforementioned permitting and regulatory approvals by the USACE and USFWS identify the boundaries where future development within Miramar National Cemetery is approved. Based on the 2007 EIS and master plan, the VA considered three alternative concepts for the Phase 2 expansion within the Phase 2 development footprint (JG&A 2019). Based on the review of alternatives, the VA planning team developed a Preferred Alternative (the Proposed Action as presented within this SEA) for the Phase 2 expansion. Other alternative concepts were higher in cost or potentially affected areas outside of the permitted 214-acre development area. The Preferred Alternative is the best concept which maximizes long-term use of the cemetery site by configuring pre-placed crypt and in-ground cremain areas for Phase 2 such that sufficiently large spaces remain to be identified for future expansion while still maintaining the original master plan layout for roadways and burial area perimeters.

CHAPTER 3 ENVIRONMENTAL SETTING AND CONSEQUENCES

3.1 CRITERIA FOR ANALYSIS OF IMPACTS

This section describes the existing conditions at Miramar National Cemetery and presents an analysis of the potential environmental consequences of the Proposed Action and No Action alternatives. Each alternative was evaluated for its potential impacts on physical, natural, and socioeconomic resources in accordance with the CEQ regulations at 40 CFR 1508.8.

The specific criteria for evaluating the potential environmental impacts of the Proposed Action and the No Action alternatives are described in the following sections. The significance of an action is also measured in terms of its context and intensity. The potential environmental impacts are described in terms of duration, whether they are direct or indirect, the magnitude of the impact, and whether they are adverse or beneficial, as summarized in the following paragraphs:

Short-term or long-term. In general, short-term impacts are those that would occur only with respect to a particular time-lined activity, for a finite period, or only during the time required for construction or installation activities. Long-term impacts are those that are more likely to be persistent and chronic.

Direct or indirect. A direct impact is caused by an action and occurs around the same time at or near the location of the action. An indirect impact is caused by an action and might occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome of the action.

Less-than-significant (e.g., negligible, minor, moderate, or significant). These relative terms are used to characterize the magnitude or intensity of an impact. Negligible impacts are generally those that might be perceptible but are at the lower level of detection. A minor impact is slight, but detectable. A moderate impact is readily apparent. Significant impacts are those that, in their context and due to their magnitude (severity), have the potential to meet the thresholds for significance set forth in the CEQ regulations (40 CFR 1508.27) and, thus, warrant heightened attention and examination for potential means for mitigation to fulfill the policies set forth in NEPA.

Adverse or beneficial. An adverse impact is one having unfavorable or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment.

3.2 RESOURCES NOT EVALUATED IN THIS SEA

VA determined that the following resource areas were sufficiently analyzed in the 2007 EIS for site selection and do not warrant further analysis in this SEA.

- **Land Use and Aesthetics:** The proposed cemetery land use and associated facilities proposed for the Phase 2 expansion would be compatible to land uses established for the siting of the cemetery as part of the 2017 EIS. The cemetery is directly bordered by two four-lane thoroughfares; Miramar Road to the north and Nobel Drive to the west, and Interstate 805 borders the cemetery to the southwest. Commercial and industrial uses exist north of Miramar Road and high-density residential industrial areas to the west of Interstate 805. MCAS Miramar borders the cemetery to the east and southeast, and a commuter/freight rail bed right-of-way (e.g., Metropolitan Transit System/BNSF) borders the cemetery to the south. Agricultural lands (a nursery) are located directly south of the rail bed. All activities would occur within the existing approved cemetery development area and would not conflict with these adjacent land uses. Impacts to aesthetics would be minor and short-term during

construction. As a majority of the site is previously disturbed, long-term benefits to aesthetics would be likely through proposed landscaping and cemetery design would conform with existing aesthetics of the Phase 1 development and with applicable guidelines the MCAS Miramar Base Exterior Architectural Plan. Impacts to soils, including prime farmland are discussed in Section 3.4.

- **Cultural Resources:** The entire 323-acre property was previously surveyed as part of the 2007 EIS effort; the four lithic scatter sites and one seasonal camp/lithic scatter site identified from past surveys have been determined not eligible for listing (DoN and VA 2007). No historic structures exist within or adjacent to the Phase 2 expansion area. Also refer to Appendix A for California Office of Historic Preservation concurrence letter of no eligible properties existing within the 323-acre site.

- **Socioeconomics and Environmental Justice:** The proposed Phase 2 expansion would not result in any appreciable effects to the local or regional socioeconomic environment. Construction activities associated with Phase 2 expansion would have minor beneficial effects associated with temporary employment of construction personnel and transportation of goods and materials to the construction site. No new operational personnel would be hired to support the Phase 2 expansion.

  Furthermore, as concluded within the 2007 EIS, there is no indication that either the construction or operation of the proposed cemetery expansion would negatively impact either a minority or low-income population component to any greater degree than the general population of the surrounding area or region. Phase 2 expansion would occur within the existing Miramar National Cemetery property and no substantial, adverse off-site impacts are anticipated which would adversely affect these populations.

- **Community Services:** The Phase 2 expansion of Miramar National Cemetery would create a long-term, beneficial impact by extending the longevity of cemetery, benefiting Veterans and their families and visitors throughout the Southern California / San Diego region. There would be negligible impacts on the capacity of law enforcement, fire protection, medical services, and schools during construction and operation of the proposed Phase 2 expansion.

- **Solid and Hazardous Materials:** The 2007 EIS did not identify any hazardous wastes, substances or materials within the 323-acre site (DoN and VA 2007). Construction-related debris would be managed, disposed, or recycled in accordance with State and Federal requirements as well as VA design specifications. Construction-related waste would include vegetation and general construction waste. Operational wastes would be minimal and consistent with existing waste generation analyzed within the 2007 EIS and as part of existing Phase 1 operations, including general office and building waste and landscape waste.

- **Transportation and Parking:** The proposed Phase 2 expansion would temporarily result in increased truck traffic during construction along Nobel Drive. Trucks would be used to haul materials and wastes to and from the construction sites along the proposed designated access route to minimize impacts to traffic within the cemetery. Construction of the proposed deacceleration lane along Nobel Drive at the cemetery main entrance could cause short-term impacts to traffic along Nobel Drive and those accessing the cemetery, however, addition of the deacceleration lane is anticipated to have a long-term beneficial impact along Nobel Drive

and for cemetery access by easing congestion along Nobel Drive at the cemetery entrance and within the cemetery for visitor and interment ceremony traffic.

- **Utilities:** Utility requirements were analyzed as part of the 2007 EIS and connections to the site were established as part of the Phase 1 expansion. The proposed Phase 2 expansion would involve utility extension and connections; primarily expansion of the irrigation system to Phase 2 cemetery locations and additional utility connections for the proposed Honor Guard Building and Administrative Building addition. The capacity exists within the existing utility system to accommodate these projects.

  The proposed Nobel Drive deacceleration lane would require protection of existing SDGE transmission poles and private fuel pipelines and relocation of existing streetlights, traffic signals, electrical transformer electrical boxes, and irrigation equipment along Nobel Drive in the project footprint. The VA is coordinating with SDGE, the City of San Diego, and the private fuel pipeline company for protection and/or relocation of these utilities to minimize adverse effects.

3.3 AIR QUALITY

Air quality is the measure of the atmospheric concentration of defined pollutants in a specific area. An air pollutant is any substance in the air that can cause harm to humans or the environment. Pollutants may be natural or human-made and may take the form of solid particles, liquid droplets, or gases. Natural sources of air pollution include smoke from wildfires, dust, and wind erosion. Human-made sources of air pollution include emissions from vehicles; dust from unpaved roads, agriculture, or construction sites; and smoke from human-caused fires. Air quality is affected by pollutant emission sources, as well as the movement of pollutants in the air via wind and other weather patterns.

Greenhouse gas (GHG) emissions released into the atmosphere as a result of human-induced fossil fuel combustion are widely believed to be contributing to changes in global climate. GHGs, which include carbon dioxide (CO_2), methane (CH_4), nitrogen oxides (NO_x), water vapor, and several trace gases, trap radiant heat reflected from the Earth in the atmosphere, causing the average temperature to rise. The predominant GHGs emitted in the U.S. are CO_2, CH_4, nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. In the U.S., anthropogenic GHG emissions come primarily from burning fossil fuels.

3.3.1 Affected Environment

Since air quality is measured and regulated on a regional level, the air quality analysis in this SEA utilizes air quality data from the San Diego County Air Pollution Control District, which encompasses all of San Diego County. For purposes of this analysis, and because air pollution dissipates throughout the atmosphere, the region of influence (ROI) for air quality is defined as the San Diego County Air Pollution Control District boundaries.

3.3.1.1 Air Quality

The U.S. Environmental Protection Agency (USEPA) Region 9 and the California Air Resources Board (CARB) regulate air quality in California. The Clean Air Act (CAA) (42 USC 7401-7671q), as amended, gives the USEPA the responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR 50) that set acceptable concentration levels for six criteria pollutants, which are compounds that cause or contribute to air pollution and which could endanger public health and the environment. The six criteria pollutants are: particulate matter (including fine particulate matter [PM_{10}] and very fine particulate matter [$PM_{2.5}$]), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen oxide (NO_x), ozone (O_3) and lead (Pb).

Short-term standards (1-, 8-, and 24-hour periods) have been established for criteria pollutants that contribute to acute health effects, while long-term standards (annual averages) have been established for pollutants that contribute to chronic health effects. Each state has the authority to adopt standards stricter than those established under the Federal program; California has adopted stricter standards for certain criteria pollutants (see Table 3.3-1). Areas that exceed the NAAQS are designated as nonattainment areas, and those in accordance with the standards are designated as attainment areas. Areas that have been re-designated from nonattainment to attainment are called maintenance areas.

The USEPA monitors levels of criteria pollutants at representative sites in each region throughout the U.S. Table 3.3-1 shows the NAAQS, the California Ambient Air Quality Standards (CAAQS), the USEPA's "design value" for each pollutant, and available monitoring data for each criteria pollutant. The design value is a statistic that is calculated in a manner consistent with the corresponding ambient air quality standard, using air quality monitoring data (USEPA 2020a). Therefore, the design value describes the air quality status of a given location relative to the NAAQS.

As shown in Table 3.3-1, San Diego County did not meet the annual CAAQS for NO_2, 1-hour or 8-hour NAAQS and CAAQS for O_3, the 24-hour NAAQS and CAAQS for $PM_{2.5}$, and the 24-hour CAAQS for PM_{10}. The design values for CO and O_3 exceed the respective NAAQS and CAAQS. These data are consistent with the USEPA's list of counties currently designated as nonattainment areas, which shows San Diego County as a moderate nonattainment area for O_3 (8-hour) (USEPA 2020b). In addition, San Diego County was previously in non-attainment for CO and O_3 (1-hour) and is currently designated as a "maintenance" area for these pollutants.

Table 3.3-1. Ambient Air Quality Standards and Measured Criteria Pollutant Concentrations

Pollutant	Averaging Time	NAAQS[a]	CAAQS	Design Value[b] (2018)	Monitoring Data[c] (2018)
CO	1-hour	35 ppm	20 ppm	1.8 ppm	1.9 ppm
	8-hour	9 ppm	9 ppm	1.3 ppm	1.111 ppm
NO_2	1-hour	100 ppb	180 ppb	–	55 ppb
	Annual arithmetic mean	53 ppb	30 ppb	–	36 ppb
O_3	1-hour	–	0.09 ppm	0.104 ppm	0.102 ppm
	8-hour	0.070 ppm	0.070 ppm	0. 084 ppm	0.082 ppm
SO_2	1-hour	75 ppb	250 ppb	–	3 ppb
	24-hour	140 ppb	40 ppb	–	0 ppm
$PM_{2.5}$	24-hour	35 µg/m^3	–	–	50.8 µg/m^3
	Annual arithmetic mean	12 µg/m^3	12 µg/m^3	–	–
PM_{10}	24-hour	150 µg/m^3	50 µg/m^3	–	55.0 µg/m^3
	Annual arithmetic mean	–	20 µg/m^3	–	–
Pb[d]	3-month average	0.15 µg/m^3	–	–	–
	30-day average	–	1.5 µg/m^3	–	–

µg = micrograms; CO = carbon monoxide; m^3 = cubic meter; NO_2 = nitrogen dioxide; O_3 = ozone; Pb = lead; $PM_{2.5}$ = particulate matter of diameter 2.5 microns or less; PM_{10} = particulate matter of diameter 10 microns or less; ppb = parts per billion; SO_2 = sulfur trioxide

Source: USEPA 2020c; CARB 2020a; USEPA 2020d; CARB 2020b.

[a] Only the primary NAAQS are listed.

[b] Design values are published by USEPA only for areas designated non-attainment or maintenance for certain pollutants.

[c] Monitoring data based on monitor locations with the highest reported value within the County.

[d] Lead is not considered further in this analysis because none of the project activities would generate lead emissions.

Because the project would occur within a nonattainment area, the General Conformity Rule requirements apply. The General Conformity Rule was established under the CAA and ensures that the actions taken by Federal agencies do not interfere with a state's plans to attain and maintain the NAAQS. According to the rule, if a project takes place in an area that is in attainment, then the general conformity requirements do not apply to the project. The General Conformity Rule states that, if a project would result in a total net increase in direct and indirect emissions of nonattainment or maintenance area pollutants that are less than the applicable *de minimis* (i.e., negligible) thresholds established in 40 CFR 93.153(b), detailed conformity analyses are not required pursuant to 40 CFR 93.153(c). Consistent with the USEPA *de minimis* emissions rates (40 CFR 93.153), this analysis considers the *de minimis* threshold of 100 tons per year for the total annual direct and indirect emissions associated with the construction of the Proposed Action.

The CAA, as amended in 1990, mandates that states develop a State Implementation Plan (SIP) that explains how the state will comply with the CAA and achieve and maintain attainment of the NAAQS. The California SIP applies to industrial sources, commercial facilities, and residential development activities. Regulation occurs primarily through a process of reviewing engineering documents and other technical information, applying emission standards and regulations in the issuance of permits, performing field inspections, and assisting industries in determining their compliance status.

CARB has the authority to issue permits for the construction and operation of new or modified stationary source air emissions in California. CARB air permits are required for any facility that will emit or currently emits regulated pollutants. These facilities must comply with the following regulations of the CAA: New Source Review, Prevention of Significant Deterioration (PSD), Title V Permitting, National Emission Standards for Hazardous Air Pollutants (NESHAP), and New Source Performance Standards. There are also specific California state regulations that apply to construction activities, which are outlined in California Code of Regulations Title 17, Chapter 1.

The San Diego County Air Pollution Control District has also codified rules related to air emissions control. These include, among others, requirements for control of dust from construction and other sources, (Rule 55), toxic air contaminants (Rule 1200), and permitting and registration requirements of emissions sources (Rule 40) (San Diego APCD 2020).

3.3.1.2 Greenhouse Gases

GHGs are gases that trap heat in the atmosphere by absorbing outgoing infrared radiation. GHG emissions occur from both natural processes as well as human activities. Water vapor is the most important and abundant GHG in the atmosphere; however, human activities produce only a small amount of the total atmospheric water vapor. The most common GHGs emitted from natural processes and human activities include CO_2, CH_4, and N_2O. The main source of GHGs from human activities is the combustion of fossil fuels such as oil, coal, and natural gas. Other examples of GHGs created and emitted primarily through human activities include fluorinated gases (e.g., perfluorocarbons) and sulfur hexafluoride. The main sources of these man-made GHGs are refrigerants and electrical transformers.

Each GHG has been assigned a global warming potential (GWP) by the USEPA (USEPA 2020e). 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 is given a value of one. For example, CH_4 has a GWP of 25, which means that it has a global warming effect 25 times greater than CO_2 on an equal-mass basis. To simplify GHG analyses, total GHG emissions from a source are often expressed as a CO_2 equivalent, which is calculated by multiplying the emissions of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. While CH_4 and N_2O have much higher GWPs than CO_2, CO_2 is emitted in such large quantities that it is the predominant contributor to global CO_2 equivalent emissions from both natural processes and human activities.

3.3.1.3 Climate

MCAS Miramar is located in southern California, approximately 7.5 miles inland from the coast in a warm, semi-arid area. This climate is characterized by warm dry summers, moderate winters, and frequent fog. The mean temperature is generally restricted to a 15-degree range, with mean temperatures ranging from a high of 72.5 degrees Fahrenheit (°F) to a low of 57.6°F (Idcide 2020).

Surface winds on-site undergo diurnal changes, with northwestern sea breezes occurring from mid- to late-morning until afternoon or early evening, while easterly winds prevail at other times of day. Seasonally, westerly winds prevail in summer and fall, and easterly winds prevail in winter and spring.

The site is rarely affected by extreme weather conditions. From time to time the Santa Ana condition, which is characterized by hot, dry easterly winds, creates strong winds, and there are occasional summer thunderstorms. More typical is fog and low clouds which are common from June through November, usually occurring between midnight and 9 AM. Annual precipitation averages 10.8 inches, with most occurring between November and March (Idcide 2020).

3.3.2 No Action – Environmental Consequences

Under the No Action Alternative, none of the proposed Phase 2 expansion activities at Miramar National Cemetery would occur, as such, no impacts to air quality would be anticipated.

3.3.3 Proposed Action – Environmental Consequences

3.3.3.1 Construction

The Proposed Action would have minor and temporary impacts on air quality during construction. As explained in Section 3.3.1.1, the USEPA's General Conformity Rule under the CAA ensures that the actions taken by Federal agencies do not interfere with a state's plans to attain and maintain the NAAQS (40 CFR 93.153(b)). Because San Diego County is currently designated a nonattainment area for O_3 (8-hour) and a maintenance area for CO and O_3 (1-hour), the General Conformity Rule requirements apply. Therefore, the VA completed a general conformity analysis of the Proposed Action. For completeness, direct and indirect emissions of all applicable criteria pollutants (i.e., CO, VOCs [as a precursor for O_3], NO_2, SO_2, PM_{10}, and $PM_{2.5}$) were estimated for the construction phase of the proposed project. These estimated values were then compared to the General Conformity Rule's *de minimis* emissions thresholds to determine whether implementation of the Proposed Action would impact air quality in the region.

Construction emissions were estimated for on-road vehicles and nonroad construction equipment. Since a detailed construction plan has not yet been finalized, the number and types of construction equipment needed were estimated based on available data. Emissions rates from on-road vehicles such as privately-owned vehicles and trucks, and delivery and waste trucks were estimated using industry standard emission rates (Argonne National Laboratory 2013). Emission rates for construction equipment or nonroad vehicles such as excavators, cranes, graders, backhoes, and bulldozers were estimated using the California Emissions Estimator Model emissions factors. Fugitive dust from construction surface disturbance was calculated using AP-42 emissions factors. For purposes of analysis and to provide a conservative estimate of potential air emissions, the following assumptions were made:

- During construction, most nonroad equipment would be operated eight hours per day. This leads to a conservative estimate, since in practice equipment would be operated for less than eight hours each day.
- On-road vehicles would travel various distances. Worker vehicles were assumed to travel 20 miles per day, while trucks for vendors, materials, and wastes were assumed to travel 30 miles per day.

The results of the conformity analysis are presented in Table 3.3-2. Construction would involve four phases spread over a total of 2 years (July 2021 to July 2023), with some phases occurring concurrently. This analysis estimated emissions on an annual basis and accounted for construction phases that occur in the same year.

Table 3.3-2. Total Estimated Construction-Related Air Emissions per Year

	Criteria Pollutant Emissions (tons)					
Year	**VOC**	**CO**	**NO_2**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2021	0.18	2.45	1.66	0.00	11.86	0.96
2022	0.87	9.26	8.61	0.02	47.86	3.92
2023	0.54	4.95	5.76	0.01	9.29	0.91
De minimis Threshold	*100*	*100*	*100*	*100*	*100*	*100*

Source: CalEEMod 2017; ANL 2013; USEPA 2020e, 2005, 1995.
CO = carbon monoxide; NO_2 = nitrogen dioxide; $PM_{2.5}$ = particulate matter of diameter 2.5 microns or less; PM_{10} = particulate matter of diameter 10 microns or less; SO_2 = sulfur dioxide; VOC = volatile organic compounds.

As shown in Table 3.3-2, the total annual direct and indirect emissions associated with the construction of the Proposed Action would not exceed the *de minimis* threshold rate for any of the criteria pollutants analyzed per the thresholds identified in Section 3.3.1. Therefore, further analysis under the General Conformity Rule is not required. Overall, the construction/demolition activities would cause short-term, minor adverse impacts to air quality and could affect individuals living or working in close proximity to the project site. These impacts would occur during the estimated 2-year construction period and would end once construction is completed. The Proposed Action would comply with all applicable Federal, State, and local regulations relating to air quality, including any permitting and registration requirements.

Construction activities would generate GHG emissions and in the short term would represent a negligible, incremental contribution to global GHG emissions and climate change. Short-term GHG emissions associated with the Proposed Action would primarily result from the use of fuel in construction equipment, worker vehicles, and delivery and refuse trucks. GHG emissions were estimated using USEPA emission factors (USEPA 2018) and are presented in Table 3.3-3.

Table 3.3-3. Estimated Construction-Related Greenhouse Gas Emissions

	Greenhouse Gas Emissions (metric tons)			
Year	**CO_2**	**CH_4**	**N_2O**	**CO_2-eq**
2021	315	0.11	0.06	335
2022	1,459	0.48	0.12	1,506
2023	849	0.28	0.01	858

Source: CalEEMod 2017; ANL 2013; USEPA 2018.
CH_4 = methane; CO_2 = carbon dioxide; CO_2-eq = carbon dioxide equivalent; N_2O = nitrous oxide.

As shown in Table 3.3-3, construction-related GHG emissions would be negligible considering California's annual GHG emissions in 2017 of 424 million metric tons of CO_2 equivalent (CARB 2019).

The following BMPs would minimize particulate and other air pollutant and GHG emissions during construction:

- Adopting the best management practices detailed in the San Diego County Air Pollution Control District's Rule 55 for control of dust from construction.
- Covering open equipment when conveying or transporting material likely to prevent material from becoming airborne;
- Minimizing the use and number of trips of heavy equipment;

- Maintaining and tuning all engines per manufacturer specifications to perform at USEPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies.
- Prohibiting construction vehicles both on- and off-site from excess idling, consistent with current CARB Regulations;
- Prohibiting tampering with engines and requiring continuing adherence to manufacturer's recommendations;
- Using alternative fueled vehicles and construction equipment where feasible;
- Using energy efficient lighting systems, such as LED technology, where feasible; and
- Developing a Construction Traffic and Parking Management Plan to minimize traffic interference and maintains traffic flow.

3.3.3.2 Operations

Under the Proposed Action, operations of the expanded cemetery footprint and operation of additional facilities would have a long-term, negligible impact on air quality and GHGs. On-site sources of air emissions and GHGs would likely include vehicle emissions from workers and cemetery visitors, building energy use, and normal operational maintenance activities. Vehicle use is expected to be similar to existing conditions and would not significantly affect air quality and GHGs. The new building space associated with the Proposed Action includes the Administrative Building expansion and the new Honor Guard building. Operation of the new building space would require grid-supplied electricity, which is generated off-site, and, depending on the energy source, may result in air pollutant emissions. The new building space would be designed considering energy efficiency building practices and would result in negligible operational air emissions. Normal cemetery maintenance activities would use maintenance vehicles and equipment to landscape the grounds and maintain burial plots. Operational and maintenance activities could cause temporary air and GHG emissions from maintenance vehicles and fugitive dust emissions from ground disturbance. Such activities would be consistent with existing operational activities but would have negligible impacts.

3.4 GEOLOGY, TOPOGRAPHY AND SOILS

3.4.1 Affected Environment

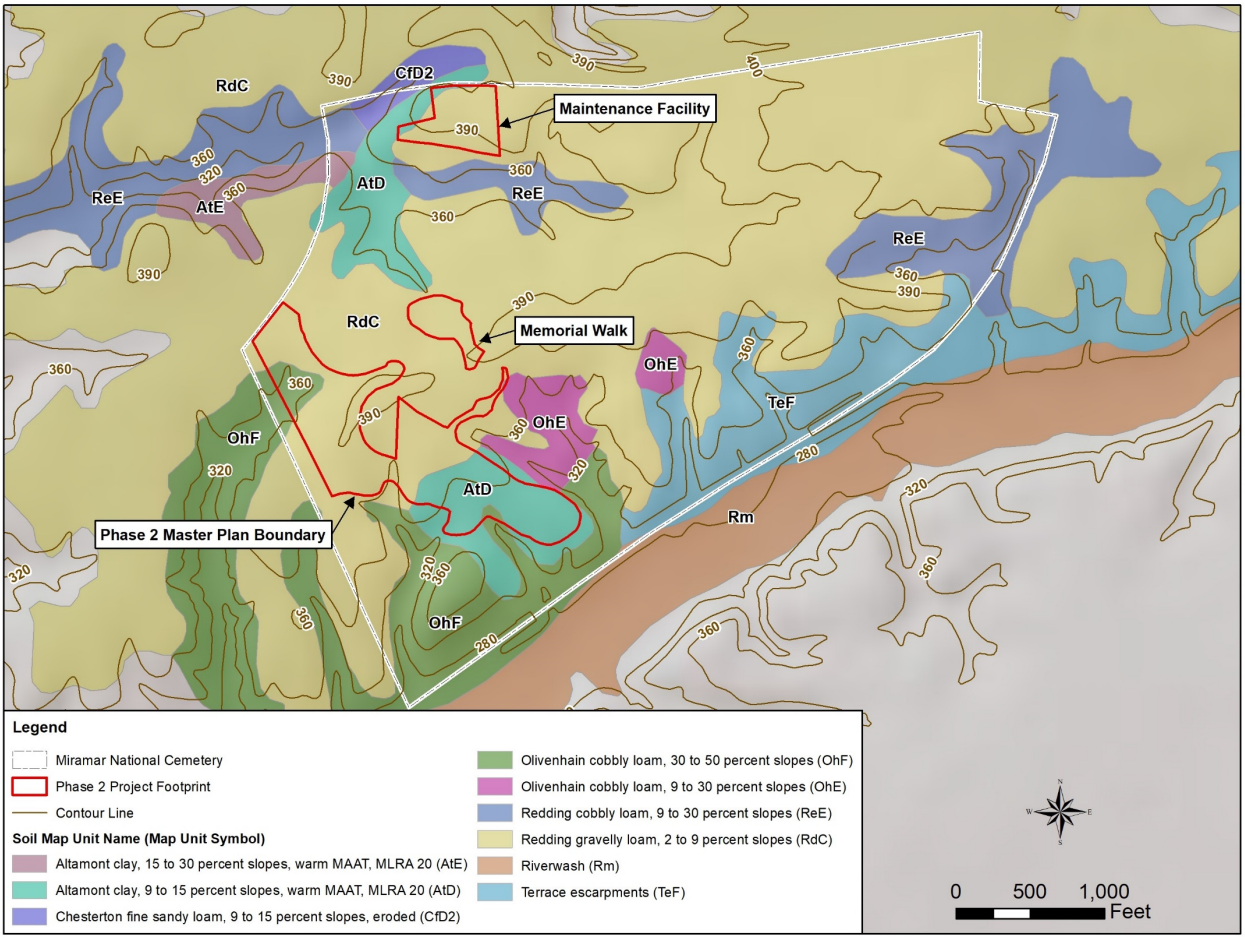
This section presents an overview of the geology, topography, and soils encompassing the Miramar National Cemetery and specifically, the proposed Phase 2 expansion area.

3.4.1.1 Geology and Topography

Miramar National Cemetery is located within the Coastal Plains geographic province and the underlying geologic formation of the site is the Lindavista formation. Figure 3.4-1 presents the topography within the Phase 2 expansion area. The overall cemetery property is characterized by coastal foothills and canyons with slopes ranging from 2 to 50 percent and averaging approximately 40 percent; most of this varying terrain is located along the south and eastern portions of the property. The Phase 2 expansion area is relatively flat as rough grading of the site occurred during Phase 1 construction (JG&A 2019). Surface elevations throughout the property range from approximately 250 feet to 400 feet above mean sea level (AMSL) with elevations of the Phase 2 expansion area typically ranging between 340 and 390 feet AMSL.

3.4.1.2 Soils

Figure 3.4-1 also identifies the soil resources within the Phase 2 expansion area. According to the Natural Resource Conservation Service (NRCS), the soils within the Phase 2 expansion area are predominantly Redding-gravelly loam (23.6 acres) and Altamont clay (8.7 acres). Permeability of these soils is very slow due to a hardpan, and fertility is low. The erodibility potential of the Redding series is severe as a result of shallow depth to rock and, in some cases, steepness. The Altamont clay series is classified as Prime Farmland of Statewide Importance. Prime farmland is defined by the NRCS as "having the best combination of chemical and physical characteristics for producing food, feed, forage, fiber and oilseed crops and is also available for these uses" (NRCS 2000). Undeveloped land with high crop production potential may be classified as "prime farmland." A smaller portion of the contractor staging area also contains Olivenhain cobbly loam (2.0 acres) (USDA NRCS 2020).



Source: USDA NRCS 2020

Figure 3.4-1. Soil Resources and Topography within the Phase 2 Expansion Area

3.4.2 No Action – Environmental Consequences

Under the No Action Alternative, existing geology, topography and soil resources would remain unchanged. This alternative would not involve any of the proposed Phase 2 expansion activities at Miramar National Cemetery, as such, no impacts would be anticipated.

3.4.3 Proposed Action – Environmental Consequences

No impacts are anticipated to geology and negligible impacts are anticipated for topography as the Phase 2 site design would utilize previously graded locations to accommodate the proposed cemetery footprint and the proposed deacceleration lane along Nobel Drive. Overall impacts to soil resources from construction of the Proposed Action would be minor. Prime farmland soil and other soils present would be directly impacted by construction, grading, and heavy equipment traffic which could compact soil, reduce porosity and percolation rates, and increase the potential for runoff. The majority of the 26.7-acre Phase 2 expansion footprint, however, has previously been graded and cleared of vegetation. This includes a majority of the area containing the 8.7 acres of mapped Altamont clay soils recognized as Prime Farmland of Statewide Importance. Portions of the approximate 8-acre area proposed for construction access and contractor staging during the Phase 2 expansion have also been previously disturbed from Phase 1 construction. Siting of the trailers and contractor staging areas would require approximately ½ an acre of disturbance. Both siting of these facilities and access roads would maximize the use of previously disturbed areas, reducing impacts to undisturbed soils.

Clearing and grading processes to prepare the gravesite locations and Phase 2 expansion infrastructure would remove the majority of protective vegetative cover and potentially increase soil erosion. Soil erosion could result in the loss of topsoil from its original location through wind and/or water erosion and indirectly increase the sediment levels of surface water through stormwater runoff. Soil erosion and loss of or damage to topsoil can also impair revegetation which is crucial for soil stabilization and restoration of temporarily disturbed sites. Areas along Nobel Drive to accommodate the proposed deacceleration lane have also been previously disturbed and graded from construction of the road and placement of utilities; impacts to soils in these locations would be negligible.

The effects of wind erosion would be reduced by using common dust suppression techniques, such as spraying the ground with water and revegetating disturbed areas with approved native plant species. Construction BMPs to reduce soil erosion from water include installation of sediment barriers (e.g., silt fencing, straw or hay bales, and sandbags), temporary slope breakers, and mulching. Such measures would be implemented wherever soil is exposed, steep slopes are present, or erosion potential is high.

Areas of permanent loss to soils (approximately 2 acres) would occur from placement of impervious surface to accommodate the roadway infrastructure, shoulder parking, Memorial Walk, and proposed columbarium. This would include permanent loss of approximately 0.5-acre of Altamont clay soils recognized as Prime Farmland of Statewide Importance to the road and shoulder parking and development of the columbarium and adjacent water quality basin. Loss of soil resources would be minor as these soils have been previously disturbed and graded during Phase 1 activities. Construction of the proposed Honor Guard Building and addition to the Administration Building would have no impact to soil resources as these facilities are cited within existing disturbed impervious parking lot locations. Section 3.5 provides additional details regarding the potential for increased stormwater runoff.

During construction and operation, the potential exists for vehicles and equipment to release petroleum, oil, and lubricants (POLs) and contaminate soil. If not immediately remediated, this type of release could potentially degrade soil quality. To avoid such potential releases and impacts, construction equipment would be maintained in good work order and would be equipped with emergency spill kits.

3.5 HYDROLOGY AND WATER QUALITY

3.5.1 Affected Environment

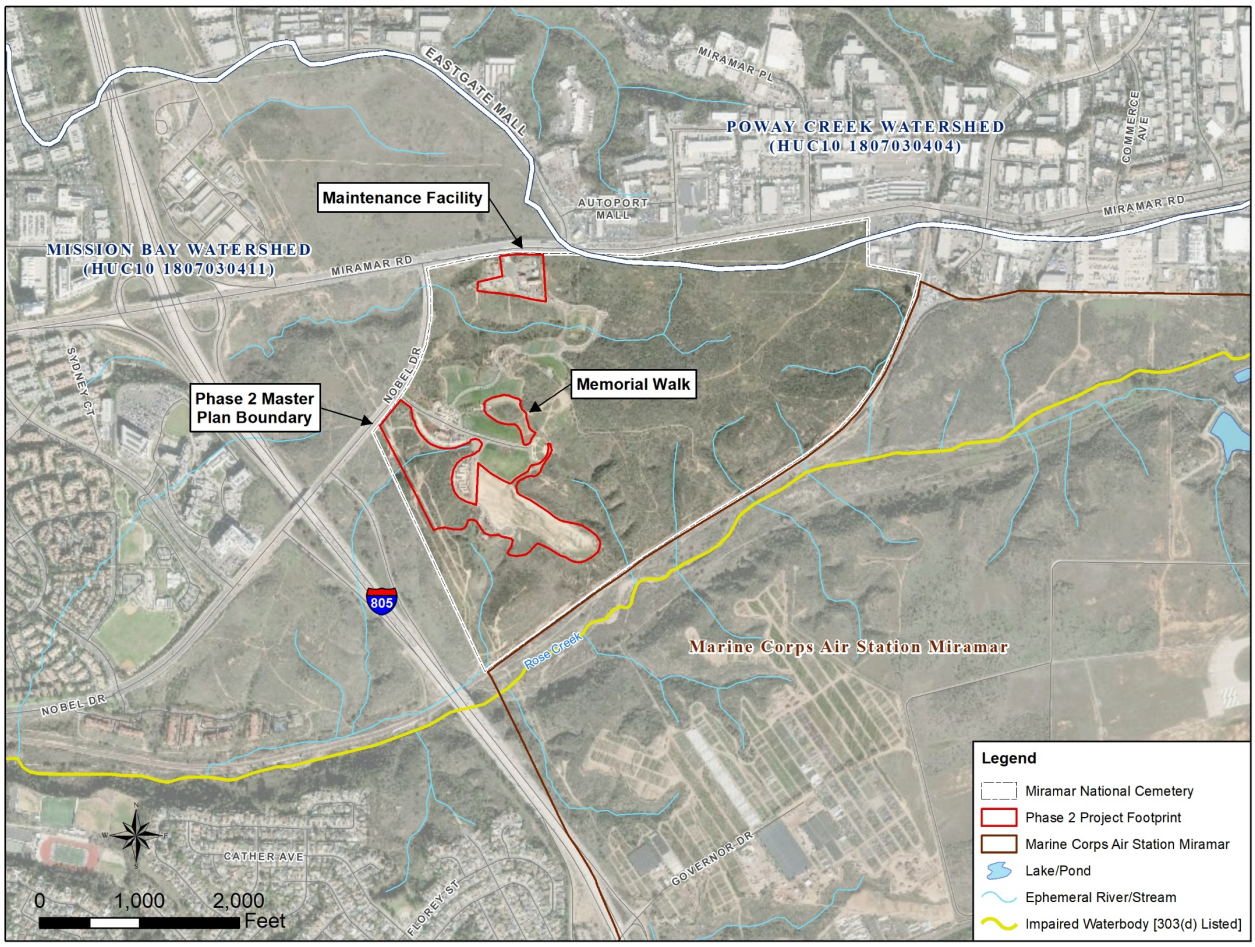
This section analyzes the existing environment and potential impacts of surface and groundwaters. A discussion of vernal pools is contained in Section 3.6 and a discussion of wetlands and floodplains is presented in Section 3.8. Figure 3.5-1 displays the watersheds and surface water features within the expansion footprint and nearby.

3.5.1.1 Surface Water and Quality

Surface Waters

Surface water systems are typically defined in terms of watersheds. A watershed divides the landscape into hydrologically defined areas in which the biotic and abiotic components interact. The watershed boundary generally follows the drainage divide or the highest ridgeline around the stream channels, which meet at the bottom or lowest point of the land where water flows out of the watershed, commonly referred to as the mouth of the waterway. Any activity that affects water quality, quantity, or rate of movement at one location within a watershed has the potential to affect the characteristics of locations downstream. The proposed project falls within the Mission Bay Watershed (hydrologic unit (HU) 10: 1807030411). According to the Water Quality Control Plan for the San Diego Basin, the predominant beneficial uses for Rose Canyon Creek, and its intermittent tributaries, include recreational uses and habitat (Artemis 2020b).

Figure 3.5-1 depicts the water features within the vicinity of the Phase 2 expansion area including the HU12 watershed level. No surface water features exist within the Phase 2 expansion area; ephemeral streams and vernal pools are further discussed in Section 3.6. The closest surface water feature is located approximately 250 feet to the south of the cemetery property boundary; the entire property is located within the Rose Creek watershed.



Source: USDA/NRCS 2019a, 2019b; USEPA 2015

Figure 3.5-1. Watersheds and Surface Waters

Water Quality

Section 303(d) of the Clean Water Act (CWA) requires states to identify and develop a list of impaired waterbodies where technology-based and other required controls have not provided attainment of water quality standards. The State of California has combined its 303(d) and 305(b) lists into one report, referred to as the Integrated 305b/303d Report. This report details the quality of water in the streams, lakes, and reservoirs of all major river basins in the state; identifies waterbodies that are impaired and do not meet designated uses; and establishes total maximum daily loads (TMDLs) for the pollutants of concern. The TMDL process uses a watershed management approach to establish allowable pollutant loadings or parameters and allows water quality controls to be developed to reduce pollution and to restore and maintain water quality. Rose Creek is designated as impaired as a result of benthic community effects and exceedances of selenium (USEPA 2015).

3.5.1.2 Stormwater Management

Stormwater is defined as rainwater that flows overland, accumulates in gutters, ditches, and culverts, and travels through storm drains to streams. Properly functioning stormwater management systems can reduce

sediments and other contaminants that would otherwise flow directly into surface waters. Section 402 of the CWA requires that a discharge of any pollutant or combination of pollutants to surface waters that are deemed waters of the U.S., be regulated by a National Pollution Discharge Elimination System (NPDES) permit. Nonpoint pollutant loading comprises a wide variety of sources not subject to point source control via NPDES permits. The most significant nonpoint sources are those associated with precipitation, runoff, and erosion, which may move pollutants from the land surface to waterbodies.

Implementation of the NPDES Program in the State of California has been delegated to the State Water Resources Control Board and the nine Regional Water Quality Control Boards (RWQCB). In California, NPDES permits are also referred to as waste discharge requirements (WDRs) that regulate discharges to waters of the United States. The California RWQCB San Diego Region is responsible for implementing and enforcing NPDES No. CAS0109266 and WDRs through Amended Order No. R9-2015-0100. This Order requires all jurisdictions within San Diego County to develop jurisdictional specific policies and procedures designed to improve water quality (CRWQCB San Diego 2015). In addition, the Board of Supervisors of the County of San Diego has issued Ordnance No. 10410 relating to watershed protection, stormwater management and discharge control to protect water resources and to improve water quality by controlling the stormwater conveyance system and receiving waters and to ensure the County's ordinances enacted as part of its Jurisdictional Runoff Management Program implements California RWQCB Order R9-2015-0100 and NPDES No. CAS0109266 (County of San Diego 2016).

As stipulated in NPDES rules and regulations, the cemetery complies with the provisions of the CWA and Federal, State, and local regulations to manage stormwater. Under the permit, the cemetery is required to implement BMPs (e.g., construction site runoff control, post-construction stormwater management, detection and elimination of illicit discharges) to prevent and control pollution from stormwater. Additionally, the County of San Diego Watershed Protection, Storm Water Management, and Discharge Control Ordinance (No. 9926) requires all applications for a permit or approval associated with a Land Disturbance Activity be accompanied by a SWMP. The purpose of the SWMP is to describe how the project would minimize the short and long-term impacts on receiving water quality. A SWMP was developed for the overall cemetery master plan in 2009 (see Section 1.3).

In addition, Section 438 of Energy Independence and Security Act (EISA) of 2007 requires Federal agencies to develop and redevelop applicable facilities in a manner that maintains or restores stormwater runoff to the maximum extent technically feasible. Development or redevelopment projects involving Federal facilities with a footprint that exceeds 5,000 square feet are required to use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow.

Existing stormwater runoff near the Phase 2 expansion area is a combination of overland flow, shallow concentrated flow, and channel flow. An existing storm sewer system under Road B is responsible for the conveyance of stormwater runoff within the expansion footprint.

3.5.1.3 Coastal Zone Management

The proposed project is not within a Coastal Zone Management Area and therefore does not apply to this analysis.

3.5.2 No Action – Environmental Consequences

Under the No Action Alternative, existing hydrology and water quality would remain unchanged. This alternative would not involve any of the proposed Phase 2 expansion activities at Miramar National Cemetery, as such, no impacts would be anticipated.

3.5.3 Proposed Action – Environmental Consequences

Potential impacts to Rose Creek water quality and stormwater management from construction and operations of the proposed Phase 2 expansion projects and the proposed deacceleration lane would be minor (see Section 3.6 discusses potential impacts to vernal pools and Section 3.8 discusses potential impacts to ephemeral streams). No direct impacts would occur to Rose Creek; however, construction activities could increase indirect effects of sedimentation and runoff.

Construction of the Phase 2 expansion would involve ground clearing, excavation, grading, leveling, and construction of structures and parking areas. These activities would disturb soils causing a temporary increase in soil erosion and stormwater runoff. The VA would prepare a SWPPP to manage stormwater and runoff from earth-disturbing activities during construction and implement measures to reduce stormwater runoff. BMPs could include covering exposed soils in heavily trafficked areas; placing structural erosion controls where necessary (e.g., silt fences or hay bales); and designating and protecting established/existing vegetation buffer areas (i.e., trees, shrubs, and natural vegetation), to the extent practicable. The SWPPP would include the following inspections:

- Prior to a forecasted storm;
- After a rain event that causes runoff from the construction site;
- At 24-hour intervals during extended rain events; and
- At any other time(s) or intervals of time specified in contract documents.

Inspection checklists would be kept with the SWPPP and used to document all inspections. Following construction activities, temporarily disturbed areas would be revegetated using native grasses and forbs to prevent erosion and sedimentation.

The potential exists for vehicles to discharge an undetermined volume of POLs during construction and operation of the proposed facilities. Once released, POLs could enter stormwater or surface water and adversely affect aquatic resources. However, such discharges would be minimized through correct and efficient operation of well-maintained equipment.

Overall effects to stormwater management of the cemetery and to Rose Creek from operations would be minor. Operation of the Phase 2 expansion could indirectly affect runoff to Rose Creek as the Proposed Action would result in an increase in impervious surfaces of up to 2 acres, increasing stormwater runoff. During project design, the VA would review stormwater management controls (e.g., retention ponds, swales, etc.) at the project site in consideration with the increase of impervious surface. Site design would incorporate the appropriate measures to manage stormwater and any potential increases in stormwater runoff from the introduction or increase of impervious surface at the site to minimize impacts. As described in Section 2.1.1.4, the Phase 2 expansion stormwater management strategy includes construction of a continuous storm sewer system that would direct flow into a detention facility behind the proposed columbarium. The detention facility would be designed to mitigate off-site drainage that would otherwise increase with the increase of impervious surface created in the development of the Phase 2 expansion. The Phase 2 expansion would require compliance with NPDES and stormwater ordinances to manage stormwater both during and after construction. A new general stormwater construction permit would be obtained from the RWQCB since the estimated soil disturbance for the Phase 2 expansion is greater than 1-acre. This includes preparation of a SWMP for Phase 2 expansion activities and approval by the San Diego RWQCB. These actions would also conform with stormwater runoff requirements under Section 438 of the EISA to maintain, to the maximum extent technically feasible, the predevelopment hydrology of the site.

3.6 WILDLIFE AND HABITAT

3.6.1 Affected Environment

This section analyzes the existing wildlife and habitat within the Phase 2 expansion area and impacts to these resources from construction and operations of Phase 2. Sections 3.7.2 and 3.7.3 of the 2007 EIS provide a detailed discussion of the botanical resources within the Miramar National Cemetery and zoological resources with the potential to occur within the vicinity of the cemetery. This SEA provides an update of baseline conditions for vegetation and sensitive biological resources within the Phase 2 expansion area.

The VA conducted a vegetation and habitat field survey of the Phase 2 expansion area in February of 2020 to determine changes to these communities within the footprint from those documented during the 2007 EIS (Artemis 2020c). Prior to performing field surveys, a database search and literature review were conducted to determine which species/habitats identified as special-status by State, Federal, and local resources agencies have the potential to occur in the Project area or immediate vicinity (within 1 mile). Sources reviewed included the following:

- Special-status species lists from California Department of Fish and Wildlife (CDFW) and USFWS;
- USFWS Species Occurrence Data and Critical Habitat Portal;
- California Natural Diversity Database;
- Electronic Inventory of the California Native Plant Society;
- Federal Register listing package and critical habitat determination for each federally listed endangered or threatened species potentially occurring within the Project vicinity (USFWS 2020b); and
- Previous environmental review documents (DoN and VA 2007) and permits (USACE Individual Permit SPL-2008-00970-PJB and USFWS Biological Opinion 1-6-06-F-4652.3).

The existing vegetation in the undeveloped parts of Miramar National Cemetery support several native vegetation communities as well as a diverse array of native plants and animals. It also provides direct wildlife habitat connectivity between Rose Canyon to the south of the site and open space areas on MCAS Miramar to the north, as well as indirect wildlife habitat connectivity to undeveloped areas in Soledad Canyon, located further north of the site (JG&A 2019). Vegetation communities identified during the 2020 survey are listed in Table 3.6-1 (Artemis 2002c). Figure 3.6-1 displays the locations of these communities.

Table 3.6-1. Vegetation Communities/Land Cover Types

Aquatic Resource Type	Description	Amount Acres
Riparian/Wetland Habitats		
Vernal Pools	See Sensitive Biological Resources Discussion	0.1
Disturbed Wetland	Disturbed wetlands are areas permanently or periodically inundated with water that have been modified by human activity and are often associated with artificial structures including culverts, Arizona crossings, detention basins, concrete-lined channels, and ditches. Characteristic species include non-native giant reed (*Arundo donax*), tamarisk (*Tamarix* spp.), palm trees (*Phoenix* spp. and *Washingtonia* spp.), pampas grass (*Cortaderia* spp.), and Bermuda grass (*Cynodon dactylon*); and may also include willows (*Salix* spp.), cattails (*Typha* spp.), and a variety of other wetland plants.	0.04

Aquatic Resource Type	Description	Amount Acres
Upland Habitats		
Diegan Coastal Sage Scrub	See Sensitive Biological Resources Discussion	4.7
Southern Mixed Chaparral	Southern mixed chaparral is a common upland that includes areas dominated by tall, sclerophyllous vegetation and primarily occurs on north-facing slopes. Dominant species within areas mapped as southern mixed chaparral include chamise (*Adenostoma fasciculatum*), mission manzanita (*Xylococcus bicolor*), sugarbush (*Rhus ovata*), and Nuttall's scrub oak.	4.0
Chamise Chaparral	Chamise chaparral is a monotypic stand of vegetation dominated by chamise. Other species may be intermixed but are often excluded.	6.9
Non-native grassland	Non-native grasslands are common uplands found throughout San Diego County. Non-native grassland is a mixture of annual grasses and broad-leaved, herbaceous species. Non-native grasses typically comprise at least 30 percent of the vegetative cover, although this percentage can be much higher in some years and lower in others, depending on land use and climatic conditions. The non-native grassland was dominated by brome grasses (*Bromus* spp.), wild oats (*Avena* spp.), mustards (i.e., *Brassica* sp. and *Hirschfeldia* sp.), and tocalote (*Centaurea melitensis*).	1.6
Developed / Disturbed Habitat	Areas mapped as developed and disturbed habitat include buildings, infrastructure, paved roads, and areas of bare ground with little to no vegetation. Also included in this map unit are areas of ornamental landscaping associated with development.	28.6

As shown in Figure 3.6-1 and Table 3.6-1, a large portion of the Phase 2 expansion area (28.6 acres) has been roughly graded and prepared during Phase 1 of construction and is very sparsely inhabited by vegetation. The undisturbed western portion of Phase 2 in proposed gravesite sections 18, 19, 20 & 21 is more densely inhabited by native plants, along with area of proposed construction access and contractor staging areas.

Sensitive Biological Resources

The 2020 field survey identified twelve vernal pools, totaling approximately 0.1 acres; eleven of the vernal pools previously identified within the survey area were during the 2007 EIS were verified to be present, and one potential new vernal pool was identified (Artemis 2020c). Vernal pools are seasonally flooded depressions commonly associated with mesas and mima mound topography composed of clay soils and a subsurface hardpan. They typically are inundated following rain events and often dry the remainder of the year. Figure 3.6-1 provides locations of previously and newly identified vernal pools and Photograph 3.6-1 provides an image of the newly identified potential vernal pool. The new potential vernal pool in the central portion was very small with an area less than 2 square feet and could not be confirmed as a vernal pool due to the time of year the 2020 field survey was conducted (Artemis 2020c). Some of the vernal pools previously mapped in the southwestern portion of the survey area have shifted or expanded into adjacent habitat as a result of roads graded during the Phase 1 project construction. Although most vernal pool indicator plant species (USACE 1997) had not yet emerged or developed identifiable characteristics (i.e., flowers and/or seed), indicator plant species observed during the 2020 field survey included woolly marbles (*Psilocarphus sp.*), adobe popcornflower (*Plagiobothrys acanthocarpus*), water pygmyweed crassula (*Crassula aquatica*), and water starwort (*Callitrichem marginata*). Other vernal pool indicator species previously documented in the vernal pools on MCAS Miramar (EDAW 2007) include San Diego mesa mint (*Pogogyne abramsii*), San Diego button-celery (*Eryngium aristulatum sp. parishii*), Orcutt's brodiaea (*Brodiaea orcuttii*), annual hairgrass (*Deschampsia danthonioides*), and vernal pool plantain (*Plantago elongata*). However, no threatened or endangered vernal pool plant species were previously documented within the vernal pools located within the Survey Area (Artemis 2020c).

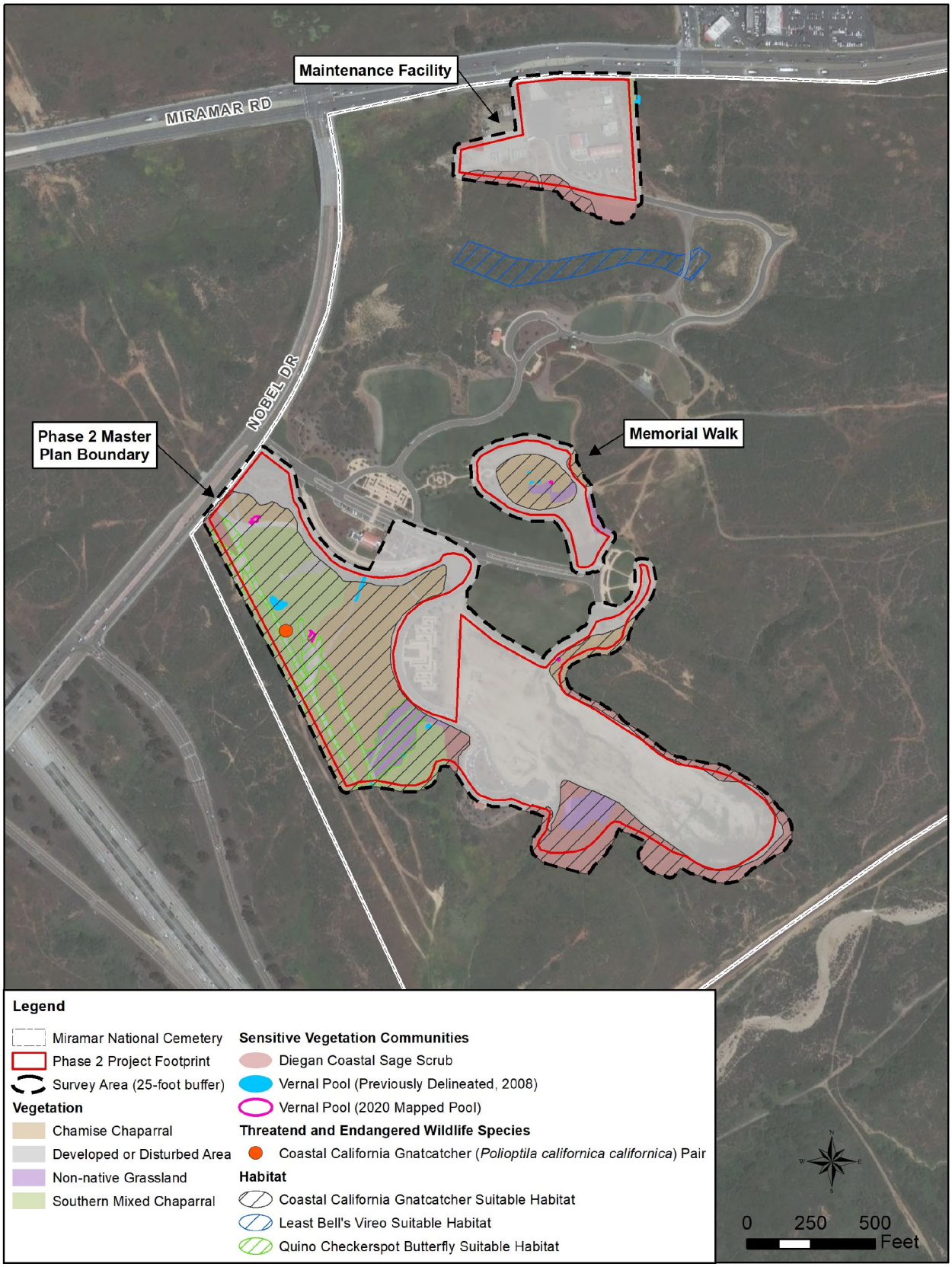


Figure 3.6-1. Biological Communities within the Phase 2 Expansion Area

Photograph 3.6-1. Potential Vernal Pool within the Area of the Proposed Memorial Walk

The 2020 field survey also identified approximately 4.7 acres of Diegan coastal scrub shrub habitat within the Phase 2 expansion area (see Figure 3.6-1 and Photograph 3.6-2). Diegan coastal sage scrub commonly occurs throughout Southern California on south-facing slopes and often dominated by low-growing, drought-deciduous shrubs. Dominant species within areas mapped as Diegan coastal sage scrub include California sagebrush (*Artemis californica*), California buckwheat (*Eriogonum fasciculatum*), lemonade berry (*Rhus integrifolia*), laurel sumac (*Malosma laurina*), San Diego goldenbush (*Isocoma menziesii*), and black sage (*Salvia mellifera*). A few Nuttall's scrub oaks (*Quercus dumosa*) were also observed along the edges of this community (Artemis 2020c).

Certain species, designated as federally threatened or endangered, are protected by the Endangered Species Act (ESA) of 1973, under the purview of the USFWS or the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service. Due to the nature and location of the Proposed Action, no marine offshore species would be affected, and any protected species present within the Miramar National Cemetery would fall under the jurisdiction of the USFWS. The ESA prohibits the unauthorized "take" (i.e., harassment, harm, pursuit, hunting, shooting, wounding, killing, trapping, capture, collection, or the attempt to engage in any such conduct) of federally protected species. Section 7 of the ESA requires all Federal agencies to ensure that any action authorized, funded, or carried out by them is not likely to jeopardize the continued existence of a federally protected species or adversely modify its designated "critical habitat." Critical habitat is defined by the ESA as a geographic area that contains features essential for the conservation of a threatened or endangered species that may require special management and protection. These areas are delineated by the USFWS and NOAA Fisheries Service with appropriate public review and notification in the *Federal Register*.

Photograph 3.6-2. Representative Southern Mixed Chaparral California Gnatcatcher Habitat

Federally protected species fall under one of two classifications:

- Endangered, including species, subspecies, or varieties in danger of extinction throughout all or a significant portion of their range; and
- Threatened, including species, subspecies, or varieties likely to become endangered within the foreseeable future.

The USFWS also recognizes candidate species, including those for which the USFWS "has sufficient information on their biological status and threats to propose them as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by other higher priority listing activities" (USFWS 2017). Candidate species receive no Federal protection under the ESA. However, candidate species may become listed as threatened or endangered in the future.

The VA reviewed the USFWS IPaC database to obtain a list of threatened, endangered and proposed species, designed critical habitat, and candidate species having the potential to occur within the proposed Phase 2 expansion area (see Appendix A). Table 3.6-2 contains a list of species within USFWS records along with the VA's assessment of potential for species occurrence within the Phase 2 expansion area. The table incorporates, where applicable, field observations from past surveys and the present survey.

Table 3.6-2. Federally-protected Species and Potential Occurrence within the Project Site

Species	Status	Potential for Occurrence
Pacific Pocket Mouse *Perognathus longimembris pacificus*	Endangered	Unlikely. Endemic to the immediate coast (within 2.5 miles from the ocean) of southern California from Marina del Rey and El Segundo in Los Angeles County, south to the vicinity of the U.S.-Mexican border in San Diego County. Project site is over 3 miles from the coast.
California Least Tern *Sterna antillarum browni*	Threatened	Unlikely. Nest on beaches, mudflats, and sand dunes, usually near shallow estuaries and lagoons with access to the near open ocean. They roost on the ground in unprotected areas of the coastal environment. Suitable habitat does not occur on-site and no recent (<25 years) records within 1 mile reported.
Coastal California Gnatcatcher *Polioptilia californica*	Threatened	Likely. Year-round resident in San Diego, occupying primarily coastal sage scrub and adjacent scrub communities that contain low-growing shrubs (between 3 feet and 6 feet) such as California sagebrush (*Artemisia californica*), buckwheat (*Eriogonum fasciculatum*), and sage (*Salvia spp.*). Suitable habitat exists (see Figure 3.6-1). A pair was observed during the February 2020 field survey in the western portion of the project area (proposed contractor access and staging area). Location outside of designated critical habitat.
Least Bell's Vireo *Vireo bellii pusillus*	Endangered	Unlikely. Migrating passerine bird that can be found in willow-dominated successional woodland or scrub, Baccharis scrub, mixed oak/willow woodland, and elderberry scrub in riparian habitat. This species nests and forages in vegetation along streams and rivers that measure approximately three to six feet in height and have a dense, stratified canopy. Suitable habitat not present; however, there is a southern willow scrub drainage channel outside of the Project Area, approximately 130 feet to the south of the proposed Honor Guard Building, where passing individuals may occur. No recent (<25 years) records within 1 mile reported.
Light-footed Clapper Rail *Rallus longisostris levipes*	Endangered	Unlikely. Prefers coastal salt marshes. Suitable habitat does not occur on-site.
Southwestern Willow Flycatcher *Empidonax traillii extimus*	Endangered	Unlikely. Found along Dense willow, cottonwood, and tamarisk thickets and woodland along streams and rivers. Suitable habitat does not occur on-site. Location outside of designated critical habitat.
Western Snowy Plover *Charadrius nivosus*	Endangered	Unlikely. Breeds primarily on coastal beaches above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Suitable habitat does not occur on-site. Location outside of designated critical habitat. No recent (<25 years) records within 1 mile reported.
Riverside Fairy Shrimp *Streptocephalus woottoni*	Endangered	Unlikely. Found in vernal pools which occur in tectonic swales or earth slump basins in grassland and coastal sage scrub. Inhabit seasonally astatic pools filled by winter/spring rains. Not expected to occur due to historic documented distribution on MCAS Miramar. Location outside of designated critical habitat. No recent (<25 years) records within 1 mile reported.
San Diego Fairy Shrimp *Branchinecta sandiegonesis*	Endangered	Likely. Found in vernal pools, which occur in tectonic swales or earth slump basins and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral. Suitable habitat exists (see Figure 3.6-1) and species known to previously occur. Location outside of designated critical habitat.

Species	Status	Potential for Occurrence
California Orcutt Grass *Orcuttia californica*	Endangered	Unlikely. Vernal pools in coastal sage scrub and grassland habitats. Not expected to occur as it was not found during past vernal pool surveys.
Salt Marsh Bird's-beak *Cordylanthus maritimus ssp. Maritimus*	Endangered	Unlikely. Found in salt marshes. Suitable habitat does not occur on-site.
San Diego Ambrosia *Ambrosia pumila*	Endangered	Unlikely. Grows in a variety of habitats along the coastal strip, inland valleys and foothills at elevations below 2,000 feet, adapted to dry habitat, but only on upper floodplain fringes, or adjoining depressions containing vernal pools or similar structures. Not expected to occur as it was not found during past vernal pool surveys. No records reported within 1-mile. Location outside of designated critical habitat.
San Diego Button-celery *Eryngium aristulatum var. parishii*	Endangered	Likely. Vernal pools and marshes in grasslands, coastal sage scrub, and chaparral vegetation. Potential to occur on-site in vernal pools (identified during past 2007 surveys), however, not observed during the February 2020 field survey.
San Diego Mesa-mint *Pogogyne abramsii*	Endangered	Likely. Vernal pool complexes in chaparral, coastal sage scrub, and grassland habitats. Potential to occur on-site in vernal pools (identified during past 2007 surveys to the east), however, not observed during the February 2020 field survey.
San Diego Thornmint *Acanthomintha ilicifolia*	Threatened	Unlikely. Clay soils on mesas and slopes in coastal sage scrub, chaparral, and grassland habitat. Site lacks appropriate clay soils and not observed during previous surveys. Location outside of designated critical habitat.
Spreading Navarretia *Navarretia fossalis*	Threatened	Unlikely. Vernal pools within coastal sage scrub, grasslands, and chenopod scrub. Not expected to occur as it was not found during past vernal pool surveys. Location outside of designated critical habitat.
Willowy Monardella *Monardella viminea*	Endangered	Unlikely. Rocky washes and drainages in coastal sage scrub, chaparral, close-coned coniferous forest, and riparian woodland areas. Site lacks rocky washes and species has not been identified in previous surveys. Location outside of designated critical habitat.

Suitable habitat was present and mapped during the 2020 field survey for two federally-sensitive species listed in the IPaC database including the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*) and the federally threatened coastal California gnatcatcher (*Polioptila californica californica*) (see Table 3.6-2 and Figure 3.6-1). The 2020 field survey also identified a southern willow scrub drainage channel approximately 130 feet to the south of the proposed activities for the new Honor Guard Building (see Figure 3.6-1) which could serve as habitat for passing individuals of the federally endangered least Bell's vireo (*Vireo bellii pusillus*). No suitable breeding habitat for the vireo was observed.

In addition, the 2020 survey identified suitable habitat for the federally endangered Quino checkerspot butterfly (*Euphydrya editha quino*) which prefers areas of low-growing and sparse vegetation within sage scrub and chaparral communities, adjacent open meadows, old foot trails, and dirt roads. Their primary larval host plants in San Diego are dwarf plantain (*Plantago erecta*) at lower elevations, and woolly plantain (*P. patagonica*) and white snapdragon (*Antirrhinum coulterianum*) at higher elevations. High densities of dwarf plantain were observed during the 2020 field survey along the dirt access roads primarily in the western portion of the Survey Area within chaparral communities (see Figure 3.6-1) (Artemis 2020c). This species, however, is not likely to be present as USFWS IPaC records do not indicate observations of or critical habitat for this species within the project area.

Migratory Birds

All migratory bird species that are native to the United States or its territories are protected under the Federal Migratory Bird Treaty Act ([MBTA] 16 U.S.C. § 703 et seq.), as amended under the Migratory Bird Treaty Reform Act of 2004 (70 CFR 12710). The vegetation within and adjacent to the Survey Area could provide suitable nesting habitat for bird species. Raptor species that have shown the ability to adapt to suburban environments may use the trees within the Survey Area for foraging and nesting.

3.6.2 No Action – Environmental Consequences

Under the No Action Alternative, existing wildlife and habitat conditions would remain unchanged. This alternative would not involve any of the proposed Phase 2 expansion activities at Miramar National Cemetery, as such, no impacts would be anticipated.

3.6.3 Proposed Action – Environmental Consequences

Construction and operation of the proposed Miramar National Cemetery Phase 2 expansion and the proposed deacceleration lane would have minor to moderate impacts from construction and negligible impacts from operations, as described within this section. This section also considers requirements established within the existing NRMP that was developed as part of the overall cemetery approval. The NRMP contains measures to ensure that sensitive biological resources within and adjacent to the project footprint remain viable (protected from unplanned and indirect impacts associated with the development and operation of the cemetery) in perpetuity through quarterly monitoring and reporting. Potential impacts would be further reduced or avoided through implementation of the following measures contained within the NRMP:

- Limits of construction will be clearly delineated to avoid disturbance to areas adjacent to the construction footprint;
- A contractor training program will be provided to educate construction personnel about sensitive biological and aquatic resources (including the coastal California gnatcatcher and vernal pools);
- Clearing of suitable coastal California gnatcatcher habitat will occur outside the breeding season (February 15 to August 31);
- Biological monitors will be present during vegetation clearing and grading activities within and adjacent to sensitive biological and aquatic resources;
- Construction activities and other project-related work will be scheduled to occur during daylight hours. Should construction lighting be required, all structures will be shielded to ensure that light will not enter plant communities recently occupied by gnatcatchers;
- Prior to any earthwork activities within pools supporting San Diego fairy shrimp, collection of vernal pool habitat components will be completed;
- Clearing and grading near vernal pools/ephemeral basins will be conducted when the soils are dry enough to reduce the potential for erosion;
- BMPs and a SWPPP will be implemented to reduce potential for construction runoff; and
- Permanent perimeter fencing installed around areas supporting protected vernal pools and ephemeral basins during Phase 1 would be maintained to protect these features during construction and operations.

Additionally, the VA would schedule land clearing activities outside of the migratory bird breeding season (January 15 to August 31). If clearing is required within the breeding season, the VA would perform a preconstruction nesting bird survey using a qualified biologist within suitable habitat. If active nests are

observed during surveys, an appropriate buffer would be determined in coordination with USFWS and placed around the nests until the young have fledged or the nest is abandoned.

Table 3.6-3 contains the vegetation communities and land cover potentially impacted by the Phase 2 expansion activities. All acreages within the table are located within the 214-acre approved development areas and below the maximum approved 144-acre cemetery footprint. Approximately 6.8 acres of disturbance occurs in the 45-acre Phase 1 area and an additional 26.7 acres would be added to the cemetery footprint as part of Phase 2 expansion.

Table 3.6-3. Potential Impacts to Vegetation Communities and Land Cover

Vegetation Type by Phase 2 Expansion Activity	Type of Impact	Acres of Impact
Phase 2 Cemetery Expansion Master Plan Area		
Developed or Disturbed Areas[a]	N/A	15.1
Chamise Chaparral	Permanent	5.3
Diegan Coastal Sage Scrub	Permanent	1.4
Non-native Grassland	Permanent	1.3
Southern Mixed Chaparral	Permanent	3.6
Nobel Drive Deacceleration Lane		
Developed or Disturbed Areas[a]	N/A	0.3
Access Road & Construction Staging[b]		
Developed or Disturbed Areas[a]	N/A	2.6
Chamise Chaparral	Temporary	<0.5
Diegan Coastal Sage Scrub	Temporary	<0.5
Non-native Grassland	Temporary	<0.5
Southern Mixed Chaparral	Temporary	<0.5
Administration Building Addition & Parking Expansion		
Developed or Disturbed Areas[a]	N/A	<0.1
Memorial Walk Design		
Developed or Disturbed Areas	N/A	1.5
Chamise Chaparral	None[c]	1.0
Non-native Grassland	Permanent	0.2
Honor Guard Building & Parking Improvements		
Developed or Disturbed Areas	N/A	4.7
Diegan Coastal Sage Scrub	Permanent	0.3
Southern Mixed Chaparral	Permanent	<0.1

a. Non-habitat; included as a point of reference
b. Total impacts within the construction staging area would be approximately ½ an acre; most habitat would be avoided.
c. Chamise chaparral habitat and vernal pools inside of the proposed Memorial Walk would be avoided and protected per the NRMP.

Approximately 18.2 acres of vegetation would be disturbed to accommodate the Phase 2. This includes permanent impact from Phase 2 development and temporary impacts from construction access and contractor staging activities. Vegetation removal and soil disturbance during construction could create optimal conditions for the establishment of noxious weeds and invasive plants. Construction equipment

could disperse noxious weed seeds or propagules (such as buds or spores), resulting in the establishment of noxious weeds in previously weed-free areas. Washing and inspecting construction equipment prior to beginning work on-site would avoid or reduce the potential introduction of invasive species to the proposed construction area. The NRMP contains provisions for prevention of colonization of invasive species disturbed by construction activities, including the removal of these species from sensitive areas and within 50 feet of the outer limit of cemetery development prior to construction. The NRMP also outlines the protocols for the cemetery resource manager to coordinate with the MCAS Miramar Natural Resources Division botanist to provide information regarding the presence of invasive species and to increase the efficiency of invasive plant control programs, where necessary. The quarterly monitoring and reporting required by the NRMP would assist in the identification, removal and management for invasive species. Additional measures contained within the NRMP and summarized at the beginning of Section 3.6.3 would further reduce adverse effects to vegetation.

Vegetation used within the Phase 2 cemetery footprint would be similar to existing vegetation used to landscape and stabilize developed Phase 1 portions of the cemetery, including use of ornamental plants such as turf and shade trees to provide a pleasant environment for cemetery visitors, and to screen any undesirable views such as the adjacent freeway and Miramar Road. The overall plantings would rely heavily on native and drought tolerant plants to reduce water reliance and visually blend into the natural surrounding topography. The perimeters of the site would utilize species and cultivars of native plants that have performed well in Phase 1 and would minimize irrigation and fertilization needs. Where the temporary access and laydown areas disturb native and/or gnatcatcher habitat, a non-irrigated seed mix using plants appropriate for the site and gnatcatcher habitat would be applied. Depending on time of year for the application, this may be supplemented with container stock or plugs utilizing gel packs in lieu of irrigation as water.

The Proposed Action would temporarily disturb wildlife occurring in the immediate area during construction activities. While the potential exists for direct mortality to small and less-mobile wildlife species during construction activities and operation of the proposed facilities, wildlife would likely temporarily avoid the immediate area due to increased human presence and associated noise. Removal of vegetation also increases the potential for the establishment and spread of noxious weeds and other invasive plants that have little use or value for wildlife and that displace native plants, resulting in degraded wildlife habitat (see Section 3.6.3.1 for a discussion of invasive species management).

Construction activities would remove vegetation, including native grasses, shrubs, and trees. Overall impacts on wildlife, however, are anticipated to be minor due to the predominately disturbed landscape. Direct and indirect temporary (short-term) and permanent (long-term) impacts on wildlife resources would occur due to loss of habitat from vegetation removal or conversion. Construction activities and noise could cause indirect mortality of species from stress or avoidance of feeding during construction due to exposure from increased human activity; these effects, however, would be temporary and limited to construction, minimizing the overall level of impact. Measures contained within the NRMP summarized at the beginning of Section 3.6.3 would further reduce adverse effects to habitat.

Sensitive Biological Resources

Overall impacts to sensitive biological resources would be negligible. The 0.1 acre of vernal pool observed during the February 2020 field season would be avoided and protected per the NRMP as described in Section 3.6.3. The vernal pool locations located are outside of the proposed Phase 2 cemetery footprint. The contractor staging and access would be restricted to outside these locations and the vernal pool located near the proposed Memorial Walk would be protected and avoided during construction and operation activities.

No adverse impacts are anticipated for the overall populations or suitable habitat of protected species. The proposed Phase 2 expansion footprint remains in compliance with terms of the USFWS Biological Opinion (also see Section 1.3). On-site compensatory mitigation for temporary and permanent impacts to vernal pools and streams was completed in 2012. No additional compensatory mitigation is recommended for impacts resulting from Phase 2 expansion activities. Although not detected during the 2020 field survey, the potential for impacts to federally protected plants including the San Diego button-celery and San Diego mesa-mint would be avoided through protection and avoidance of their preferred habitat, vernal pools.

Mitigation was also previously performed for the temporary and permanent impacts to suitable California gnatcatcher habitat from overall cemetery development through the purchase of 15.98 acres of gnatcatcher habitat within San Diego County in accordance with the Biological Opinion. Also, as described in Section 3.8.4, on-site compensatory mitigation for temporary and permanent impacts to vernal pools (and San Diego fairy shrimp habitat) was completed in 2012. Regarding the least Bell's vireo, no suitable habitat occurs within the Phase 2 expansion area; adherence to measures within the NRMP would prevent indirect effects to this species.

Impact would likely occur to the high-density dwarf plantain community located along the dirt access roads in the proposed contractor access and staging area (see Figure 3.6-1) which are known to provide habitat for the federally endangered Quino checkerspot butterfly. As this species is not known to occur near the project site, no impacts would be anticipated. It is likely that these plant communities typical of disturbed sites and roadsides would re-establish themselves following construction, further reducing the loss of potential habitat for the butterfly.

Migratory Birds

Overall impacts to migratory birds would be minor. Impacts to migratory birds could occur if vegetation clearing activities were conducted during the nesting season. The Phase 2 cemetery expansion would follow the MBTA and Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds. Under the MBTA, taking, killing or possessing migratory birds is unlawful, and Executive Order 13186 requires all Federal agencies to incorporate migratory bird conservation measures into their activities. The U.S. Department of the Interior's Office of the Solicitor issued Memorandum M-37050 (M-opinion) on December 22, 2017, which adopts the position that the MBTA prohibition on the "taking" or "killing" of migratory birds applies only to deliberate acts intended to take a migratory bird. Despite the M-opinion, the VA would continue to minimize the incidental take of migratory birds to the extent practicable. The VA would schedule land clearing activities outside of the migratory bird breeding season (January 15 to August 31). If clearing is required within the breeding season, the VA would perform a preconstruction nesting bird survey using a qualified biologist within suitable habitat. If active nests are observed during surveys, an appropriate buffer would be determined in coordination with USFWS and placed around the nests until the young have fledged or the nest is abandoned.

3.7 NOISE

3.7.1 Affected Environment

3.7.1.1 Noise Overview

Sound is a physical phenomenon consisting of vibrations that travel through a medium, such as air, and are sensed by the human ear. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise intrusive. Human response to noise varies depending on the type and characteristics of the noise, distance between noise source and receptor, receptor sensitivity, and time of day. Noise is often generated by activities essential to a community's quality of life, such as construction or vehicular traffic.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and sensed by the human ear.
Noise is defined as any unwanted sound. The human ear experiences sound as a result of pressure variations in the air.

Sound varies by both intensity and frequency. The physical intensity or loudness level of noise is expressed quantitatively as the sound pressure level. Sound pressure levels are defined in terms of decibels (dB), which are measured on a logarithmic scale. Sound can be quantified in terms of its amplitude (loudness) and frequency (pitch). Frequency is measured in hertz, which is the number of cycles per second. The typical human ear can hear frequencies ranging from approximately 20 hertz to 20,000 hertz. Typically, the human ear is most sensitive to sounds in the middle frequencies where speech is found and is less sensitive to sounds in the low and high frequencies. A-weighted sound level in decibels (dBA) approximates this frequency response to express accurately the perception of sound by humans. Noise standards for land use compatibility are sometimes stated in terms of Community Noise Equivalent Level (CNEL), which is a 24-hour weighted average measure of community noise. It is calculated by adding 5 dBA to hourly noise levels during the evening (7:00 p.m. to 10:00 p.m.) and 10 dBA during the night (10:00 p.m. to 7:00 a.m.). The factor is assigned to account for the increased sensitivity to noise during the quiet hours. Federal agencies use the 24-hour day-night average (L_{dn}), which is similar to CNEL with the 10 dBA addition to the hourly noise levels during the night-time hours, but does not include the evening hours factor. For purposes of this analysis, CNEL and L_{dn} are considered equivalent.

The adjusted scales are useful for gauging and comparing the subjective loudness of sounds to humans. The threshold of perception of the human ear is approximately 3 dB. A 5-dB change is considered to be clearly noticeable to the ear, and a 10-dB change is perceived as an approximate doubling (or halving) of the noise level (MPCA 1999). Table 3.7-1 presents a list of sounds encountered in daily life and their approximate noise levels in dBA.

Table 3.7-1. Perceived Change in Decibel Level

Noise Level (dBA)	Description	Typical Source
140	Threshold of pain	--
125	Uncomfortably loud	Automobile assembly line
120	Uncomfortably loud	Jet aircraft
100	Very loud	Diesel truck
80	Moderately loud	Motor bus
60	Moderate	Low conversation

Noise Level (dBA)	Description	Typical Source
40	Quiet	Quiet room
20	Very quiet	Leaves rustling

Source: Liu and Lipták 1997
dBA = A-weighted sound level in decibels

Ambient or background noise is a combination of various sources heard simultaneously. Calculating noise levels for combinations of sounds does not involve simple addition, but instead uses a logarithmic scale (HUD 1985). As a result, the addition of two noises, such as a garbage truck (100 dBA) and a lawn mower (95 dBA) would result in a cumulative sound level of 101.2 dBA, not 195 dBA.

Noise levels decrease (attenuate) with distance from the source. The decrease in sound level from any single noise source normally follows the "inverse square law." That is, the sound level change is inversely proportional to the square of the distance from the sound source. A generally accepted rule is that the sound level from a stationary source would drop approximately 6 dB each time the distance from the sound source is doubled. The sound level from a moving "line" source (e.g., a train or vehicle) would drop 3 dB each time the distance from the source is doubled (USDOT 2018).

Barriers, both manmade (e.g., sound walls) and natural (e.g., forested areas, hills, etc.) may reduce noise levels, as may other natural factors, such as temperature and climate. Standard buildings typically provide approximately 15 dB of noise reduction between exterior and interior noise levels (USEPA 1978). Noise generated by stationary and mobile sources has the potential to impact sensitive noise receptors, such as residences, hospitals, schools, and churches. Persistent and escalating sources of sound are often considered annoyances and can interfere with normal activities, such as sleeping or conversation, such that these sounds could disrupt or diminish quality of life.

3.7.1.2 Noise Regulations

Noise Control Act of 1972 (Public Law 92-574). The Noise Control Act of 1972 (42 USC 4901) directs Federal agencies to comply with applicable Federal, State, interstate, and local noise control regulations. The primary responsibility of addressing noise pollution has shifted to State and local governments. In 1974, the U.S. USEPA published its document entitled *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin on Safety*, which evaluated the effects of environmental noise with respect to health and safety (USEPA 1974). The document provides information for State and local agencies to use in developing their ambient noise standards. As set forth in the publication, the USEPA provided information suggesting that an equivalent sound level over 24 hours ($L_{eq(24)}$) of 70 dB is the level above which environmental noise could cause hearing loss if heard consistently over several years. A L_{dn} of 55 dB outdoors and 45 dB indoors is the threshold above which noise could cause interference or annoyance (USEPA 1974).

The San Diego Municipal Code provides sound level limits for different land uses. It restricts daytime (7 AM to 7 PM) noise to 50 dBA at single family residential land use, 60 dBA to all other residential land use, 65 dBA at commercial land use, and 75 dBA at industrial or agricultural land use. Section 59.5.040 of the Code specifies limits for construction noise including limiting construction to daytime (7 AM to 7 PM) and noise levels from construction activities at residential receptors should not exceed 75 dBA (City of San Diego 2020a).

Marine Corps Order (MCO) P5090.2A, Environmental Compliance Protection Manual Chapter 13, discusses requirements of Federal facilities to comply with environmental noise regulations, including Office of the Chief of Naval Operations Instruction (OPNAVINST) 11010.36B, *Air Installations Compatible Use Zones (AICUZ) Program*. Exterior sound levels up to 69 dBA CNEL are compatible for

cemeteries with no restrictions. Exterior noise levels from 70 to 79 dBA are compatible for cemeteries, but noise levels in buildings where the public is received, office areas, or where the normal noise level should be low must be reduced to less than 50 dBA CNEL (Navy 2008).

3.7.1.3 Existing Noise Environment

The dominant noise at the project site is due to aircraft noise. Section 3.13.4 of the 2007 EIS provides a detailed evaluation of the existing noise environment resulting from a noise survey. Noise measurements resulted in 15-minute average noise levels that ranged from 76 to 86 dBA L_{eq}, with maximum noise levels ranging from 99 to 109 dBA. The dominant noise source was aircraft flyovers following takeoff from the MCAS Miramar airfield, with 2- to 5-minute intervals between flyovers. Additional intermittent noise on the southern part of the site resulted from helicopter overflights and a passing freight train. Background noise at the site was from the traffic noise from Miramar Road, Nobel Drive, and I-805. Minimum noise levels near Miramar Road were approximately 55 dBA during breaks in traffic on Miramar Road. The traffic noise levels at noise survey locations near Miramar Road were typically 65 to 70 dBA. On the southern part of the site, minimum noise levels were less than 40 dBA, since it is 1,000 to 1,500 feet from the roadways.

Table 3.7-2 lists the nearby sensitive receptors within 0.5 mile of the proposed construction site.

Table 3.7-2. Nearby Sensitive Receptors

Receptor Type	Receptor	Direction from Cemetery	Distance (feet)
Park/Recreational Area	Nobel Park	Southwest	2,323
College	North University Community Branch	Southwest	2,587
Residence	Neighborhood (within University City section)	South	2,587
Source: Google Earth Map 2020			

3.7.2 No Action – Environmental Consequences

Under the No Action Alternative, the existing noise environment would remain unchanged. This alternative would not involve any of the proposed activities under the Phase 2 expansion, as such, no impacts are anticipated to the noise environment.

3.7.3 Proposed Action – Environmental Consequences

Under the Proposed Action, short-term and long-term, less-than-significant adverse impacts to the local noise environment would occur primarily from construction activities.

Short-term, minor to moderate impacts would occur during construction. Construction activities would cause temporary increases in ambient noise levels in the immediate vicinity of construction activities. Construction noise levels are rarely steady in nature, but instead fluctuate depending on the number and type of equipment in use at any given time. There would be times when no large equipment is operating, and noise would be at or near ambient levels. In addition, construction-related sound levels would vary by distance.

On-site construction noise would mainly occur from site preparations, clearing and grading, construction of new facilities, vehicle traffic, and other associated construction activities including the use of heavy-duty construction equipment (e.g., trucks, backhoes, excavators, front end loaders, rollers, graders, etc.). Table 3.7-3 presents typical construction equipment (mobile and stationary) and the corresponding noise levels.

Table 3.7-3. Estimated Construction Noise from Construction Activities

Equipment	Typical Noise Level at 50 feet (dBA)	Typical Noise Level at 500 feet (dBA)	Typical Noise Level at 1,000 feet (dBA)	Typical Noise Level at 1,500 feet (dBA)
Front Loader	80	60	54	50
Backhoe, excavator	80	60	54	50
Roller	85	65	59	55
Tractors, dozers	85	65	59	55
Grader	85	65	59	55
Truck	84	64	58	54
Pneumatic Tools	85	65	59	55
Compactors	82	62	56	52

Source: Lamancusa 2009; USDOT 2018
dBA = A-weighted decibel

In general, average equivalent noise levels from typical construction sites range from 79 to 89 dBA at 50 feet (Bolt et al. 1971). Construction noise levels fluctuate depending on the type, number and duration of use of heavy equipment for construction activities, and differ by the type of activity, distance to noise-sensitive uses, existing site conditions (vegetation to buffer sound), and ambient noise levels. With multiple items of construction equipment operating concurrently, noise levels could be relatively high during daytime periods at locations within several hundred feet of active construction sites. Accounting for the concurrent use of the construction equipment, it is conservatively estimated that noise levels could be up to approximately 89 dBA at 50 feet. Combined construction noise reduces to approximately 63 dBA at 1,000 feet.

The closest noise-sensitive receptor is Nobel Park which is approximately 2,323 feet from the site boundary. Using typical noise reductions over a distance, this analysis conservatively estimated a combined construction level of approximately 89 dBA at 50 feet would reduce to approximately 56 dBA at 2,323 feet at Nobel Park (closest off-post receptor) and 55 dBA at 2,587 feet at the nearby college and residential area. Other construction noise would occur from transportation-related activities including worker vehicle trips and materials and waste trucks. The estimated construction noise levels would not violate the San Diego Municipal Code which limits daytime construction noise levels at residential receptors to a maximum of 75 dBA.

Typically, construction would occur during the daytime and nighttime construction would only occur under specific conditions. In addition, the following standard BMPs would be implemented by the VA, as appropriate, to limit noise impacts during construction.

- Stationary equipment and material transportation routes would be located as far away from sensitive receivers as possible.
- Equipment would be operated per manufacturer's recommendations, and noise-generating heavy equipment would be shut down when not needed.
- Construction personnel would be directed to operate equipment to reduce noise to the practicable (e.g., speed restrictions, retarder brake restrictions, engine speed restrictions, etc.).

These noise-reducing measures would be briefed to the personnel responsible for implementing these activities. The on-site construction manager would be responsible to bring noise issues, if they arise, to the VA for resolution. This information would be incorporated into construction contracts.

Negligible, long-term direct noise impacts would be expected during operations of a cemetery. Due to the nature of the activities associated with the cemetery, no new stationary sources of continuous noise are expected. Noise from vehicle use associated with workers and cemetery visitors would be similar to existing conditions and would not create a change in noise environment.

3.8 FLOODPLAINS AND WETLANDS

3.8.1 Affected Environment

This section analyzes the occurrence of floodplains and wetlands within the Phase 2 expansion area and impacts to these resources from construction and operations of Phase 2.

Floodplains

Floodplains are areas of land adjacent to rivers and streams that convey overflows during flood events. The Federal Emergency Management Agency (FEMA) defines a floodplain as being any land area susceptible to being inundated by water from any source (FEMA 2017). FEMA prepares Flood Insurance Rate Maps that delineate flood hazard areas, such as floodplains, for communities. These maps are used to administer floodplain regulations and to reduce flood damage. Typically, these maps indicate the locations of 100-year floodplains, which are areas with a 1 percent chance of flooding occurring in any single year. Executive Order 11988, Floodplain Management, states that actions by Federal agencies are to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplain development wherever there is a practicable alternative. 10 CFR 1022 establishes policy and procedures for discharging DOE's responsibilities under Executive Order 11988. According to the FEMA Flood Hazard maps, the majority of the Phase 2 expansion area is designated as Flood Zone X (FEMA 2020). Zone X areas are minimal flood hazard areas determined to be outside the 500-year floodplain and Special Flood Hazard Area. The eastern edge of the Phase 2 expansion project area includes areas designated as Flood Zone D which includes areas with possible but undetermined risks (no flood hazard analysis has been conducted).

The 100-year surface elevations in the canyons in the vicinity of Miramar National Cemetery are less than 250 feet (DoN and VA 2007); as stated in Section 3.3.1, surface elevations throughout the cemetery property range from approximately 280 feet to 400 feet AMSL with elevations of the Phase 2 expansion area typically ranging between 340 and 390 feet. All of the Phase 2 expansion area and related activities would occur outside of the regulated 100-year floodplain.

Wetlands

Wetlands are areas where water covers the soil or is present either at or near the surface of the soil all year or for varying periods of time during the year. Water saturation largely determines how the soil develops and the types of plant and animal communities supported by the wetland. Wetlands provide food and habitat for a diverse array of plants and animals, act as buffers to flooding and erosion and serve as key links in the global water cycle. Wetlands are primarily regulated at the Federal level by the USACE and at the State level by the State Water Resources Control Board per 404 of the CWA. Section 404 requires permitting of certain activities (i.e., the placement of structures and/or fill material) occurring within the boundaries of wetlands and waters of the U.S. meeting certain criteria. The permits are often authorized by a Nationwide Permit or could be authorized by an individual permit. Wetlands are classified according to shared environmental factors, such as vegetation, soils, and hydrology.

In conjunction with the biological field surveys conducted in February of 2020 (see Section 3.6.1 for a discussion of biological resources including vernal pools), the VA also conducted a wetland and waters of the U.S. survey of the Phase 2 expansion area (Artemis 2020b). The purpose of the field survey was to verify and update aquatic resources documented within the Phase 2 expansion areas during previous survey

efforts completed between 2001 and 2009 for the overall cemetery master plan (DoN and VA 2007, HELIX 2009a). A formal aquatic resource delineation was not completed in 2020.

Prior to performing field surveys, a database search and literature review were conducted on the following sources to obtain contextual information relevant to the physical and hydrologic site to be surveyed:

- 7.5-minute USGS topographic quadrangle maps
- Aerial maps of the Survey Area
- The 2016 National Wetland Plant List - Arid West 2016 Regional Wetland Plant List
- The National Wetlands Inventory mapping
- The National Hydrography Dataset /Watershed Boundary Dataset
- The FEMA Flood Map Service
- The NRCS Web Soil Survey
- The National List of Hydric Soils
- California Soil Resource Lab
- Previous environmental review documents

Figure 3.8-1 shows the locations of wetlands and waters of the U.S. identified during the February 2020 survey. Table 3.8-1 provides the amount of aquatic resources previously delineated that were verified to still be present during the survey, along with newly identified aquatic resources.

Table 3.8-1. Summary of Aquatic Resources Present within the Survey Area

Aquatic Resource Type	Amount	
	Acres	Linear feet
Previously Delineated Water of the U.S. and State (USACE, RWQCB, and CDFW)		
Wetland Waters (vernal pools)	0.090	--
Non-wetland Waters (ephemeral drainage with OHWM)	0.022	120
Subtotal Previously Delineated Waters of the U.S. and State	*0.112*	*120*
Previously Delineated Waters of the State (RWQCB and CDFW)		
Isolated Waters/Streambed (ephemeral drainage)	0.051	258
Subtotal Previously Delineated Waters of the State (RWQCB and CDFW)	*0.051*	*258*
Grand Total of Previously Delineated Aquatic Resources	**0.163**	**378**
Potential Waters of the U.S. and/or State (USACE, RWQCB, and/or CDFW)		
Wetland Waters/Habitat (disturbed wetland and vernal pools)	0.060	--
Non-wetland Waters/Streambed (drainages associated with constructed culverts and with OHWM)	0.029	642
Isolated Waters/Streambed (drainage associated with roadway)	0.007	148
Grand Total of Newly Identified Aquatic Resources	**0.096**	**790**

CDFW = California Department of Fish and Wildlife; OHWM = Ordinary High-Water Mark; RWQCB = Regional Water Quality Control Board; USACE = United States Army Corps of Engineers

The survey identified portions of two ephemeral drainages (erosional features) located in the Phase 2 cemetery footprint that drain south and off-site toward Rose Creek. One of the ephemeral features, approximately 200 feet long, has been riprapped (see Photograph 3.8-1). The other ephemeral feature, approximately 400 feet long, contains a disturbed wetland (approximately 0.04 acres) originating at a culvert constructed as part of Phase 1 (see Photograph 3.8-2), before becoming a swale that conveys water towards the southeast until it is absorbed by the soil. A third ephemeral feature is approximately 30 feet and is located near the Memorial Walk, also originating at a culvert constructed as part of Phase 1.

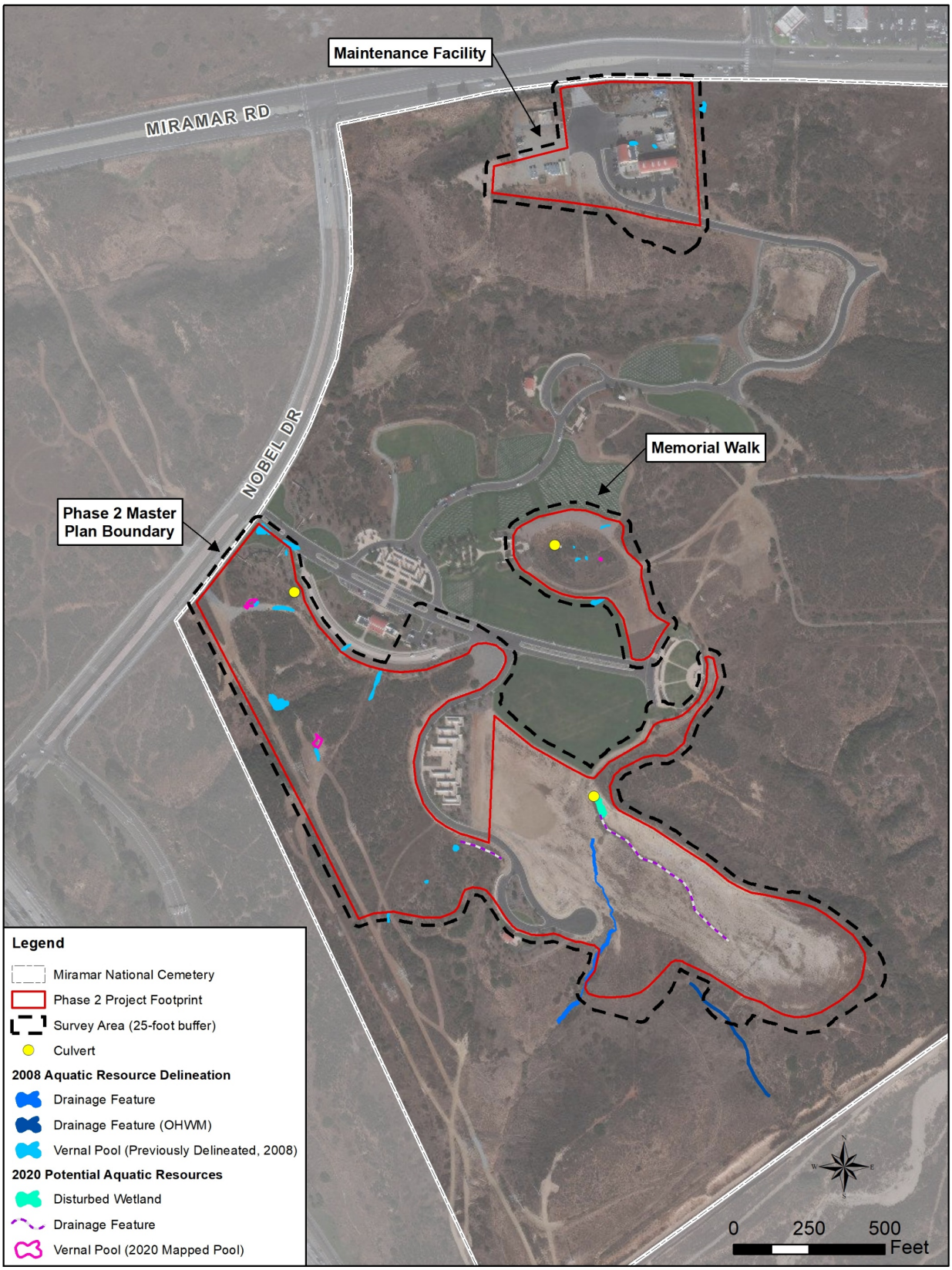


Figure 3.8-1. Wetlands and Waters of the U.S. within the Phase 2 Expansion Area

Photograph 3.8-1. Riprap Lined Ephemeral Drainage

Photograph 3.8-2. Disturbed Wetland Formed at Base of Culvert

3.8.2 No Action – Environmental Consequences

Under the No Action Alternative, existing floodplain and wetland and waters of the U.S. conditions would remain unchanged. This alternative would not involve any of the proposed Phase 2 expansion activities at Miramar National Cemetery, as such, no impacts would be anticipated.

3.8.3 Proposed Action – Environmental Consequences

Construction and operation of the proposed Miramar National Cemetery Phase 2 expansion and proposed deacceleration lane would have minor impacts from construction and negligible impacts from operations, as described within this section. This section also considers requirements established within the existing NRMP that was developed as part of the overall cemetery approval. The NRMP contains measures to ensure that sensitive biological resources (including wetlands and waters of the U.S.) within and adjacent to the project footprint are protected from unplanned and indirect impacts associated with the development and operation of the cemetery. Potential impacts would be further reduced or avoided through implementation of the following measures contained within the NRMP:

- Limits of construction will be clearly delineated to avoid disturbance to areas adjacent to the construction footprint;
- A contractor training program will be provided to educate construction personnel about sensitive biological and aquatic resources;
- Biological monitors will be present during vegetation clearing and grading activities within and adjacent to sensitive biological and aquatic resources;
- Clearing and grading near vernal pools/ephemeral basins will be conducted when the soils are dry enough to reduce the potential for erosion;
- BMPs and a SWPPP will be implemented to reduce potential for construction runoff; and
- Permanent perimeter fencing installed around areas supporting protected vernal pools and ephemeral basins during Phase 1 would be maintained to protect these features during construction and operations.

Approximately 600 feet (0.07 acres) of ephemeral stream and 0.04 acres of wetland would be permanently disturbed to accommodate the Phase 2 expansion. These features would be graded and filled to accommodate the Phase 2 cemetery footprint and the development of grave sites and roadway and parking infrastructure. Impacts to these resources have been previously mitigated through compensatory mitigation completed in 2012 which included permitted impacts to 0.477 acre of waters of the U.S. (USACE 2010). No additional compensatory mitigation is required for impacts resulting from Phase 2 Project activities as all activities would remain within the originally proposed 214-acre impact area for the overall Miramar National Cemetery Project. Site drainage would be maintained through approved stormwater management plans and design, including development of the proposed stormwater management water quality basin as part of the Phase 2 expansion activities (also see Section 3.5 for more discussion on stormwater management). No impacts would occur to wetland resources from the construction of the proposed deacceleration lane, Memorial Walk, Administration Building Addition, and Honor Guard Building as wetland and waters of the U.S. do not occur within the project footprints. Measures listed above would minimize the potential for indirect effects to nearby wetlands and waters of the U.S.

Operation of the Phase 2 cemetery development would have negligible impacts on wetlands and waters of the U.S. The NRMP would continue to be followed including quarterly monitoring to ensure that sensitive biological resources (including wetlands and waters of the U.S.) within and adjacent to the project footprint are protected from unplanned and indirect impacts associated operation of the cemetery.

CHAPTER 4 CUMULATIVE IMPACTS

The CEQ regulations for implementing NEPA define cumulative effects as "*the impact on the environment which results from the incremental impact of the proposed 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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time*" (40 CFR 1508.7). This SEA considers past, present, and reasonably foreseeable short-term and long-term future effects from implementing the Proposed Action and other projects that coincide with the location and timetable of the Proposed Action. Reasonably foreseeable projects are projects for which plans have been approved, projects for which funding has been identified, recently completed projects, and projects in progress.

4.1 PROPOSED ACTION

As determined through the analysis provided in Chapter 3, the Proposed Action would not result in appreciable (that is more than negligible) adverse impacts in context with existing baseline conditions for Land Use and Aesthetics, Cultural Resources, Floodplains, Socioeconomics and Environmental Justice, Community Services, Solid and Hazardous Materials, Transportation and Parking, and Utilities. Therefore, these resources were not evaluated for potential cumulative impacts. Additionally, although impacts would occur to approximately 600 feet (0.07 acres) of ephemeral stream; these impacts have been previously mitigated through the USACE Individual Permit for the cemetery master plan and during Phase 1 development; therefore, negligible impacts would be anticipated from a cumulative perspective to the resource. Resources that have the potential to be cumulatively affected by the Proposed Action, when combined with other past, present, and reasonably foreseeable future projects at and in the vicinity of Miramar National Cemetery include air quality (construction), topography and soils (construction and operation), Hydrology and Water Quality (construction and operation), Wildlife and Habitat (construction and operation), Noise (construction) and Wetlands (construction). Therefore, past, present and reasonably foreseeable future projects that could result in effects on these resource areas were considered for analysis.

4.2 PROJECTS CONSIDERED FOR POTENTIAL CUMULATIVE IMPACTS

Table 4.2-1 and Figure 4.2-1 present the reasonably foreseeable projects that may have cumulative, incremental impacts in conjunction with the Proposed Action.

Table 4.2-1. Cumulative Projects

Project	Details
VA Projects	
Past and Future Phases of Miramar National Cemetery Construction	Past and future phases of construction at the Miramar National Cemetery include full development of the site, which includes development of 144 total acres within a 323-acre site. As discussed in Section 1.1.2, Phase 1 of the Miramar National Cemetery was completed in 2010 on 45 acres and consists of an administration complex, a maintenance complex, two committal service shelters, two columbaria plazas, fourteen interment sections, a POW plaza, two memorial plazas, a memorial walk and ossuary, and a flag assembly area. Phase 1 also implemented mitigation requirements as determined by the EIS for the overall cemetery build-out. This included wetland restoration, vernal pool restoration, and removal of exotic invasive plant species. The approximate 26.7-acre Phase 2 expansion site under the Proposed Action of this SEA extends south of the Phase 1 development to the southern extent of the 214-acre development area. A majority of Phase 2 lands have been previously disturbed and graded during the construction of Phase 1. Phases 3-6 will include development on the remaining acres (within a maximum 144-acre footprint) over an approximate 30-year period and will include construction of additional burial sites.

Project	Details
Nearby Projects	
North City Project Pure Water San Diego Program	The North City Project of the Pure Water San Diego Program includes construction of infrastructure to create up to 30 million gallons per day of purified water for the San Diego region. Under this project, flows to the Point Loma Wastewater Treatment Plant would be reduced and diverted to a newly expanded North City Water Reclamation Plant as well as a newly constructed North City Pure Water Facility, located 0.25 miles to the northwest of the Miramar National Cemetery. In addition, a water pipeline would be constructed from the facility along Miramar Road (directly north of the Miramar National Cemetery) to the Miramar Reservoir, and a new landfill gas pipeline would be constructed within the existing utility ROW that passes directly through the Miramar National Cemetery property between the Miramar Landfill gas collection system and the North City Water Reclamation Plant. Other project components include a new pump station and force main to deliver additional wastewater to the North City Water Reclamation Plant; a brine/centrate discharge pipeline; upgrades to the existing Metro Biosolids Center at the Miramar Landfill; and a new North City Renewable Energy Facility at the North City Water Reclamation Plant (City of San Diego 2018).
City of San Diego Capital Improvement Project: AC Water Group 1038	The City of San Diego AC Water Group 1038 project will replace approximately 35,000 linear feet (6.6 miles) of 12-inch and 16-inch AC pipe water distribution mains. The project will also replace all water services and fire hydrants, resurface/slurry streets impacted by construction activities, and install new curb ramps that will improve mobility access for people with physical disabilities. The AC Water Group 1038 project is part of the City's ongoing program for the replacement of all aging and deteriorating water mains currently in service. These replacements will reduce future water main breaks and reduce maintenance requirements. The program will also bring the existing water mains up to current city standards (City of San Diego 2018; 2020b). The proposed pipeline will be constructed concurrently with the North City Project within the same construction easement along Miramar Road (directly north of the Miramar National Cemetery) until Scripps Ranch Boulevard.
3 Roots Project	The 3 Roots Project includes redevelopment of a former aggregate mining quarry to include residential and commercial/office space, approximately 1-mile northeast of the Miramar National Cemetery. The proposed redevelopment would be conducted on approximately 413 acres and include the following: approximately 1,800 residential units comprised of 185 single-family lots, 1,006 condominiums (both attached and detached), and 609 multi-family lots; approximately 160,160 combined square feet of commercial retail/office uses; and a 1.35-acre mobility hub, identified as a nexus for public and private transportation alternatives. The project would also create approximately 181 acres of protected biological open space and a 25.8-acre public community park. The project would construct the on-site extension of Carroll Canyon Road, establishing a portion of a main arterial, facilitating a future connection between Interstate 805 and Interstate 15 as well as internal circulation consisting of on-site roads and parkways. San Diego Gas & Electric Facility modifications are required as a result of the project and consist of east-west modifications, north-south modification, decommission and removal of the Fenton Substation, as well as modifications to, and extension of, smaller San Diego Gas & Electric facilities to serve the site (City of San Diego 2019b).
Costa Verde Revitalization Project	The Costa Verde Revitalization Project includes the reconfiguration and expansion of the existing Costa Verde Center (located approximately 1 mile west of the Miramar National Cemetery) to create a local, walkable hub that provides community gathering spaces, additional retail shops, restaurants, office space, and neighborhood services, potentially including a health club. The project proposes to increase the development intensity of commercial/retail uses by approximately 125,000 square feet for a total of 303,000 square feet distributed among 15 new and existing buildings, and re-designate an approximately one-acre portion of the project site to Visitor Commercial to reintroduce a hotel use to the area. A 200-room hotel would serve residents, visitors, and the community's research, business, and educational hub. The hotel would be up to 10 stories in height and would encompass approximately 125,000 square feet (State of California 2020).

AC = Asbestos Cement; EIS = Environmental Impact Statement; POW = Prisoner of War; ROW = right-of-way

1

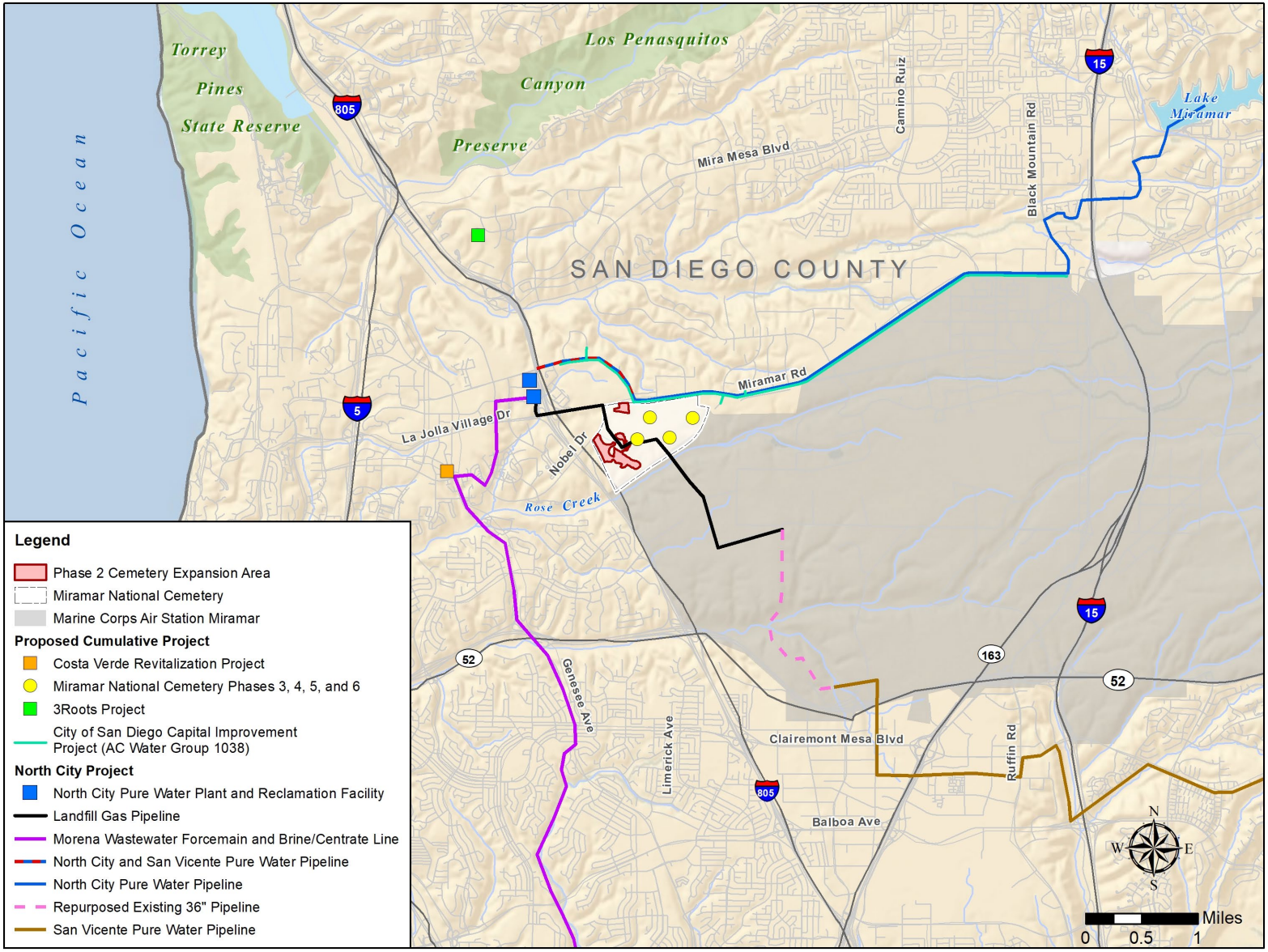


Figure 4.2-1. Cumulative Projects

4.3 EFFECTS OF CUMULATIVE ACTIONS WITH THE PROPOSED ACTION.

4.3.1 Air Quality

The Proposed Action would result in emissions of criteria pollutants, GHGs, and fugitive dust during the construction phase. Predicted annual construction emissions would be less than Federal *de minimis* thresholds for criteria pollutants and represent a negligible and temporary amount of California's annual GHG emissions. Emissions would be further partially offset by the beneficial effect of avoiding longer vehicle trips to the Riverside and Los Angeles national cemeteries. As stated in Section 3.3.1, the region is in a nonattainment area for O_3 (8-hour) and maintenance area for CO and O_3 (1-hour). Construction of the North City Project could result in significant and unmitigable impacts due to emissions of NO_x thresholds depending on the alternative selected. Air emissions from the other existing and future development projects within and in the vicinity of the Miramar Nation Cemetery are mostly expected to be minor and primarily end following construction. Emissions from area construction activities would be subject to review and permitting approval by the CARB to ensure projects are in compliance with air emission limitations and are anticipated by the San Diego County Air Pollution Control District in their regional air quality planning. Therefore, the cumulative impact of construction emissions regionally would be less than significant.

Under the No Action Alternative, there could be increased emissions from longer vehicle trips to Los Angeles National Cemetery or Riverside National Cemetery. On a regional scale, this could lead to minor cumulative increases in vehicle emissions when considered with future projects identified in Section 4.2, as well as other ongoing development in the region.

4.3.2 Geology, Topography, and Soils

Cumulative effects from the Proposed Action and nearby projects could result in potential adverse impacts to soil resources during construction. Construction of the Proposed Action and all development projects identified in Section 4.2 would cause soil compaction and damage to soil structure from construction equipment and grading activities. Clearing of proposed construction areas would also remove protective vegetative cover and potentially increase soil erosion. Soil erosion could result in the loss of topsoil from its original location through wind and/or water erosion and indirectly increase the sediment levels of surface water through stormwater runoff. The effects of wind erosion would be reduced by using common dust suppression techniques, such as spraying the ground with water and revegetating disturbed areas with approved native plant species. Additionally, construction BMPs would reduce soil erosion by using sediment barriers (e.g., silt fencing, straw or hay bales and sandbags), temporary slope breakers, and mulching. In addition, similar to the Proposed Action, all development actions would be subject to the same California stormwater permitting requirements as described for the Proposed Action, which would limit soil loss on-site and reduce the potential for cumulative adverse impacts to minor once construction is completed.

During construction, the potential also exists for vehicles and equipment to release POLs and contaminate soil. Standard spill prevention and response procedures (e.g., maintaining construction equipment in good working order, use of emergency spill kits) would reduce potential impacts during construction. As a result, overall cumulative impacts to soil resources during construction would be less than significant.

Operations of the Proposed Action would result in long term permanent soil loss of approximately 2 acres related to roadway infrastructure, shoulder parking and proposed columbarium, placing impervious surface on top of existing soil resources. All development projects would result in some level of soil loss due to new construction activities; however, when considered with the minor amount of soil loss under the Proposed Action, overall cumulative impacts are anticipated to be less than significant.

No impacts are anticipated to geology from construction or operations of the Proposed Action. In addition, the topography of the Phase 2 expansion area has already undergone rough grading as a result of Phase 1

construction. Therefore, when considering other future development projects, the Proposed Action would not result in cumulative adverse impacts on geology or topography.

No new construction would occur under the No Action Alternative. Therefore, no cumulative impacts to geology, topography, or soils would occur.

4.3.3 Hydrology and Water Quality

The Proposed Action would result in short-term, minor impacts to water resources from increased potential for sedimentation and spills during construction to travel off-site into Rose Creek, which is impaired as a result of benthic community effects and exceedances of selenium. A majority of projects discussed in Sections 4.2 are also located within the same watershed and could also result in an increased potential for minor cumulative adverse effects to water quality of the stream (in the form of sedimentation and runoff) from construction activities and increases in impervious surfaces. During construction of all projects listed in Table 4.2-1, there would also be an increased potential for spills of petroleum products or other hazardous materials, soil erosion, and sediment transport in runoff. Runoff and spills would be of particular concern for projects that are located adjacent to or in close proximity to water resources. Adherence to California stormwater permitting rules and regulations would control erosion, minimize the potential for sedimentation, disperse stormwater on-site, and reduce the likelihood for petroleum products or other hazardous materials to spill. Once operational, both the Proposed Action and new development projects would establish impervious surface that would increase the potential for stormwater runoff to transport pollutants to nearby waterbodies. Low-impact design features (e.g., retention ponds, swales, etc.) would reduce the potential for runoff. Such features would be considered during the design and permitting phase of each project. Overall cumulative impacts to water resources would be less than significant.

4.3.4 Wildlife and Habitat

Both the Proposed Action and projects considered in Table 4.2-1 would cause short-term increases in noise and air pollution, water use, and vehicular traffic during construction, which would adversely affect biological resources in the area. This would result in a short-term cumulative loss to wildlife, vegetation, and sensitive and natural communities in the region due an increase in amount of human activity and land disturbance. Short-term impacts occurring during construction activities could occur for projects that involve vegetation removal, habitat disturbance, displacement of wildlife or avoidance of construction areas, and degradation of aquatic environments. During construction, there would be an increased possibility for petroleum products or other hazardous materials to spill. If spills occur, they could potentially drain to the Rose Creek watershed. Spills would be minimized or avoided by adhering to implementing BMPs to reduce the potential for spills and to contain and clean up any spills that cannot be prevented. In addition, BMPs would be utilized to stabilize soils, avoid sensitive habitats, and avoid the spread of noxious weeks and invasive plants; therefore, overall cumulative impacts from construction would be less than significant.

Operations of the Phase 2 expansion would result in disturbance of California gnatcatcher habitat; however, the majority of impacts have previously been mitigated during Phase 1 activities; therefore, when considered with projects in Section 4.2, no cumulative impacts would occur. The additional 0.1 acres of vernal pools and associated federally protected plant species habitat identified during the February 2020 site visit would be avoided, resulting in no impacts to vernal pools during operations, and no cumulative impacts when considered with other nearby projects.

Under the No Action Alternative, no construction or associated impacts on biological resources would occur; therefore, no cumulative impacts would occur.

4.3.5 Noise

The Proposed Action would result in minor adverse effects during construction activities due to temporary noise increases in the project vicinity. Cumulative effects to the ambient soundscape near the Miramar

National Cemetery could occur from construction projects within 1,000 feet of the cemetery property (i.e., utility construction related to the North County Project located southwest of the Miramar National Cemetery or the AC Water Group 1038 project), if these project occurred concurrently with construction of the Proposed Action, as noise impacts from construction are greatest within 1,000 feet. Project schedules are currently unknown, but if the projects did occur at the same time, no more than minor cumulative impacts are anticipated. Projects would be required to comply with the same noise reduction measures as described for the Proposed Action. No noise impacts are anticipated during operations of Phase 2; therefore, no cumulative impacts are anticipated when considered with other projects described in Section 4.2.

No new construction would occur under the No Action Alternative. Therefore, no cumulative impacts from an increase in noise would occur.

CHAPTER 5 BEST MANAGEMENT PRACTICES AND MONITORING

This section consolidates the avoidance, BMPs, and impact minimization techniques, as previously described in Chapter 3, to maintain the potential impacts associated with implementing the Proposed Action at less-than-significant adverse levels for each of the environmental resources analyzed in detail within this SEA. Potentially required permits and approvals are presented in Chapter 6. Table 5-1 provides a summary of BMPs and conservation measures.

In addition to actions listed in Table 6-1, as discussed in Section 1.3 and throughout the SEA, a NRMP was prepared for lands within the Miramar National Cemetery in accordance with mitigation requirements identified in the 2007 EIS and Biological Opinion issued by the USFWS. The NRMP requires designation of a Natural Resource Manager and provides cemetery staff with guidance on protecting on-site and adjacent natural and biological resources from unplanned and indirect impacts associated with the development and operation of Miramar National Cemetery. The plan outlines specific management elements/tasks that must occur during all applicable phases of cemetery development and those related to cemetery operations, including quarterly monitoring and reporting. Quarterly monitoring and reporting are performed on biological resources include vernal pool preservation areas and upland watersheds with a focus on grounds maintenance and landscaping procedures to ensure that landscaping design and use practices minimize adverse effects on natural habitat and prevent pollution. If specific threats to biological resources were observed, the Natural Resource Manager records the location of the threat, with information including Global Positioning System coordinates, a description of the threat, photographs of the condition, and recommendations for correction. Findings are categorized by the following priority levels to guide corrective actions to be taken by the VA (Blackhawk Environmental 2019):

- **Priority Level 1 - Fineable:** Poses an immediate and significant risk to natural resources which could result in fines or punitive actions by one or more regulatory agencies.
- **Priority Level 2 - Priority:** One or more violations to natural resource plans and/or Federal law that, without corrective action, is likely to result in non-compliance. Corrective action should be implemented as early as feasible.
- **Priority Level 3 - Concern:** No non-compliance with natural resource plans or regulations was observed. However, action is required to maintain applicable management elements or best practices to minimize risk to natural resources.
- **Priority Level 4 - Prevention:** This priority level represents either 1) potential threats that should be monitored during future surveys, 2) corrective actions to avoid the likely development of future threats to natural resources, or 3) represents a threat located outside of the 50- or 100-foot monitoring areas.

The measurers required by the NRMP and quarterly reporting would continue and apply to the Phase 2 expansion area. This plan and monitoring have been established to prevent, identify, and reduce operational impacts to biological and aquatic resources.

Table 5-1. Best Management Practices and Conservation Measures

Air Quality and GHG
Construction
• Adopting the BMPs detailed in the San Diego County Air Pollution Control District's Rule 55 for control of dust from construction; • Covering open equipment when conveying or transporting material likely to prevent material from becoming airborne; • Minimizing the use and number of trips of heavy equipment; • Maintaining and tuning all engines per manufacturer specifications to perform at USEPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies; • Prohibiting construction vehicles both on- and off-site from excess idling, consistent with current CARB Regulations; • Prohibiting tampering with engines and requiring continuing adherence to manufacturer's recommendations; • Using alternative fueled vehicles and construction equipment where feasible; • Using energy efficient lighting systems, such as LED technology, where feasible; and • Developing a construction traffic and parking management plan to minimize traffic interference and maintains traffic flow.
Operations
• None required
Geology, Topography, and Soils
Construction
• Using common dust suppression techniques, such as spraying the ground with water and revegetating disturbed areas with approved native plant species to reduce potential of wind erosion. • Using construction BMPs such as installation of sediment barriers (e.g., silt fencing, straw or hay bales and sandbags), temporary slope breakers, and mulching to reduce soil erosion from water especially wherever soil is exposed, steep slopes are present, or erosion potential is high.
Construction and Operations
• Maintaining equipment in good working order and equipping operators with emergency spill kits to reduce the potential for spills and quickly respond in the event of a spill.
Hydrology and Water Quality
Construction
• Adherence to conditions within an approved SWPPP to manage stormwater and runoff from earth-disturbing activities during construction and implement measures to reduce stormwater runoff. BMPs could include covering exposed soils in heavily trafficked areas; placing structural erosion controls where necessary (e.g., silt fences or hay bales); and designating and protecting established/existing vegetation buffer areas (i.e., trees, shrubs, and natural vegetation), to the extent practicable.

- Inspection of stormwater management control devices prior to a forecasted storm, after a rain event that causes runoff from the construction site, at 24-hour intervals during extended rain events, and at any other time(s) or intervals of time specified in contract documents.
- Restoration and stabilization of temporarily disturbed areas through use of native grasses and forbs to prevent erosion and sedimentation.
- Adherence with stormwater runoff requirements under Section 438 of the EISA. Use of site planning, design, construction, and maintenance strategies for the property to maintain, to the maximum extent technically feasible, the predevelopment hydrology of the site.
- Maintaining equipment in good working order and equipping operators with emergency spill kits to reduce the potential for spills and quickly respond in the event of a spill.

Operations

- Adherence to conditions within an approved SWMP to manage the increase of impervious surface and runoff through stormwater management controls (e.g., retention ponds, swales, etc.).
- Maintaining equipment in good working order and equipping operators with emergency spill kits to reduce the potential for spills and quickly respond in the event of a spill.

Wildlife and Habitat

Construction

- Clearly delineating the limits of construction to avoid disturbance to adjacent areas.
- Providing contractor training to educate construction personnel about sensitive biological and aquatic resources (including the coastal California gnatcatcher and vernal pools).
- Clearing of suitable coastal California gnatcatcher habitat outside the breeding season (February 15 to August 31).
- Using biological monitors during vegetation clearing and grading activities within and adjacent to sensitive biological and aquatic resources.
- Scheduling construction activities and other project-related work to occur during daylight hours. Should construction lighting be required, all structures will be shielded to ensure that light will not enter plant communities recently occupied by gnatcatchers.
- Collecting vernal pool habitat components prior to any earthwork activities within pools supporting San Diego fairy shrimp.
- Clearing and grading near vernal pools/ephemeral basins when the soils are dry enough to reduce the potential for erosion.
- Adherence to an approved SWPPP and use of BMPs to reduce potential for construction runoff.
- Washing and inspecting construction equipment prior to beginning work on-site to reduce the potential introduction of invasive species to the proposed construction area.
- Adherence to NRMP provisions for prevention of colonization of invasive species disturbed by construction activities, including the removal of these species from sensitive areas and within 50 feet of the outer limit of cemetery development prior to construction.
- Clearing of vegetation outside of the migratory bird breeding season (January 15 to August 31). If clearing is required within the breeding season, the VA would perform a preconstruction nesting bird survey using a qualified biologist within suitable habitat. If active nests are observed during

surveys, an appropriate buffer would be determined in coordination with USFWS and placed around the nests until the young have fledged or the nest is abandoned.

- Using species and cultivars of native plants for restoring temporarily disturbed areas at the perimeter of the site and in temporary access and laydown areas that have performed well in Phase 1 to minimize irrigation and fertilization needs. This includes restoration of temporary access and laydown areas which disturb native and/or gnatcatcher habitat by using a non-irrigated seed mix and plants appropriate for the site and gnatcatcher habitat. Depending on time of year for the application, this may be supplemented with container stock or plugs utilizing gel packs in lieu of irrigation as water.

Construction and Operations

- Permanent perimeter fencing installed around areas supporting protected vernal pools and ephemeral basins during Phase 1 would be maintained to protect these features during construction and operations.

Noise

Construction

- Limiting construction during the daytime hours to the greatest extent possible.
- Using transportation routes located as far away from sensitive receivers as possible.
- Operating equipment per manufacturer's recommendations and shutting down noise-generating heavy equipment when not needed.
- Requiring construction personnel to operate equipment to reduce noise to the practicable (e.g., speed restrictions, retarder brake restrictions, engine speed restrictions, etc.).

Operations

- None required

Wetlands

Construction

- Clearly delineating the limits of construction to avoid disturbance to adjacent areas.
- Providing contractor training to educate construction personnel about sensitive biological and aquatic resources.
- Using biological monitors during vegetation clearing and grading activities within and adjacent to sensitive biological and aquatic resources.
- Clearing and grading near vernal pools/ephemeral basins when the soils are dry enough to reduce the potential for erosion.
- Adherence to an approved SWPPP and use of BMPs to reduce potential for construction runoff.

Construction and Operations

- Permanent perimeter fencing installed around areas supporting protected vernal pools and ephemeral basins during Phase 1 would be maintained to protect these features during construction and operations.

CHAPTER 6 ENVIRONMENTAL PERMITS, APPROVALS, AND DETERMINATIONS POTENTIALLY REQUIRED

Section 1.3 details completed permits and approvals received during the 2007 EIS for the overall cemetery master plan including the Phase 2 expansion area. This included:

- **U.S. Army Corps of Engineers Los Angeles District Individual Permit (SPL-2008-00970-PJB)**. The permit issued impacts to a total of 0.477 acres of waters of the U.S. within a 144-acre cemetery footprint (within the 214-acre development area). Impacts have been mitigated through compensatory mitigation completed in 2012.

- **U.S. Fish and Wildlife Service Biological Opinion (1-6-06-F-4652.3).** Contains conservation measures for protection and preservation of federally threatened coastal California gnatcatcher and the federally endangered San Diego fairy shrimp and their habitats (see Chapter 5). On-site compensatory mitigation for temporary and permanent impacts to vernal pools and streams was completed in 2012. Mitigation was also previously performed for the temporary and permanent impacts to suitable California gnatcatcher habitat from overall cemetery development through the purchase of 15.98 acres of gnatcatcher habitat within San Diego County in accordance with the Biological Opinion.

- **California Historic Preservation Concurrence.** The California Office of Historic Preservation concurred with the 2007 EIS conclusions that no eligible properties exist in the 323-acre site (see Appendix A, letter reference #USCM060815A).

Table 6-1 contains additional environmental plans, permits, and approvals which may be required for the Phase 2 expansion.

1 **Table 6-1. Additional Environmental Plans, Permits and Approvals**

Plan, Permit or Approval	Responsible Agency	Contact Information	Applicable Criteria
Construction General Permit	San Diego RWQCB	Brandi Outwin-Beals, P.E. Senior WRC Engineer 2375 Northside Drive Suite 100 San Diego, CA 92108-2700 619-521-5896 Brandi.Outwin-Beals@waterboards.ca.gov	Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.
Stormwater Pollution Prevention Plan	San Diego RWQCB	Same as above.	The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan.
Stormwater Management Plan	San Diego RWQCB	Same as above.	Required following completion of a construction project per the Construction General Permit.
Easement Approval	San Diego Gas & Electric	Sean Myott Land Management Representative 8335 Century Park Court, CP12A San Diego, CA 92123 858-650-4065 smyott@semprautilities.com	Required for work within utility easement.
Easement Approval	San Diego County	Easement Approval - Roads Kathleen Hider County of San Diego, Public Works 5510 Overland Avenue, Suite 140 San Diego, CA 92123 858-495-5373	Required for work within Nobel Drive road easement including street lighting.
Easement Approval	Kinder Morgan	Greg Burnett 305 S, Riverside Avenue Bloomington, CA 92324 909-873-5174 Greg_Burnett@Kindermorgan.com	Required for work within utility easement.

Plan, Permit or Approval	Responsible Agency	Contact Information	Applicable Criteria
Recycled Water Connection Approval	San Diego Department of Environmental Health	Victor Villegas City of San Diego Public Utilities Department Recycled Water Program 9150 Topaz Way, San Diego, CA 92123 (619) 533-5277 vvillegas@sandiego.gov	Every customer site, whether wanting to connect to the recycled water distribution system or expand their existing on-site system, must go through a plan review and inspection process by the City of San Diego and the County of San Diego Department of Environmental Health. The reviews and inspections are mandated by California State Code to ensure the appropriate regulations are followed and the site is safeguarded from a potential cross-connection between the recycled water system and the potable water system

RWQCB = Regional Water Quality Control Board

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Appendix A

Agency Coordination

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USFWS IPaC Search

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To: January 24, 2020
Consultation Code: 08ECAR00-2020-SLI-0481
Event Code: 08ECAR00-2020-E-01163
Project Name: Miramar National Cemetery Phase 2

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

1

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

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Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

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Project Summary

Consultation Code: 08ECAR00-2020-SLI-0481

Event Code: 08ECAR00-2020-E-01163

Project Name: Miramar National Cemetery Phase 2

Project Type: DEVELOPMENT

Project Description: The U.S. Department of Veterans Affairs (VA) is preparing a site-specific environmental assessment (SEA) to assist in the Federal decision-making process concerning the proposed Phase 2 expansion at Miramar National Cemetery (MNC).
This cemetery expansion project is the second of six phases at MNC. The SEA will tier off the 2007 Fort Rosecrans National Cemetery Annex Environmental Impact Statement (EIS) which selected the 323-acre site for establishment of the MNC. During the 2007 EIS process, 214 acres of the 323-acre site were approved for an overall cemetery footprint. Remaining lands, primarily in biologically sensitive areas, are protected from disturbance.
Mitigation has been performed for resources located within the proposed 214-acre footprint as part of the 2007 EIS. The U.S. Fish and Wildlife Service (USFWS) issued a Biological Opinion (1-6-06-F-4652.3) on the federally threatened coastal California gnatcatcher (Polioptila californica californica) and the federally endangered San Diego fairy shrimp (Branchinecta sandiegonensis). Phase 2 activities will conform with conservation measures established in the 2007 USFWS's Biological Opinion, including limiting cemetery development and operations of all six phases to 144 acres within the overall 214-acre cemetery footprint area identified in the 2007 SEIS. In addition, the U.S. Army Corps of Engineers Los Angeles District issued an Individual Permit (SPL−2008−00970−PJB) based on the 144-acre development footprint; Phase 2 activities will remain in compliance with the terms and conditions contained within the permit.
Phase 1 of the MNC (approximately 45 acres) was completed in 2010 and consists of an administration complex, a maintenance complex, two committal service shelters, two columbaria plazas, fourteen interment sections, a POW plaza, two memorial plazas, a memorial walk and ossuary, and a flag assembly area. The remainder of the site is characterized by both flat and rolling terrain with sage scrub, chaparral, mixed scrub-chaparral, scrub oak chaparral, willow scrub and non-native grassland. Phase 1 also implemented mitigation requirements as determined by the EIS for the overall cemetery build-out. This included wetland restoration, vernal pool restoration and removal of exotic

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invasive plant species.
The Phase 2 expansion would occur on relatively flat terrain located directly south of the existing Phase 1 expansion area; a majority of which had been previously disturbed and graded during the construction of Phase 1. The proposed Phase 2 expansion would include minor clearing and grading activities associated with the development of approximately 20 acres of land within MNC; no new property would be acquired (refer to Figure 2 for phasing). Phase 2 involves establishment of pre-placed crypts, columbarium niches, and in-ground cremain sites; a memorial walk design connecting the existing memorial walk to the existing flag assembly area; and road/access improvements. Phase 2 will also add a new Honor Guard building within the maintenance complex parking lot, expand the Administration Building to accommodate increased burial rates, and provide a deceleration lane on Nobel Drive to the cemetery entry. The Phase 2 expansion would also include landscaping, site furnishings, drainage (including a basin), and irrigation system.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/32.87053740654238N117.19080878101234W

Counties: San Diego, CA

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Endangered Species Act Species

There is a total of 17 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Pacific Pocket Mouse *Perognathus longimembris pacificus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8080	Endangered

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Birds

NAME	STATUS
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8178	Threatened
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Light-footed Clapper Rail *Rallus longirostris levipes* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6035	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Crustaceans

NAME	STATUS
Riverside Fairy Shrimp *Streptocephalus woottoni* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8148	Endangered
San Diego Fairy Shrimp *Branchinecta sandiegonensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6945	Endangered

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Flowering Plants

NAME	STATUS
California Orcutt Grass *Orcuttia californica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4923	Endangered
Salt Marsh Bird's-beak *Cordylanthus maritimus ssp. maritimus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6447	Endangered
San Diego Ambrosia *Ambrosia pumila* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8287	Endangered
San Diego Button-celery *Eryngium aristulatum var. parishii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5937	Endangered
San Diego Mesa-mint *Pogogyne abramsii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5971	Endangered
San Diego Thornmint *Acanthomintha ilicifolia* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/351	Threatened
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened
Willowy Monardella *Monardella viminea* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/250	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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1 **California Office of Historic Preservation Concurrence Letter**

STATE OF CALIFORNIA – THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9824
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

October 23, 2006 In reply refer to: USMC060815A

R. J. Pharris, Lieutenant Colonel
Environmental Management Officer
United States Marine Corps
Marine Corps Air Station Miramar
P.O. Box 452001
San Diego, CA 92145-2001

Re: Land Use Agreement for Construction and Operation of Veteran's Affairs National Cemetery, Marine Corps Air Station Miramar, San Diego County, California

Dear Lieutenant Colonel Pharris:

Thank you for your letter of 29 September 2006 continuing your consultation with me to comply with Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f), as amended, and its implementing regulation at 36 CFR Part 800 with regard to the construction of a national cemetery at Marine Corps Air Station Miramar.

Your effort to identify historic properties in the Area of Potential Effects (APE) per 36 CFR § 800.4 revealed five previously recorded archaeological site, two of which were previously determined not eligible for inclusion in the National Register of Historic Places (NRHP). You have now evaluated the remaining three sites, CA-SDI-12,409, CA-SDI-12,438, and CA-SDI-12,439, and concluded that none meet NRHP eligibility criteria. Base on a review of the materials you included with your letter, I concur with your determination. In my letter dated 8 September 2006, I requested that you submit to me copies of correspondence the Marine Corps has had with the Native American Heritage Commission or any other groups you have contacted as part of this undertaking. You have done this and I believe that you have demonstrated Marine Corp compliance with 36 CFR § 800.3(f) and 36 CFR § 800.4(a)(4). Finally, the Marine Corps has determined that no historic properties will affected by the undertaking and I agree that this finding is appropriate per 36 CFR § 800.4(d)(1).

Thank you for seeking my comments and considering historic properties as part of your project planning. If you have any questions or concerns, please contact David Byrd, Project Review Unit historian, at (916) 653-9019 or at dbyrd@parks.ca.gov.

Sincerely,

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

MWD: db

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