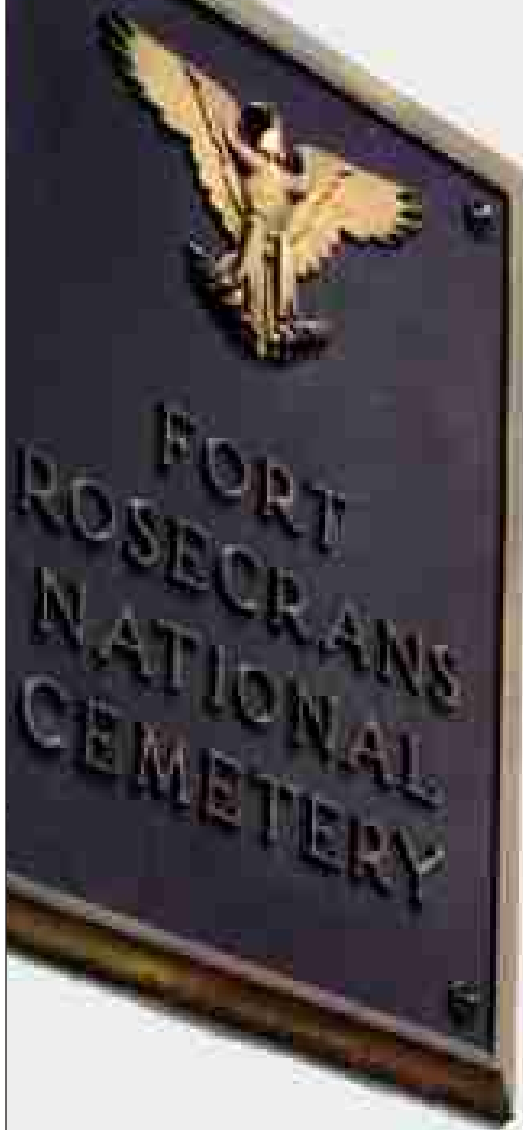


Final
Environmental Assessment

Fort Rosecrans National Cemetery Expansion



Department of Veterans Affairs
National Cemetery Administration
810 Vermont Avenue, Northwest
Washington D.C. 20420

EDAW

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San Diego, CA. 92101

NOVEMBER 2002



**FINAL
ENVIRONMENTAL ASSESSMENT
FOR THE FORT ROSECRANS
NATIONAL CEMETERY EXPANSION**

Prepared for:

Department of Veterans Affairs
National Cemetery Administration
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Washington, DC 20420

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November 2002

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CHAPTER 1.0

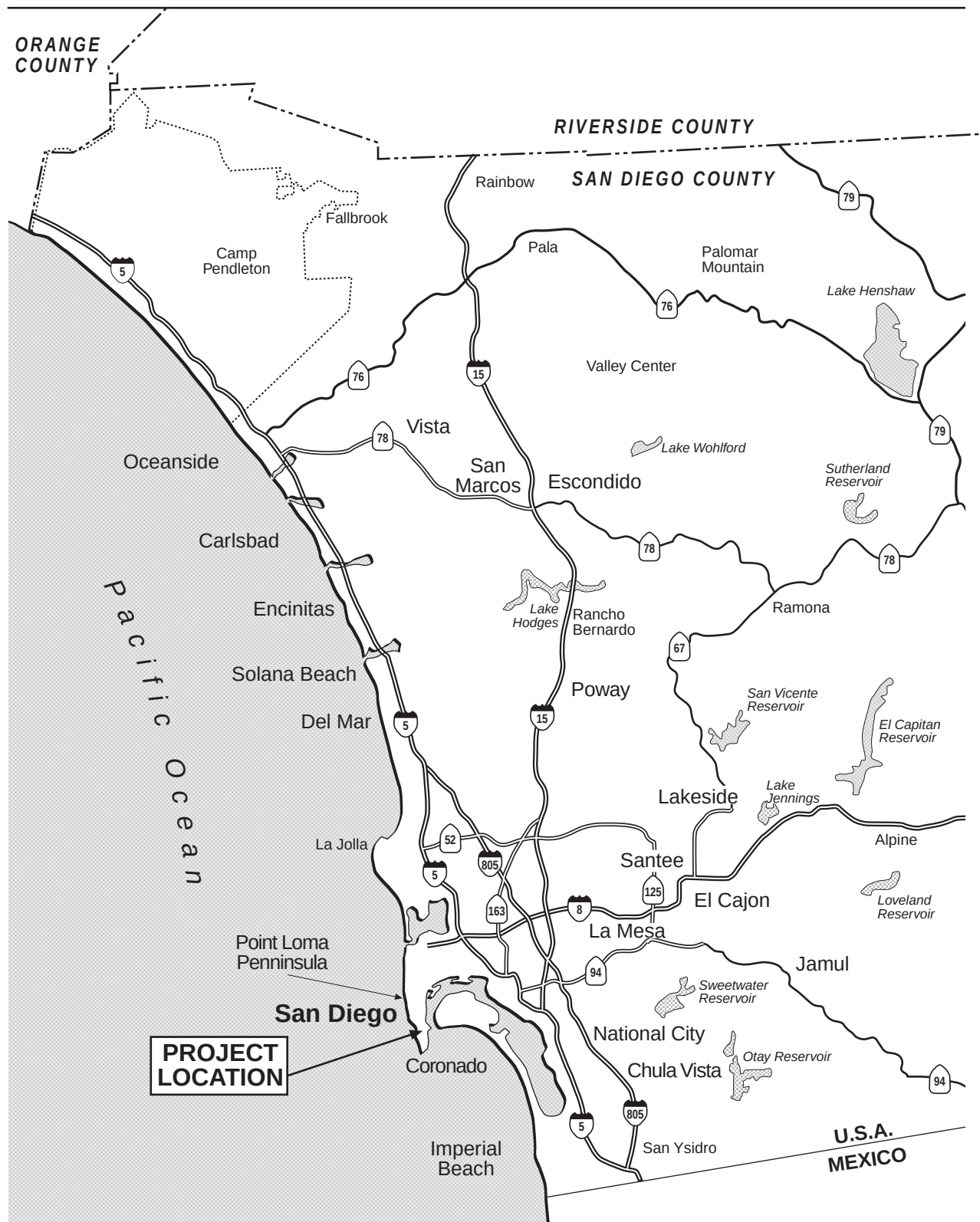
INTRODUCTION

Fort Rosecrans National Cemetery is a 71.3-acre (28.9-hectare) veterans cemetery operated by the Department of Veterans Affairs (VA). The cemetery is located on Point Loma in the City of San Diego, California (Figure 1). The nearest water bodies to the cemetery are San Diego Bay and the Pacific Ocean (Figures 2 and 3). The purpose of this environmental assessment (EA) is to evaluate the potential environmental effects that may result from (1) transfer of land under a Federal Withdrawal from the Navy through the Bureau of Land Management (BLM) to VA, (2) relocation of a perimeter fence along the existing property line, and (3) construction of new columbarium niches in a 7.7-acre (3.1-hectare) expanded portion of Fort Rosecrans National Cemetery. This chapter of the EA describes the background of the project and the purpose and need for the Proposed Action. Chapter 2 describes the Proposed Action and alternatives (including the No Action Alternative). Chapter 3 describes the Affected Environment. Chapter 4 discusses the environmental consequences of the Proposed Action and alternatives. Chapter 5 presents the list of preparers of this EA. References are listed in Chapter 6.

1.1 BACKGROUND

Fort Rosecrans National Cemetery is managed by the National Cemetery Administration (NCA) of VA. The proposed improvements at Fort Rosecrans will be implemented by NCA's Office of Construction Management. Because of space limitations within the existing cemetery boundaries, the Office of Construction Management initiated discussions with Department of Navy representatives at Naval Base Point Loma (NBPL) to expand cemetery operations onto lands adjacent to the existing national cemetery, which have been and are currently minimally used for Navy purposes. Approximately 7.7 acres (3.1 hectares) of land in four parcels adjacent to the existing national cemetery on the east side of Cabrillo Memorial Drive have been proposed for addition (Figure 4).

In 2002, the 7.7-acre (3.1-hectare) area was designated for expansion, and documentation for the proposed expansion was initiated, including this EA prepared by the Office of Construction Management. Following review of both VA's and the Navy's needs for land to service their respective missions, VA initiated an application to BLM for "withdrawal" (see Section 2.1).



No Scale



QUADRANGLE LOCATION

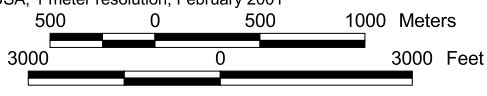
Figure 1
Regional Map

Ft. Rosecrans Cemetery Exp.

Graphics 21400 Ft. Rosecrans Cemetery\Figures\Fig 1 Regional Map (bradyd) 8/7/02



Source: AirPhotoUSA, 1 meter resolution, February 2001



1 : 36,000: 1 inch = 3000 feet

Figure 2
Aerial View of Project Site

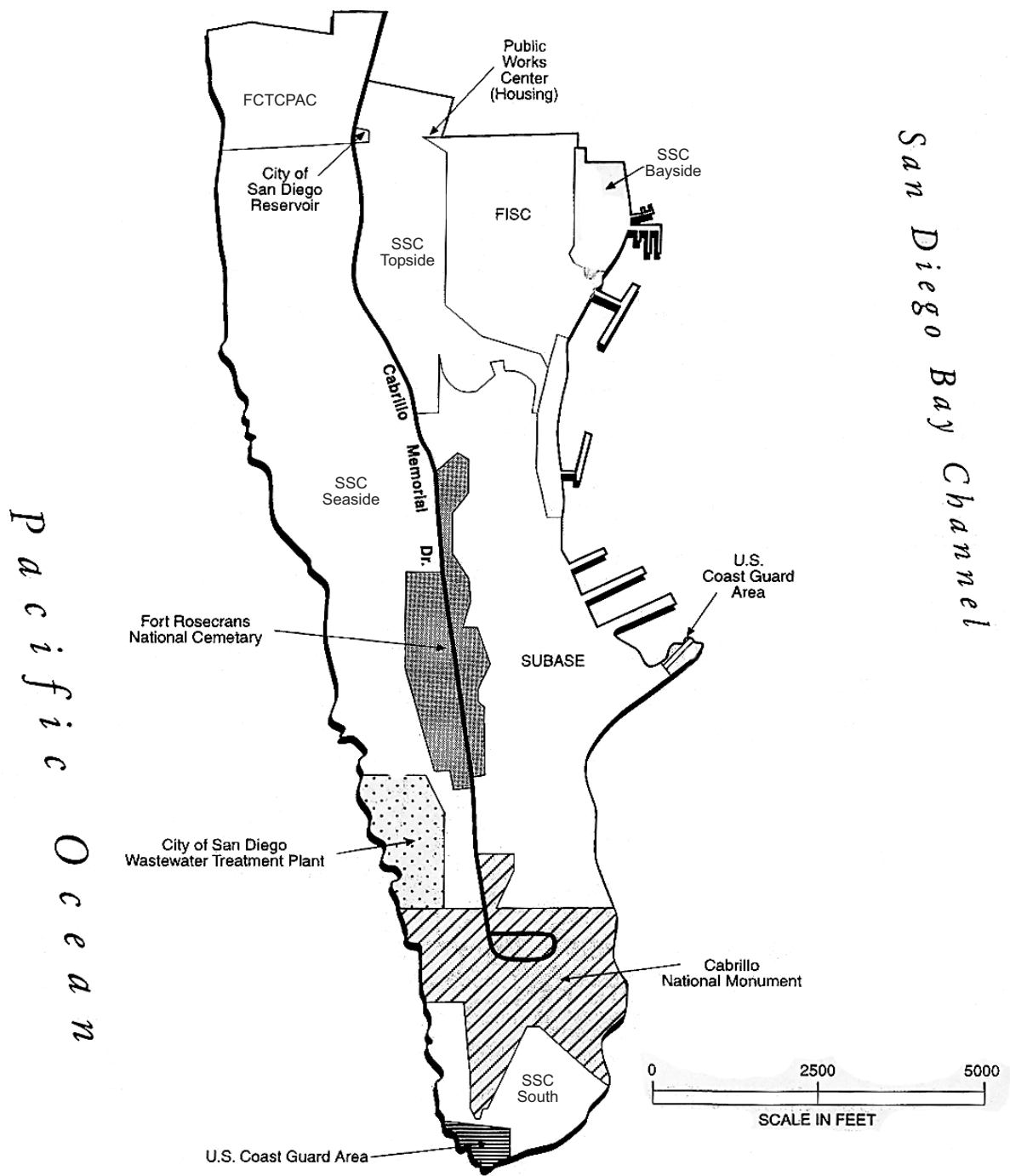
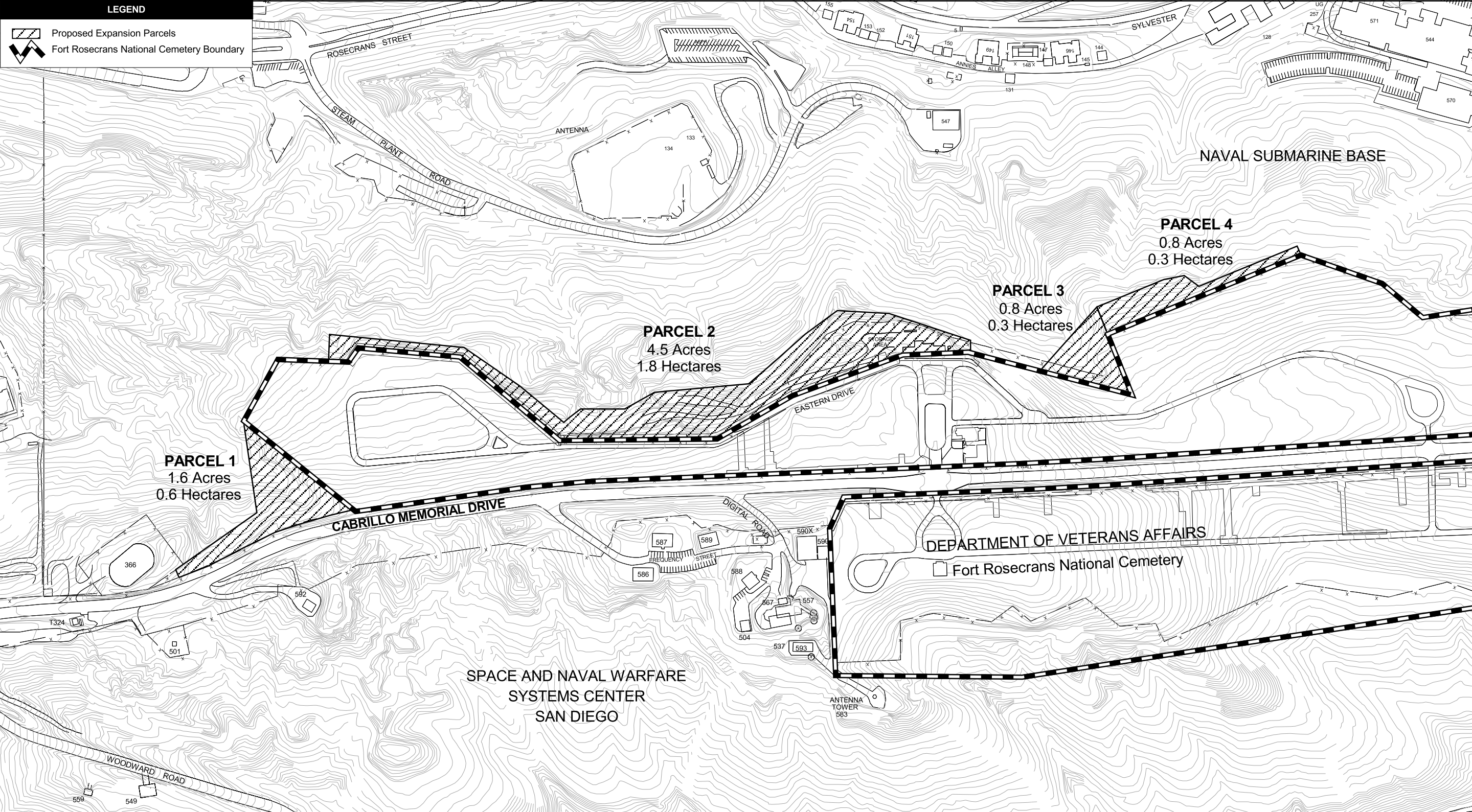


Figure 3
Vicinity Map





Source: Van Dyke, 2002



Scale: 1 : 3600; 1 inch = 300 feet

Figure 4
Proposed Expansion Parcels

This EA has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) and implementing regulations published by VA and the Council on Environmental Quality (CEQ). Specifically, the EA has been prepared pursuant to Federal Regulations in 40 Code of Federal Regulations (CFR) Parts 1500-1508, which implement the requirements of NEPA. VA is the Federal Lead Agency for the Proposed Action.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to provide additional columbarium niches for local veterans for interment of cremated remains at Fort Rosecrans National Cemetery. The cemetery was established as an Army Post Cemetery in the 1860s. It became Fort Rosecrans National Cemetery in 1934 and was included in the National Cemetery System in 1973. Currently, the only space remaining for full gravesite burials is for spouses or next-of-kin of service members who have already been interred; these spaces have already been set aside. The cemetery has no space remaining for new, full gravesites. Federal legislation requires that VA provide burial opportunities for U.S. veterans and their immediate family dependents at a national cemetery. Once the cemetery has reached capacity, there will be no national cemetery in San Diego for veterans to be interred. Therefore, the cemetery needs to increase its capacity by constructing new columbaria for the interment of cremated remains.

An expansion program within the existing cemetery boundary was initiated in 2000, and new columbaria are being constructed at various locations across the existing cemetery site (Figure 5). The recently completed expansion project added approximately 7,242 niches in columbarium flats (horizontal units) as well as in columbarium walls (vertical units) within the boundary of the existing cemetery and will deplete all available land within the existing cemetery boundaries. The walls consist of various units 5 niches high, 3 niches high, and 2 niches high (Figure 6). The walls range in height from 2.4 to 7 feet (0.7 to 2.1 meters).

Additional niches will continue to be needed in the future to serve the veterans community in the San Diego region. The Proposed Action will construct approximately 6,839 niches; however, this proposed expansion cannot proceed within the existing cemetery boundaries. Therefore, VA has proposed an expansion onto adjacent Navy lands to meet the needs of San Diego veterans and their families. These additional columbaria will be constructed in 3- and 5-niche-high walls (VA 2002b).

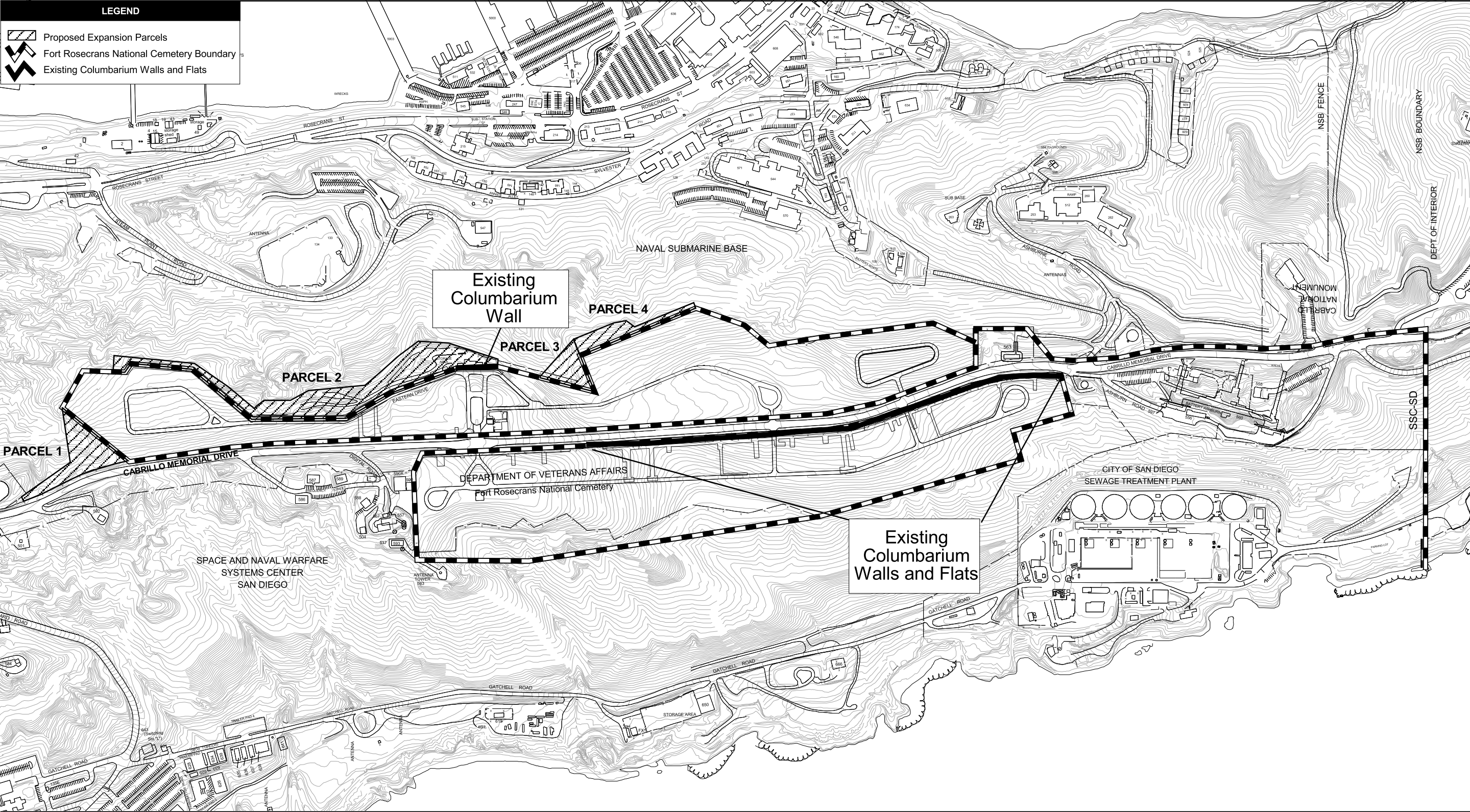
The approximately 14,081 new niches resulting from the recently completed expansion project and construction in Parcel 2 of the proposed expansion area will meet the local need for the next 5 to 6 years (VA 2002a). A breakdown of how the columbaria are distributed is shown in Table 1.

Table 1
New Columbaria at Fort Rosecrans National Cemetery

Location	Approximate Number of Columbaria
Within Existing Cemetery	7,242
Initial Expansion Area (Parcel 2)	6,839
Total	14,081

A portion of the approximately 4.5-acre (1.8-hectare) Parcel 2 as analyzed in this EA will be developed initially by VA with 6,839 columbaria constructed. The remaining 3.2-acre (1.3-hectare) expansion area in Parcels 1, 3, and 4 will provide additional area to serve the future needs of the San Diego veteran population. No specific projects have been identified for these areas; however, the impacts of any future construction will be analyzed in environmental documentation prepared subsequent to this EA.

Several other studies have been conducted by VA concurrently with this EA, including property surveys, site analyses, and engineering designs. These studies have been utilized in the preparation of this EA and are being completed to expedite design and construction activities for cemetery facilities in the expansion area. Additionally, a Mitigation Plan will be prepared to identify feasible methods to mitigate potential environmental impacts resulting from implementation of the Proposed Action. The primary aspects of this mitigation plan have been incorporated into the text of this EA and are considered part of the Proposed Action.



Source: Van Dyke, 2002



500 0 500 Feet

Scale: 1 : 6000; 1 inch = 500 feet

Figure 5
Existing Columbaria



Figure 6
Typical 5 Niche High Columbarium Wall

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CHAPTER 2.0

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 REAL ESTATE TRANSACTION PROCESS

Federal lands at Point Loma are owned by BLM. The lands adjacent to the Fort Rosecrans National Cemetery are currently managed by NBPL under a Federal Withdrawal for military purposes. The Fort Rosecrans National Cemetery has been using a portion of the land being transferred for their maintenance facility, with the approval of the Navy. To expand the cemetery onto land currently administered and managed by the Navy, the 7.7-acre (3.1-hectare) expansion area must undergo a two-step real estate process. The Navy has relinquished their Federal land withdrawal of the 7.7 acres (3.1 hectares) for military use to BLM. Concurrently, VA applied for withdrawal of the Navy's 7.7 acres (3.1 hectares) for cemetery use under their jurisdiction. This reassignment of Land Withdrawal will complete the necessary paperwork for furnishing responsibility for some land currently under direct control of the cemetery. NCA prepared and submitted to BLM an Application for Federal Withdrawal, which meets the procedural requirements for the transfer of management responsibility from military purpose to cemetery purpose. BLM has the authority to facilitate the change in use of the withdrawn lands. BLM has approved a land transfer to facilitate this real estate transaction.

This EA meets VA's regulations for evaluating the environmental impacts of this transfer and construction. The Navy's relinquishment of its current 7.7-acre (3.1-hectare) withdrawal will be covered under NEPA by a Categorical Exclusion.

2.2 PROPOSED ACTION

The Proposed Action considered in this document includes the expansion of approximately 7.7 acres (3.1 hectares) of land in four parcels at Fort Rosecrans National Cemetery in San Diego, California (Figure 4); construction of new columbarium walls in one of the expansion areas (Parcel 2); and relocation of the perimeter fence along the boundary of Parcel 2. The proposed construction will consist of new columbarium wall units, minor grading, relocation of the existing chain link perimeter fence in a portion of Parcel 2, landscape restoration, and minor changes to the existing storm drainage facilities on-site. It is the intent of VA to use a portion of Parcel 2, the 4.5-acre (1.8-hectare) expansion area on the eastern side of the cemetery, as the first phase of development. Parcels 1, 3, and 4 of the expansion area could be developed later to accommodate the cemetery's future expansion requirements. Although no specific projects have

been identified for these areas, any future construction will be evaluated in a separate environmental analysis.

In addition, Parcel 2 currently contains the cemetery maintenance yard, a facility previously permitted by the Navy on its land.

Negotiations have been undertaken, seeking additional land from the Navy, since 1988. VA has been eager to acquire ownership and responsibility for the land currently used for cemetery maintenance activities within Parcel 2.

The 7.7 acres (3.1 hectares) is the only land being returned to BLM and made available to VA by the Navy. These parcels are now becoming available due to their proximity to the existing cemetery and their lack of utility for any naval function. VA does not anticipate receiving any other land to provide additional area to serve the future needs of the San Diego veteran population.

Project Dimensions

The Proposed Action will construct approximately 6,839 niches in columbarium wall units in Parcel 2 of the expansion area on the eastern edge of the existing cemetery. The walls will be located parallel to Eastern Drive and begin just north of the main entrance to the cemetery on the eastern side. The columbarium walls will be set back 5 to 6 feet (1.5 to 1.8 meters) to the east from the old cemetery boundary in the southern portion of Parcel 2, and 9 to 10 feet (2.7 to 3 meters) to the east from the old cemetery boundary in the northern portion. The total length of the columbarium walls will be approximately 1,700 feet (518.2 meters). At the southern end of the proposed columbarium walls, 7-foot- (2.1-meter-) high gates and a short section of fence will be constructed that will connect with the existing concrete, cemetery wall. The two 15.7-foot- (4.8-meter-) long double swing gates will allow access to the existing cemetery maintenance yard. This area currently has a maintenance building, concrete storage bins, a concrete loading dock, a small gas pump, and several trailers. The temporary, ongoing use of this maintenance area within Parcel 2 by VA will be made permanent by implementation of the Proposed Action and the land transfer to VA. Access to the maintenance area is via an asphalt road off Eastern Drive (Figure 7).

The columbarium walls will be constructed of precast concrete and will be set on a poured concrete foundation between concrete pilasters. A 4- or 5-foot- (1.2- or 1.5-meter-) wide concrete walk will be constructed to the west in front of the columbarium walls. It will be separated from the walls by a 1-foot- (0.3-meter-) wide gravel strip where flowers could be placed (Figure 8). Each wall unit in the southern half of Parcel 2 will be 5 niches high and

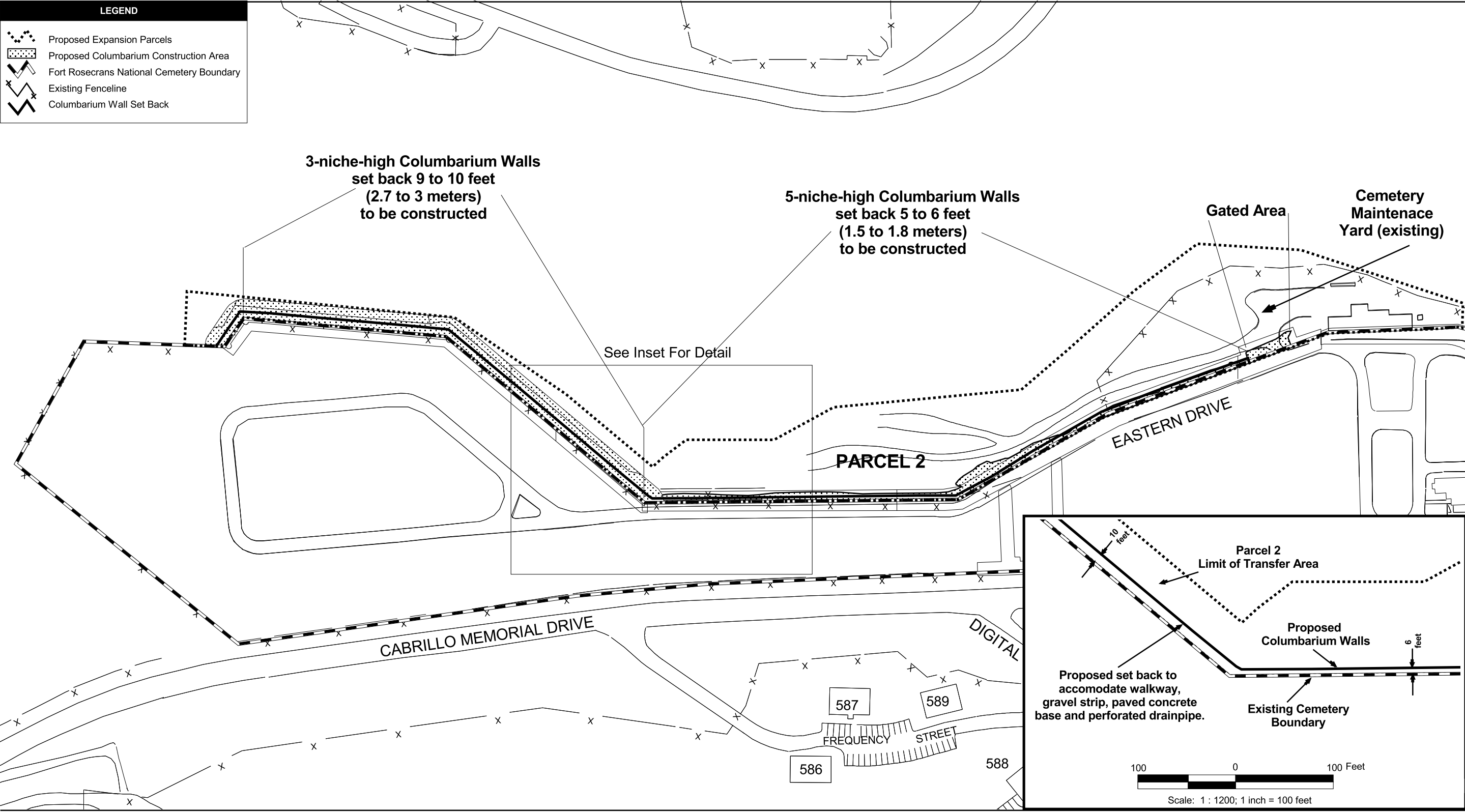
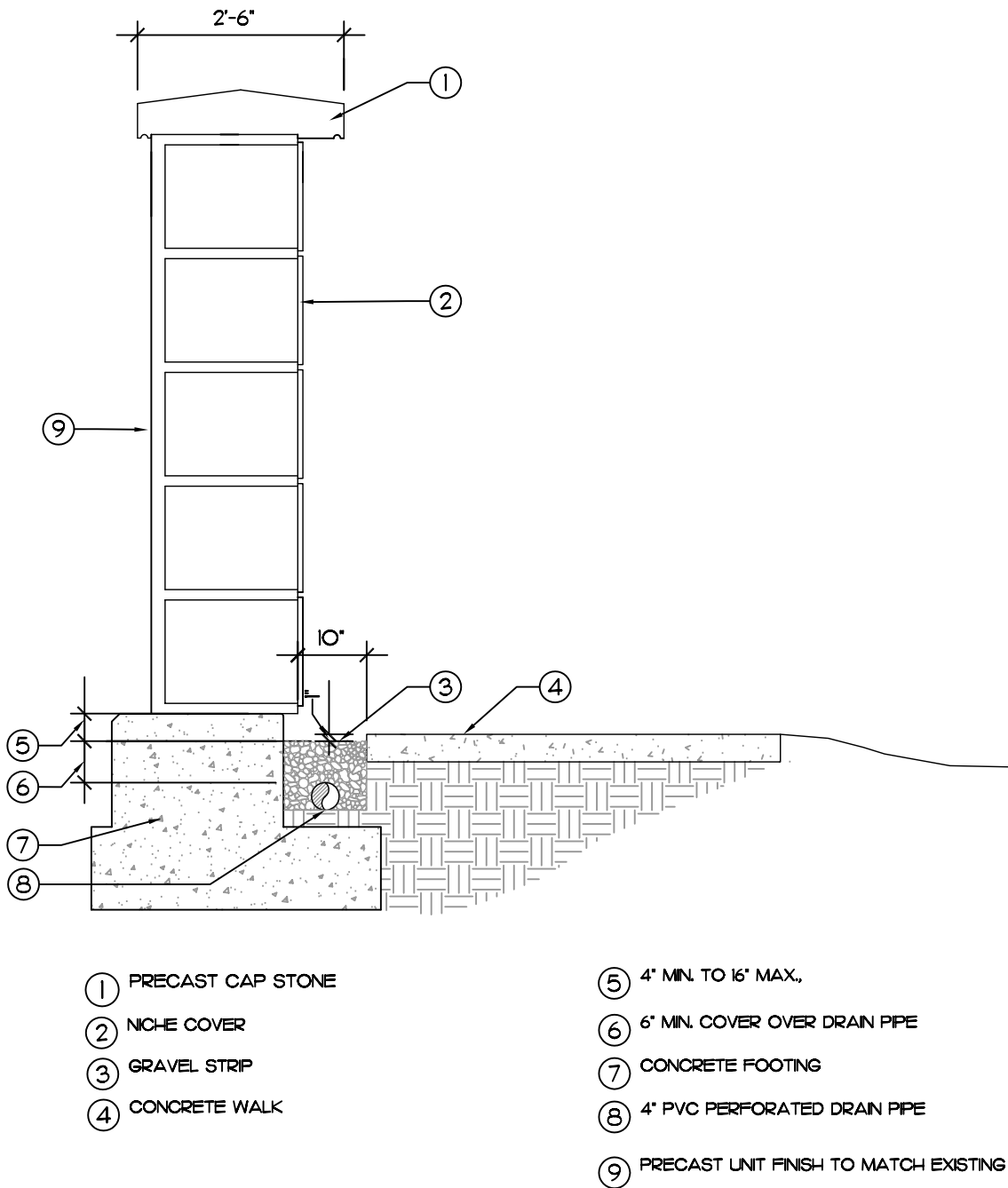


Figure 7
Proposed Columbarium Construction Area



Source: Van Dyke 2002.

Figure 8
Columbarium Wall Cross Section

8 niches long, or 7 feet (2.1 meters) high and 8.1 feet (2.5 meters) long. Each wall unit in the northern half of Parcel 2 will be 3 niches high and 8 niches long, or 3.6 feet (1.1 meters) high and 8.1 feet (2.5 meters) long. Each niche will be 1.7 feet (0.5 meter) deep, 1.2 feet (0.4 meter) tall, and 1.1 feet (0.3 meter) wide.

A 4-inch (10.2-centimeter) polyvinyl chloride (PVC) perforated drainpipe will be installed under the gravel strip between the concrete walk and the base of the columbarium walls. One or two spigots will be installed to provide water for flower vases. This drain pipe will be connected to the existing storm drain system or into ground sumps that will be located in the adjacent landscape turf area on the downslope side and will be constructed as part of the project.

Access to Parcel 2 is available through the cemetery's main entrance (East Portal Loop Drive) from Cabrillo Memorial Drive. Parcel 2 is roughly parallel to Eastern Drive as it proceeds north from the cemetery maintenance area. Access to Parcels 3 and 4 will be along Second Drive East, and access to Parcel 1 will be from Cabrillo Memorial Drive.

No new permanent employees will be required to implement the Proposed Action, and no new parking areas or access points will be constructed. The additional land in Parcels 1, 3, and 4 will be reserved for future expansion and will be evaluated in a subsequent environmental analysis.

Construction

The construction staging area will be collocated with the existing cemetery maintenance area within Parcel 2, which is directly behind an existing columbarium wall at the main entrance on the eastern side of the cemetery. The construction staging area will have two temporary trailers, equipment parking, a material storage yard, and a trash area. Construction will occur over approximately 10 months.

In the southern portion of Parcel 2 a 5-foot- (1.5-meter-) high concrete wall along the east side of Eastern Drive, where the columbarium walls will be constructed, has already been partially removed as part of the current columbaria construction project within the existing cemetery boundaries. A strip of ornamental (non-native) vegetation, approximately 500 feet (152 meters) long and 24 feet (7.3 meters) wide, between the wall and the Navy's perimeter fence has also been removed as part of this construction. The remainder of the concrete wall along this side of Eastern Drive will be removed and 402 cubic yards (307.4 cubic meters) of fill material will be imported and 14 cubic yards (10.7 cubic meters) of slope will be cut and reused as fill for the project. This material will be compacted to ensure a solid base for the foundation of the

columbarium walls. A poured concrete foundation will be set back 5 to 6 feet (1.5 to 1.8 meters) to the east from the edge of Eastern Drive.

In this portion of Parcel 2, the chain link perimeter fence will be relocated as far as possible from the eastern edge of the expansion parcel to avoid potential relocation areas for sensitive species. In particular, relocation of the perimeter fence (Figure 9) will more closely follow the natural contour lines and minimize impacts to two small drainages leading into the Point Loma Ecological Reserve (PLER). The relocated perimeter fence will be tied into the existing perimeter fence at the cemetery maintenance yard. Construction of the relocated perimeter fence will be conducted primarily within a 10-foot- (3-meter-) wide zone of construction to avoid indirect effects to the PLER and potential relocation areas for sensitive species.

The columbarium wall units will be brought in and set into place by forklift. Stainless steel wedge anchor bolts will secure the columbarium walls to the foundation and the adjacent wall units. Each pilaster will be covered with a panel of architectural precast concrete, and both the pilaster and columbarium walls will be capped (Figure 10).

The construction proposed for the northern portion of Parcel 2 will not be adjacent to Eastern Drive and will require access from behind the proposed columbarium walls. The existing cemetery wall/perimeter fence will be removed for columbaria construction, and a 30-foot- (9.1-meter-) wide area will be cleared for construction of the foundation and placement of the columbarium wall units. The concrete foundation will be set back 9 to 10 feet (2.7 to 3 meters) to the west from the edge of the old cemetery boundary. At the completion of construction, the ground behind the columbaria will be stabilized with suitable material, as needed. A new perimeter fence will be constructed at the edge of the graded area to allow construction of the columbarium walls and to continue to provide security for NBPL.

No construction is proposed for Parcels 1, 3, and 4. In particular, relocation of the perimeter fence to the edge of the expansion area in Parcels 1, 3, and 4 is not part of the Proposed Action. No new columbarium wall construction will occur in these areas until the perimeter fences have been relocated.

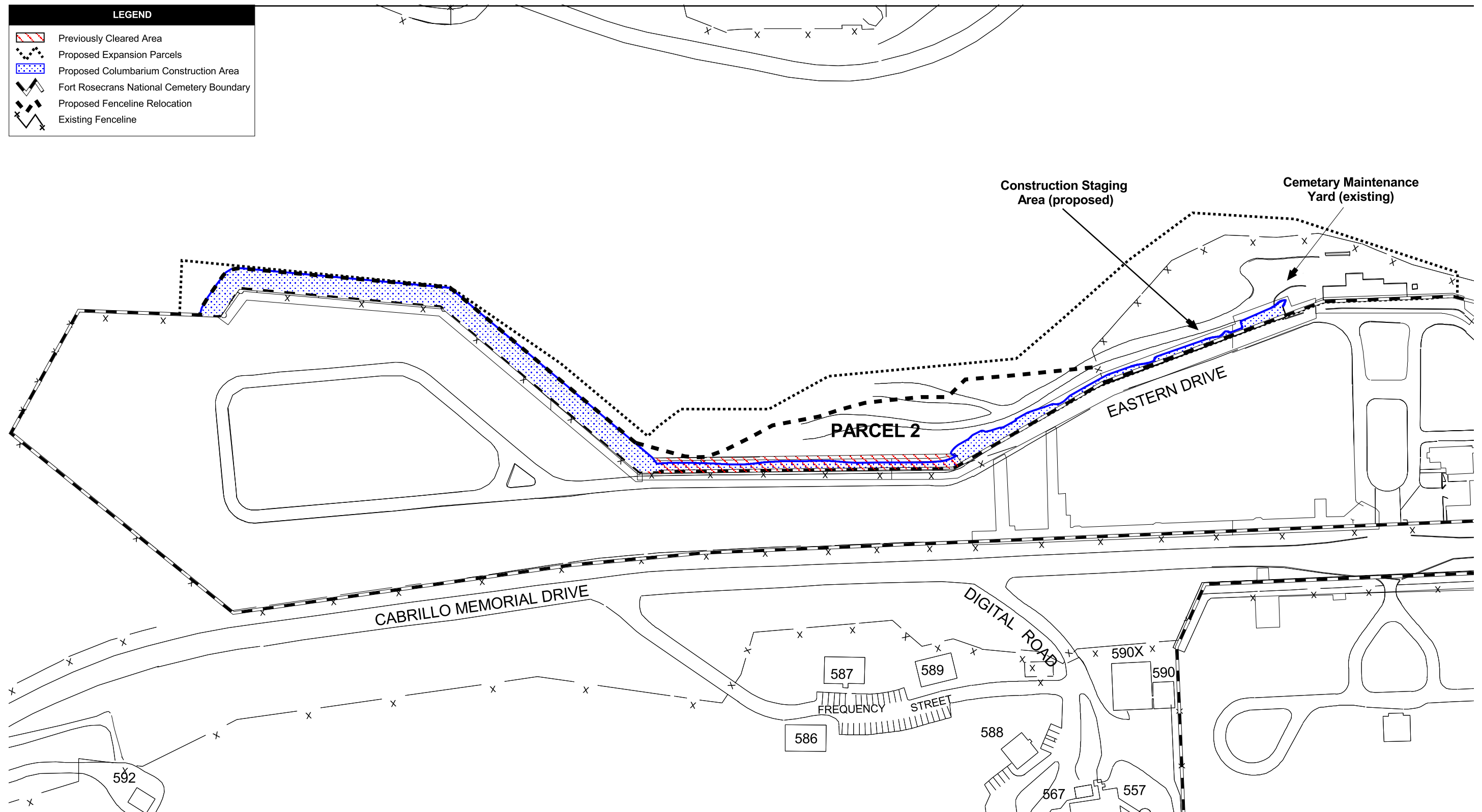
2.3 NO ACTION ALTERNATIVE

Under the No Action Alternative, there would be no expansion of Fort Rosecrans National Cemetery. No transfer of Federal land management responsibilities would occur, no additional columbarium walls would be constructed, and all potential site-specific impacts on the environment would be avoided. The Cemetery will continue to operate a maintenance facility on Navy land. However, additional capacity for interment would not be provided. The burial rate in national cemeteries is expected to increase 6 to 8 percent per year and peak in 2008 (VA 2002a). The No Action Alternative would mean that the existing cemetery would deplete its capacity in less than 3 years. Local veterans and their dependents would then be required to either use commercial cemeteries in the San Diego region or other national cemeteries in southern California. The nearest other national cemetery is the Riverside National Cemetery located in Riverside, California, approximately 125 miles (201.2 kilometers) to the north, which is considered too distant to adequately service the veteran population in the San Diego metropolitan area. Given the distance to other national cemeteries and the existing Federal legislation in place to provide burial opportunities for U.S. veterans and their immediate family dependents, the No Action Alternative would not achieve the purpose of the Proposed Action, which is to provide additional columbaria for local veterans. NCA would not meet its mission to serve veterans with burial facilities.

2.4 ALTERNATIVES CONSIDERED BUT REJECTED

VA and the Navy have evaluated a variety of potential expansion areas to meet the needs of VA to provide additional area for veteran interments. The adjacent Navy lands are significantly constrained by steep slopes, sensitive biological resources, and important cultural resources. The proposed 7.7 acres (3.1 hectares) on the eastern and northern boundaries are the only feasible locations for cemetery expansion. Although VA prefers to expand into a larger area to meet projected needs in the future, the 7.7 acres (3.1 hectares) is the maximum area available that will not conflict with Navy operations or create significant environmental effects.

VA has already constructed approximately 7,242 new columbaria within the existing cemetery, which will deplete all suitable available land within cemetery boundaries. Therefore, there are no other land areas, either within or adjacent to Fort Rosecrans National Cemetery, that are available for cemetery expansion. VA has ample experience in designing and constructing burial facilities. NCA has determined the most efficient and acceptable design is a columbarium wall no higher than 7 feet (2.1 meters). The extremely limited land area and operational criteria,



Source: Van Dyke, 2002



Figure 9
Perimeter Fence Relocation



Typical Pilaster Covers



Typical Columbarium Caps

Figure 10
Columbarium Caps and Pilaster Covers

such as distance from existing facilities, led VA to design a columbarium along the property line. This maximizes the number of niches in a design acceptable to veterans and their families. Therefore, there are no other reasonable alternatives that can be evaluated. The No Action Alternative is the only alternative available for consideration in the EA.

2.5 MITIGATION PLAN FRAMEWORK

This section describes the framework for mitigation for the proposed expansion of Fort Rosecrans National Cemetery. The final details for all mitigation measures will be specified in a separately bound Mitigation Plan. The final measures will be based upon review of the final plans and specifications for the cemetery expansion project, including plans for columbarium walls and perimeter fencing.

2.5.1 Construction Mitigation Monitoring

A Mitigation Plan will be developed prior to construction. The plan will outline measures to avoid potential direct and indirect impacts to adjacent sensitive biological resources. These measures will reduce potential impacts to sensitive vegetation and species from runoff, erosion, sedimentation, and unauthorized human trespass to below a level of significance. Resources that will be monitored include but are not limited to plant species, including Orcutt's spineflower, San Diego barrel cactus, Nuttall's scrub oak, and wart-stemmed ceanothus; native habitats, including Diegan coastal sage scrub, southern maritime chaparral, and maritime succulent scrub; migratory birds; and cultural resources.

Specific measures that will be implemented prior to or during construction to reduce potential impacts to sensitive vegetation and species are listed below.

- Prior to construction, the contractor will develop and implement an erosion control plan to ensure that soil and other materials do not travel downslope impacting natural vegetation and resident species during construction. All erosion control features will be installed prior to the initiation of any construction. The resident engineer is prepared and authorized to stop construction if the contractor's measures deviate from those shown on the plan or are insufficient at controlling erosion. The project site will be fully stabilized prior to construction completion and turnover to VA cemetery maintenance staff. In addition, post-construction erosion monitoring will be conducted by cemetery staff to determine whether adverse erosion occurs in response to the new columbaria or perimeter fencing.

-
- Runoff from parking areas and other hardscape areas will not drain directly into the PLER. Minor flow will be directed to inlets with filters for screening prior to entering the PLER and will be directed away from areas with existing erosion problems, the location of sensitive species, and potential relocation areas for sensitive species.
 - Equipment staging and refueling areas will be located in disturbed and developed areas, away from sensitive habitats and natural drainages. If staging areas outside the construction footprint are used, they will be surveyed for biological resources prior to their use.
 - All construction activities, including staging areas, equipment access, and disposal or temporary placement of excess fill, will be prohibited within off-site drainages.
 - Existing roads or disturbed areas will be used to access the project site. If unauthorized new or temporary access routes are determined to be necessary, these areas will be surveyed for biological resources prior to their use. All access routes will be clearly marked (i.e., flagged and/or staked) prior to the onset of construction. No new access routes, on Navy land, will be authorized outside the existing project footprint without prior approval from the Navy.
 - Implementation of standard dust abatement measures and standard construction best management practices (BMPs), such as the use of water trucks or restricting grading during periods of excessive wind velocity, will reduce potential impacts from fugitive dust to below a level of significance.
 - The location of stockpile areas associated with the project site will be delineated on grading plans and reviewed and approved by a biologist.
 - Prior to the initiation of construction activities at the site, a qualified biologist and archaeologist will educate all construction personnel about the sensitive resources on and near the site, the authorized limits of impacts, the ramifications of impacts beyond those authorized, and the monitoring program. The lines of communication during construction will be discussed at this meeting.
 - Prior to any brushing, clearing, or grading at the site, the approved limits of these activities will be clearly delineated by a survey crew with construction fencing or appropriate marking. These limits will be checked by a biologist before the start of any construction activities within the authorized areas. VA will be responsible for mitigation of impacts to sensitive resources beyond those authorized.

-
- The perimeter fencing will prohibit access into the native habitat beyond the fenceline. Signage will be installed at key locations as determined necessary internal to the perimeter fence to avoid potential impacts to the sensitive habitat remaining on-site. The project biologist will determine where signage would be necessary to curtail accidental disturbance from humans.
 - Night lighting is not part of the columbaria construction project. Nighttime construction is not anticipated; however, if it becomes necessary for completion, then lighting will be diverted away from the PLER and adequately shielded.
 - No invasive non-native plant species will be planted adjacent to the PLER. All proposed landscaping shall be reviewed and approved by the project biologist.
 - Ornamental (non-native) plant cuttings will not be located in areas adjacent to the PLER to minimize the possibility they could encroach into the PLER, or that plant fragments or seed could regenerate within the PLER. In addition, efforts will be made to limit the amount of ground disturbance near the PLER so that seeds from invasive non-native species cannot take root. Any future temporary ground disturbance adjacent to the PLER that creates areas of exposed soil should be treated with a native seed mix to encourage the establishment of native species.
 - To avoid indirectly impacting nesting activities of birds covered by the Federal Migratory Bird Treaty Act (MBTA), construction activities will be timed outside the breeding/nesting season for migratory birds (February 1 to August 31). If construction activities must extend beyond February 1 or commence prior to August 31, and the activities adjacent to or within 500 feet (152.4 meters) of the PLER would have noise levels exceeding 60 decibels (A-weighted scale) (dBA), then the need for noise reduction measures (e.g., temporary noise and line-of-sight barriers) will be analyzed and implemented as directed by a biologist. Up to 1 week prior to construction during the breeding season, a qualified biologist will conduct a nest survey to determine the location of any active nests or nesting activity. If an active nest or nesting behavior is observed, construction activities within 500 feet of the active nest that generates noise in excess of 60 dB will cease until nesting activity at that location has been completed, or ambient noise is attenuated to 60 dB or lower. Throughout the nesting season, the biologist will conduct weekly nesting surveys to ensure that no nesting activity is occurring within 500 feet of construction that contributes to ambient noise levels in excess of 60 dB.

-
- To minimize the impact to native habitats, the perimeter fence will not be relocated beyond the edge of the grading limits in the northern portion of Parcel 2. In the southern portion of Parcel 2, the perimeter fence will be relocated as far away as possible from the eastern edge of the expansion parcel to avoid sites determined to be suitable for future relocation of sensitive species. In particular, relocation of the perimeter fence will more closely follow the natural contour lines and minimize impacts to two small drainages leading into the PLER.
 - The removal of vegetation, as needed for perimeter fence installation, will be monitored. Construction of the relocated perimeter fence will be conducted primarily within a 10-foot-(3-meter-) wide zone of construction to minimize indirect effects to vegetation.
 - If a potentially eligible cultural resource is encountered and cannot be avoided, it will be evaluated for eligibility to the National Register of Historic Places. If the resource is determined eligible, mitigation, such as data recovery, will be implemented.

Specific measures that will be implemented to reduce potential impacts to water resources are listed below.

- **Shape Surface.** After construction activities, slopes are commonly left flat, smooth, and often compacted. To reduce sheet flow speeds and improve moisture retention on the slopes adjacent to the construction area, the slope surface will be roughened by hand pitting, imprinting with a shaped roller, and plowed to leave cross-slope ridges and swales. This will minimize the speed of runoff that can lead to gully initiation and severely eroded hillsides downslope from the construction area. All surfaces that slope away from the construction area will be shaped in this manner to minimize the effect of runoff (RECON 2002).
- **Decompaction.** Areas with heavily compacted soils tend to recover very slowly. Surfaces that have been compacted until they are smooth increase the rate of sheet flow and do not provide areas for seed germination. The soil in the construction area will be decompacted by cutting deep rips to facilitate water infiltration during periods of rainfall, seed germination, and rapid root growth. However, since this will also stimulate weed growth, these activities will be followed by exotic weed control activities. Soil decompaction will be accomplished in conjunction with soil shaping (RECON 2002).

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- **Revegetation.** Restoration of bare areas to native habitats as soon as possible helps reduce the chance of erosion. Container plants and seeding techniques such as hydroseeding are critical for long-term erosion control. Taking into account Navy security, the areas that have been graded for columbaria construction will be revegetated with native plants to the fullest extent possible (RECON 2002).
 - **Soil Amendments.** After construction, amendments to soil such as native plant litter, bark chips, and rice straw provide a number of benefits, including increased rainwater infiltration, rainwater retention, and reduced erosion. Bark chips can be produced from the native vegetation that is removed as part of construction. Amendments to the soil will be added after construction in areas where revegetation is not planned to reduce the erosion potential in the soil (RECON 2002).
 - Other erosion control measures, such as riprap, will be used to slow water velocities and minimize erosion resulting from sheet flow from graded areas. This will prevent sedimentation into San Diego Bay as well as general slope degradation and destabilization of the columbarium wall construction site.

2.5.2 Mitigation Measures

PLER Boundary

Because the PLER boundary is coincident with the existing cemetery wall/perimeter fence in the northern portion of Parcel 2, any development in this area will unavoidably affect the PLER that is on VA property in this area. According to the Memorandum of Understanding (MOU), which governs the PLER, no new construction may occur within the PLER. Therefore, a PLER boundary adjustment will be processed by VA to remove the area that is currently within the PLER, which will be needed for columbarium wall construction and relocation of the perimeter fence, and add an equal area to the PLER on VA property that is currently not within the PLER. Only a small portion of the area that will be removed from the PLER supports native habitat; however, the boundary adjustment shall offset the total area to be removed from the PLER. The areas to be added to the PLER have been identified and are discussed in more detail in Section 4.2. The boundary adjustment will be coordinated with the PLER Working Group.

Sensitive Habitats

The impacts to Diegan coastal sage scrub and southern maritime chaparral habitats identified in this EA will be minimized or avoided as part of final project design. If these impacts cannot be avoided, any impact to these sensitive habitats will be mitigated. Per the analyses herein, the impacts to Diegan coastal sage scrub and southern maritime chaparral habitats within Parcel 2 coincide with the current PLER boundary on VA property. Mitigation for these habitats will be located in the PLER on VA property. A description of the mitigation for impacts to native scrub habitats is provided in Section 4.2; additional detail is provided in the Mitigation Plan prepared for this project. A general description is provided below.

Due to the very rare status of southern maritime chaparral habitat, this vegetation community type will be mitigated at a 2:1 ratio, i.e., twice the amount of southern maritime chaparral or equally rare coastal habitat on VA property will be preserved. A similarly rare habitat on the western side of VA property is maritime succulent scrub. An area that supports southern maritime chaparral in Parcel 1 is suitable for use as mitigation and will be preserved to partially offset the total area required for impacts to this resource. The remaining mitigation area will be satisfied by preserving maritime succulent scrub on the western side of VA property.

Mitigation for impacts to Diegan coastal sage scrub will be mitigated at a 1:1 ratio, i.e., an equal amount of this habitat type will be preserved. Mitigation for the Diegan coastal sage scrub will be located on the western side of VA property.

In addition to the project's impacts to southern maritime chaparral and Diegan coastal sage scrub, areas of disturbed habitat will be affected. Where these impacts occur outside of the existing PLER boundary, no mitigation is required. However, where impacts to disturbed habitat would occur within the existing PLER boundary, loss of this area will be offset by adding an equal area to the PLER on VA property as noted above. Currently disturbed areas will be used as part of the boundary adjustment; however, these areas that will be added to the PLER will be designated in the Mitigation Plan for future enhancement activities within the scope of VA's overall long-term management of the PLER within their property. Suitable restoration measures will include the removal of iceplant and the subsequent enhancement of those areas. The habitat restoration plan for these areas is further described in the Mitigation Plan to be prepared for this project, including methods to be employed and parties responsible for the restoration process. Native plants from Point Loma that are representative of adjacent native habitats will be used for the restoration project.

Orcutt's Spineflower

The project will not affect the population of Orcutt's spineflower (*Chorizanthe orcuttiana*) that occurs approximately 500 feet (152.4 meters) north of Parcel 2. Suitable habitat for this very rare plant species (i.e., openings within the southern maritime chaparral) occurs east of the proposed development (see Section 3.2). The perimeter fence will be relocated outside of the native habitat to avoid impacts to suitable habitat from the installation of the fence. Specifically, the fence will be located at least 25 to 50 feet (7.6 to 15.2 meters) upslope of the suitable areas to avoid impacts to areas that may be useful for future recovery efforts for this species.

2.6 SUMMARY OF ENVIRONMENTAL EFFECTS

Based on the environmental analysis in Chapter 4 of this EA, the Proposed Action will result in the following impacts to each of the environmental characteristics considered (Table 2). The No Action Alternative will avoid all potential adverse environmental impacts.

Table 2
Environmental Impacts of the Proposed Action

Environmental Issue Areas	Potential Impact			
	Severe	Moderate	Slight	None
Land Use				X
Biological Resources		X		
Cultural Resources				X
Visual Resources			X	
Socioeconomics				X
Environmental Justice				X
Noise			X	
Air Quality			X	
Water Resources			X	
Geology and Soils		X		
Transportation				X
Health and Safety				X

CHAPTER 3.0

AFFECTED ENVIRONMENT

This chapter discusses existing environmental conditions in the project area that would affect and/or be affected by the Proposed Action and the No Action Alternative.

3.1 LAND USE

Naval Base Point Loma

The Fort Rosecrans National Cemetery is a 71.3-acre (28.9-hectare) site located in the center of the Point Loma peninsula. The Navy is the primary occupant of the Federal land on the Point Loma peninsula. Three of the major tenant command complexes of NBPL occupy most of the land on the southern half of the peninsula: Submarine Base, San Diego; Space and Naval Warfare Systems Center (SSC), San Diego; and Fleet Combat Training Center Pacific. The other major tenant command in the area is the Fleet Anti-Submarine Warfare Training Center, Pacific. The northern half of the Point Loma peninsula is occupied primarily by residential neighborhoods and parks and Point Loma Nazarene University. The 71.3 acres (28.9 hectares) currently known as the Fort Rosecrans National Cemetery lies within the Federal land withdrawal held by the Navy for military purposes. The National Cemetery Act of 1973 transferred responsibility for this approximately 71.3 acres (28.9 hectares) to VA.

Department of Veterans Affairs (Fort Rosecrans National Cemetery)

VA maintains the Fort Rosecrans National Cemetery on Point Loma. The western portion of the cemetery is bordered by SSC to the north, west, and south. The eastern portion of the cemetery is bordered by Submarine Base, San Diego to the north, east, and south. A portion of SSC borders this portion of the cemetery to the south as well. A private residence, occupied by the cemetery director, is located within the cemetery boundaries. A portion of the PLER (approximately 640 acres [259 hectares] total on the Point Loma peninsula) coincides with the cemetery property and lies adjacent to or within 150 feet (45.7 meters) of the existing cemetery facilities (Figure 11). The area of the PLER within the cemetery's property is 3.9 acres (1.6 hectares), including the area within the four expansion parcels. The PLER was designed to protect viable sensitive biological communities and to ensure the long-term protection and perpetuation of these resources on Point Loma. The PLER is intended to serve as long-term in-

place mitigation to allow the agencies involved to meet their missions while complying with environmental regulations. The PLER was established through joint discussions and agreements between the U.S. Navy, the U.S. Fish and Wildlife Service (USFWS), the National Park Service (NPS), the U.S. Coast Guard, and the City of San Diego. In 1995, the Federal landowners on Point Loma (including VA), the City of San Diego, and USFWS signed an MOU to implement the Point Loma Natural Resources Management Plan (PLNRMP). The primary objective of this plan was the establishment of the PLER. The MOU established certain policies for the long-term preservation of the PLER and established a Reserve Working Group made up of one representative from each of the signatories to the MOU and SWDIV, to regularly address management issues. The Reserve Working Group has designated a Navy and an NPS co chairperson to be responsible for implementing the management guidelines set forth in the PLNRMP and the MOU.

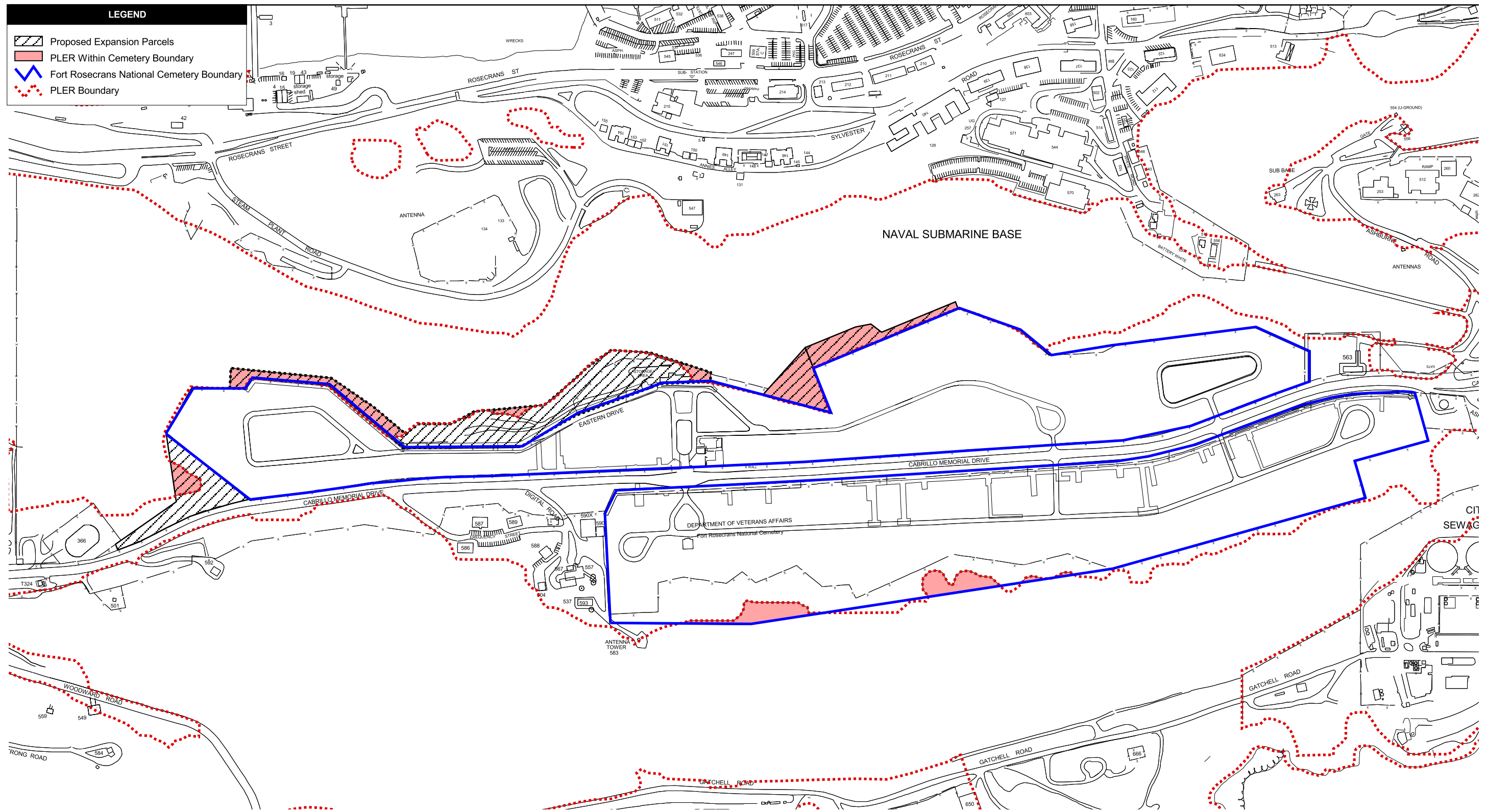
Other Agencies

Several other agencies or jurisdictions are represented on the Point Loma peninsula, including the U.S. Coast Guard (Ballast Point Coast Guard Station), NPS (Cabrillo National Monument), City of San Diego (Point Loma Wastewater Treatment Plant), California Department of Transportation (Caltrans) (State Route 209/Cabrillo Memorial Drive), and the University of California (Scripps Institute of Oceanography).

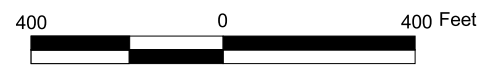
Coastal Zone Management Issues

Point Loma is within the California coastal zone. In accordance with the Federal Coastal Zone Management Act of 1972, as amended, Section 307(c)(1), Federal agencies must make a determination of consistency with the local (i.e., state) coastal program prior to approving an action that could affect the coastal zone. Chapter 3 of the California Coastal Act of 1976, as amended January 1992, contains the applicable guideline for determining the consistency of Federal actions.

Chapter 3 of the Act addresses public access, recreation, marine environment, land resources, development, and industrial development. With regard to access, Chapter 3 specifically notes that public access shall be provided except where, “it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources” [30212(a)]. Public access is currently provided to the project site for restricted cemetery uses. No coastal access or recreational opportunities currently exist on the project site.



Source: Van Dyke, 2002



Scale: 1 : 4,800; 1 inch = 400 feet

Figure 11
PLER Within Cemetery Boundary

Fort Rosecrans National Cemetery Expansion

GIS\2K030\APR\pler_within_cemetery_boundary.apr SP83f F6 (A.Wall) 11/9/02

The project site is within the area addressed in the Peninsula Local Coastal Program Land Use Plan, which is contained within the City of San Diego's *Peninsula Community Plan* (City of San Diego 1987). Although the Local Coastal Program can be used to provide guidance for interpreting the California Coastal Act, Federal consistency determinations must be made based on the provisions of Chapter 3 of the Act.

3.2 BIOLOGICAL RESOURCES

Introduction

The existing eastern cemetery boundary lies immediately adjacent to, or within 150 feet (45.7 meters) of a portion of the PLER. The PLER supports rare biological resources that are found in few other locations in southern California.

This section describes biological resources located within or adjacent to the VA expansion area. Information on existing and potential biological resources is derived from site visits as well as documents, including the *Recovery and Management of Orcutt's Spineflower (Chorizanthe orcuttiana) Final Report* (Bauder 2000), the *Point Loma Naval Complex Master Plan* (Ogden 1987), and the *Final Naval Base Point Loma Integrated Natural Resources Management Plan* (RECON 2002).

Nomenclature for the vegetation types follows that of Holland (1986) and Oberbauer (1996). Plant species names follow Hickman (1993) and Simpson et al. (1996). Scientific nomenclature for wildlife used throughout this report conforms to Laudenslayer et al. (1991) for amphibians, reptiles, birds, and mammals.

Existing Conditions

Field surveys were conducted within the project study area, which includes the proposed land transfer areas, and a 500-foot (152.4-meter) buffer surrounding the proposed expansion areas. The objective of the field surveys was to map the vegetation communities, evaluate the suitability of the project area for the Federally listed endangered Orcutt's spineflower (*Chorizanthe orcuttiana*), and to determine whether the Federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*) nested within or adjacent to the project site. General information on the biological resources in the study area was reviewed also. The field survey dates are listed in Table 3.

Table 3
Survey Dates for the Fort Rosecrans National Cemetery Expansion

Survey Date	Field Personnel	Type of Survey
March 27, 2002	John Messina, Paula Jacks, Ellen Bauder	Vegetation mapping and survey for Orcutt's spineflower within the expansion parcels
April 19, 2002	Lyndon Quon	Focused coastal California gnatcatcher survey and general wildlife reconnaissance
May 3, 2002	Lyndon Quon	Focused coastal California gnatcatcher survey and general wildlife reconnaissance
May 10, 2002	Lyndon Quon	Focused coastal California gnatcatcher survey and general wildlife reconnaissance
May 17, 2002	Lyndon Quon	Focused coastal California gnatcatcher survey and general wildlife reconnaissance
May 24, 2002	Lyndon Quon	Focused coastal California gnatcatcher survey and general wildlife reconnaissance
June 1, 2002	Lyndon Quon	Focused coastal California gnatcatcher survey and general wildlife reconnaissance
August 17, 2002	John Messina, Jim Prine	Vegetation mapping along a portion of the western side of the cemetery property.

Vegetation/Land Cover Types

The four land parcels that were withdrawn by VA, the vegetation communities, and the boundary of the PLER within and surrounding these parcels are depicted in Figure 12. Within and/or immediately adjacent to the land transfer area are three vegetation communities: Diegan coastal sage scrub (some of which is disturbed), southern maritime chaparral (some of which is disturbed), and disturbed habitat. In addition, there is an area devoid of vegetation on Parcel 2 where soil has been stockpiled; this area is identified as a fill area. Approximately 35 percent of the land transferred is within the PLER. Table 4 is a summary of the vegetation communities within the land transfer area per parcel and indicates whether the land is within or outside of the PLER. The vegetation map is a composite of the mapping conducted within the project study area and information from the NDPL Integrated Natural Resources Management Plan (INRMP) (RECON 2002).

Diegan coastal sage scrub is a low-growing, shrub-dominated community that occurs on dry sites such as steep, south-facing slopes or clay soils. This community is dominated by drought-deciduous shrub species. California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), and black sage (*Salvia mellifera*) are the most common species within this community adjacent to the cemetery.



Source: Van Dyke, 2002



400 0 400 Feet

Scale: 1 : 4,800; 1 inch = 400 feet

Figure 12
Biological Resources Map

Table 4
Federal Land Withdrawal Relinquished by the Navy to BLM for Reassignment

	Parcel 1 Area square feet (meters)			Parcel 2 Area square feet (meters)			Parcel 3 Area square feet (meters)			Parcel 4 Area square feet (meters)			All Parcels Area square feet (meters)		
Vegetation Community	inside PLER	outside PLER	Parcel Total	inside PLER	outside PLER	Parcel Total	inside PLER	outside PLER	Parcel Total	inside PLER	outside PLER	Parcel Total	inside PLER	outside PLER	Parcel Total
Southern Maritime Chaparral	7,196 (669)	14,690 (1,365)	21,886 (2,033)	13,183 (1,225)	1,062 (99)	14,245 (1,323)	33,766 (3,137)	–	33,766 (3,137)	25,477 (2,367)	–	25,477 (2,367)	79,622 (7,397)	15,752 (1,463)	95,374 (8,860)
Southern Maritime Chaparral Disturbed	2,741 (255)	19,450 (1,807)	22,191 (2,062)	–	–	–	–	–	–	–	–	–	2,741 (255)	19,450 (1,807)	22,191 (2,062)
Diegan Coastal Sage Scrub	–	–	–	4,714 (438)	1,553 (144)	6,267 (582)	–	–	–	2,385 (222)	–	2,385 (222)	7,099 (660)	1,553 (144)	8,652 (804)
Diegan Coastal Sage Scrub Disturbed	344 (32)	–	344 (32)	–	–	–	–	–	–	–	–	–	344 (32)	–	344 (32)
Disturbed Habitat	–	32,989 (3,065)	32,989 (3,065)	20,607 (1,914)	109,616 (10,183)	130,223 (12,098)	135 (13)	–	135 (13)	7,537 (700)	–	7,537 (700)	28,279 (2,627)	142,605 (13,248)	170,884 (15,876)
Fill/Stockpile	–	–	–	3,948 (367)	42,252 (3,925)	46,200 (4,292)	–	–	–	–	–	–	3,948 (367)	42,252 (3,925)	46,200 (4,292)
Total	10,281 (955)	67,129 (6,236)	77,410 (7,192)	42,452 (3,944)	154,483 (14,352)	196,935 (18,296)	33,901 (3,150)	–	33,901 (3,150)	35,399 (3,289)	–	35,399 (3,289)	122,033 (11,337)	221,612 (20,588)	343,645 (31,926)

Southern maritime chaparral is a shrub-dominated community that occurs on weathered sandstone formations within the coastal fog belt. In San Diego County it is restricted to relatively few locations. Chamise (*Adenostoma fasciculatum*), black sage, lemonadeberry (*Rhus integrifolia*), toyon (*Heteromeles arbutifolia*), wart-stemmed ceanothus (*Ceanothus verrucosus*), and Nuttall's scrub oak (*Quercus dumosa*) are the most common species within this community adjacent to the cemetery. There are also two areas, immediately adjacent to the northern portion of the project area, where a southern maritime chaparral revegetation project has been implemented and is being maintained by the Soil Ecology and Restoration Group of San Diego State University.

Disturbed habitat is located between the cemetery and the PLER in Parcels 1 and 2 and is within the PLER in Parcels 2, 3, and 4. Based on field evidence, past clearing activities and the addition of fill material associated with the cemetery's original construction have resulted in the disturbed areas as depicted in Figure 12. Relatively recent clearing activities have occurred immediately adjacent to the cemetery (see also Section 3.2). In these areas, very little vegetation remains; however, the ground cover prior to the clearing activities can be deduced from the vegetative stumps remaining (some of which were resprouting), the branches and litter in-place, slash piles adjacent to the cleared areas, and vegetation inside of the cemetery boundary. Based on this field evidence, the areas of disturbed habitat closest to the cemetery boundary were mostly comprised of large ornamental trees and shrubs such as acacias, pines, and myoporum. An aerial image used for the field assessment shows a larger pattern of disturbance that approximates the area mapped for the project. However, a swath of vegetative cover (approximately 60 to 70 feet [18.3 to 21.3 meters] wide) is shown intact immediately adjacent to the cemetery in the central portion of Parcel 2. This area was cleared of vegetation sometime before the field assessment. The swath of vegetative cover on the aerial image is characterized by a signature, or pattern, that is similar to the signature or pattern within the cemetery boundaries that coincide with dense stands of ornamental vegetation. The recent clearing was a combination of activities conducted by VA (i.e., clearing immediately adjacent to the cemetery between the old concrete cemetery wall and the perimeter fence, and clearing along the eastern side of the perimeter fence for security purposes).

Other areas of disturbance occurred many years ago based on the thick cover of iceplant, or hottentot fig (*Carpobrotus edulis*). These areas of older disturbance are generally downslope of the cemetery boundary, or, in Parcel 2, outside of VA's storage or maintenance yard. As noted above, the larger area of disturbed habitat was already present on the aerial image, and it is

estimated that the larger area of disturbed habitat is the result of activities that have been ongoing for many years since VA has occupied the land.

In addition to the areas of disturbed habitat, one large area of fill was noted and mapped in Figure 12. This fill material is used as part of ongoing cemetery maintenance activity; it is not associated with fill to be used as part of the columbarium construction project.

Wildlife

A total of 1 reptile, 31 birds, and 1 mammal were observed during the course of the focused coastal California gnatcatcher and general wildlife survey (Appendix A). Not all of these species were observed within the expansion parcels. Most were observed within the adjacent off-site habitats within the PLER as the wildlife surveys were conducted within habitats within 500 feet (152.4 meters) of the Proposed Action (to assess potential indirect impacts to wildlife).

Sensitive Resources

Rare Habitats

Rare habitats are those that are considered uncommon in the region, support sensitive or rare plants or animals, or receive regulatory protection. In addition, the California Department of Fish and Game's (CDFG's) Natural Diversity Data Base (NDDDB) (2000) has designated a number of communities as rare; these communities are given the highest inventory priority (Holland 1986). Two rare habitats are within and/or immediately adjacent to the project area: Diegan coastal sage scrub and southern maritime chaparral.

Sensitive Species

On August 8, 2002, a letter was written to the USFWS requesting information on the potential presence of federally threatened, endangered, or proposed species at the proposed project site. In response to that request, USFWS provided a list of the candidate, proposed, threatened, or endangered species that occur in the general project area. The list provided by USFWS included the coastal California gnatcatcher, Orcutt's spineflower, and San Diego ambrosia (*Ambrosia pumila*) (see Appendix B). After receipt of the letter, further discussion with the USFWS indicated that the inclusion of San Diego ambrosia on their list was an error. The following discussion on Orcutt's spineflower and coastal California gnatcatcher, together with the analysis

of impacts in Section 4, will be used as part of the informal consultation process with USFWS to determine if the Proposed Action is “likely to adversely affect” listed species.

Plants

Sensitive plant species are those that are state or Federally listed (CDFG 2002a; USFWS 1999) or occur on the *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2001). There are 24 sensitive plant species reported from the NBPL (RECON 2002). These species, together with their regulatory status, habitat affinity and potential for occurrence on-site, are presented in Appendix C. Two sensitive plant species, Nuttall’s scrub oak and wart-stemmed ceanothus, were observed within the expansion area (Figure 12). Several individuals of wart-stemmed ceanothus occur within Parcels 1 and 2, and additional individuals occur immediately outside of these parcels. The Nuttall’s scrub oak population straddles the boundary of Parcel 3 with approximately one-half of the population occurring within the parcel. A third species, San Diego barrel cactus (*Ferocactus viridescens*), was observed immediately adjacent to Parcel 2 (Figure 12). Nuttall’s scrub oak is a California Native Plant Society (CNPS) List 1B species. The San Diego barrel cactus and wart-stemmed ceanothus are both CNPS List 2 species. In addition, two other sensitive plant species, Orcutt’s spineflower and cliff spurge (*Euphorbia misera*), are known from the PLER downslope of the expansion parcels, between Cabrillo Memorial Drive and Steam Plant Road. One of the known populations of Orcutt’s spineflower was visited to determine the phenological stage of this plant to facilitate detection of this species during the survey. The cliff spurge was not observed during the survey, but its presence is noted in the INRMP for NBPL. These species are briefly described below.

Orcutt’s spineflower is a Federally and state listed endangered species. This species is extremely rare in that it is currently known from only three extant locations, two of which are on the NBPL. One of the populations known for Point Loma occurs approximately 350 feet (106.7 meters) to the north of Parcel 2 (Figure 12). Seeds from this annual species will germinate in the fall or winter after sufficient rains and produce a basal rosette of leaves that is typically less than 1 inch (2 centimeters) in diameter. These basal rosettes will produce open-branched inflorescences in the spring, which will form fruits by late spring. The breeding system is unknown. Verified occurrences of this species indicate it is associated with sandy soils developed from eroded coastal cliffs and old beach ridges (Bauder 2000). These areas may occur as sandy openings within sage scrub and chaparral communities and are so fragile that even relatively minor disturbances such as limited foot-traffic can result in major impacts to this species. Because little is known about the biology of this species, it is difficult to make management decisions about the

remaining populations, or plan for recovery measures that may reduce the jeopardy facing this species. Due to rapid development in the coastal areas of San Diego County in the past several decades; however, it can be documented that few suitable eroded cliffs and old beach ridges remain in the area for this species to occur within (Bauder 2000). Therefore, all suitable openings remaining in the county must be viewed as potentially important areas for the future recovery of Orcutt's spineflower.

Orcutt's spineflower has a low potential for occurring within the native habitat within the lands transferred to VA. In particular, on March 27, 2002, the population nearest the transfer parcels, which occurs within an opening in southern maritime chaparral, was observed and had produced open-branched inflorescences on many individual plants. All similar areas within the transfer parcels and areas immediately adjacent to the parcels were surveyed for this species. These areas were also assessed for their suitability for supporting this species. Areas that do not support Orcutt's spineflower, yet are characterized by the physical features associated with this species, may be useful as a "recipient" site for the introduction of seed of this species if future research and recommendations for recovery efforts determine that this method is appropriate. Within the transfer parcels, no suitable openings within the native scrub habitat, or other areas with appropriately loose sandy soil substrate were observed. However, several small sites located adjacent to and farther downslope of the central portion of Parcel 2 were identified as potentially suitable for supporting Orcutt's spineflower (Figure 12). These areas were characterized by sandy soils; however, the sand was relatively more compacted than the substrate underlying the nearby population.

Nuttall's scrub oak is a small tree/large shrub that is generally restricted to sandstone formations within the coastal fog belt, usually in maritime chaparral communities. Approximately 30 to 40 individuals were observed along a north-facing slope within and adjacent to Parcel 3. Additional individuals are likely to occur within the southern maritime chaparral adjacent to the project study area.

Wart-stemmed ceanothus is an evergreen shrub species that is a common component of maritime and mixed chaparral communities within San Diego. This species was observed within and adjacent to Parcels 1 and 2. Additional individuals are likely to occur within the southern maritime chaparral adjacent to the project study area.

San Diego barrel cactus occurs on dry sandy or rocky slopes within sage scrub, maritime chaparral, and maritime succulent scrub communities. A total of nine individuals were observed immediately adjacent to Parcel 2. Additional individuals are likely to occur immediately adjacent to the project study area.

Cliff spurge is a CNPS List 2 shrub species that occurs on coastal bluff, sage scrub, and maritime chaparral habitats immediately along the southern California coast. Though not observed, this species is documented in the INRMP (RECON 2002) as occurring generally in the area downslope of the southern portion of Parcel 2 and Steam Plant Road.

In addition to the six species noted above, another 19 sensitive plant species are documented from the NBPL (RECON 2002). Appendix C lists these species. Two of these species have a moderate potential for occurrence within the land transfer area; and another two have a low potential for occurrence. The remaining 15 species would not be expected to occur in the project vicinity due to a lack of suitable habitat, nondetection during surveys, or lack of historical occurrence records.

Animals

Sensitive animal species are those that are listed as threatened or endangered by USFWS (1999) and CDFG (2002b), or are considered fully protected species or species of special concern by CDFG (2002c), and/or are protected by the Federal MBTA. A total of 69 sensitive wildlife species are known to occur in the vicinity of the Point Loma peninsula (RECON 2002). However, the proposed expansion area encompasses only a subset of the habitats within the region, and therefore fewer sensitive wildlife species have the potential to occur on-site. In particular, there are several sensitive wildlife species that are strongly associated with aquatic, shoreline, and riparian habitats that do not occur within the proposed expansion area. These species were not considered under this analysis.

A total of 46 sensitive wildlife species were either observed or have the potential to occur within the expansion area. These species, together with their regulatory status, habitat affinity, and potential for occurrence on-site, are presented in Appendix C. Three of these species, the southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), great blue heron (*Ardea herodias*), and golden eagle (*Aquila chrysaetos*), were observed on-site during project surveys. The southern California rufous-crowned sparrow is considered a Species of Special Concern by CDFG. One rufous-crowned sparrow was observed foraging in the southern

maritime chaparral at the edge of the existing cemetery boundary along the boundary of Parcel 3 (Figure 12). CDFG also considers the great blue heron to be a Sensitive Animal at rookery sites. Three great blue herons were observed flying over the project site during the course of the project surveys. The golden eagle is protected at the Federal level by the Bald Eagle Protection Act and is also considered a Species of Special Concern by CDFG. One golden eagle was observed perching on a pole at the north end of the study area.

Suitable habitat for the Federally listed threatened coastal California gnatcatcher consists of coastal sage scrub and adjacent upland and wetland scrub habitats. Since habitats suitable for the species occur within the study area, focused surveys for the coastal California gnatcatcher were conducted for this project. The surveys followed the current USFWS protocol for the species and were conducted from April 19 through June 1, 2002. No coastal California gnatcatchers were observed or detected during the presence/absence surveys of the study area; therefore, it is concluded that the species does not currently occupy the site.

Additionally, the Federal MBTA provides legal protection for almost all breeding bird species occurring in the United States and therefore affords protection to the bird species nesting within the study area. The MBTA restricts the killing, taking, collecting, and selling or purchasing of native bird species or their parts, nests, or eggs. Certain game bird species are allowed to be hunted for specific periods determined by Federal and state governments. The intent of the MBTA is to eliminate any commercial market for migratory birds, feathers, or bird parts, especially for eagles and other birds of prey.

Wildlife Movement Corridors and Habitat Linkages

In an urban context, a wildlife corridor can be defined as a linear landscape feature of sufficient width and buffer to allow animal movement between two patches of comparatively undisturbed habitat, or between a patch of habitat and some vital resources. Regional corridors are defined as those linking two or more large areas of natural open space, and local corridors are defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development.

Habitat linkages can be defined as large areas of natural open space that provide connectivity to regional biological resources. These linkages are not narrow corridors through which wildlife species must pass to access critical resources. Rather, habitat linkages are wide enough to allow relatively free movement of wildlife species along multiple paths between resources.

Wildlife corridors and habitat linkages are essential in geographically diverse settings, and especially in urban settings, for the sustenance of healthy and genetically diverse animal communities. At a minimum, they promote colonization of habitat and genetic variability by connecting fragments of like habitat, and they help sustain individual species distributed in and among habitat fragments. Habitat fragments, by definition, are separated by otherwise foreign or inhospitable habitats, such as urban/suburban tracts. Isolation of populations can have many harmful effects and may contribute significantly to local species extinction.

Due to the isolated nature of the Point Loma peninsula, the natural habitats within the Fort Rosecrans National Cemetery do not function as a regional wildlife movement corridor. Although wildlife species have the potential to move into and out of the habitats on the peninsula, the relative isolation due to urban development to the north, and natural barrier to terrestrial movement along the bay and ocean interfaces, prevent the area from being a viable regional corridor for a wide range of species. Additionally, the peninsula was not identified as a primary landscape linkage in a wildlife habitat linkage analysis of California conducted by the California Wilderness Coalition (CWC 2001). However, in terms of local, on-site wildlife movement, the peninsula likely supports several corridors and linkages. In a local context, movement corridors and linkages typically consist of vegetated drainages that provide protective cover and forage for wildlife species, thereby enhancing the genetic variability throughout the peninsula.

3.3 CULTURAL RESOURCES

Fort Rosecrans National Cemetery is located atop the ridge that forms the backbone of the Point Loma peninsula. A series of eroding ridges are on either side of the property. Earlier cultural resources surveys indicate that the construction of the cemetery and Cabrillo Memorial Drive probably encroached on three archaeological sites on the western side of the cemetery (Flower and Roth 1982; Apple and Van Wormer 1995a). Sites CA-SDI-13,874 and CA-SDI-13,875 are believed to be large habitation sites, while CA-SDI-13,876 is a low density lithic and shell scatter. A partially buried prehistoric site (CA-SDI-10,943) is recorded at the northeastern edge of the cemetery. The site consists of a midden with marine shell and lithics. Based on a shovel testing program, the site was evaluated and recommended not eligible due to a loss of integrity from the construction of the cemetery perimeter wall (Smith 1988). A subsequent survey in 1995 (Hardlines 1995) indicated that intact parts of the site may exist. The survey suggested that portions of the site are potentially eligible for the National Register of Historic Places under

criterion d. Portions of CA-SDI-10,943 may have been covered by construction of the cemetery retaining wall (Yatsko 2002).

Previous surveys of Point Loma (Flower and Roth 1982; Apple and Van Wormer 1995b; Hardlines 1995) did not identify any cultural resources within the project limits. On the eastern side of the cemetery, where Parcel 2 is located, the land drops off sharply in most areas. During a reconnaissance of the few remaining flat, or gently sloping areas, no cultural resources were observed.

3.4 VISUAL RESOURCES

The cemetery is located in a scenic area on the ridge of Point Loma, with panoramic views of San Diego Bay to the east and the Pacific Ocean to the west. The area surrounding the cemetery is set aside for military use. The existing cemetery facilities are well integrated into the landscape of Point Loma. VA has no scenic designations for the cemetery.

The project site is clearly visible to drivers along Cabrillo Memorial Drive. Cabrillo Memorial Drive is eligible for designation as a scenic highway under the California Scenic Highway Program and it is identified in the *Point Loma Naval Complex Master Plan Update* (U.S. Navy 1987) as a “public visibility corridor.” This designation acknowledges the attractive ocean and bay vistas available to viewers along this road. This corridor is heavily used by visitors to the cemetery, Cabrillo National Monument, and the Cabrillo tide pools, and by Navy personnel. In 2001, over one million people visited the national monument (NPS 2002). Most visitors come by car or bus. The average daily traffic (ADT) for 2000 was 6,400 (Caltrans 2001). A substantial number of people also walk, jog, and bicycle along the road. Their slower rate of speed provides more time to enjoy the available views. These numbers indicate a high number of people passing the site, many at a slow rate of speed, purposefully seeking a scenic experience. The nearest residents are located over 1 mile (1.6 kilometers) to the north. Point Loma Nazarene University is located on the western hillside of Point Loma, with the closest building approximately 2 miles (3.2 kilometers) north and west of the site. There are no views of the cemetery from the university due to intervening topography and buildings.

3.5 SOCIOECONOMICS

The project site is located within the City of San Diego in San Diego County. Baseline socioeconomic information regarding the county is maintained by the San Diego Association of

Governments (SANDAG). According to SANDAG (2001a), the population of San Diego County in April 2000 was approximately 2,813,833, with 1,241,258 persons employed (SANDAG 2001b).

There is one private residence located approximately 200 feet (60 meters) from one of the proposed expansion parcels. This residence is occupied by the cemetery director. There are no local businesses in or adjacent to the proposed expansion parcels. There are no established residential communities or planned developments on, or adjacent to, the proposed expansion areas.

3.6 ENVIRONMENTAL JUSTICE

Environmental Justice Executive Order (E.O. 12898) states that:

“Each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”

There is one private residence located approximately 200 feet (60 meters) from one of the proposed expansion parcels. This residence is occupied by the cemetery director. There are no local businesses in the immediate vicinity of the proposed expansion. According to Census 2000 data, no minority or low-income populations reside in the Point Loma area in the vicinity of the cemetery.

3.7 NOISE

Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance and, in the extreme, hearing impairment. The unit employed for noise measurements is the dBA. Typical sounds range from 40 dBA (very quiet) to 100 dBA (very loud). Conversation is roughly 60 dBA at 3 feet (1 meter). Most noise impacts are evaluated using a 1-hour or 24-hour average noise level. In this EA, the 1-hour average noise level, L_{eq} , is used.

Roadway traffic along Cabrillo Memorial Drive (State Route 209) and aircraft taking off and landing at Naval Air Station North Island constitute the primary source of ambient noise in the

area. The ADT volume on Cabrillo Memorial Drive is 6,400 vehicles (Caltrans 2002). The peak hour traffic volume is approximately 1,000 vehicles per hour and consists generally of automobiles, with occasional bus or truck traffic. Low levels of traffic noise ranging from 60 to 65 dBA, can be heard on the site from the roadway. The aircraft takeoffs and landings are more infrequent, but they are still relatively constant. Maintenance activities in the area (e.g., lawn mowing and leaf blowing) also add to the existing noise level.

Noise sensitive receptors are generally considered to be human activities or land uses that may be subject to the stress of significant interference from noise. Land uses that are associated with sensitive receptors often include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, education facilities, and libraries. Cemeteries are not normally considered noise sensitive. The nearest sensitive human receptors to the Proposed Action site are at the private residence located on the cemetery grounds, approximately 200 feet (61 meters) from the proposed project site, and 50 feet (15.2 meters) from Cabrillo Memorial Drive. The nearest other sensitive human receptors are located over 1 mile away.

In general, people can only perceive a 3 dBA or greater difference in noise levels; differences of 2 to 3 dBA may sometimes be perceived by people trained or experienced with sound or noise measurement.

Noise sensitive receptors may also include wildlife. There are no noise sensitive wildlife species on or adjacent to the project site.

3.8 AIR QUALITY

San Diego's Mediterranean climate has mild and fairly uniform temperatures throughout the year. The predominant wind pattern is from the northwest across the Pacific Ocean, with occasional Santa Ana winds from the east. The relatively low rainfall is approximately 10 inches (25.4 centimeters) per year.

National Ambient Air Quality Standards (NAAQS) have been established for sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter equal to or less than 10 microns in size (PM₁₀), fine particulate matter equal to or less than 2.5 microns in size (PM_{2.5}), and lead (Pb). The State of California has also established ambient air quality standards; the state standards are generally more stringent than the corresponding Federal standards. Specific geographic areas are classified under the Federal Clean Air Act as either

“attainment” or “nonattainment” for each pollutant, based on conformance with or violation of the NAAQS. Fort Rosecrans National Cemetery is located within the San Diego Air Basin, a “serious” nonattainment area for O₃ and a maintenance area for CO.

The General Conformity Rule (40 CFR, Parts 51 and 93) requires any Federal agency responsible for an action to determine if its action conforms to guidelines and regulations of the pertinent Federal or State Implementation Plan. The General Conformity Rule applies to actions that generate emissions in nonattainment or maintenance areas. Therefore, the General Conformity Rule is applicable to the Proposed Action.

3.9 WATER RESOURCES

The unique topography of the Point Loma peninsula creates distinct watershed areas on both the bay and ocean sides. The rugged terrain is dissected by numerous natural drainage ways that channel runoff to sea level. This system is supplemented by concrete flumes, where necessary, to control erosion or to alter the natural drainage pattern. Most of Point Loma is not located over a usable groundwater basin. The underlying bedrock is considered to be nonwaterbearing. The overlying surficial Linda Vista Formation that caps the peninsula along the ridge is coarse grained and is capable of storing and transmitting groundwater. However, due to its location on the top of the peninsula, little or no groundwater is expected to be present (Ogden 1987).

There are no natural watercourses or blue line streams within the cemetery. The nearest water bodies to the proposed cemetery expansion area are San Diego Bay and the Pacific Ocean, which are located approximately 0.25 mile (0.4 kilometer) to the east and west of VA property, respectively. The City of San Diego is the major water supplier and a City reservoir is located on Catalina Boulevard north of the cemetery. A large potable water reservoir is located north of the cemetery on the east side of Cabrillo Memorial Drive. The Proposed Action areas are not within any wetland areas or 100-year and 500-year floodplains based on mapping provided by the Federal Emergency Management Agency.

3.10 GEOLOGY AND SOILS

Point Loma is situated within the Peninsular Ranges Geomorphic Province, which consists essentially of north-south trending mountain ranges and associated valleys with a belt of marine terraces along the coast. The rugged terrain of Point Loma is dissected by numerous natural drainage ways and canyons, and slopes of 40 to 75 percent are common. On the west coast of

the peninsula, the land slopes up from the Pacific Ocean, exposing rugged coastline with small beaches and eroded sandstone cliffs. The slope extends gradually and then increases rapidly to the peninsula ridges, which average 350 feet (106.7 meters) above sea level (Ogden 1987).

The City of San Diego conducted a Seismic Safety Study that identified known or highly suspected landslide areas on the Point Loma peninsula. One major landslide, called the Fort Rosecrans landslide, was identified to the east of the project site (Figure 13). This landslide area is within approximately 125 feet (38.1 meters) of the project site. This landslide extends offshore into San Diego Bay and is susceptible to erosion at the toe of the slide or from dredging. It is considered to be marginally stable, although no offsets have been noticed since about 1967. Secondary slides to the west (above) have lost support due to the main slide. The probability of reactivation of these secondary slides is considered high. Water infiltration as a result of irrigation at the cemetery has been postulated as a factor in the first slide action (Ogden 1987).

No known faults cross the project site. The closest known faults include the Point Loma Fault and the Fort Rosecrans Fault. The Point Loma Fault is located approximately 2,000 feet to the east of the site and traverses Point Loma along Nimitz Boulevard. The Fort Rosecrans Fault consists of a series of step-faults running along the Point Loma Ridge from north of NBPL to the hillside above Ballast Point; some of these faults do pass through the existing cemetery (Figure 13). One of the most critical areas of the Fort Rosecrans Fault occurs where it passes near the Fort Rosecrans landslide area (Ogden 1987).

Two additional nearby known faults are the La Nacion Fault and the Rose Canyon Fault, both dissecting the San Diego metropolitan area. The La Nacion Fault is approximately 10 miles east of the project site, while the Rose Canyon Fault zone is approximately 5 miles north of the project site (Ogden 1987). These faults have not been active within historic time (within the Holocene period, over the last 10,000 years).

Because of its proximity to the Point Loma Fault and the Fort Rosecrans Fault, the project site will likely be subjected to strong seismic shaking in the event of a major earthquake. A major seismic event (6.2 on the Richter scale) could reasonably be expected in the San Diego metropolitan area every 100 years. Soils at the project site are considered to have a low potential for liquefaction due to the older geologic age of underlying materials, and indications that there is little or no groundwater present in the upper soils (Ogden 1987).

Soils in the project area consist of Carlsbad gravelly loamy sand (on the 5 to 9 percent slopes) and Gaviota fine sandy loam (on the 30 to 50 percent slopes) (Figure 14). The erosion potential for these soils is moderate (Carlsbad) to high (Gaviota) (U.S. Navy 1994). The potential for naturally occurring erosion on-site is considered moderate to high due to site characteristics such as the Gaviota fine sandy loam soil, rolling bluffs, and steep ravines. Surface drainage from the cemetery is currently directed down the ravines toward San Diego Bay and the Pacific Ocean. Some Erosion has occurred in the areas cleared for construction of the columbarium walls within the existing cemetery. However, siltation control dams have been installed along the cleared areas and the roadway and this has arrested the erosive condition.

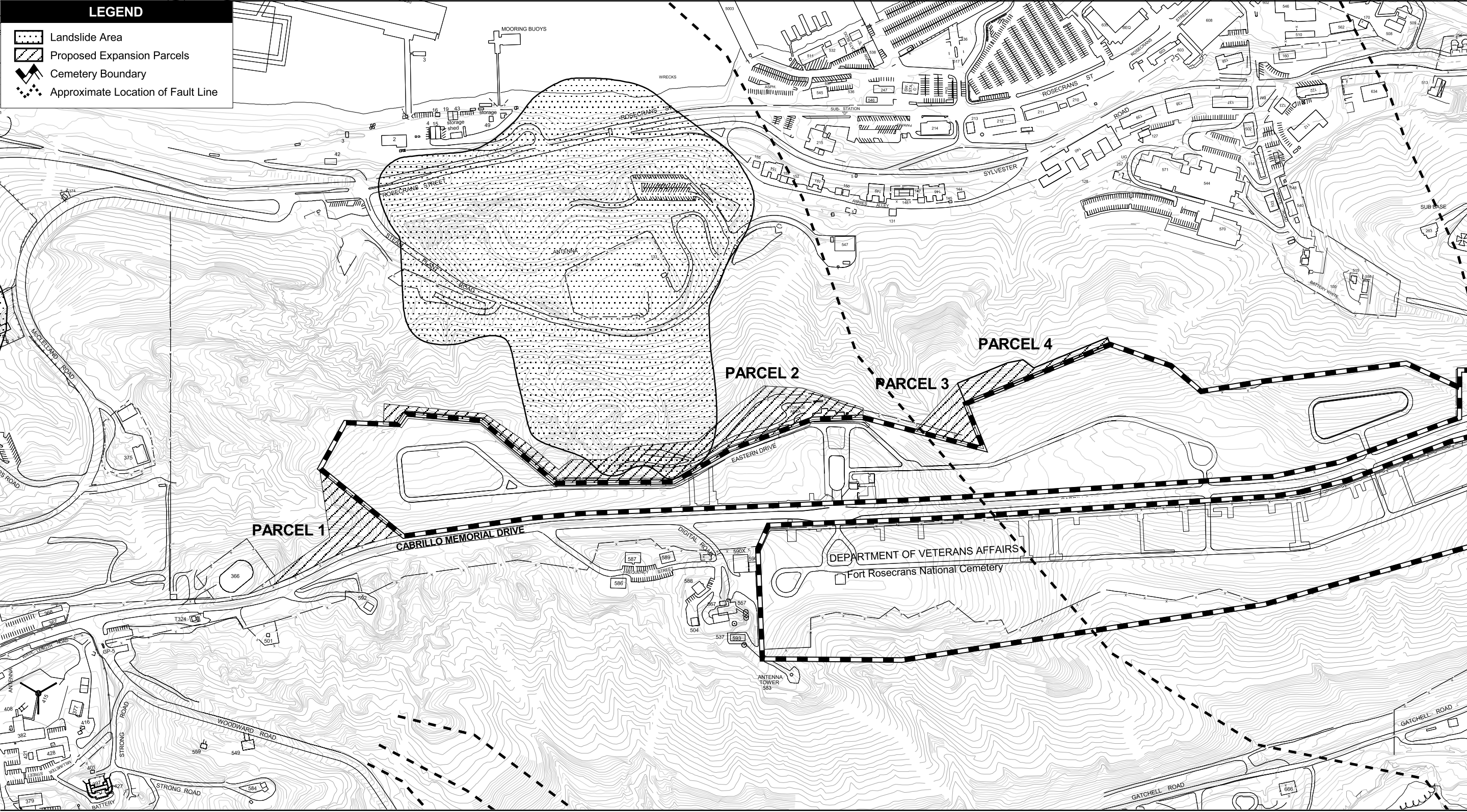
The project site does not contain significant mineral resources and is not suitable for aggregate removal. The soil at the project site has severe limitations for agricultural use due to its low fertility.

3.11 TRANSPORTATION

Fort Rosecrans National Cemetery is located on both sides of Cabrillo Memorial Drive on Point Loma in the City of San Diego. Approximately 250 people per day visit the cemetery during the week. On weekends that number doubles. On Memorial Day, approximately 5,000 visitors attend memorial services. Other holidays, such as July 4th, Veteran's Day, and Father's Day, as well as various reunion celebrations, can result in visitor counts of up to 1,000 (VA 2002a).

The cemetery is accessible only from the north, by a number of two- and four-lane local and arterial surface streets. Cabrillo Memorial Drive, which is a southern extension of Catalina Boulevard, runs through the cemetery and is the only means of access. Cabrillo Memorial Drive is a two-lane, scenic, improved roadway with numerous curves. The road is closed to the public at the entrance to NBPL from 5 p.m. to 5:15 a.m. Striping allows for designated bicycle lanes on both sides of the roadway. Portions of Rosecrans Street, Canon Street, Catalina Boulevard, and the length of Cabrillo Memorial Drive compose State Route 209, which is administered by Caltrans. There is no immediate freeway access to the site; the nearest freeways are Interstate (I)-8 to the north and I-5 to the east. These freeways are approximately 5 miles (8 kilometers) away.

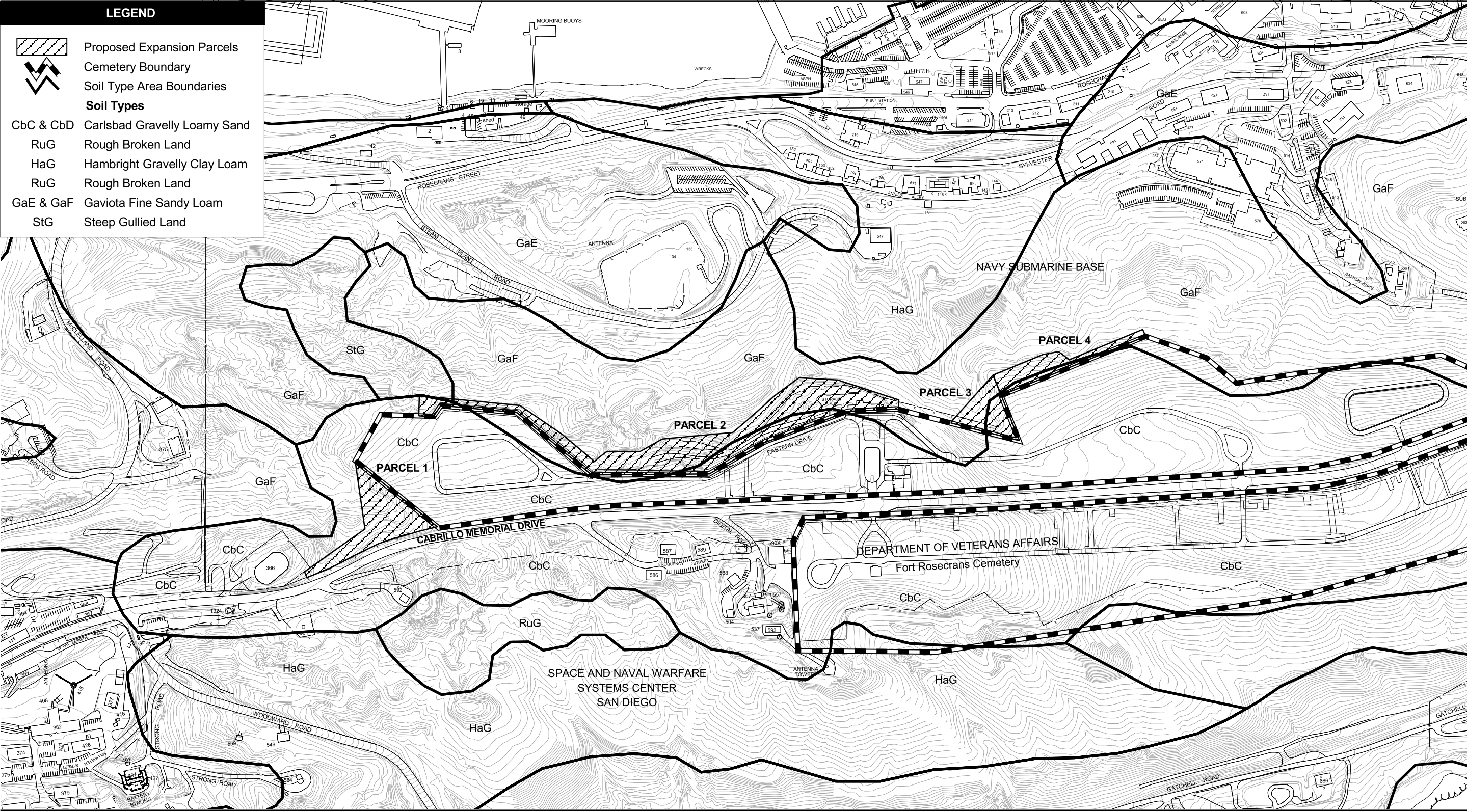
Cabrillo Memorial Drive terminates at the tip of the Point Loma peninsula at the Cabrillo National Monument, which has over one million visitors each year. Cabrillo Memorial Drive also provides access to the Point Loma Wastewater Treatment Plant, the various tenant



400 0 400 Feet

Scale: 1 : 4800; 1 inch = 400 feet

Figure 13
Geotechnical Conditions



Source: U.S.Navy, 1994



400 0 400 Feet

Scale: 1 : 4800; 1 inch = 400 feet

Figure 14
Distribution of Soil Types

commands of NBPL, and a U.S. Coast Guard Station. Although Cabrillo Memorial Drive is a public roadway, much of the adjacent area is part of NBPL and access is restricted to authorized personnel and vehicles. The volume of daytime traffic along Cabrillo Memorial Drive, which includes destination traffic to Cabrillo National Monument and Fort Rosecrans National Cemetery, is greater than the volume in the evening, when access to the area is controlled. The annual ADT for Cabrillo Memorial Drive near Fort Rosecrans National Cemetery is 6,400 (south of McClellan Road). At Cabrillo National Monument, the annual ADT is 2,700 (Caltrans 2001).

Public transportation to the site is available from a bus route of the San Diego Metropolitan Transit System. Bus route #28 runs along Catalina Boulevard/Cabrillo Memorial Drive daily (SANDAG 2002). The Navy runs a shuttle bus along Cabrillo Memorial Drive for Naval personnel.

Cabrillo Memorial Drive is a popular bicycle route. Bicyclists generally use the road for recreational purposes rather than for commuting, riding south to Cabrillo National Monument and then back north again. Numerous joggers also use the bicycle lanes along the roadway.

3.12 HEALTH AND SAFETY

A closed installation restoration (IR) site was identified in an environmental baseline survey prepared by the Navy prior to the land withdrawal. The IR site is located in a ravine that overlaps with Parcel 1. The Navy conducted two interim removal actions to address soil contamination resulting from past dumping practices. It is estimated that approximately 407 cubic yards (311.2 cubic meters) of contaminated soil remains on the site. The Navy has determined that no further action is required and the Regional Water Quality Control Board has concurred (U.S. Navy 2002).

There is a small amount of hazardous materials used at Fort Rosecrans National Cemetery for maintenance and operation of the existing facilities. There are currently no hazardous materials used or stored on, or in the vicinity of, the cemetery expansion area.

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CHAPTER 4.0

ENVIRONMENTAL CONSEQUENCES

4.1 LAND USE

Proposed Action

The land area proposed for expansion of the Fort Rosecrans National Cemetery is currently undeveloped and not actively used by the Navy. Approximately 35 percent of Parcel 2 is within the PLER. The expansion areas are immediately adjacent to existing cemetery uses. The proposed cemetery expansion, fence relocation, and columbaria construction will be compatible with the existing land uses and will extend the existing cemetery grounds. The Navy has determined that this property is not required for Department of Defense purposes. Therefore, no adverse land use impacts will occur as a result of the Proposed Action.

Point Loma is within the California coastal zone. Since the Proposed Action has the potential to affect environmentally sensitive habitat (the PLER), a Coastal Consistency Determination was prepared, which determined there would be no significant impacts to coastal resources.

PLER Boundary Adjustment

In the MOU it is stated that new construction projects are not intended to occur within the PLER. However, to allow for future changes in land use, it is also stated that it may be necessary to remove land from the PLER. If it is necessary to remove land from the PLER, then additional land currently outside of the PLER, that is of equal or higher habitat quality to the area to be removed, must be added. Therefore, development within Parcel 2 will require a PLER boundary adjustment in order to remove land from the PLER where it coincides with the proposed project footprint and add an equal area to the PLER elsewhere on VA property. The PLER boundary adjustment will be submitted to the PLER Boundary Subcommittee for review.

The PLER boundary that was identified in the PLNRMP was based on aerial photography, select ground-truthing, the results of the habitat evaluation model that was presented in the PLNRMP, and additional criteria that were intended to preserve sufficient area to protect viable ecosystems on Point Loma. The PLER boundary identified in the PLNRMP was intended for general planning purposes only. Parcel-specific analyses of future actions and their effect on the PLER

require finalizing the location of the boundary with the PLER Boundary Subcommittee of the PLER Working Group. On November 6, 2002, EDAW, Inc. met with members of the PLER Boundary Subcommittee to review the location of the PLER boundary. A more recent version of the PLER boundary, which had been better defined through certain areas, was agreed upon for use. Based on this review of the PLER boundary within VA property, the coincidence of the proposed construction within the PLER within Parcel 2 was quantified. Several areas had been determined as suitable for adding to the PLER in exchange for area that would be removed to allow development within Parcel 2. The location of the PLER was reviewed in these areas as well. At least an equal area will be removed and added. The area that will be added to the PLER is of equal or higher habitat quality as the area that will be removed (see the PLER boundary adjustment discussion under Section 4.2). No adverse impacts to Land Use are expected to occur from the proposed PLER boundary adjustment.

Mitigation Measures

No land use mitigation measures are proposed. Mitigation measures for potential biological effects within the PLER are part of the project description and were presented in Section 2.5 of this EA.

No Action Alternative

Under the No Action Alternative, there would be no cemetery expansion and no land use effects would occur. No mitigation measures would be proposed.

4.2 BIOLOGICAL RESOURCES

Proposed Action

Biological resources may be either directly or indirectly impacted by a Proposed Action, and these impacts may be either permanent or temporary in nature, as defined below:

Direct: Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Examples include clearing vegetation and the loss of individual species.

Indirect: Biological resources adjacent to areas being developed, but not directly impacted (removed), may be indirectly affected by the adjacent project-related activities. Examples include elevated noise and dust levels, soil compaction, increased human activity, decreased water quality, and the introduction of invasive wildlife (domestic cats and dogs) and plants.

Permanent: All impacts that result in the irreversible removal of biological resources are considered permanent. Examples include constructing a permanent structure such as a building or road on an area that currently or seasonally supports biological resources.

Temporary: Any impacts considered to have reversible effects on biological resources can be viewed as temporary. Examples include construction-generated fugitive dust, noise, and lighting. It is assumed that once construction-related activities cease, the biological resources could revert to their pre-impact state.

A 95 percent design and grading plan has been prepared for the southern portion of Parcel 2. Only a general design layout has been prepared for the northern portion of Parcel 2. For purposes of this impact analysis it is assumed that the grading for the northern portion of Parcel 2 will be limited to a 30-foot- (9.1-meter-) wide zone along the existing cemetery boundary (Figure 15). This is a worst-case scenario, and the limits of grading may be less intrusive. It is also assumed that the extent of direct impacts will be confined to the grading footprint and that all direct impacts will be permanent.

In addition to the grading and site clearing associated with development of new columbarium walls, the cement wall/perimeter fence that surrounds the existing cemetery boundary in the northern portion of Parcel 2 will be demolished and a new perimeter fence will be constructed at the edge of the graded area. For the southern portion of Parcel 2, the perimeter fence will be relocated as far as possible from the eastern edge of the expansion parcel to avoid potential relocation areas for the Orcutt's spineflower and the PLER. In particular, relocation of the perimeter fence will more closely follow the natural contour lines and minimize impacts to two small drainages leading into the PLER. No specific construction plans are available for perimeter fence relocation; however, construction of the relocated perimeter fence would be conducted primarily within a 10-foot- (3-meter-) wide zone of construction. For the following assessment of impacts, it is also assumed that vegetative perimeter growth on either side of the perimeter fence will reestablish but will be maintained at a low height.

Vegetation

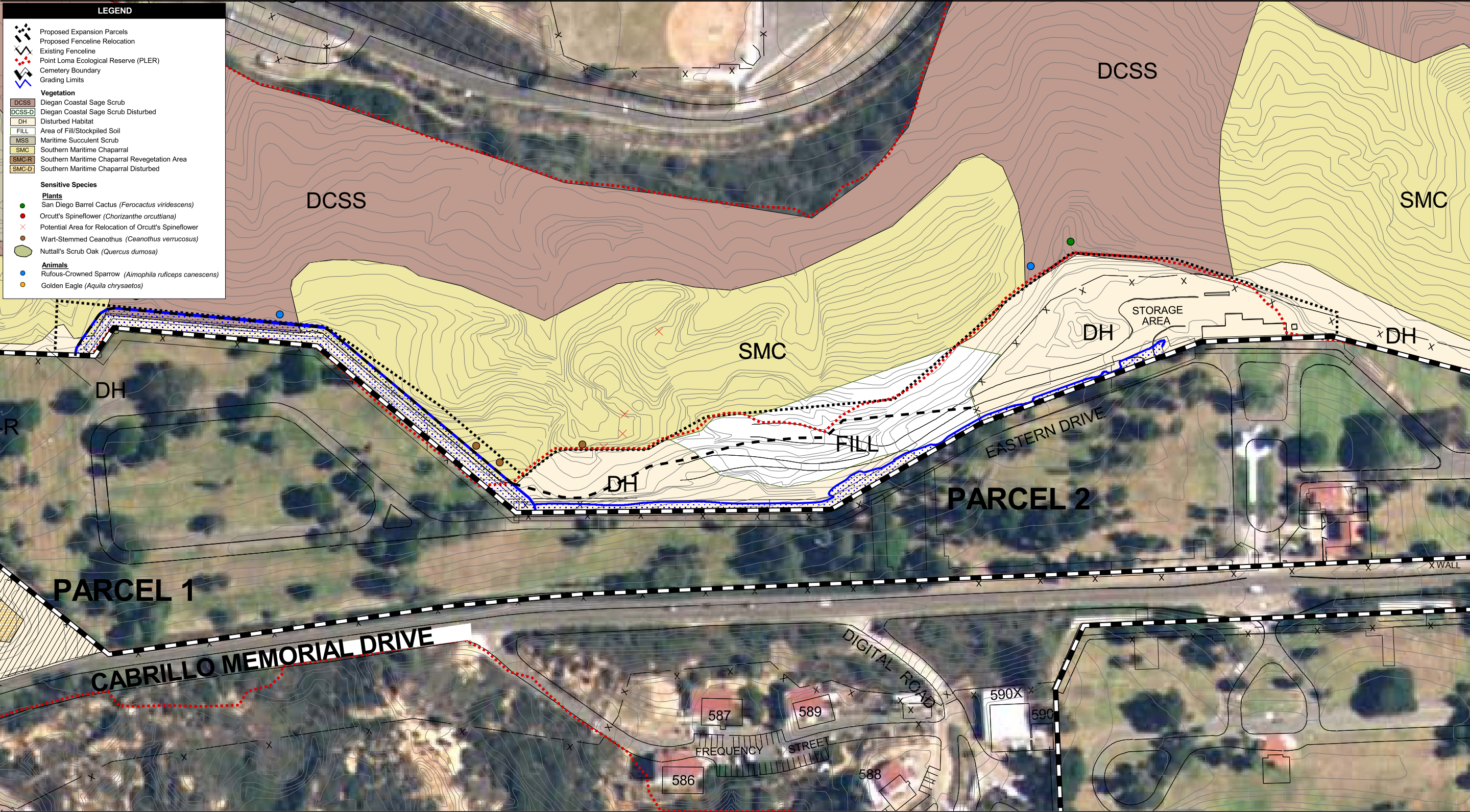
Direct Impacts

Construction project impacts from both columbaria construction and fence relocation will be restricted to Parcel 2. All direct impacts associated with development of Parcel 2 are summarized in Table 5. As a worst-case scenario, in which the area of disturbance for both the construction of columbarium walls and fence relocation is a total of 30 feet (9.1 meters) wide in the northern portion of Parcel 2, the Proposed Action will be entirely within the PLER and will impact a total of 3,615 square feet (336 square meters) of Diegan coastal sage scrub, 4,051 square feet (376 square meters) of southern maritime chaparral, and 13,939 square feet (1,295 square meters) of disturbed habitat (see Table 5). In the southern portion of Parcel 2, an additional 17,599 square feet (1,635 square meters) of disturbed habitat and 5,271 square feet (490 square meters) of fill area will be impacted by columbarium wall construction and the relocation of the perimeter fence as far as possible away from the eastern edge of Parcel 2 (on VA land). All of these impacts will be outside the PLER. Although very small in extent, impacts to the Diegan coastal sage scrub habitat and southern maritime chaparral will be considered significant.

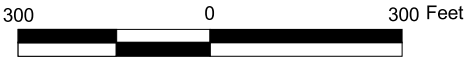
Recent clearing outside of the cemetery was the subject of a letter to VA (January 9, 2002) from USFWS. The area of recent clearing was described in Section 3.2. Photodocumentation of clearing conducted by VA indicates that approximately half of the width of recent clearing was conducted by VA. Additional recent clearing activities east of the existing perimeter fence were conducted to provide a clear zone adjacent to the fence. These recent clearing activities coincided with previously disturbed habitat that was characterized by ornamental plantings. This area of recent clearing is within the area proposed for development in this EA; therefore, no additional impacts need to be analyzed for the recent clearing activities.

Indirect Impacts

The Proposed Action will be implemented along the edges of the mesa. Steep slopes and ravines characterize the topography immediately outside of the project area. Without adequate mitigation, indirect impacts to adjacent vegetation could occur in the form of runoff, erosion, sedimentation, fugitive dust, exotic species invasions, and unauthorized human trespass from construction crews. Excess runoff could scour vegetation or alter community dynamics through changes in hydrological processes. The amount of runoff from the new impervious surfaces of the proposed columbarium is not expected to be excessive. Moreover, as described in Section 2.2, runoff will



Source: Van Dyke, 2002



Scale: 1 : 1,800; 1 inch = 300 feet

Figure 15
Biological Resources Map
Parcel 2 with Grading Limits

Table 5
Fort Rosecrans National Cemetery
Parcel 2 Impacts to Vegetation Communities

Vegetation Community /Cover Type	Total Area Square Feet (Meters)	Columbarium Walls, Footing, Concrete Walkway, and Northern Portion of Perimeter Fence Square Feet (Meters)	Southern Portion of Perimeter Fence Square Feet (Meters)	Total Impacts^{1, 2, 3} Square Feet (Meters)	Area Remaining Square Feet (Meters)
Southern Maritime Chaparral	14,245 (1,323)	4,051 (376)	—	4,051 (376)	10,194 (947)
Diegan Coastal Sage Scrub	6,267 (582)	3,615 (336)	—	3,615 (336)	2,652 (246)
Disturbed Habitat	130,223 (12,098)	28,924 (2,687)	2,614 (243)	31,538 (2,930)	98,685 (9,168)
Fill Area	46,200 (4,292)	741 (69)	4,530 (421)	5,271 (490)	40,929 (3,802)
Total	196,935 (18,296)	37,331 (3,468)	7,144 (664)	44,475 (4,132)	152,460 (14,164)

¹ All of the southern maritime chaparral and Diegan coastal sage scrub that will be impacted are within the PLER.

² Only 13,939 square feet (1,295 square meters) of the total impacts to disturbed habitat are within the PLER.

³ All of the impacts to the fill area are outside of the PLER.

be collected in a perforated drain pipe located under a gravel strip between the concrete walk and the base of the columbarium walls, which will be connected to the existing storm drain system or into ground sumps located on-site. As a result of these design measures, indirect impacts from runoff would be reduced to a level of nonsignificance. Erosion and sedimentation could potentially destroy sensitive vegetation and species. However, the construction contractor will prepare and implement an erosion control plan prior to the beginning of construction. All erosion control features will be installed prior to the initiation of construction and the resident engineer will stop construction if the contractor's measures deviate from those shown on the plan or if they are ineffective. Thus, the indirect impacts from erosion and sedimentation would be reduced to below a level of significance.

Unauthorized human trespass into native habitats will be blocked along most segments of the new columbarium walls by the structures themselves, or the perimeter fencing. However, as noted in Section 2.5.1, where the project biologist determines that areas of native habitat are at risk from unauthorized human trespass, signage will be installed to notify the public of the sensitive resources adjacent to the development. These combined features are expected to reduce the potential indirect impacts from unauthorized trespass to below a level of significance. Fugitive dust could potentially reduce photosynthetic and respiration rates of the native vegetation; however, implementation of dust abatement measures as noted in Section 2.5.1 will reduce this potential indirect impact to below a level of significance. Finally, invasion of the native habitats by exotic species could displace the native species. This risk would be greatest in areas that would be temporarily disturbed by project development. Once invasive exotic species become established in disturbed areas, they can encroach into adjacent lands and minimize the areas available for native species regeneration. This potential impact will be minimized by the measures noted in Section 2.5.1 that prevent the use of invasive non-native species in the cemetery landscape, minimize the amount of ground disturbance near the PLER boundary, and direct that cuttings from non-native ornamental trees be kept away from the PLER boundary. All of these measures will reduce the potential indirect impact to below a level of significance.

Sensitive Plant Species

Direct Impacts

There will be no direct impacts to the Orcutt's spineflower from the Proposed Action. The known population is approximately 350 feet (107 meters) from the edge of anticipated impacts. No other sensitive plant species coincide with the limits of project construction analyzed herein. Because a construction mitigation monitoring measure requires that the approved limits of construction activities are clearly delineated prior to the start of construction (see Section 2.5.1), and that monitoring by a biologist occurs during the site clearing activities, no direct impacts to individuals of the wart-stemmed ceanothus and San Diego barrel cactus adjacent to the construction area would occur.

Indirect Impacts

Indirect impacts to sensitive plant species could arise from the Proposed Action and will be identical to those identified for vegetation communities, i.e., erosion, siltation, and unauthorized

human trespass from construction crews. It is assumed that, once constructed, the columbarium walls and signage as needed will be an effective barrier to unauthorized human trespass.

Indirect impacts to the Orcutt's spineflower population are not likely given the relative distance of the population from the edge of impacts. However, areas of potential suitable habitat that could be colonized by this species or would serve as excellent sites for future relocation or the expansion of the existing population are very close to the edge of the expansion parcel (Figure 15). If unmitigated, indirect impacts to these areas could be significant in that the deterioration of these areas could constrain future recovery efforts. However, relocation of the perimeter fence as far away as possible from the PLER boundary in this area on natural contour lines to the west will limit the potential for indirect impacts. In addition, the use of erosion control features and measures to limit the spread of invasive, non-native species described in Section 2.5.1 will further minimize indirect impacts to potential relocation sites for Orcutt's spineflower to below a level of significance.

Due to the proximity of some individuals of wart-stemmed ceanothus and San Diego barrel cactus, these species could potentially be indirectly impacted from the pressures described above. These impacts are not anticipated to be significant due to the low number of individuals that could be affected and relatively low sensitivity status of these species. Moreover, construction mitigation monitoring measures described in Section 2.5.1 will ensure that indirect impacts do not occur to the wart-stemmed ceanothus and San Diego barrel cactus adjacent to the construction area.

Sensitive Animal Species

Direct Impacts

Construction of the columbaria will not result in direct impacts to sensitive wildlife. However, relocation of the perimeter fence, and the clearing and maintenance of vegetation that is expected to be associated with it, will result in the direct loss of southern maritime chaparral and Diegan coastal sage scrub, both of which function as foraging and nesting habitat for the rufous-crowned sparrow and may function as roosting habitat for golden eagle. The incremental loss of these habitats will be considered adverse, although not significant, due to the small amount of impact and the relatively large amount of habitat remaining in areas adjacent to the site. Additionally, the proposed impacts may result in the direct loss of nesting habitat for bird species covered by the MBTA that may breed on-site. These impacts will be considered significant if

habitat removal occurs during the raptor and migratory bird breeding season (February 1 to August 31). However, the Proposed Action will not facilitate the commercial market regarding any bird species.

Indirect Impacts

There is a potential for several indirect impacts to sensitive animal species associated with expansion of the cemetery. Without adequate mitigation, noise impacts from construction activities could potentially result in nest abandonment or other decreases in reproductive success during the breeding season. These indirect impacts will be considered significant without the effective implementation of mitigation measures. No night lighting will be part of the columbaria construction project.

Wildlife Movement Corridors and Habitat Linkages

Direct Impacts

Since the cemetery expansion will occur along the interface between native habitats and previously developed areas, it is unlikely that the Proposed Action will result in the significant disruption or loss of any local wildlife movement corridors. There are sufficiently wide bands of native habitats that can provide sufficient resources to ensure that the functioning of the local wildlife movement corridors remains intact in the surrounding area. Therefore, no significant direct impacts will occur to any local or regional wildlife movement corridors or habitat linkages.

Indirect Impacts

Potential indirect impacts to local wildlife movement corridors could occur from increased noise associated with construction of the Proposed Action. These indirect impacts could cause animal species to avoid or minimize the use of local movement corridors adjacent to the project area. The indirect impacts to local wildlife movement corridors will be considered adverse, although not significant.

PLER Boundary Adjustment

The PLER boundary adjustment described in Section 4.1 is not expected to result in adverse impacts to biological resources. In particular, as has been noted, the area that will be removed from the PLER (Figure 16) will be replaced by adding area to the PLER on VA property. The vegetation communities removed and added to the PLER are summarized in Table 6. The area to be added will include sufficient amount (8,102 square feet [752 square meters]) of southern maritime chaparral and maritime succulent chaparral to provide a 2:1 compensation for the area of southern maritime chaparral removed from the PLER. In addition, the area to be added will include an additional amount of maritime succulent scrub to provide a 1:1 compensation (3,615 square feet [336 square meters]) for the area of Diegan coastal sage scrub removed from the PLER. Adding these areas to the PLER will ensure that the areas removed from the PLER are compensated for with a habitat of equal or higher value. The remainder of the area that is needed for the PLER boundary adjustment will provide a 1:1 compensation (13,939 square feet [1,295 square meters]) for the area of disturbed habitat removed from the PLER. However, the habitat being provided (a combination of maritime succulent scrub and disturbed habitat) will provide a net gain in the quality of habitat within the PLER on VA land.

Mitigation Measures

A mitigation and monitoring framework for impacts to biological resources is described in Section 2.5. That section, along with project design measures to avoid impacts, details how mitigation will be implemented, thus avoiding any direct or indirect effects on biological resources. A separately bound Mitigation Plan is being prepared that will provide additional information on the mitigation measures. The Mitigation Plan specifically will address mitigation for impacts to sensitive habitat, construction BMPs, and long-term management of the PLER land within VA property. The Mitigation Plan will be revised and approved by USFWS and the PLER Working Group prior to columbarium construction.

No Action Alternative

Under the No Action Alternative, there would be no cemetery expansion and there would be no adverse effects to biological resources. No mitigation measures would be proposed.

Table 6
PLER Boundary Adjustment

	Area Removed square feet (meters)	Area Added square feet (meters)			Net Change square feet (meters)
Vegetation Community	Parcel 2	Parcel 1	Western Portion of Cemetery	Total	
Maritime Succulent Scrub	–	–	18,208 (1,692)	18,208 (1,692)	+18,208 (1,692)
Southern Maritime Chaparral	4,051 (376)	4,792 (445)	–	4,792 (445)	+741 (69)
Diegan Coastal Sage Scrub	3,615 (336)	–	–	–	-3,615 (336)
Disturbed Habitat	13,939 (1,295)	–	3,354 (312)	3,354 (312)	-10,585 (983)
Total	21,605 (2,007)	4,792 (445)	21,562 (2,004)	26,354 (2,449)	+4,749 (442)

4.3 CULTURAL RESOURCES

Proposed Action

There are no historic buildings or archaeological sites recorded within the proposed expansion area (Parcel 2). One previously recorded, partially buried site, CA-SDI-10,943, is reported in proximity to the proposed fenceline for Parcel 1; however, it will not be affected by construction in Parcel 2. Local Native American groups were notified of the Proposed Action and only one group expressed interest in obtaining further information. SHPO has concurred with these findings (Appendix D).

Mitigation Measures

No mitigation measures are required for construction associated with Parcel 2.

No Action Alternative

Under the No Action Alternative, there would be no cemetery expansion and there would be no effect on cultural resources. No mitigation measures would be proposed.



Source: Van Dyke, 2002



400 0 400 Feet

Scale 1 : 4,800; 1 inch = 400 feet

Figure 16
PLER Boundary Adjustment

4.4 AESTHETICS

Proposed Action

The proposed expansion and construction of new columbaria will extend the existing uses to the east and north of the existing developed cemetery. The expansion of the cemetery will alter the landscape of the boundary of the cemetery. However, national cemeteries are required to maintain a park-like setting so that the cemetery grounds are visually pleasing to visitors and to families of the veterans. These columbarium walls will have the same visual appearance as the other columbaria currently being constructed on the existing Fort Rosecrans National Cemetery.

The columbarium walls will be up to 5 niches high, or 7 feet (2.1 meters) in height (Figure 6); this is approximately the height of the vegetation surrounding the cemetery that will be removed. The columbarium walls will not inhibit the views for motorists driving along Cabrillo Memorial Drive. The relocated fence will be farther away from Cabrillo Memorial Drive and will be less visible to motorists. The new construction locations will not be readily visible from surrounding areas, and there will be no adverse effect on the visual quality of the area.

Mitigation Measures

No mitigation measures are proposed.

No Action Alternative

Under the No Action Alternative, any potential visual effects associated with cemetery expansion would be avoided. No mitigation measures would be proposed.

4.5 SOCIOECONOMICS

Proposed Action

The proposed cemetery expansion, fence relocation, and columbaria construction will not change typical socioeconomic characteristics such as population, demographics, or housing since no additional employees or relocations of existing employees are included as part of the Proposed Action. There will be no new housing or jobs created. There will be a minor positive effect on

local economic conditions as a result of increases in additional wages and local purchase of goods and services during construction, but these effects will be considered short term only.

Mitigation Measures

No mitigation measures are proposed.

No Action Alternative

Under the No Action Alternative, there would be no cemetery expansion and no socioeconomic changes would occur. No mitigation measures would be proposed.

4.6 ENVIRONMENTAL JUSTICE

Proposed Action

There are no low-income or minority populations in the project vicinity. Therefore, the Proposed Action will not adversely affect such populations.

Mitigation Measures

No mitigation measures are proposed.

No Action Alternative

Under the No Action Alternative, there would be no environmental impacts and no potential for disproportionate effects, so no impacts would occur. No mitigation measures would be proposed.

4.7 NOISE

Proposed Action

The principal source of noise associated with the Proposed Action will be construction noise. Construction equipment noise levels vary widely as a function of the equipment used and the activity level or duty cycle. In a typical construction project, the loudest short-term noise levels

(for a few minutes during each cycle) are those of earth-moving equipment under full load, which are on the order of 85 to 90 dBA at a distance of 50 feet (15 meters) from the equipment. Construction equipment noise is considered to be a “point source,” and attenuates over distance at a rate of 6 dBA for each doubling of distance. Thus, a noise level of 85 dBA at 50 feet (15 meters) will be 79 dBA at 100 feet (30 meters) and 73 dBA at 200 feet (60 meters) from the source. During excavating, grading, and paving operations, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for nonequipment tasks, such as measurement. Although peak noise levels may be 85 to 90 dBA at a distance of 50 feet (15 meters) during some construction activities, hourly average noise levels near the edge of each project site, at locations where the excavation and grading occurs, are anticipated to be 65 to 75 dBA L_{eq} . Average noise levels over longer periods of time will be less.

Construction of the Proposed Action is expected to occur over approximately 10 months. Implementation of the Proposed Action will temporarily result in increased ambient noise levels in the vicinity of the proposed construction sites. Noise will be typical of construction activities and will last the duration of the activities. Although VA has no standard for construction noise impacts, a noise level exceeding 75 dBA L_{eq} at sensitive noise receptors is often considered as the level of significance, and that standard will be used for this analysis.

The nearest sensitive human receptor to the project site is the cemetery director’s residence on the cemetery grounds, located approximately 200 feet (60 meters) from the project area. At this distance, the anticipated peak hourly average construction noise level will be below 65 dBA L_{eq} , which is less than the 75 dBA L_{eq} level of significance. No significant construction noise impacts will occur from implementation of the Proposed Action.

Construction truck traffic will access and leave the site via Cabrillo Memorial Drive. The closest sensitive receptor to the roadway in the project area will be the cemetery director’s residence on the cemetery grounds 50 feet (15 meters) from the roadway. Existing daytime traffic noise levels at the residence are estimated to range from 65 dBA L_{eq} , during the peak hour when the traffic volume is approximately 1,000 vehicles per hour, to 60 dBA L_{eq} , when the volume will be less than 500 vehicles per hour. During certain phases of construction, such as delivery of fill, ready-mix concrete, and niche assemblies, there may be periods when truck trips are relatively frequent. Truck traffic will increase the overall noise level by less than 2 dBA. Individual truck passes will be heard, but the average increase in traffic noise will not likely be perceived. The periods of increased truck noise will occur for a few hours on occasional days during the

construction period. The short-term, daytime increase in traffic along these roadways will not result in a significant increase in noise.

Following construction, there will be no notable on-site noise sources related to the Proposed Action. Visitors will come to the new columbaria for interments and for subsequent visits to the burial sites. These visits will generate traffic on Cabrillo Memorial Drive, which will result in increased traffic noise. The additional noise is estimated to be less than 1 dBA L_{eq} ,¹ which will not be audible or significant.

Mitigation Measures

No significant noise impacts have been identified, and no mitigation measures are proposed.

No Action Alternative

Under the No Action Alternative, there would be no adverse effects from noise. No mitigation measures would be proposed.

4.8 AIR QUALITY

Proposed Action

Construction

Construction of the proposed columbaria will include grading and site preparation, which will result in the generation of fugitive dust, PM₁₀, and exhaust emissions from construction equipment. After grading, exhaust emissions will be generated by the construction equipment used to pour the foundations and columns, and to install the niche walls. Throughout the project, the vehicles used for commuting by the construction crews will generate exhaust emissions. Construction emissions were estimated by assuming that two pieces of grading equipment, such as a wheeled loader and a bulldozer, and a water truck will operate for 2 weeks. There will be approximately 30 truck round trips for importing fill material. Following grading, a heavy forklift will be used for niche installation, and approximately 100 truck round trips will be

¹ This estimate excludes the extraordinary case where there might be the interment of a very important person that would result in unusually high traffic volume.

required to supply the niches, concrete, gravel, and landscaping materials. The average crew size was assumed to be 10 persons and the total construction period was assumed to be 10 months.

Table 7 shows the estimated construction emissions for the Proposed Action. The pollutants shown include volatile organic compounds (VOC) and oxides of nitrogen (NO_x). VOC and NO_x are the principal pollutants that combine in the atmosphere to form O₃.

Table 7
Estimated Construction and Operations Emissions
Fort Rosecrans National Cemetery Columbaria

	Pollutant (tons/year)			
	CO	VOC	NO _x	PM ₁₀
Construction Emissions	1.50	0.23	1.44	2.8
Total emissions for Conformity Analysis	1.50	0.23	1.44	N/A ³
General Conformity <i>de minimis</i> Thresholds¹	100	50	50	100
Exceed threshold?	No	No	No	
SDAB forecast emissions for 2002 ²	451,578	77,964	79,351	45,406
Exceed 10 percent of area's annual emissions?	No	No	No	No
Operations Emissions	0.75	0.10	0.10	0.09

¹ *De minimis* thresholds for San Diego Air Basin nonattainment pollutants VOC and NO_x, and maintenance pollutant CO. The basin is in Federal attainment for PM₁₀; *de minimis* threshold for PM₁₀ nonattainment is used for significance determination.

² Forecast emissions from CARB 2002. Forecast area emissions for 2002 are interpolated from data for 2000 and 2005.

³ PM₁₀ emissions are not included in the General Conformity emissions because the San Diego Air Basin is an attainment area for PM₁₀.

Operations

Following construction, the columbaria will be used for inurnment of cremated remains. No additional staff will be added at the cemetery, and emissions from on-site maintenance activities will be negligible. Persons visiting the new columbarium area will generate traffic. The number of trips attributed to visitors to the new niches has been estimated at 10 percent of the existing traffic. The estimated emissions from these trips are shown in Table 7.

Conformity of the Proposed Action

The Environmental Protection Agency (EPA) has determined specific Federal actions, or portions thereof, to be exempt from the General Conformity Rule. Actions are exempt where the total of all reasonably foreseeable direct and indirect emissions (1) does not equal or exceed prescribed threshold levels for a formal conformity determination, called “*de minimis*” levels and (2) would be less than 10 percent of the area’s annual emission budget. Emissions considered are limited to those that would be practicably controlled by VA.

In Table 7, construction emissions of CO, NO_x, and VOC are compared to General Conformity thresholds. PM₁₀ emissions are not included in the General Conformity emissions because the San Diego Air Basin is an attainment area for PM₁₀. Operations emissions, which will be emissions from the new trips, are not included in the General Conformity emissions because VA will have no continuing and direct responsibility for these trips. The associated emissions will not be practicably controlled by VA and are not to be included in the evaluation of conformity.

The results of the General Conformity analysis indicate that no thresholds will be exceeded. The total emissions for conformity analysis are also compared to the area’s annual emissions forecast, and it is shown that the project-related emissions will be much less than 10 percent of the area emissions.

Significance

The General Conformity thresholds are appropriate for assessing significance for those emissions that are not subject to conformity analysis. As seen in Table 7, the estimated PM₁₀ construction emissions and the annual operations emissions will be less than 3 percent of the thresholds. There will be no significant impact.

Although PM₁₀ emissions will be less than significant, fugitive dust from grading operations will be a potential nuisance impact to nearby gravesites and visitors, and a potential impact to nearby threatened or endangered plant species. Please see Section 4.2 of this EA for further information relative to the potential impact to plants. To avoid the potential nuisance impact from fugitive dust, active grading sites, disturbed areas, and soil storage piles will be watered as necessary to prevent visible dust plumes from crossing the construction site boundaries. Grading operations will be suspended when wind gusts exceed 25 miles (40.2 kilometers) per hour unless the watering measure described above is shown to be effective in high winds.

Mitigation Measures

There will be no impacts to air quality from the Proposed Action and no mitigation measures are proposed.

No Action Alternative

Under the No Action Alternative, there would be no adverse effects on regional air quality. No mitigation measures would be proposed.

4.9 WATER RESOURCES

Proposed Action

The proposed cemetery expansion will not affect wetlands on- or off-site. There are no irrigation features associated with the Proposed Action, so increased water consumption will not occur. The Proposed Action will result in the creation of approximately 8,500 square feet (789.7 square meters) of impervious surface; however, a 4-inch (10.2-centimeter) PVC perforated drain pipe will be installed under the 12-inch- (30.5-centimeter-) wide gravel drainage strip between the concrete wall and the base of the columbarium wall and will drain into the existing storm water system or into a ground sump that will be constructed. Concrete riprap will also be installed behind the columbarium wall to minimize soil erosion. The only change to the irrigation system will be the installation of one or two spigots on the columbarium wall to provide water for flower vases. No other expansion of the existing irrigation system is proposed.

To minimize impacts to water resources and soils from construction, an erosion control plan will be developed by the contractor prior to the initiation of construction to control erosion and sedimentation from storm water runoff. All erosion control features will be implemented as part of the Proposed Action prior to construction to mitigate any potential adverse environmental effects during construction. The erosion control measures and BMPs will include, but not be limited to, those listed in Section 2.5.1. The site will be fully stabilized prior to construction, completion, and turnover to VA cemetery staff. Therefore, the Proposed Action will not adversely affect water quality.

Mitigation Measures

The contractor will implement appropriate erosion control measures and BMPs to control erosion and sedimentation from storm water runoff as part of the Proposed Action and no further mitigation measures are proposed.

No Action Alternative

Under the No Action Alternative, there would be no cemetery expansion and there would be no effect on water resources. No mitigation measures would be required.

4.10 GEOLOGY AND SOILS

Proposed Action

Upland soil erosion by wind and rainfall is a concern on Point Loma. Natural geological movement, coupled with human impacts in an area of highly erodible soils, has created a condition that can result in soil erosion. Conditions of low to no vegetative cover tend to expedite the erosion process. Implementation of the Proposed Action will result in construction of columbaria on soils of moderate to, in some cases, high potential for erodibility. In addition, the project site will be located within 125 feet (38.1 meters) of an area that has experienced a major landslide (Figure 13) and is considered to have a high probability for a secondary slide. There is also an area of an existing fault that runs between the project site and the landslide area. Deepened footings or piers may be used to penetrate loose soil and to support structures on deeper competent soil, which will minimize the landslide hazard. A California-licensed structure engineer will review and approve the final design plans prior to the start of construction. Construction will not be allowed to proceed without approval by the structural engineer certifying that the design satisfies the site conditions described in the geotechnical report, ensuring the structural stability of the design.

As discussed in Section 4.9, the contractor will be required to develop an erosion control plan that will be approved and implemented prior to construction. These practices will include implementation of a storm water pollution prevention plan during construction and riprap soil stabilization after construction to minimize soil erosion. Cemetery maintenance personnel will be tasked with monitoring the columbaria construction area for future signs of erosion.

Mitigation Measures

Appropriate erosion control measures and BMPs to control erosion and sedimentation from storm water runoff will be implemented as part of the Proposed Action and no mitigation measures are proposed.

No Action Alternative

Under the No Action Alternative, there would be no cemetery expansion, and potential geologic and soils impacts would be avoided. No mitigation measures would be proposed.

4.11 TRANSPORTATION

Proposed Action

Development of the proposed expansion area will not include any new roads or access points within the cemetery property. Visitors entering the cemetery grounds will continue using the primary access from Cabrillo Memorial Drive. Parking will continue to be available on cemetery grounds to minimize any effects on Cabrillo Memorial Drive. Under the Proposed Action, the number of visitors will be expected to increase by less than 10 percent (VA 2002a); however, the Proposed Action will not generate any additional trips during the peak traffic hours on Cabrillo Memorial Drive. Any additional trips will likely occur during nonpeak hours. Overall, there will be no adverse transportation effects that will result from implementation of the Proposed Action.

Mitigation Measures

Under the Proposed Action there will be no adverse impacts to transportation and no mitigation measures are proposed.

No Action Alternative

Under the No Action Alternative, there would be no cemetery expansion, and potential impacts to transportation would be avoided. No mitigation measures would be proposed.

4.12 HEALTH AND SAFETY

Proposed Action

Under the Proposed Action, the only hazardous materials will be petroleum, oil, and lubricants associated with construction activities. There will be no hazardous materials or waste stored on the project site, the closed IR will not be disturbed, and no adverse impacts to health and safety will occur.

Mitigation Measures

Under the Proposed Action there will be no adverse impacts to health and safety and no mitigation measures are proposed.

No Action Alternative

Under the No Action Alternative, there would be no cemetery expansion, and potential impacts to health and safety would be avoided. No mitigation measures would be proposed.

4.13 OTHER ENVIRONMENTAL ISSUES

The proposed cemetery expansion will not affect, or be affected by, other environmental issues. The site is not within a floodplain, there are no wild and scenic rivers in the project vicinity, and there are no farmlands that will be affected by the Proposed Action. Construction of the proposed columbaria will not require extension or expansion of public services or utilities, including water, sewer, drainage, electrical, or telephone.

4.14 CUMULATIVE EFFECTS

The direct environmental effects associated with the proposed expansion of Fort Rosecrans National Cemetery are not considered significant or can be readily mitigated. The majority of the effects are considered short-term, construction-related effects that can be mitigated by BMPs during construction. A Mitigation Plan will be implemented by the cemetery to avoid any potential adverse effects on the sensitive biological resources of Point Loma. A variety of mitigation measures will be used to minimize the potential adverse effects from soil erosion.

Land uses surrounding Fort Rosecrans National Cemetery have been stable. The PLER Working Group has developed a land management ethic for the Federal landowners on Point Loma. The areas adjacent to the cemetery are managed by the PLER Working Group, with considerable care given to preserving the important natural and cultural resources on Point Loma.

Based on these ongoing land management practices, the cumulative effects resulting from the Proposed Action and other past, present, or foreseeable future actions on Point Loma in the vicinity of the cemetery will not be significant.

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CHAPTER 5.0

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In addition, Dr. Ellen Bauder, an expert and researcher on Orcutt's spineflowers, provided technical advice and review of the analysis and measures herein related to this endangered species.

CHAPTER 6.0

REFERENCES

Apple, Rebecca and Stephen Van Wormer

1995a Historic and Archeological Resources Protection Plan for Point Loma Naval Complex. Appendix C, Phase I, Archeological and Architectural Survey. Contract N68711-93-C-1125. Prepared for U.S. Department of the Navy, Southwest Division, Naval Facilities Engineering Command, San Diego. Prepared by KEA Environmental, Inc., San Diego. Unpublished report on File at SWDIV.

1995b Phase I Survey: Eroding Slope Repair, McClelland Road at Naval Submarine Base, San Diego. Prepared for Naval Engineering Facilities Command, San Diego. Prepared by KEA Environmental, Inc., San Diego.

Bauder, E.T.

2000 *Recovery and Management of Orcutt's Spineflower (Chorizanthe orcuttiana)*. San Diego State University, Department of Biology. November 2000. 79 pgs.

California Department of Fish and Game (CDFG)

2000 Natural Diversity Data Base. *List of California Natural Terrestrial Communities Recognized by the California Natural Diversity Data Base*. October 2000. 65 pgs.

2002a *Endangered, Threatened, or Rare Plants of California*. January. 16 pgs.

2002b *Endangered and Threatened Animals of California*. January 2002. 11 pgs.

2002c Natural Diversity Data Base. *Special Animals*. January 2002. 46 pgs., plus appendices.

California Department of Transportation (Caltrans)

2001 Available: <www.dot.ca.gov/hq/traffops/saferesr/trafdata/2000all.htm>.

California Native Plant Society (CNPS)

- 2001 *California Native Plant Society's Inventory of Rare and Endangered Plants of California*. Rare Plant Scientific Advisory Committee, D.P. Tibor (ed.). August 2001. 388 pgs.

California Wilderness Coalition (CWC)

- 2001 *Missing Linkages: Restoring Connectivity to the California Landscape*. April 2001. 79 pgs.

City of San Diego

- 1987 *Peninsula Community Plan*.

EDAW, Inc.

- 2002 *Photographs taken by David L. McIntyre of EDAW, Inc.*

Flower, Douglas and Linda Roth

- 1982 *Cultural Resource Inventory: Archaeology/History/Architecture Navy and Coast Guard Lands Point Loma San Diego, California*. Contract N62474-81-C-5747. Prepared for Naval Facilities Engineering Command, San Diego. Prepared by Flower & Roth, San Diego. Unpublished report on File at SWDIV.

Hardlines: Design & Delineation

- 1995 *Cultural Resources Inventory Survey, Naval Submarine Base, San Diego, California*. Prepared for Naval Facilities Engineering Command, San Diego.

Hickman, J.C. (Ed.)

- 1993 *The Jepson Manual: Higher Plants of California*. J.C. Hickman (ed.). University of California Press. Berkeley, California. 1400 pgs.

Holland, R.F.

- 1986 *Preliminary Descriptions of the Terrestrial Natural Communities of California*. State of California, The Resources Agency.

Laudenslayer, William F., Jr., W.E. Grenfell, Jr., and D. Zeiner

- 1991 *A Checklist of the amphibians, reptiles, birds, and mammals of California*. The Resources Agency. 1991. 141 pgs.

National Park Service (NPS)

2002 Available: <<http://www.nps.gov/cabr/pphtml/facts.html>>.

Oberbauer, T.

1996 *Terrestrial Vegetation Communities in San Diego County, based on Holland's descriptions*. February 1996. 6 pgs.

Ogden Environmental and Energy Services Co., Inc. (Ogden)

1987 *Point Loma Naval Complex Master Plan*. Prepared for U.S. Marine Corps. 1987.

RECON

2002 *Final Draft Integrated Natural Resources Management Plan for Naval Base Point Loma*. Prepared for Navy Region Southwest, Natural Resources Office, Environmental Department (N45RN). July 2002.

San Diego Association of Governments (SANDAG)

2001a Census 2000 Population by Age, Race, and Hispanic/Latino Origin, San Diego Region. March.

2001b Available: <http://www.sandag.org/resources/demographics_and_other_data/demographics/census/pdfs/profiles_may02.pdf>.

2002 Traffic Forecast Information Center. Available: <<http://pele.sandag.org/T10/viewer.htm?Title=SANDAG%20Traffic%20Forecasts>>.

Simpson, M.G., S.C. McMillan, B.L. Stone, J. Gibson, and J.P. Rebman.

1996 *Checklist of the Vascular Plants of San Diego County*. San Diego State University Herbarium Press. May 1996. 87 pgs.

Smith, Brian

1988 The Evaluation of Cultural Resources within the North End Study Area, Naval Submarine Base, San Diego, California. (MCON Projects P-112, P-103, P-054, P-088, and P-083). In: Final Report of Investigations into the Sensitivity of the North End Site of the Naval Submarine Base, San Diego, California, and the

Ability of the Site to Support Proposed MCONS P-112, P-103, P-054, P-088, and P-083. Report Prepared by Mele Amantea 1998.

U.S. Department of the Navy (U.S. Navy)

- 1994 Point Loma Integrated Natural Resources Management Plan. July.
- 2002 Finding of Suitability to Transfer. July.

U.S. Department of Veterans Affairs (VA)

- 2002a Personal communication between Charlie Kahler, Fort Rosecrans National Cemetery and David McIntyre, EDAW. June 20.
- 2002b Personal communication between Alexander Simich, Department of Veterans Affairs and David McIntyre, EDAW. June 21.
- 2002c Personal communication between Alexander Simich, Department of Veterans Affairs and David McIntyre, EDAW. November 6.

United States Fish and Wildlife Service (USFWS)

- 1999 *Endangered and threatened wildlife and plants*. 50 CFR Part 17.11 & 17.12. Dec. 31, 1999. 55 pgs.

Yatsko, Andy

- 2002 Personal communication between Andy Yatsko, Commander, Navy Region Southwest, and Rebecca Apple, EDAW, Inc.