

## **Appendix A**

# **2013 Alameda Transfer, Clinic, and Cemetery Environmental Assessment**

# Transfer of Excess Property and Development of an Outpatient Clinic, Offices, and National Cemetery at the Former Naval Air Station Alameda, California



## Final Environmental Assessment

Prepared by:

Department of Veterans Affairs -  
Northern California Health Care System and  
National Cemetery Administration

and

Department of the Navy -  
Naval Facilities Engineering Command,  
Base Realignment and Closure Program Management Office West



November 2013



## DEPARTMENT OF VETERANS AFFAIRS

### **DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR THE TRANSFER OF EXCESS PROPERTY AND DEVELOPMENT OF AN OUTPATIENT CLINIC, OFFICES, AND NATIONAL CEMETERY AT THE FORMER NAVAL AIR STATION ALAMEDA, CITY OF ALAMEDA, CALIFORNIA**

Pursuant to the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] § 1500-1508) implementing provisions of the National Environmental Policy Act (NEPA) and the Department of Veterans Affairs (VA) regulations for implementing NEPA (Environmental Effects of VA Actions [38 CFR Part 26]), the VA and Navy identified and assessed the potential environmental impacts that may result from the transfer of excess federal property and development of an outpatient clinic, offices, and National Cemetery at the former Naval Air Station (NAS) Alameda, City of Alameda, California. This Final Environmental Assessment (Final EA) is summarized and incorporated by reference into this Draft FONSI.

**Proposed Action:** The Proposed Action is the transfer of 624-acres (referred to as the “VA Transfer Parcel”) of excess federal property at the former NAS Alameda from the Department of the Navy (Navy) to the VA via a federal-to-federal transfer and the VA’s subsequent construction and operation of a Veterans Health Administration (VHA) outpatient clinic (OPC), Veteran Benefits Administration (VBA) outreach office, National Cemetery Administration (NCA) columbaria cemetery, conservation management office (CMO), and associated infrastructure on approximately 112-acres of land (referred to as the “VA Development Area”). The VA would also construct an access utility/road corridor to the east of the VA Transfer Parcel. The remaining 512-acres, including a 9.7-acre California Least Tern (CLT; *Sterna antillarum browni*) colony, would remain undeveloped and managed for the long-term persistence and sustainability of the CLT colony with access restricted during the CLT breeding/nesting season. The VA Development Area would be approximately 1,800 feet away from the CLT colony. This development alternative has been identified as the preferred alternative by the VA.

VA construction activities would take approximately 18 months to complete and would include development of the OPC and associated parking on approximately 20-acres, access road, on and off-site utility infrastructure; the CMO; and the first phase of the cemetery development (estimated at 20-acres of the total 80-acre cemetery area). The remainder of the cemetery area would remain undeveloped until there is a need for additional columbarium niches (above ground cremated remains burial). The VA estimates that approximately 25,000 columbarium niches (each on approximately 6 acres) would be developed every 10 years to meet Veteran burial needs. Based on this phasing schedule, the final phase of the cemetery would be constructed around the year 2116. The Proposed Action is consistent with Alternative 2 (Preferred Alternative) of the Final EA, October 2013.

Transfer of the excess federal property is the responsibility of the Navy. The VA is responsible for the construction and operation of the subsequent development following property transfer. The VA, as future owner of the property, will be responsible for obtaining all applicable permits prior to construction, and implementing and monitoring all applicable minimization and mitigations measures identified in the Final EA, including all measures identified in the 2012 U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BO).

**Purpose and Need:** The Navy's purpose for the Proposed Action is to transfer excess property at the former NAS Alameda via an interagency transfer to the VA. The Navy's need for the Proposed Action is to comply with the Defense Base Realignment and Closure Act (DBRCA) of 1990, as amended (Public Law 101-510, 10 USC 2687 [1994]).

The VA's purpose of the Proposed Action is to establish a single location for combined services consistent with the national "One VA" goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area. The VA's need for the Proposed Action is to serve, care for, honor, and memorialize San Francisco Bay Area (Bay Area) Veterans in a manner that addresses the area's current and future capacity needs and provides a greater range of services at one location.

**Scope of the EA:** The Final EA evaluated the potential direct, indirect, short-term, and long-term impacts on the human and natural environment resulting from the Navy's interagency transfer and the VA's reuse. Resource areas analyzed in the Final EA include: biological resources; water resources; transportation, traffic, circulation, and parking; cultural resources; visual resources and aesthetics; land use; air quality; greenhouse gas emissions and climate change; socioeconomics and environmental justice; hazards and hazardous substances; utilities; noise; public services; and geology and soils. The Final EA also assessed the potential cumulative impacts that may result from reasonably foreseeable projects in the region.

**Existing Conditions:** The VA Transfer Parcel is approximately 624-acres in size and is located in the northwest corner of the former NAS Alameda property. The VA Transfer Parcel is composed of developed and disturbed land that was previously utilized for military, industrial, and aircraft uses. The parcel is located entirely on manmade lands (i.e., fill material imported during the early to mid-20th century) and the majority of the parcel is situated on the inactive runways, taxiways, and other paved aircraft areas of the former NAS Alameda. The area is surrounded by the San Francisco Bay to the south and west and the Oakland Estuary to the north. The Port of Oakland is situated across the estuary to the north. To the east and south lies the remainder of the former NAS Alameda property, now referred to as Alameda Point.

Both natural and manmade elements frame the character of the environment. Access to the site is limited to the public and is confined by urban development and the waters of the San Francisco Bay. Migration (i.e., habitat linkages and corridors) through the area is generally feasible only for bird species. Vegetation and wildlife habitat within the VA Transfer Parcel is mostly comprised of a mix of ruderal-disturbed habitat and nonnative annual grasslands. In addition, the property contains a lesser amount of northern coastal salt marsh, seasonal wetlands, riprap, and un-vegetated waters.

The CLT is federally listed as endangered, and nests and roosts on a ruderal-disturbed paved portion of the former NAS Alameda airfield area and forages in the adjacent open water. Its primary nesting area is an approximately 9.5-acre USFWS managed, fenced section on the southern portion of the former airfield area within the VA Transfer Parcel. This area, known as the CLT colony, is continually managed to promote CLT existence, including nesting enhancements comprising the introduction of gravel, seashells, and other nesting area substrates; as well as predator and vegetation control.

**Alternatives Considered:** The Final EA fully assessed the two action alternatives retained for analyses following the federal-to-federal transfer of excess Federal property at the former NAS Alameda. The land transferred consisted of approximately 549-acres under Alternative 1 or approximately 624-acres under Alternative 2. Both action alternatives included the construction and operation of an OPC, outreach office, CMO, cemetery, and associated infrastructure on approximately 112-acres. Under either alternative, the remaining acreage would remain undeveloped. The VA would also construct an access utility/road corridor to the east of the VA Transfer Parcel. Also evaluated is the No Action Alternative, in which the Navy would retain ownership of the property under caretaker status. Alternative 2 has been identified as the preferred alternative by the VA because it minimizes potential effects to the CLT by moving the proposed VA Development Area north, farther away from the CLT colony while retaining the proposed development required to meet the VA's purpose and need.

To identify alternatives, the VA and the Navy rigorously explored and objectively considered other potentially reasonable alternatives to the Proposed Action. As part of the alternatives planning process, a range of preliminary site alternatives were identified and then screened against the Proposed Action's purpose and need as well as VA siting criteria. Through this process, some alternatives were eliminated from further consideration and the remaining alternatives were studied in detail as part of the NEPA review.

The planning process for establishing a new VA facility to serve Bay Area Veterans began in 2004. At the start of the planning process, various alternative locations in the Bay Area were considered, as well as other locations across the former Alameda Naval Air Station. The alternatives ranged from consideration of separate sites to a single site large enough to fit all of the project components (i.e., the One VA goal). For each of the three VA Administrations, alternative site locations were evaluated against specific siting criteria that were developed and used to screen and reduce the number of alternatives considered. Geographic location, site size, and land use compatibility were the primary screening factors, along with the ability of each alternative to meet the Proposed Action's purpose and need. In addition, the planning process considered the One VA goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area.

The 624-acre VA Transfer Parcel has been identified by the VA as the preferred location for its Proposed Action. The VA Transfer Parcel site best meets the VA's purpose and need and siting criteria, including: the site is located within the desired service area; the site is large enough to co-locate all components of the Proposed Action (i.e., OPC, outreach office, and cemetery) at one site to meet the One VA goal; the site is not located in close proximity to sensitive land uses such as churches, schools, and aircraft flight paths; the site has sufficient space to meet future needs for cemetery internments; the federal-to-federal transfer would allow the VA to own the property; and the site is accessible to existing utility infrastructure and transportation networks.

The VA and the Navy carefully considered the existing biological and environmental constraints and used them to guide the planning process, so that the project design could incorporate features that would minimize potential project impacts. Several meetings were also held with USFWS staff members, the Golden Gate Audubon Society, City of Alameda, and other stakeholders to address concerns about potential impacts on the CLT colony. On August 30, 2011, the VA and the Navy submitted a Biological Assessment (BA) to the USFWS and requested formal Section 7 consultation, pursuant to Section

7(a)(2) of the Endangered Species Act (ESA), for the Proposed Action, which at the time was the project as described under Alternative 1 in the Final EA. Following submission of the BA, the USFWS notified the VA and the Navy on September 29, 2011 that USFWS was unable to initiate formal consultation, citing a desire for additional information. The USFWS, Navy, and the VA then met numerous times to discuss the additional information needs as well as concerns regarding potential impacts of the project on the CLT. As a result of these discussions, the USFWS, Navy, VA, City of Alameda, and East Bay Regional Parks District (EBRPD) worked collaboratively to revise the project to minimize potential adverse effects of the Proposed Action on the CLT. This collaborative process resulted in the development of Alternative 2, which moved the proposed VA Development Area north, farther away from the CLT colony.

**Environmental Effects:** The Final EA examined the potential direct, indirect, short-term, and long-term impacts on the human environment resulting from the Proposed Action. The Final EA also assessed the potential cumulative impacts that may result from reasonably foreseeable projects in the region. The Final EA concluded that implementation of the Proposed Action, with specific mitigation measures, would not significantly impact the quality of the human environment. The following is a summary of the environmental consequences of the Proposed Action (identified as Alternative 2 [Preferred Alternative]) in the Final EA.

*Biological Resources:*

Vegetation and Wildlife Habitat: The Proposed Action would result in the modification or loss of the existing vegetation and wildlife habitat area in an area limited to the VA Development Area. The majority of this area is comprised of marginal habitat (i.e., ruderal disturbed and nonnative annual grassland). To reduce the adverse impact (i.e., direct removal of, placement of fill into, or hydrological interruption of) to federally protected wetlands found within the VA Development Area to less than significant; the VA will implement **Mitigation Measure BIO-1** which requires that the VA undertake Clean Water Act Section 404 permitting and 401 Certification prior to project construction. The Proposed Action is within the US Army Corp of Engineers (USACE) San Francisco District's jurisdiction. The VA proposes a replacement ratio of 1:1 and, through the 404 permitting and 401 certification processes, in consultation with USACE will determine if on-site permittee-responsible mitigation, the San Francisco Bay Wetland Mitigation Bank [Bank], or in-lieu fee is the appropriate mitigation.

Federally Listed Threatened and Endangered Species: There is the potential for indirect adverse effects from construction-related activities including sources of noise (e.g., construction traffic and the operation of construction equipment) and increased human presence during construction; as well as future operational impacts including predation, perceived predation and human disturbance, and potential impact to conduct effective predator management which may affect the remaining VA Transfer Parcel, including the CLT colony and possibly the western snowy plover.

Under Section 7 of the Endangered Species Act, the VA and the Navy formally consulted on the VA's preferred alternative with the USFWS. The USFWS issued a Section 7 Biological Opinion (BO) dated August 29, 2012 concurring with the VA and the Navy's determination that the Proposed Action "may affect, and is likely to adversely affect" the CLT and "may effect, but is not likely to adversely affect" the western snowy plover.

To reduce adverse effects to the CLT to less than significant and to minimize the potential for harm and harassment of the CLT resulting from project related activities, the VA will implement **Mitigation Measure BIO-2** which requires the VA to implement specific avoidance and minimization measures, as identified in the 2012 USFWS BO. The measures provide for the long-term conservation and management of the CLT and include implementing land use restrictions, colony management, and predator control necessary for the long-term maintenance, management, and monitoring of the CLT. A detailed summary of the avoidance and minimization measures that the VA will implement are included in the Final EA.

Evidence suggests that the western snowy plover may visit the surrounding area sporadically as a foraging migrant. The increased presence of humans and equipment during construction may increase the likelihood of disturbances (e.g., noise, light, etc.) to foraging and resting birds. These impacts would be intermittent, and are unlikely to affect the use of the site by the western snowy plover. Potential indirect effects of the project action on western snowy plover are generally shared and similar to those identified for CLT. Potential indirect effects would arise from increased human activity near foraging and potential nesting areas (CLT colony) and the daily use of new structures in the vicinity of the of these areas. Should the western snowy plover reestablish itself as a nesting species in the action area, effects on the species are likely to be identical to those identified for the CLT and thus the proposed avoidance and minimization measures for the CLT are also adequately protective.

Implementation of the Proposed Action would result in the development of approximately 112 acres of currently vacant land. All construction and operational activities would take place within the VA Development Area (112 acres), approximately 1,800 feet from the CLT colony. Direct effects within the Development Area to the CLT would primarily consist of increased noise and traffic, which could have an effect on the CLT colony. In addition, increased human activities may increase habitat for predators of the CLT. There is the potential for indirect adverse effects from activities including sources of noise (e.g., traffic) and increased human presence.

The Proposed Action's development footprint was specifically designed to reduce the potential effects on the CLT, including providing and maintaining the majority of the remaining VA Transfer Parcel, including the CLT colony and existing wetlands (e.g., Runway and West Wetlands) as undeveloped managed open space (512 acres). No direct VA construction or operational activities would occur within the undeveloped managed open space resulting in no direct disturbance of the CLT colony or the habitat surrounding it.

Common Wildlife and Special Status Species: Common and special status species would be affected through the removal of marginal habitat (non-native grasslands), and removal of existing vegetated areas within the VA Development Area. In addition, wildlife in the VA Development Area would be subjected to increases in noise and dust associated with construction. As a result, some habitats would be reduced in extent during construction and some common species abundance may temporarily relocate or move. However, potential impacts to common species and habitats would not be substantial due to the current low abundance of wildlife and expected subsequent re-population upon construction completion. Consequently, any impacts of the project on common wildlife and special status species and habitats would have a negligible effect on regional populations. Note that the majority of the VA Transfer Parcel (approximately 512 acres) would be left as undeveloped managed open space, which could be utilized

by common wildlife and special status species that are compatible with CLT conservation and management efforts (see **Mitigation Measure BIO-2**).

Habitat Linkages and Corridors: Because activities would be confined to the VA Development Area, impacts to migratory corridors are not expected to occur. Further, because the CLT colony would be managed and preserved, and potential future public access would be limited to the perimeter of the Transfer Parcel; the undeveloped managed area is anticipated to be utilized by other wildlife.

Water Resources:

The Proposed Action would not have a significant impact on water quality, groundwater, floodplains, and coastal resources. The VA Transfer Parcel (i.e., federally owned lands) is located outside the coastal zone, but federal activities on land outside the coastal zone that potentially affect resources of the coastal zone must be consistent to the maximum extent practicable with the provisions of the federally approved state coastal management program, which includes the *San Francisco Bay Plan* (Bay Plan). The Proposed Action is consistent with the Coastal Zone Management Act and the provisions of the Bay Plan.

Transportation, Traffic, Circulation, and Parking:

Direct and indirect construction-related transportation impacts resulting from the Proposed Action would be temporary and would not have an adverse effect on weekday peak-hour traffic conditions. Operationally, the Proposed Action (anticipated 2017) would not adversely affect any of the 11 study intersections during the weekday a.m. peak hour, weekday p.m. peak hour, and Saturday peak hour. All study intersections would operate at level of service (LOS) D or better.

In addition, the Proposed Action would add additional passengers to the municipal transit system, provide new pedestrian and bicycle amenities, add pedestrian users and bicyclist, provide on-site user specific surface parking, and improve site access and on-site circulation. The Proposed Action would not result in a significant impact to these transportation components.

Other Resource Areas:

The Proposed Action would not result in any significant short- or long-term significant impact on cultural; visual and aesthetic; land use; air quality; greenhouse gas emissions; socioeconomic and environmental justice; hazards and hazardous substances; utility; noise; public services; and geology and soil resources. Further, the Proposed Action would not create environmental health risks that could disproportionately impact children of minority and low income populations.

Cumulative Impacts:

There would be no significant cumulative impact to biological resources, with the implementation of **Mitigation Measure BIO-1** and **Mitigation Measure BIO-2** and there would be no significant cumulative impact to water; cultural; visual and aesthetic; land use; air quality; greenhouse gas emissions; socioeconomic and environmental justice; hazards and hazardous substances; utility; noise; public services; and geology and soil resources.

There would also be no significant cumulative impact to transportation, traffic, circulation, and parking resources. Cumulatively, during year 2035, three study area intersections are projected to perform at unacceptable levels regardless of the traffic contribution resulting from the Proposed Action. The

deterioration of the performance of these intersections is a result from other foreseeable non-project actions occurring in the study area, including the redevelopment of Alameda Point. Importantly, with the Proposed Action, the intersections would already be performing at unacceptable levels by the year 2035 regardless of this Proposed Action. The minimal additional traffic resulting from the Proposed Action, would not, cumulatively, make the already unacceptable intersections significantly worse.

As a total cumulative impact, the Proposed Action would only minimally contribute to an already adverse cumulative impact. Therefore, the magnitude and significance of the cumulative effects, resulting from the Proposed Action, does not reach a level of magnitude to be considered a significant adverse cumulative impact on the total resource.

*Mitigation and Monitoring:*

The VA would implement **Mitigation Measure BIO-1** and **Mitigation Measure BIO-2** (as identified above) to reduce potential impacts to biological resources (i.e., potential adverse impacts to the CLT and northern coastal salt marsh and seasonal wetlands habitat) below a level of significance. The Final EA identifies the specific mitigation measures that would be implemented, including the anticipated benefit of the mitigation measures and how the VA would implement and monitor the mitigation commitments. All other design, avoidance, best practice measures would be implemented as part of construction and operation as described in the Final EA. The VA has considered the long-term funding impacts of the EA mitigation measures and is committed to implementing such measures and has mechanisms in place to seek adequate funding for their implementation.

**Public Involvement:** In accordance with CEQ regulations (40 CFR 1506.6, “Public Involvement”), the VA and Navy provided a 43-day scoping period (December 8, 2008 - January 20, 2009). In addition, a public information meeting was held on December 18, 2008, at the USS Hornet Museum (707 West Hornet Avenue, Alameda, CA). Comments received addressed a variety of concerns, including increased traffic; the effects of a community hospital and helipad that was initially proposed as part of the VA development; and the effect of the project on the CLT. The VA and the Navy considered the comments received during the scoping process to help determine the range of issues and alternatives to be evaluated in the EA. Further, based on agency and public concerns received during the scoping period, the VA modified the total scale of development in its original 2008 Proposed Action, by eliminating a proposed VA hospital (250,000 gross square feet) and helipad and by reducing the total area of office space.

During the NEPA analyses, the VA and the Navy consulted extensively with various public Agencies having jurisdiction and/or interest in this site, including, but not limited to: US EPA, Bay Conservation and Development Commission, US Army Corp of Engineers, City of Alameda, US Fish and Wildlife Service, East Bay Regional Park District, and others.

The Draft EA was released for a 56-day public review and comment period (February 22 – April 19, 2013). During this time period, a total of three separate public meetings were held on two separate days at two different venues. The first two meetings were held on March 14, 2013 (afternoon and evening) at the USS Hornet Museum. The third meeting was held on the evening of April 10, 2013 at the City of Alameda Albert H. Dewitt Officers’ Club (641 West Redline Avenue, Alameda, CA). Attendance and participation at the meeting was not required to provide comments. Federal, state, and local agencies, as

well as interested parties, were also encouraged to review and comment on the Draft EA by mail, fax, and email. Equal weight was given to all comments received regardless of comment method used.

All Draft EA comments received and the Navy and the VA's responses are included in the Final EA. Each of the public comments received during the review and comment period were considered by the VA and the Navy with respect to evaluating the proposed action's environmental impacts for purposes of making a Final decision. The Draft EA was revised, as appropriate, in response to these comments and is reflected in the Final EA.

**Finding:** Based on information gathered during preparation of the Final EA and based on the findings in the Final EA, incorporated herein, the VA finds that implementation of the Proposed Action, with the implementation and monitoring of the mitigation measures identified in this Draft FONSI, would not have a significant impact on the human environment; and that an Environmental Impact Statement is not required for the transfer of excess property and the VA's subsequent development of an OPC, outreach offices, CMO, cemetery, and associated infrastructure at the former NAS Alameda, City of Alameda, California.

This Draft FONSI will have a review period, concluding 30 days after issuance of the Notice of Availability (NOA), at which time the FONSI will be signed, and the Proposed Action could be implemented.

This Draft FONSI and the Final EA, including response to comments received on the Draft EA, has been distributed to various Federal, State, and local agencies, as well as other interested individuals and organizations.

An electronic copy of the Draft FONSI and Final EA is available for public viewing at the VA's Website (<http://www.northerncalifornia.va.gov/planning/Alameda>). Single electronic compact disk copies of the Draft FONSI and Final EA will be made available upon request by contacting the VA at the address in this notice. A limited number of paper copies of the Draft FONSI and Final EA are also available to fill single copy requests.

Douglas Roaldson  
Environmental Program Manager  
U.S. Department of Veterans Affairs/VISN 21  
201 Walnut Avenue, Room 1020  
Mare Island, CA 94592-1107  
Fax: 707-562-8369  
Email: [Alameda.EA@va.gov](mailto:Alameda.EA@va.gov)

In addition, paper and electronic copies of the Draft FONSI and Final EA have been distributed to the following libraries and publicly accessible facilities for public review: City of Alameda Planning Division, by appointment only (2263 Santa Clara Ave, Alameda, 94501); City of Alameda Public Library – Main (1550 Oak St., Alameda, 94501); City of Alameda Public Library - Bay Farm Island Branch (3221 Mecartney Rd., Alameda, 94501); City of Alameda Public Library - West End Branch (788 Santa Clara Ave., Alameda, 94501); City of Oakland, Citywide Planning Main Office, by appointment only (250 Frank H. Ogawa Plaza, Suite 3315, Oakland, 94612); City of Oakland Library –





**DEPARTMENT OF DEFENSE  
DEPARTMENT OF THE NAVY**

**DRAFT FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR THE PROPOSED  
INTERAGENCY TRANSFER OF EXCESS PROPERTY AND DEVELOPMENT OF AN  
OUTPATIENT CLINIC, OFFICES, AND NATIONAL CEMETERY AT THE FORMER  
NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA**

Pursuant to the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508) implementing the National Environmental Policy Act of 1969 (NEPA), and the Department of Navy's Procedures for Implementing NEPA, the Department of Navy (Navy) gives notice that a final Environmental Assessment (EA) has been prepared and an Environmental Impact Statement (EIS) is not required for the Navy's transfer of excess federal property to the U.S. Department of Veterans Affairs (VA) for the VA's proposed development of an outpatient clinic, offices, and National Cemetery at the former Naval Air Station (NAS) Alameda, Alameda, California. The Final EA is summarized and incorporated by reference into this FONSI.

**Proposed Action:** The Proposed Action is the interagency transfer of excess federal property at the former NAS Alameda from the Navy to VA for the VA's development of an outpatient clinic, offices, and national cemetery at the former NAS Alameda, in Alameda, California. Specifically, this action would be implemented by the Navy completing an interagency transfer of approximately 624 acres of excess federal property (referred to as the "VA Transfer Parcel") to the VA for the VA's construction and operation of a Veterans Health Administration (VHA) outpatient clinic (OPC), Veteran Benefits Administration (VBA) outreach office, National Cemetery Administration (NCA) columbaria cemetery, conservation management office (CMO), and associated infrastructure on approximately 112 acres of land (referred to as the "VA Development Area"). The VA would also construct an access utility/road corridor on approximately 6-acres of land to the east of the VA Transfer Parcel. The remaining 512 acres, including a 9.7-acre California Least Tern (CLT; *Sterna antillarum browni*) colony, would remain undeveloped and managed for the long-term persistence and sustainability of a seasonal California Least Tern (CLT) colony, with access restricted during the CLT breeding/nesting season. The VA Development Area would be located approximately 1,800 feet away from the CLT colony. This development alternative has been identified as the preferred alternative by the VA.

Interagency transfer of the excess federal property is the responsibility of the Navy. VA is responsible for the construction and operation of the subsequent development following property transfer. The VA, as future owner of the property, will be responsible for obtaining all applicable permits prior to construction. The VA will be responsible for implementing and monitoring all applicable minimization and mitigation measures identified in the Final EA, including measures identified in a 2012 U.S. Fish and Wildlife Service (USFWS) Section 7 Biological Opinion (BO).

**Purpose and Need:** The Navy's purpose for the Proposed Action is to transfer excess property at the former NAS Alameda via an interagency transfer to the VA. The Navy's need for the Proposed Action is to comply with the Defense Base Realignment and Closure Act (DBRCA) of 1990, as amended (Public Law 101-510, 10 USC 2687 [1994]).

The VA's purpose for the Proposed Action is to establish a single location for combined services consistent with the National "One VA" goal, which advocates consolidating services wherever

possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area. VA's need for the Proposed Action is to serve, care for, honor, and memorialize San Francisco Bay Area (Bay Area) Veterans in a manner that addresses the area's current and future capacity needs and provides a greater range of services at one location.

**Existing Conditions:** NAS Alameda was recommended for closure in 1993 by the Base Realignment and Closure Commission in accordance with the DBCRA of 1990. In 1996, during the federal screening process, the Department of Interior's United States Fish and Wildlife Service (USFWS) submitted a request for interagency transfer of property that includes the VA Transfer Parcel. This property was identified by USFWS as a proposed area for a national wildlife refuge. The Navy subsequently prepared a Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station, Alameda and Fleet Industrial Supply Center Alameda Annex and Facility, Alameda California in October 1999 (1999 FEIS), and published a NEPA Record of Decision (ROD) in the *Federal Register* on March 9, 2000 (Volume 65, Number 47), which primarily addressed the disposal and reuse of those parts of NAS Alameda that were surplus to the needs of the federal government, but assumed that the Navy would transfer about 900 acres of excess federal property (of which 375 acres are submerged) in the western and southwestern parts of NAS Alameda to the USFWS for establishment of a national wildlife refuge.

During a period from 2000–2001, USFWS and the Navy attempted to negotiate a memorandum of understanding but ultimately reached an impasse regarding the terms and conditions for an interagency transfer of property. Subsequently, the Navy engaged in discussions with other federal entities that had a long-term need to acquire lands to support their missions. VA expressed interest in the property and submitted a formal request for the property in 2006. The submerged lands considered for transfer in USFWS's prior property request are not included in the proposed federal-to-federal transfer to the VA. Since 2000, the Navy has transferred a total of approximately 1,688 acres to other property recipients.

The 624 acre VA Transfer Parcel is located in the northwest corner of the former NAS Alameda property and is comprised of developed and disturbed land that was previously utilized for military, industrial, and aircraft uses. The parcel is located entirely on manmade lands (i.e., fill material imported during the early to mid-20th century) and the majority of the parcel is situated on the inactive runways, taxiways, and other paved aircraft areas of the former NAS Alameda. The area is surrounded by the San Francisco Bay to the south and west and the Oakland Estuary to the north. The Port of Oakland is situated farther to the north of the estuary. To the east and north lies the remainder of the former NAS Alameda property, now referred to as Alameda Point.

Both natural and manmade elements frame the character of the environment. Access to the site is limited to the public and is confined by urban development and the waters of the San Francisco Bay. Migration (i.e., habitat linkages and corridors) through the area is generally feasible only for bird species. Vegetation and wildlife habitat within the VA Transfer Parcel is mostly comprised of a mix of ruderal-disturbed habitat and nonnative annual grasslands. In addition, the property contains a lesser amount of northern coastal salt marsh, seasonal wetlands, riprap, and unvegetated waters.

The CLT is federally listed as endangered and nests and roosts on a ruderal-disturbed paved portion of the former NAS Alameda airfield area and forages in the adjacent open water. Its primary nesting area is an approximately 9.7-acre fenced section on the southern portion of the former airfield area within the VA Transfer Parcel. This area, known as the CLT colony, is continually managed to promote CLT use, including nesting enhancements comprising the

introduction of gravel, seashells, and other nesting area substrates; as well as predator and vegetation control.

**Scope of the EA:** The Final EA documents the Navy's compliance with the requirements of NEPA, as amended, the CEQ regulation implementing NEPA (40 CFR Sections 1500-1508); and Navy procedures for implementing NEPA (32 CFR Part 775). The Final EA evaluated the potential direct, indirect, short-term, and long-term impacts on the human and natural environment resulting from the Navy's interagency transfer and the VA's reuse. The Final EA also assessed the potential cumulative impacts that may result from reasonably foreseeable projects in the region. Resource areas analyzed in the Final EA include: biological resources; water resources; transportation, traffic, circulation, and parking; cultural resources; visual resources and aesthetics; land use; air quality; greenhouse gas emissions and climate change; socioeconomics and environmental justice; hazards and hazardous substances; utilities; noise; public services; and geology and soils.

**Alternatives Considered:** The Final EA fully assessed the two action alternatives retained for analysis involving an interagency transfer of excess Federal property at the former NAS Alameda. The VA Transfer Parcel would consist of approximately 549 acres under Alternative 1 or approximately 624 acres under Alternative 2. Both action alternatives included the construction and operation of an OPC, outreach office, CMO, cemetery, and associated infrastructure on approximately 112 acres. Under either alternative, the remaining acreage would remain undeveloped: 438 acres and 512 acres under Alternatives 1 and 2, respectively. Under either alternative, the VA would also construct an access utility/road corridor to the east of the VA Transfer Parcel. A No Action Alternative, in which the Navy would retain ownership of the property under caretaker status, was also evaluated. Alternative 2 has been identified as the preferred alternative by VA because it minimizes potential effects to the CLT by moving the proposed VA Development Area north, farther away from the CLT colony while retaining the proposed development required to meet VA's purpose and need.

To identify alternatives, the VA and the Navy rigorously explored and objectively considered other potentially reasonable alternatives to the Proposed Action. As part of the alternatives planning process, a range of preliminary site alternatives were identified and then screened against the Proposed Action's purpose and need as well as VA siting criteria. Through this process, some alternatives were eliminated from further consideration and the remaining alternatives were studied in detail as part of the NEPA review.

The VA and the Navy carefully considered the existing biological and environmental constraints and used them to guide the planning process, so that the project design could incorporate features that would minimize potential project impacts. Several meetings were held with USFWS staff members, the Golden Gate Audubon Society, City of Alameda, and other stakeholders to address concerns about potential impacts on the CLT colony. On August 30, 2011, the VA and the Navy submitted a Biological Assessment (BA) to the USFWS and requested formal Section 7 consultation, pursuant to Section 7(a)(2) of the Endangered Species Act (ESA), for the Proposed Action, which at the time was the project as described under Alternative 1 in the Final EA. Following submission of the BA, the USFWS notified the VA and the Navy on September 29, 2011 that USFWS was unable to initiate formal consultation, citing a desire for additional information. The USFWS, Navy, and VA then met numerous times to discuss the additional information needs as well as concerns regarding potential impacts of the project on the CLT. As a result of these discussions, the USFWS, Navy, VA, City of Alameda, and East Bay Regional Parks District (EBRPD) worked collaboratively to revise the project to minimize potential adverse effects of the Proposed Action on the CLT. This collaborative process resulted in the

development of Alternative 2, which moved the proposed VA Development Area north, farther away from the CLT colony.

**Environmental Effects:** The Final EA concluded that implementation of the Proposed Action, with specific mitigation measures, would not significantly impact the quality of the human environment. The following is a summary of the environmental consequences of the Proposed Action (identified as Alternative 2 [Preferred Alternative] in the Final EA.

Biological Resources:

- Vegetation and Wildlife Habitat: The Proposed Action would result in the modification or loss of some of the existing vegetation and wildlife habitat area in an area (18% of the total VA Transfer Parcel) limited to the VA Development Area. The majority of this area is comprised of marginal habitat (i.e., ruderal disturbed and nonnative annual grassland). To reduce the adverse impact (i.e., direct removal of, placement of fill into, or hydrological interruption of federally protected wetlands) to the northern coastal salt marsh and seasonal wetlands habitats found within the VA Development Area to less than significant, the VA will implement **Mitigation Measure BIO-1**. **Mitigation Measure BIO-1** requires that the VA undertake Clean Water Act Section 404 permitting and 401 Certification prior to project construction. The Proposed Action is within the US Army Corp of Engineers (USACE) San Francisco District's jurisdiction. The VA proposes a replacement ratio of 1:1 and shall consult with USACE through the 404 permitting and 401 certification process to determine if on-site permittee-responsible mitigation, the San Francisco Bay Wetland Mitigation Bank [Bank], in-lieu fee is the appropriate mitigation.
- Federally Listed Threatened and Endangered Species: Implementation of the Proposed Action would result in the development of approximately 112 acres of currently vacant land (i.e., the VA Development Area). The Proposed Action's development footprint was specifically designed to reduce the potential effects on the CLT, including providing and maintaining most of the site as undeveloped managed open space which provides a large buffer between the CLT colony and development. However, the reintroduction of uses within this former military airfield area would have the potential to have an effect on the CLT, including predation, perceived predation and human disturbance, and potentially impact the ability to conduct effective predator management at the site.

All construction and operational activities under the Proposed Action would take place within the VA Development Area (112 acres), 1,800 feet from the CLT colony. Direct effects within the Development Area to the CLT would primarily consist of increased noise and traffic, which could have an effect on the CLT colony. In addition, increased human activities may increase habitat for predators of the CLT. There is the potential for indirect adverse effects from activities including sources of noise (e.g., traffic) and increased human presence. The remaining VA Transfer Parcel (approximately 512 acres), including the CLT colony, would remain as undeveloped managed open space. No direct VA construction or operational activities would occur within the undeveloped managed open space resulting in no direct disturbance of the CLT colony or the habitat surrounding it.

Evidence suggests that the western snowy plover visits the surrounding area sporadically as a foraging migrant. The increased presence of humans and equipment during construction would increase the likelihood of disturbances (e.g., noise, light, etc.) to foraging and resting birds. These impacts would be intermittent, and are unlikely to affect the use of the site by western snowy plover. Potential indirect effects of the project action on western snowy plover

are generally shared and similar to those identified for CLT. Potential indirect effects would arise from increased human activity near foraging and potential nesting areas (CLT colony) and the daily use of new structures in the vicinity of the of these areas. Should the western snowy plover reestablish itself as a nesting species in the action area, effects on the species are likely to be identical to those identified for the CLT and thus the proposed avoidance and minimization measures for the CLT are also adequately protective.

Under Section 7 of the Endangered Species Act, the Navy and VA formally consulted on the preferred alternative with the USFWS. The USFWS issued a Section 7 Biological Opinion (BO) dated August 29, 2012 concurring with the Navy and the VA's determination that the Proposed Action "may affect, and is likely to adversely affect" the CLT and "may effect, but is not likely to adversely affect" the western snowy plover. To reduce adverse effects to the CLT to less than significant and to minimize the potential for harm and harassment of the CLT resulting from project related activities, the VA will implement **Mitigation Measure BIO-2. Mitigation Measure BIO-2** requires the VA to implement specific avoidance and minimization measures, as identified in the 2012 USFWS BO. The measures provide for the long-term conservation and management of the CLT and include implementing land use restrictions, colony management, and predator control necessary for the long-term maintenance, management, and monitoring of the CLT. A detailed summary of the avoidance and minimization measures that the VA will implement are included in the Final EA.

- Common Wildlife and Special Status Species: Common and special-status species would be affected through the removal of marginal habitat (non-native grasslands), and removal of existing vegetated areas within the VA Development Area. In addition, wildlife in the VA Development Area would be subjected to increases in noise and dust associated with construction. As a result, some habitats would be reduced in extent during construction and some common species' local abundance may temporarily decline. However, potential impacts to common species and habitats would not be substantial due to the current low abundance of wildlife and expected subsequent re-population upon construction completion. Consequently, any impacts of the project on common wildlife and special status species and habitats would have a negligible effect on regional populations. The majority of the VA Transfer Parcel (approximately 512 acres) would be left as undeveloped managed open space, which could be utilized by common wildlife and special status species that are compatible with CLT conservation and management efforts (see Mitigation Measure BIO-2).
- Habitat Linkages and Corridors: Because activities would be confined to the VA Development Area, impacts to migratory corridors are not expected to occur. Further, because the CLT colony would be managed and preserved, and potential future public access would be limited to the perimeter of the Transfer Parcel; the undeveloped area is anticipated to be utilized by other wildlife.

Water Resources: The Proposed Action would not have a significant impact on water quality, groundwater, floodplains, and coastal resources. The VA Transfer Parcel (i.e., Federally owned lands) is located outside the coastal zone, but Federal activities on land outside the coastal zone that potentially affect resources of the coastal zone must be consistent to the maximum extent practicable with the provisions of the Federally-approved state coastal management program, which includes the *San Francisco Bay Plan* (Bay Plan). The Proposed Action is consistent with the Coastal Zone Management Act and the provisions of the Bay Plan.

Transportation, Traffic, Circulation, and Parking: Direct and indirect construction-related

transportation impacts resulting from the Proposed Action would be temporary and would not have an adverse effect on weekday peak-hour traffic conditions. Operationally, the Proposed Action (year 2017) would not adversely affect any of the 11 study intersections during the weekday a.m. peak hour, weekday p.m. peak hour, and Saturday peak hour. All study intersections would operate at level of service (LOS) D or better.

In addition, the Proposed Action would add additional passengers to the municipal transit system, provide new pedestrian and bicycle amenities, add pedestrian users and bicyclists, provide on-site user-specific surface parking, and improve site access and on-site circulation. The Proposed Action would not result in a significant impact to these transportation components.

*Other Resource Areas:* The Proposed Action would not result in any significant short- or long-term significant impact on cultural resources; visual and aesthetic; land use; air quality; greenhouse gas emissions; socioeconomic and environmental justice; hazards and hazardous substances; utility; noise; public services; and geology and soil resources. Further, the Proposed Action would not create environmental health risks that could disproportionately impact children of minority and low-income populations.

*Cumulative Impacts:* There would be no significant cumulative impact to biological resources, with the implementation of **Mitigation Measure BIO-1** and **Mitigation Measure BIO-2** and there would be no significant cumulative impact to water; cultural; visual and aesthetic; land use; air quality; greenhouse gas emissions; socioeconomic and environmental justice; hazards and hazardous substances; utility; noise; public services; and geology and soil resources.

There would also be no significant cumulative impact to transportation, traffic, circulation, and parking resources. Cumulatively, during year 2035, three study area intersections are projected to perform at unacceptable levels without the contribution of traffic resulting from the Proposed Actions. The deterioration of the performance of these intersections is a result from other foreseeable non-project actions occurring in the study area, including the redevelopment of Alameda Point. Importantly, with the Proposed Action, the intersections would already be performing at unacceptable levels by the year 2035 regardless of this Proposed Action. The minimal additional traffic resulting from the Proposed Action, would not, cumulatively, make the already unacceptable intersections significantly worse.

Therefore, as a total cumulatively impact, the Proposed Action would only minimally contribute to an adverse cumulative impact (i.e., minimal increase of projected delay at three already unacceptably performing intersections). The magnitude and significance of the cumulative effects, resulting from the Proposed Action, does not reach a level of magnitude to be considered a significant adverse cumulative impact on the total resource.

*Mitigation and Monitoring:* The VA will implement **Mitigation Measure BIO-1** and **Mitigation Measure BIO-2** (as identified above) to reduce potential impacts to biological resources (i.e., potential adverse impacts to the CLT and northern coastal salt marsh and seasonal wetlands habitat) below a level of significance. The Final EA identifies the specific mitigation measures that will be implemented, including the anticipated benefit of the mitigation measures and how the VA will implement and monitor the mitigation commitments. All other design, avoidance, best practice measures will be implemented as part of construction and operation as described in the Final EA. The VA has considered the long-term funding impacts of the EA mitigation measures and is committed to implementing such measures and has mechanisms in place to seek adequate funding for their implementation.

**Public Involvement:** In accordance with CEQ regulations (40 CFR 1506.6, “Public Involvement”), the Navy and VA provided a 43-day scoping period (December 8, 2008 - January 20, 2009). In addition, a public information meeting was held on December 18, 2008, at the USS Hornet Museum (707 West Hornet Avenue, Alameda, CA). Comments received addressed a variety of concerns, including increased traffic; the effects of a community hospital and helipad that was initially proposed as part of the VA development; and the effect of the project on the CLT. VA and the Navy considered the comments received during the scoping process to help determine the range of issues and alternatives to be evaluated in the EA. Further, based on agency and public concerns received during the scoping period, VA modified the total scale of development in its original 2008 Proposed Action, by eliminating a proposed VA hospital (250,000 gross square feet) and helipad and by reducing the total area of office space.

During the NEPA analyses, VA and the Navy consulted extensively with various public agencies having jurisdiction and/or interest in this site, including, but not limited to: USFWS, US EPA, USACE, Bay Conservation and Development Commission, East Bay Regional Park District and the City of Alameda.

The Draft EA was released for a 56-day public review and comment period (February 22 – April 19, 2013). During this time period, a total of three separate public meetings were held on two separate days at two different venues. The first two meetings were held on March 14, 2013 (afternoon and evening) at the USS Hornet Museum. The third meeting was held on the evening of April 10, 2013 at the City of Alameda Albert H. Dewitt Officers’ Club (641 West Redline Avenue, Alameda, CA). Attendance and participation at the meeting was not required to provide comments. Federal, state, and local agencies, as well as interested parties, were also encouraged to review and comment on the Draft EA by mail, fax, and email. Equal weight was given to all comments received regardless of method received.

The Draft EA was revised, as appropriate, in response to the public comments received during the review and comment period and public comments have been considered by VA and the Navy to evaluate the project’s alternatives and environmental impacts for purposes of making a final decision. All Draft EA comments received and the Navy and VA’s responses are included in the Final EA.

**Finding:** Based on information gathered during preparation of the Final EA and based on the findings in the Final EA, incorporated herein, Navy finds that implementation of the Proposed Action, with the VA’s implementation and monitoring of the mitigation measures identified in this Draft FONSI, would not have a significant impact on the human environment; and that an Environmental Impact Statement is not required for the transfer of excess property and VA’s development of an OPC, outreach offices, CMO, cemetery, and associated infrastructure at the former NAS Alameda, City of Alameda, California.

This Draft FONSI is available for public review for 30 days before becoming final at which time the proposed action may be implemented. The public review period ends 30 days after issuance of the Notice of Availability. Upon becoming final, this FONSI will amend the 2000 NEPA ROD regarding the Disposal and Reuse of NAS Alameda previously published in the Federal Register which assumed that property within the VA Transfer Parcel would be transferred to the USFWS.

This Draft FONSI and the Final EA, including response to comments received on the Draft EA, has been distributed to various Federal, State, and local agencies, as well as other interested individuals and organizations.

In addition, copies of the Draft FONSI and Final EA have been distributed to the following libraries and publicly accessible facilities for public review: City of Alameda Planning Division, by appointment only (2263 Santa Clara Ave, Alameda, 94501); City of Alameda Public Library – Main (1550 Oak St., Alameda, 94501); City of Alameda Public Library - Bay Farm Island Branch (3221 Mecartney Rd., Alameda, 94501); City of Alameda Public Library - West End Branch (788 Santa Clara Ave., Alameda, 94501); City of Oakland, Citywide Planning Main Office, by appointment only (250 Frank H. Ogawa Plaza, Suite 3315, Oakland, 94612); City of Oakland Library – Main (125 14<sup>th</sup> St., Oakland, 94612); City of Oakland Library - Cesar E. Chavez Branch (3301 East 12th St., Oakland, 94601); City of Oakland Library - 81<sup>st</sup> Avenue Branch (1021 81st Ave., Oakland, 94621); City of Oakland Library - Diamond Branch (3565 Fruitvale Ave., Oakland, 94602); City of Oakland Library - Eastmont Branch (7200 Bancroft, Ste 211, Oakland, 94605); and San Francisco Public Library – Main (100 Larkin St., San Francisco, 94102).

An electronic copy of the Draft FONSI and Final EA is also available for public viewing at VA's Website (<http://www.northerncalifornia.va.gov/planning/Alameda>). Single electronic compact disk copies of the Draft FONSI and Final EA will be made available upon request by contacting the VA at the address in this notice. A limited number of copies of the Final EA are also available to fill single copy requests.

Douglas Roaldson  
Environmental Program Manager  
U.S. Department of Veterans Affairs/VISN 21  
201 Walnut Avenue, Room 1020  
Mare Island, CA 94592-1107  
Fax: 707-562-8369  
Email: [Alameda.EA@va.gov](mailto:Alameda.EA@va.gov)

---

Ms. Kimberly A. Ostrowski  
Director, Navy Base Realignment and  
Closure Program Management Office West  
1455 Frazee Road, Suite 900  
San Diego, CA 92108-4310

---

Date

NOTICE OF AVAILABILITY OF FINAL ENVIRONMENTAL ASSESSMENT AND DRAFT FINDING OF NO SIGNIFICANT IMPACT FOR THE TRANSFER OF EXCESS FEDERAL PROPERTY AND DEVELOPMENT OF AN OUTPATIENT CLINIC, NATIONAL CEMETERY, AND OFFICES AT THE FORMER NAVAL AIR STATION ALAMEDA, CALIFORNIA

AGENCIES: Department of the Navy (Navy) and Department of Veterans Affairs (VA)

Action: Notice

Summary: Pursuant to Section 102 (2)(c) of the National Environmental Policy Act (NEPA) of 1969, as implemented by the Council on Environmental Quality Regulations, the Department of the Navy (Navy) and Department of Veterans Affairs (VA), as joint lead agencies, gives notice that the Final Environmental Assessment (Final EA) has been completed for the transfer of excess Federal property and subsequent development of a VA outpatient clinic, National Cemetery, and offices at the former Naval Air Station Alameda, California (Proposed Action).

VA's Proposed Action is to establish a single location for combined services consistent with the National "One VA" goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care is provided to Veterans in a local area. VA's need for the Proposed Action is to serve, care for, honor, and memorialize San Francisco Bay Area Veterans in a manner that addresses the area's current and future capacity needs and provides a greater range of services at one location.

The Navy's Proposed Action is to dispose of excess property at the former NAS Alameda via a Federal-to-Federal transfer to VA. The Navy's need for the Proposed Action is to comply with the Defense Base Realignment and Closure Act of 1990, as amended (Public Law 101-510, 10 USC 2687 [1994]).

The Final EA incorporates revisions and responses to public and agency comments as appropriate. The Final EA evaluated the potential direct, indirect, and cumulative impacts on the human and natural environment resulting from the Navy and VA Proposed Action. The Proposed Action, an Alternative Action and a No Action Alternative (in which the Navy would retain ownership of the property under caretaker status) were considered. The two action alternatives analyzed involve a Federal-to-Federal transfer of excess Federal property of approximately 549-acres under Alternative 1, or approximately 624-acres under Alternative 2. Both action alternatives would include the construction and operation of a VA outpatient clinic, National Cemetery, outreach offices, and associated infrastructure on approximately 112-acres. The remaining acreage would remain undeveloped managed open space. Alternative 2 has been identified as the Preferred Alternative.

Resource areas analyzed in the Final EA include Biological Resources; Water Resources; Transportation, Traffic, Circulation, and Parking; Cultural Resources; Visual Resources and Aesthetics; Land Use; Air Quality; Greenhouse Gas Emissions and Climate Change; Socioeconomics and Environmental Justice; Hazards and Hazardous Substances; Utilities; Noise; Public Services; Geology and Soils. The Final EA also addressed potential cumulative impacts that may result from reasonably foreseeable projects in the region.

Based on information gathered during preparation of and analysis found within the Final EA, VA and

Navy find that implementation of the Proposed Action would not have a significant impact on the human environment, therefore an Environmental Impact Statement (EIS) is not warranted for this Proposed Action.

The VA Draft FONSI and Navy Draft FONSI will be available for public review for 30 days before becoming final, at which time the determinations will be Final and the Proposed Action may be implemented. The public review period ends 30 days after issuance of the Notice of Availability.

Distribution: The Draft FONSIs and the Final EA which incorporates responses and revisions to public and agency comments have been distributed to various Federal, State, and local agencies, as well as other interested individuals and organizations.

Paper copies of the Draft FONSIs and Final EA have been distributed to the following libraries and publicly accessible facilities for public review:

City of Alameda Planning Division, by appointment only (2263 Santa Clara Ave, Alameda, 94501);  
City of Alameda Public Library - Main (1550 Oak St., Alameda, CA 94501);  
City of Alameda Public Library - Bay Farm Island Branch (3221Mecartney Rd., Alameda, 94501);  
City of Alameda Public Library - West End Branch (788 Santa Clara Ave., Alameda, 94501);  
City of Oakland, Citywide Planning Main Office, by appointment only (250 Frank H. Ogawa Plaza, Suite 3315, Oakland, 94612);  
City of Oakland Library - Main (125 14th St., Oakland, 94612);  
City of Oakland Library - Cesar E. Chavez Branch (3301 East 12th St., Oakland, 94601);  
City of Oakland Library - 81st Avenue Branch (1021 81st Ave., Oakland, 94621);  
City of Oakland Library - Dimond Branch (3565 Fruitvale Ave., Oakland, 94602);  
City of Oakland Library - Eastmont Branch (7200 Bancroft, Ste 211, Oakland, 94605); and  
San Francisco Public Library – Main (100 Larkin St., San Francisco, 94102).

An electronic copy of the Draft FONSIs and Final EA are also available for public viewing at the VA Website (<http://www.northerncalifornia.va.gov/planning/Alameda>). Single electronic compact disk copies of the Draft FONSIs and Final EA will be made available upon request by contacting the VA at the address in this notice. There are a limited number of hard copies of the Draft FONSIs and Final EA.

**CONTACT INFORMATION:** For additional information concerning the Draft FONSIs or Final EA, please contact:

Douglas Roaldson  
Environmental Program Manager  
U.S. Department of Veterans Affairs/VISN 21  
201 Walnut Avenue, Room 1020  
Mare Island, CA 94592-1107  
Fax: 707-562-8369  
Email: [Alameda.EA@va.gov](mailto:Alameda.EA@va.gov)

**FINAL ENVIRONMENTAL ASSESSMENT  
TRANSFER OF EXCESS PROPERTY AND DEVELOPMENT OF  
AN OUTPATIENT CLINIC, OFFICES, AND NATIONAL CEMETERY  
AT THE FORMER NAVAL AIR STATION ALAMEDA, CALIFORNIA  
NOVEMBER 2013**

Lead Agencies: Department of Veterans Affairs (VA) and the Department of the Navy (Navy)  
Title of Proposed Action: Transfer of Excess Property and Development of an Outpatient Clinic, Offices, and National Cemetery at the Former Naval Air Station (NAS) Alameda, California  
Affected Jurisdiction: City of Alameda, County of Alameda, California  
Designation: Final Environmental Assessment (EA)

---

**ABSTRACT**

This Final EA evaluates the potential direct, indirect, and cumulative impacts on the human and natural environment resulting from the Navy and VA Proposed Action to transfer excess Federal property at the former NAS Alameda and its subsequent reuse by the VA. The Navy's Proposed Action is to dispose of excess property at the former NAS Alameda via a Federal-to-Federal (Fed-to-Fed) transfer to VA. The Navy's need for the Proposed Action is to comply with the Defense Base Realignment and Closure Act of 1990, as amended (Public Law 101-510, 10 USC 2687 [1994]). VA's Proposed Action is to establish a single location for combined services consistent with the national "One VA" goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area. VA's need for the Proposed Action is to serve, care for, honor, and memorialize San Francisco Bay Area Veterans in a manner that addresses the area's current and future capacity needs and provides a greater range of services at one location.

This Final EA analyzes two action alternatives that would involve a Fed-to-Fed transfer of excess Federal property. The land transferred would consist of approximately 549 acres under Alternative 1 or approximately 624 acres under Alternative 2. Both action alternatives would include the construction and operation of a VA outpatient clinic, outreach office, National Cemetery, and associated infrastructure on approximately 112 acres. The remaining acreage would remain undeveloped. Also evaluated is the No Action Alternative, in which the Navy would retain ownership of the property under caretaker status. Alternative 2 has been identified as the Preferred Alternative by VA. This Final EA has been prepared in accordance with the National Environmental Policy Act (NEPA) (Pub. L. 91-190, 42 U.S.C. 4321-4370f) and the implementing regulations of the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). The Navy and VA are joint lead agencies for the Proposed Action.

For additional information concerning this document, please contact:

Navy Base Realignment and Closure  
Program Management Office West  
Attn: Ms. Erica Spinelli  
1455 Frazee Road, Suite 900  
San Diego, California 92108  
Phone: (619) 532-0980  
Fax: (619) 532-0995  
Email: [erica.spinelli@navy.mil](mailto:erica.spinelli@navy.mil)

or

Department of Veterans Affairs VISN 21  
Attn: Mr. Douglas Roaldson  
201 Walnut Avenue, Room 1020  
Mare Island, CA 94592-1107  
Phone: (707) 562-8426  
Fax: (707) 562-8369  
Email: [Douglas.Roaldson@va.gov](mailto:Douglas.Roaldson@va.gov)

This page intentionally left blank.

## TABLE OF CONTENTS

Section	Page
<b>Executive Summary .....</b>	<b>ES-1</b>
Purpose and Need .....	ES-1
Project Area .....	ES-1
Background .....	ES-3
Scope of the Final EA .....	ES-4
NEPA Process and Public Involvement .....	ES-4
Identification of Alternatives .....	ES-6
Alternatives Considered in the Final EA .....	ES-7
Summary of Potential Environmental Impacts .....	ES-10
Summary .....	ES-12
<b>1.0 Introduction.....</b>	<b>1-1</b>
1.1 Purpose and Need .....	1-1
1.2 Project Area .....	1-5
1.3 NEPA Process and Public Involvement .....	1-7
1.4 Scope of this Environmental Assessment .....	1-9
1.5 Regulatory Overview and Required Federal Permits .....	1-9
<b>2.0 Alternatives, Including the Proposed Action.....</b>	<b>2-1</b>
2.1 Identification of Alternatives .....	2-1
2.2 Site Alternatives Considered but Eliminated from Detailed Analysis .....	2-1
2.3 Selection of VA Transfer parcel at Former NAS Alameda (Alameda County) .....	2-4
2.4 Description of Alternatives .....	2-9
2.5 References .....	2-20
<b>3.0 Affected Environment and Environmental Consequences .....</b>	<b>3-1</b>
3.1 Biological Resources .....	3.1-1
3.2 Water Resources .....	3.2-1
3.3 Transportation, Traffic, Circulation, and Parking .....	3.3-1
3.4 Cultural Resources .....	3.4-1
3.5 Visual Resources and Aesthetics .....	3.5-1
3.6 Land Use .....	3.6-1
3.7 Air Quality .....	3.7-1
3.8 Greenhouse Gas Emissions and Climate Change .....	3.8-1
3.9 Socioeconomics and Environmental Justice .....	3.9-1
3.10 Hazards and Hazardous Substances .....	3.10-1
3.11 Utilities .....	3.11-1
3.12 Noise .....	3.12-1
3.13 Public Services .....	3.13-1
3.14 Geology and Soils .....	3.14-1

**4.0 Cumulative Impacts..... 4-1**  
4.1 Assessment Methodology..... 4-1  
4.2 Geographic Scope and Time Frame ..... 4-2  
4.3 Direct and Indirect Effects of the Proposed Action..... 4-2  
4.4 Existing Resource Condition ..... 4-2  
4.5 Other Reasonably Foreseeable Present and Future Non-Project Actions ..... 4-37  
4.6 Cumulative Impact Analysis ..... 4-37  
**5.0 Other Considerations..... 5-1**  
5.1 Potential for Generating Substantial Controversy ..... 5-1  
5.2 Relationship of Short-Term Uses and Long-Term Productivity ..... 5-2  
5.3 Irreversible and Irretrievable Commitments of Resources..... 5-3  
5.4 Compliance with Environmental Laws and Regulations ..... 5-3  
**6.0 Identification of Mitigation Measures..... 6-1**  
**7.0 List of Preparers ..... 7-1**

**Appendices**

- A EA Public Involvement
- B Biological Resources Supporting Information
- C Wetland Delineation & Preliminary Jurisdictional Report
- D Transportation Impact Study
- E Cultural Resources Supporting Information
- F Air Quality and Greenhouse Gas Supporting Information
- G Noise and Vibration Assessment Worksheets
- H Geotechnical Assessment Report
- I Coastal Assessment Supporting Information

**Figures**

Figure ES-1: Project Area, Former NAS Alameda, Alameda, California ..... ES-2  
Figure ES-2: Alternative 1 Site Plan..... ES-9  
Figure ES-3: Alternative 2 Site Plan..... ES-11  
Figure 1-1: Project Area, Former NAS Alameda, Alameda, California ..... 1-2  
Figure 1-2: Existing Conditions, Project Area, Alameda, California..... 1-6  
Figure 2-1: Locations of Existing Buildings Considered but Eliminated at the Former NAS Alameda..... 2-6  
Figure 2-2: Alternative 1 Site Plan..... 2-10  
Figure 2-3: Alternative 2 Site Plan..... 2-17  
Figure 3.1-1: Vegetation and Wildlife Habitat, VA Transfer Parcel (Alternative 1)..... 3.1-4  
Figure 3.1-2: Vegetation and Wildlife Habitat, VA Transfer Parcel (Alternative 2)..... 3.1-5  
Figure 3.3-1: Project Vicinity Map ..... 3.3-4  
Figure 3.3-2: Intersection Analysis Locations in the Study Area ..... 3.3-7  
Figure 3.3-3: Lane Geometry of Study Intersections ..... 3.3-9  
Figure 3.3-4: Existing (2011) Traffic Volumes at Study Intersections ..... 3.3-10  
Figure 3.3-5: Background (2017) Traffic Volumes at Study Intersections ..... 3.3-12  
Figure 3.3-6: 2017 Plus Proposed Action Intersection Traffic Volumes—Alternatives 1 and 2..... 3.3-29  
Figure 3.5-1: Representative Views from the VA Transfer Parcel ..... 3.5-2  
Figure 3.5-2: Representative On-Site Views of the VA Transfer Parcel ..... 3.5-3

Figure 3.5-3:	Photograph Viewpoints from Publically Accessible Locations .....	3.5-5
Figure 3.5-4:	Publically Accessible Views of the VA Development Area .....	3.5-6
Figure 3.5-5:	Aerial Perspective (Looking Northwest) toward the Proposed VA Alameda Facilities at Buildout of Alternative 1 in 2117.....	3.5-14
Figure 3.5-6:	Aerial Perspective (Looking West) toward the Proposed VA Alameda Facilities at Buildout of Alternative 2 in 2117.....	3.5-16
Figure 3.5-7:	Aerial Perspective (Looking Northwest) toward the Proposed VA Alameda Facilities at Buildout of Alternative 2 in 2117.....	3.5-17
Figure 3.5-8:	Visual Simulations Looking Toward the Proposed VA Alameda Facilities (from Publically Accessible Views) at Buildout of Alternative 2 in 2117.....	3.5-18
Figure 3.5-9:	Conceptual Perspectives of the Front and Back of the Proposed VA Alameda Facilities .....	3.5-23
Figure 3.5-10:	Conceptual Perspectives Depicting the Columbarium Structures at Street and Aerial Viewpoints .....	3.5-24
Figure 3.5-11:	Conceptual Perspectives Depicting the Proposed Landscaping for the VA Development Area .....	3.5-25
Figure 3.8-1:	2007 U.S. Greenhouse Gas Emissions by Gas .....	3.8-6
Figure 3.8-2:	2008 California Greenhouse Gas Emissions by Sector (2000–2008 Emissions Inventory) .....	3.8-6
Figure 3.8-3:	Projected Sea Level Rise Inundation Areas at Former NAS Alameda (Alternative 1).....	3.8-13
Figure 3.8-4:	Projected Sea Level Rise Inundation Areas at Former NAS Alameda (Alternative 2).....	3.8-15
Figure 3.10-1:	Installation Restoration Sites and Areas of Concern on the VA Transfer Parcel (Alternative 1) .....	3.10-6
Figure 3.10-2:	Installation Restoration Sites and Areas of Concern on the VA Transfer Parcel (Alternative 2) .....	3.10-7
Figure 3.14-1:	Major Faults and Earthquake Epicenters in the San Francisco Bay Area .....	3.14-4
Figure 3.14-2:	Geologic Cross Section .....	3.14-8
Figure 3.14-3:	Location of Proposed Stone Columns .....	3.14-11
Figure 4-1:	Location of Cumulative Projects Identified Near the VA Transfer Parcel.....	4-43
Figure 4-2:	Intersection Traffic Volumes under Cumulative (2035) Baseline Conditions .....	4-55
Figure 4-3:	Intersection Traffic Volumes under Cumulative (2035) Baseline Conditions plus Proposed Action .....	4-59

## Tables

Table ES-1:	Summary of Proposed Development (Alternative 1 and 2) .....	ES-8
Table 2-1:	Siting Criteria for VA Facilities .....	2-2
Table 2-2:	VA Development Area under Alternative 1 .....	2-11
Table 2-3:	VA Development Area under Alternative 2 (Preferred Alternative) .....	2-18
Table 3.1-1:	Vegetation and Wildlife Habitat in VA Transfer Parcel (Alternative 1 and 2).....	3.1-6
Table 3.1-2:	Potential Effects - Vegetation and Wildlife Habitat in VA Transfer Parcel (Alternative 1) ...	3.1-16
Table 3.1-3:	Potential Effects - Vegetation and Wildlife Habitat in VA Transfer Parcel (Alternative 2) ...	3.1-26
Table 3.3-1:	Level-of-Service Definitions for Signalized Intersections .....	3.3-8
Table 3.3-2:	Level-of-Service Definitions for Roadway Segments.....	3.3-8
Table 3.3-3:	Intersection Levels of Service—Existing (2011) and 2017 Conditions .....	3.3-13
Table 3.3-4:	Roadway Segment Levels of Service—Existing (2011) and Near-Term (2017) Conditions..	3.3-14
Table 3.3-5:	AC Transit Service in the Project Vicinity.....	3.3-15
Table 3.3-6:	Year 2017 Person-Trip Generation for Alternatives 1 and 2.....	3.3-23
Table 3.3-7:	Year 2027 Person-Trip Generation for Alternatives 1 and 2.....	3.3-23
Table 3.3-8:	Trip Distribution for Alternatives 1 and 2, Phase 1.....	3.3-24
Table 3.3-9:	Mode Split for Alternatives 1 and 2 .....	3.3-25
Table 3.3-10:	2017 Trip Generation by Mode—Alternatives 1 and 2.....	3.3-26
Table 3.3-11:	Estimate of Construction Traffic—Alternatives 1 and 2.....	3.3-27
Table 3.3-12:	Intersection Levels of Service—2017 plus Alternatives 1 and 2 Conditions.....	3.3-30

Table 3.3-13:	Roadway Segment Levels of Service—2017 plus Alternatives 1 and 2 Conditions.....	3.3-31
Table 3.7-1:	Summary of Ambient Air Quality Standards and Attainment Designations (SFBAAB and Alameda County) .....	3.7-4
Table 3.7-2:	General Conformity Rule de minimis Thresholds (SFBAAB) .....	3.7-11
Table 3.7-3:	Summary of Modeled Annual Emissions of Criteria Air Pollutants and Precursors Associated with Construction Activities (Alternative 1 and 2).....	3.7-12
Table 3.7-4:	Summary of Modeled Maximum Annual Emissions of Criteria Air Pollutants and Precursors Associated with Operational Activities (Alternative 1 and 2).....	3.7-14
Table 3.7-5:	Summary of Modeled Maximum Annual Emissions of Criteria Air Pollutants and Precursors Associated with Operational Activities (Alternative 1 and 2), Full Buildout.....	3.7-15
Table 3.7-6:	Summary of Modeled Maximum Annual Emissions of Criteria Air Pollutants and Precursors Associated with Construction, Operational Plus Subsequent Cemetery Expansion, and Full Buildout Operational (Alternative 1 and 2).....	3.7-17
Table 3.8-1:	Characteristics of GHGs in Order of Contribution to CO <sub>2</sub> e.....	3.8-4
Table 3.8-2:	2007 Estimated Regional and Local Greenhouse Gas Emissions .....	3.8-7
Table 3.8-3:	Construction Greenhouse Gas Emissions (Metric Tons of Carbon Dioxide Equivalent) (Alternative 1 and 2).....	3.8-10
Table 3.8-4:	Operational Greenhouse Gas Emissions (Metric Tons of Carbon Dioxide Equivalent) per Year after Full Buildout (Alternative 1 and 2) .....	3.8-10
Table 3.9-1:	Study Area Population Estimates (2000–2010) .....	3.9-2
Table 3.9-2:	Study Area Income and Unemployment (2010).....	3.9-2
Table 3.10-1:	IR Site 2 CERCLA Chronology.....	3.10-9
Table 3.10-2:	IR Site 14 CERCLA Chronology .....	3.10-10
Table 3.10-3:	IR Site 33 CERCLA Chronology .....	3.10-11
Table 3.10-4:	IR Site 34 CERCLA Chronology .....	3.10-11
Table 3.11-1:	Estimated Solid Waste Generation during Construction (Alternatives 1 and 2).....	3.11-7
Table 3.11-2:	Estimated Operational Water Demands (Both Alternative 1 and 2) .....	3.11-8
Table 3.11-3:	Estimated Operational Solid Waste Generation (Alternatives 1 and 2).....	3.11-11
Table 3.12 1:	Representative Environmental Noise Levels.....	3.12-2
Table 3.12-2:	Human Response to Different Levels of Groundborne Vibration.....	3.12-3
Table 3.12-3:	Summary of Noise-Level Standards Recommended by the U.S. Environmental Protection Agency .....	3.12-4
Table 3.12-4:	Summary of Groundborne-Vibration Impact Criteria Recommended by the Federal Transit Administration .....	3.12-5
Table 3.12-5:	Summary of Vibration-Damage Criteria Recommended by the Federal Transit Administration.....	3.12-5
Table 3.12-6:	Existing Ambient Noise Levels in the Study Area.....	3.12-6
Table 3.12-7:	Noise Levels of Typical Construction Equipment .....	3.12-8
Table 3.12-8:	Predicted Traffic Noise Levels at Full Buildout of Alternative 1 (Year 2017).....	3.12-11
Table 3.13-1:	Alameda Fire Department Station 2: Average Response Times for All Emergency Calls, per Emergency Vehicle .....	3.13-2
Table 3.13-2:	Existing Alameda Recreation and Park Department Facilities within 0.5-Mile of the VA Transfer Parcel .....	3.13-3
Table 3.14-1:	Regional Faults and Seismicity .....	3.14-5
Table 4-1:	Cumulative Impacts Analysis.....	4-3
Table 4-2:	Cumulative Projects Identified Near the VA Transfer Parcel .....	4-37
Table 4-3:	Proposed Action (Year 2035) Person-Trip Generation (Alternatives 1 and 2) .....	4-53
Table 4-4:	Proposed Action (Year 2035) Trip Generation by Mode (Alternatives 1 and 2) .....	4-53
Table 4-5:	Intersection Levels of Service—Cumulative Baseline Conditions (without Proposed Action).....	4-56
Table 4-6:	Roadway Segment Levels of Service - Cumulative Baseline Conditions (without Proposed Action).....	4-57

Table 4-7: Intersection Levels of Service—Cumulative (2035) Baseline Conditions (without and with Proposed Action)..... 4-60

Table 4-8: Projected Unacceptable Intersections - Cumulative Conditions (Year 2017 and 2035) with and without the Proposed Action ..... 4-60

Table 4-9: Roadway Segment Levels of Service - Cumulative (2035) Baseline Conditions (without and with Proposed Action)..... 4-61

Table 6-1: Summary Table of Mitigation Measures ..... 6-3

---

## Acronyms

°F	Fahrenheit
µin/sec	1 microinch per second
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
AC Transit	Alameda–Contra Costa Transit District
ACHP	Advisory Council on Historic Preservation
ACTC	Alameda County Transportation Commission
AFD	Alameda Fire Department
ALS	advanced life support
ANPR	Advance Notice of Proposed Rulemaking
AOCs	Areas of Concern
APD	Alameda Police Department
ARB	Air Resources Board
Army	U.S. Department of the Army
ARRA	Alameda Reuse and Redevelopment Authority
ASTs	aboveground storage tanks
B.P.	Before Present
BA	biological assessment
BAAQMD	Bay Area Air Quality Management District
Bank	San Francisco Bay Wetland Mitigation Bank
BART	Bay Area Rapid Transit
Bay Area	San Francisco Bay Area
Bay Plan	San Francisco Bay Plan
BCDC	Bay Conservation and Development Commission
BGM	Greenhouse Gas Model
BH	Behavioral Health
BMPs	best management practices
BO	biological opinion
BRAC	Navy Base Realignment and Closure
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CAAQS	California ambient air quality standards
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CCSF	City and County of San Francisco
CEQ	Council on Environmental Quality

CERCLA	Comprehensive Environmental Response, Compensation, Liability Act
CFR	Code of Federal Regulation
CH <sub>4</sub>	methane
CHP	combined heat and power
clay	Bay Mud
CMP	Congestion Management Plan
CNEL	community noise equivalent level
CNG	compressed natural gas
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent
CUPA	Certified United Program Agency
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibels
dBA	A-weighted decibels
dBC	C-weighted decibels
DERP	Defense Environmental Restoration Program
diesel PM	diesel-fueled engines
DoD	U.S. Department of Defense
DPH	Department of Public Health
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EBMUD	East Bay Municipal Utility District
EBRPD	East Bay Regional Park District
EBS	environmental baseline survey
EISA	Energy Independence and Security Act
EMS	Emergency Medical Services
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FAWR	Friends of Alameda Wildlife Refuge
FEMA	Federal Emergency Management Agency
FFA	Federal Facility Agreement
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
FY	fiscal year
General Plan Amendment	Alameda Point General Plan Amendment
GHG	greenhouse gas

---

gsf	gross square feet
GWh	gigawatt-hours
GWP	global warming potential
HAP	hazardous air pollutants
HCM	Highway Capacity Manual
HFC	hydrofluorocarbon
high GWP gases	high global warming potential gases
HSWA	Hazardous and Solid Waste Amendments
HVAC	heating, ventilation, and air conditioning
I-880	Interstate 880
I-980	Interstate 980
IBC	International Building Code
ICC	International Code Council
ICs	institutional controls
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
IR	Installation Restoration
IRP	Installation Restoration Program
ITE	Institute of Transportation Engineers
L <sub>dn</sub>	day/night average sound level
LEED®	Leadership in Energy and Environmental Design
L <sub>eq</sub>	energy-equivalent noise level
LID	low-impact development
LNG	liquefied natural gas
LOS	level of service
MACT or BACT	maximum or best available control technology
MBTA	Migratory Bird Treaty Act
mgd	gallons per day
MMI	Modified Mercalli Intensity
mph	miles per hour
MPPEH	munitions potentially presenting an explosive hazard
MS4s	municipal separate storm sewer systems
MSAs	munitions storage areas
msl	mean sea level
MT	metric tons
MTC's	Metropolitan Transportation Commission's
MTS	Metropolitan Transportation System
MUN	Municipal and Domestic Supply
N <sub>2</sub> O	nitrous oxide
NAAQS	national ambient air quality standards

NAGPRA	Native American Graves Protection and Repatriation Act
NAS	Naval Air Station
Navy	U.S. Department of the Navy
NCA	National Cemetery Administration
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEHRPA	National Earthquake Hazards Reduction Program Act
NEPA	National Environmental Policy Act of 1969
NESHAPs	national emissions standards for HAPs
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPRA	National Park and Recreation Association
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
O <sub>3</sub>	ozone
OAB	Oakland Army Base
OBRA	Oakland Base Reuse Authority
ODSs	ozone-depleting substances
OMB	Office of Management and Budget
OPC	Outpatient Clinic
OSHA	Occupational Safety and Health Administration
PA/SI	Preliminary Assessment/Site Inspection
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyls
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
PM	particulate matter
PM <sub>10</sub>	10 micrometers or less
PM <sub>2.5</sub>	fine particulate matter
POV	Personnel Occupied Vehicles
ppb	parts per billion
ppm	part per million
ppT	parts per trillion
PPV	peak particle velocity

---

RCRA	Resource Conservation and Recovery Act of 1976
Region GC	Alameda and West Oakland
Reuse Plan	NAS Alameda Community Reuse Plan
RHB	Radiological Health Branch
RI/FS	Remedial Investigation/Feasibility Study
RMS	root mean square
ROD	Record of Decision
ROG	reactive organic gases
RWQCBs	regional water quality control boards
SARA	Superfund Amendments and Reauthorization Act
SF <sub>6</sub>	sulfur hexafluoride
SFBAAB	San Francisco Bay Area Air Basin
SHPO	State Historic Preservation Officer
SI	Site Investigation
SO <sub>2</sub>	sulfur dioxide
SR	State Route
Sr-90	strontium-90
stratosphere	upper atmosphere
SVOC	semivolatile organic compounds
SWMUs	solid waste management units
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
TCRAs	time-critical removal actions
TMDL	total maximum daily load
TPH	total petroleum hydrocarbons
tpy	tons per year
troposphere	lower atmosphere
TSCA	Toxic Substances Control Act
URBEMIS	URBEMIS2007
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMPs	Urban water management plans
V/C	volume-to-capacity
VA	U.S. Department of Veterans Affairs
VA SSPP	Veterans Affairs Strategic Sustainability Performance Plan
VBA	Veterans Benefits Administration
VdB	vibration decibels
VHA	Veterans Health Administration

---

VOC	volatile organic compound
WWTP	Wastewater Treatment Plant
µg/L	micrograms per liter
µg/m	microgram per cubic meter

This page intentionally left blank.

## EXECUTIVE SUMMARY

This Final Environmental Assessment (EA) evaluates the potential direct, indirect, and cumulative impacts on the human and natural environment resulting from the Department of the Navy (Navy) and Department of Veterans Affairs (VA) Proposed Action to transfer excess Federal property at the former NAS Alameda and its subsequent reuse by the VA. The Navy's Proposed Action is to dispose of excess property at the former Naval Air Station (NAS) Alameda via a Federal-to-Federal (Fed-to-Fed) transfer to VA. The VA Proposed Action is to establish a single location for combined services consistent with the national "One VA" goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area. The Navy would be responsible for transfer of excess Federal property, and VA would be responsible for site preparation activities and the construction and operation of the proposed facilities. In addition, VA would be responsible for implementation of mitigation measures identified in this EA.

This Final EA has been prepared in accordance with the National Environmental Policy Act (NEPA) (Pub. L. 91-190, 42 U.S.C. 4321-4370f) and the implementing regulations of the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). The Navy and VA are joint lead agencies for the Proposed Action.

### PURPOSE AND NEED

The Navy's purpose for the Proposed Action is to transfer excess property at the former NAS Alameda via a Fed-to-Fed transfer to VA. The Navy's need for the Proposed Action is to comply with the Defense Base Realignment and Closure Act of 1990, as amended. The 1993 Defense Base Closure and Realignment (BRAC) Commission recommended the closure of NAS Alameda.

VA's purpose is to establish a single location for combined services consistent with the national "One VA" goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area. VA's need for the Proposed Action is to serve, care for, honor, and memorialize San Francisco Bay Area (Bay Area) Veterans in a manner that addresses the area's current and future capacity needs and provides a greater range of services at one location.

### PROJECT AREA

The project area, referred to as the VA Transfer Parcel, is located within the southwest corner of the former NAS Alameda property. The VA Transfer Parcel is comprised of the airfield area of the former NAS Alameda, which consists of inactive runways and support facilities. In addition, a California Least Tern<sup>1</sup> (CLT) colony is located within a 9.7-acre fenced area of the former airfield (see Figure ES-1). The VA Transfer Parcel is bordered by the San Francisco Bay to the west and south, and the remainder of the former NAS Alameda property, now referred to as Alameda Point, to the east and north. The City of Alameda is located east of the VA Transfer Parcel and the City of Oakland is located farther to the northeast. The majority of the VA Transfer Parcel is located within Alameda County, but a small portion in the southwest corner of the parcel is located in San Francisco County.

---

<sup>1</sup> The California Least Tern (*Sterna antillarum browni*) is a Federally listed endangered migratory bird.



Source: Data compiled by AECOM in 2012

**Figure ES-1: Project Area, Former NAS Alameda, Alameda, California**

Depending on the action alternative selected, the VA Transfer Parcel would be either approximately 549 acres (Alternative 1) or 624 acres (Alternative 2) in size. Both action alternatives would include an approximate 112-acre VA Development Area within the larger VA Transfer Parcel. The remaining acreage within the VA Transfer Parcel, including the CLT colony, would remain undeveloped. The VA would also construct an off-site access utility/road corridor on approximately 6 acres of land to the east of the VA Transfer Parcel.

## BACKGROUND

The U.S. Department of Defense (DoD) has been reducing its basing and staffing requirements to match current force structure plans. As part of the process the 1993 BRAC Commission recommended the closure of NAS Alameda. In 1996, in response to the Federal screening process, U.S. Fish and Wildlife Service (USFWS) submitted a request for a portion of the land area that is the subject of VA's current request for property transfer. This property included the CLT colony and surrounding lands (including submerged lands) and was identified by USFWS as a proposed area for a national wildlife refuge. During a period from 2000–2001, USFWS and the Navy attempted to negotiate a memorandum of understanding for the property transfer to occur in 2003, however, the agencies reached an impasse regarding transfer of this property. Subsequently, the Navy engaged in discussions with other Federal entities that had a long-term need to acquire lands to support their missions. VA expressed interest in the property and submitted a formal request for the property in 2006 through a Fed-to-Fed property transfer. The submerged lands considered for transfer in USFWS's prior property request are not included in the proposed Fed-to-Fed transfer to VA.

The VA (i.e., Veterans Health Administration [VHA], Veterans Benefits Administration [VBA], and National Cemetery Administration [NCA]) currently provides services in the Bay Area. However, existing VA facilities are undersized and lack necessary specialty services to serve the Bay Area's current and projected Veteran populations. Additionally, these services are provided in multiple locations within a radius of nearly 100 miles, thus often requiring Veterans to travel substantial distances to receive necessary services and care. The VA Transfer Parcel has been identified by VA as the preferred location for its Proposed Action (i.e., construction and operation of a new OPC, VBA Outreach Office, and NCA Cemetery). The VA Transfer Parcel site best meets VA's purpose and need and siting criteria, including:

- Located within the desired VHA and NCA service areas, in this case Northern Alameda County and the Bay Area, respectively;
- The site is large enough to co-locate all components of the Proposed Action (i.e., OPC, VBA Outreach Office, and NCA Cemetery) at one site to meet the One VA goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area;
- The site is not located in close proximity to sensitive land uses such as churches, schools, and aircraft flight paths;
- The site has sufficient space to meet future needs for NCA Cemetery internments (i.e., space to expand for at least 100 years);
- The Fed-to-Fed transfer would allow VA to own the property; and
- The site is accessible to existing utility infrastructure and transportation networks.

The One VA goal allows VA to create synergies and realize operational efficiencies by closely aligning the physical spaces used for various VHA, VBA, and NCA functions and services. Synergies and operational efficiencies include using shared space to reduce duplicate facility and utility expenses, aligning staff and programs to increase efficiency, and improving accessibility to multiple services to meet Veterans' needs.

## **SCOPE OF THE FINAL EA**

This Final EA evaluates the potential direct, indirect, short-term, and long-term impacts on the human and natural environment resulting from the Proposed Action. The Final EA also addresses potential cumulative impacts that may result from reasonably foreseeable projects in the region. The analysis of potential impacts is based on the full build-out of the Proposed Action. The Final EA documents the Navy's and VA's compliance with the requirements of NEPA, as amended and the CEQ regulations implementing NEPA (40 CFR Sections 1500-1508).

Resource areas examined in this Final EA and potentially impacted include biological resources; water resources; transportation, traffic, circulation, and parking; cultural resources; visual resources and aesthetics; land use; air quality; greenhouse gas emissions and climate change; socioeconomics and environmental justice; hazards and hazardous substances; utilities; noise; public services; and geology and soils.

## **NEPA PROCESS AND PUBLIC INVOLVEMENT**

NEPA establishes an environmental review process for actions undertaken by Federal agencies. The review process is intended to help public officials make decisions based on an understanding of the environmental consequences and take actions that protect, restore, and enhance the environment (40 CFR 1500.1). Further, the NEPA process recognizes the importance of public involvement in the agency decision-making process.

### **Public Scoping Period**

In accordance with CEQ regulations (40 CFR 1506.6, "Public Involvement"), the Navy and VA initiated a scoping period in December 2008 by mailing and publishing a notice of public scoping to Federal, State, and local agencies, and members of the public known or expected to be interested in the Proposed Action. The purpose of the scoping period was to provide an opportunity for agencies and members of the public to comment on the potential environmental issues and concerns regarding the Proposed Action and to determine the scope of issues to be addressed in this Final EA. The scoping period began on December 8, 2008 and ended on January 20, 2009 (total of 43 days). In addition, a public information meeting was held on December 18, 2008, at the *USS Hornet* Museum (707 West Hornet Avenue, Alameda, CA). Comments received addressed a variety of concerns, including increased traffic; the effects of a community hospital and helipad that was initially proposed as part of the VA development; and the effect of the project on the CLT.

The Navy and VA considered the comments received during the scoping process to help determine the range of issues and alternatives to be evaluated in this Final EA. Further, based on agency and public concerns received during the scoping period, VA modified the total scale of development in its original 2008 Proposed Action, by eliminating a proposed VA hospital (250,000 gross square feet [gsf]) and helipad and by reducing the total area of office space. Materials related to the EA Public Scoping Period and Public Information Meeting are provided in Appendix A (EA Public Involvement).

---

## Public Review of Draft EA

As part of the NEPA process, the Navy and VA released the Draft EA for a 56-day (February 22 - April 19, 2013) public review and comment period.<sup>2</sup> During this time period, a total of three separate public meetings were held on two separate days. Each meeting was preceded by an open information session to allow interested individuals to review information presented in the Draft EA. Navy and VA representatives were available during the information session to provide clarification as necessary related to the Draft EA. The three meetings were held at the following locations:

1. March 14, 2013, 1:00 – 3:00 p.m. - USS Hornet Museum, 707 W Hornet Avenue, Pier 3, Alameda, CA 94501;
2. March 14, 2013, 6:00 – 8:00 p.m. - USS Hornet Museum, 707 W Hornet Avenue, Pier 3, Alameda, CA 94501; and
3. April 10, 2013, 4:00 – 7:00 p.m. - City of Alameda Albert H. Dewitt Officers' Club, 641 West Redline Avenue, Alameda, CA 94501.

Two Notices of Availability (NOAs) announcing the public review period, public meetings, and extension of the public review period were published in local newspapers (*Alameda Times-Star*, *Oakland Tribune*, and *San Francisco Chronicle*) and mailed to Federal, State and local agencies, and interested members of the public. The NOAs are provided in Appendix A (EA Public Involvement). Electronic copies of the Draft EA were mailed to Federal, State, and local agencies and interested members of the public and posted to the Navy's BRAC Program Management Office Website (<http://www.bracpmo.navy.mil>) and VA's Website (<http://www.northerncalifornia.va.gov/planning/Alameda>). Electronic copies of the Draft EA were also provided to individuals by request, and hard copies made available for review at 11 public locations.

The purpose of the review and comment period was to collect public comments on the Draft EA. Federal, State, and local agencies and members of the public were encouraged to review and comment on the Draft EA during the 56-day public review period. Attendance and participation at the meeting was not required to provide comments. Federal, State, and local agencies, as well as interested parties, were also encouraged to review and comment on the Draft EA by mail, fax, and email. Equal weight was given to all comments received regardless of method received.

The Final EA has been revised, as appropriate, in response to the public comments received during the review and comment period and have been considered by VA and the Navy to evaluate the Proposed Action's alternatives and environmental impacts for purposes of making a final decision. Draft EA comments received and the Navy and VA's responses are presented in Appendix A (EA Public Involvement).

---

<sup>2</sup> Based on comments from the public, the review and comment period was extended from 30 days to 56 days, and a third public meeting was held on April 10, 2013.

---

## Public Availability of Final EA

The Navy and VA have made this Final EA and the NEPA decision documents available to the public. An NOA announcing the availability of the Final EA and NEPA decision documents was published in the local newspapers (*Alameda Times-Star*, *Oakland Tribune*, and *San Francisco Chronicle*) and mailed to Federal, State, and local agencies and interested members of the public. Electronic copies of the Final EA and NEPA decision documents were mailed to Federal, State, and local agencies and interested members of the public and posted to VA's Website (<http://www.northerncalifornia.va.gov/planning/Alameda>). Electronic copies of the Final EA and NEPA decision documents were also provided to individuals by request, and hard copies were made available at the same public locations that the Draft EA was made available.

## IDENTIFICATION OF ALTERNATIVES

To identify alternatives, VA and the Navy rigorously explored and objectively considered other potentially reasonable alternatives to the Proposed Action. As part of the alternatives planning process, a range of preliminary site alternatives were identified and then screened against the Proposed Action's purpose and need as well as VA siting criteria. Through this process, some alternatives were eliminated from further consideration and the remaining alternatives were studied in detail as part of this NEPA review.

The planning process for establishing a new VA facility to serve Bay Area Veterans began in 2004. At the start of the planning process, various alternative locations in the Bay Area were considered. The alternatives ranged from consideration of separate sites for each of the VA Administrations (i.e., VHA, VBA, and NCA) to a single site large enough to fit all of the project components (i.e., One VA goal). For each of the three VA Administrations, alternative site locations were evaluated against specific siting criteria that were developed and used to screen and reduce the number of alternatives considered. Geographic location, site size, and land use compatibility were the primary screening factors, along with the ability of each alternative to meet the Proposed Action's purpose and need. In addition, the planning process considered the One VA goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area. Chapter 2 of the Final EA describes the VA's siting criteria.

On August 30, 2011, the Navy and VA submitted a Biological Assessment (BA) to the USFWS and requested formal Section 7 consultation, pursuant to Section 7(a)(2) of the Endangered Species Act (ESA), for the Proposed Action, which at the time was the project as described under Alternative 1 in this EA. Following submission of the BA, the USFWS notified the Navy and VA on September 29, 2011 that USFWS was unable to initiate formal consultation, citing a desire for additional information. The USFWS, Navy, and VA then met numerous times to discuss the additional information needs as well as concerns regarding potential impacts of the project on the CLT. As a result of these discussions, the USFWS, Navy, VA, City of Alameda, and East Bay Regional Parks District (EBRPD) worked collaboratively to revise the project to minimize potential adverse affects of the Proposed Action on the CLT. This collaborative process resulted in the development of Alternative 2, which moved the proposed VA Development Area north, farther away from the CLT colony.

---

## ALTERNATIVES CONSIDERED IN THE FINAL EA

This Final EA analyzes two action alternatives that would involve a Fed-to-Fed transfer of excess Federal property; this area is referred to as the VA Transfer Parcel. The land transferred would consist of approximately 549 acres under Alternative 1 or approximately 624 acres under Alternative 2. Both action alternatives would include the construction and operation of a VHA Outpatient Clinic, VBA Outreach Office, Conservation Management Office, NCA Cemetery, and associated infrastructure on approximately 112 acres; this area is referred to as the VA Development Area. The remaining acreage would remain undeveloped. VA would also construct an off-site utility/road corridor on approximately 6 acres of land to the east of the VA Transfer Parcel. Also evaluated is the No Action Alternative, in which the Navy would retain ownership of the property under caretaker status. Alternative 2 has been identified as the Preferred Alternative by the VA. The alternatives examined are described below.

### Alternative 1

Under Alternative 1, the Navy would transfer approximately 549 acres to VA via a Fed-to-Fed transfer. Following the Fed-to-Fed transfer, VA would construct and operate a VHA OPC, VBA Outreach Office, NCA Cemetery, Conservation Management Office, and associated infrastructure on approximately 111 acres of the total VA Transfer Parcel. VA would also construct an off-site utility/road corridor on approximately 6 acres of land to the east of the VA Transfer Parcel. The remaining 438 acres of the VA Transfer Parcel, including the existing CLT colony, would remain undeveloped. The undeveloped portion of the VA Transfer Parcel would be managed for the long-term persistence and sustainability of the CLT colony and access would be restricted during the CLT breeding/nesting season (April 1 through August 15).

Construction would take approximately 18 months to complete and would include development of the VHA OPC and associated parking on 20 acres; access road and utilities infrastructure on 11 acres; the Conservation Management Office; and the first phase of the cemetery development on an estimated 20 acres of the total 80-acre cemetery area. The remainder of the cemetery area would remain undeveloped until there is a need for additional columbarium niches. VA typically phases cemetery development based on the demand expected during a 10-year period; VA estimates that approximately 25,000 columbarium niches (on approximately 6 acres) would be developed approximately every 10 years to meet the burial needs of Bay Area Veterans. Based on this phasing schedule, the final phase of the cemetery would be constructed around the year 2116.

The project components of Alternative 1 are summarized in Table ES-1 and illustrated in Figure ES-2. Additional information on the various project components are described in Chapter 2 of the Final EA.

### Alternative 2 (Preferred Alternative)

Under Alternative 2, the Navy would transfer approximately 624 acres to VA via a Fed-to-Fed transfer. Following property transfer, VA would construct and operate the identical development components as identified in Alternative 1, including an OPC, VBA Outreach Office, NCA Cemetery, Conservation Management Office, and associated infrastructure on approximately 112 acres of the total VA Transfer Parcel. VA would also construct an off-site utility/road corridor on approximately 6 acres of land to the east of the VA Transfer Parcel. Under

**Table ES-1: Summary of Proposed Development (Alternative 1 and 2)**

Project Component	Alternative 1		Alternative 2 (Preferred Alternative)	
	GSF	Acres	GSF	Acres
<b>VA Development Area</b>				
<b>Outpatient Clinic</b>	<b>158,000</b>	<b>20</b>	<b>158,000</b>	<b>20</b>
VHA Ambulatory Care Services	50,000		50,000	
VHA Specialty Services	25,000		25,000	
VHA Mental Health Services	25,000		25,000	
VHA Pharmacy/Lab/Radiology Services	18,500		18,500	
VHA Clinic Management/Education Space	4,000		4,000	
VHA Lobby	1,500		1,500	
EMS/Medical Administration	12,500		12,500	
Canteen	7,500		7,500	
Police Services	1,500		1,500	
VBA Outreach Offices	5,000		5,000	
Courtyard	NA		NA	
Surface Parking (632 spaces)	NA		NA	
NCA Offices and Public Information Center	7,500		7,500	
<b>NCA Cemetery</b>	<b>2,700</b>	<b>80</b>	<b>2,700</b>	<b>80</b>
West Cemetery Committal Service Shelters	1,800	50	NA	NA
East Cemetery Committal Service Shelters	900	30	NA	NA
<b>Conservation Management Office</b>	<b>2,500</b>	<b>See note<sup>1</sup></b>	<b>2,500</b>	<b>2</b>
<b>On-site Utility/Road Infrastructure</b>	<b>NA</b>	<b>11</b>	<b>NA</b>	<b>10</b>
<i>SUBTOTAL</i>	163,200	111	163,200	112
<b>VA Undeveloped Area</b>				
Undeveloped Managed Open Space <sup>2</sup>	NA	438	NA	512
<b>Total VA Transfer Parcel</b>				
<i>TOTAL</i>	163,200	549	163,200	624
<b>Off-site Utility/Road Corridor</b>				
Off-site Utility/Road Corridor	NA	6	NA	6

Notes: GSF = gross square feet; NA = not applicable; NCA = National Cemetery Administration; VA = Department of Veterans Affairs; VBA = Veterans Benefits Administration; VHA = Veterans Health Administration; EMS = emergency medical service

<sup>1</sup> Acreage is part of gross square footage for East Cemetery Committal Service Shelters.

<sup>2</sup> The undeveloped portion of the VA Transfer Parcel would be managed for the long-term persistence and sustainability of the CLT colony and access would be restricted during the CLT breeding/nesting season (estimated to be from April 1 through August 15).



Source: Data compiled by AECOM in 2012

**Figure ES-2:**

**Alternative 1 Site Plan**

Alternative 2, the VA Development Area is located farther north than under Alternative 1. The placement of the VA Development Area under Alternative 2 moves the proposed development farther away from the CLT colony. In addition, the OPC, NCA Cemetery, Conservation Management Office, and access road would have a different configuration than under Alternative 1. The project components of Alternative 2 are summarized in Table ES-1 and illustrated in Figure ES-3.

The remaining 512 acres of the VA Transfer Parcel, including the existing CLT colony, would remain undeveloped. The undeveloped portion of the VA Transfer Parcel would be managed for the long-term persistence and sustainability of the CLT colony and access would be restricted during the CLT breeding/nesting season (April 1 through August 15).

### **No Action Alternative**

Under this alternative, the Fed-to-Fed transfer would not take place, and no VA facilities would be constructed on the site. Under the No Action Alternative, the property would be retained by the Navy in caretaker status until another action was taken on the property. No construction or redevelopment of the property would take place. On-site activities would be limited to maintenance, cleanup, and other actions associated with the Navy's caretaker status of the site. The Navy would continue its environmental cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The VHA and VBA services would remain at the current locations, or because leasing arrangements would expire for some facilities, they would be relocated to other locations. For the NCA Cemetery, Bay Area Veterans would use the San Joaquin National Cemetery in Santa Nella, California (approximately 100 miles away), the Sacramento Valley National Cemetery (65 miles away), or a private cemetery.

The No Action Alternative is evaluated in detail in this EA as prescribed by CEQ regulations and provides a baseline for analysis of the action alternatives.

## **SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS**

The impact analysis compares projected future conditions to the affected environment. For each resource area, the potential construction or operational impacts are identified, if applicable. Table ES-2 presents a summary of the potential impacts resulting from the Proposed Action. More information on the impacts analysis for each resource area, including a description of the existing environment, assessment methodology, and description of potential effects is included in Chapter 3.

Each identified impact is characterized according to its significance. Impacts are either significant (with corresponding mitigation, as feasible) or not significant, or significant and unavoidable where mitigation is not feasible or would not eliminate or reduce the impact to not significant. The Navy would be responsible for transfer of excess Federal property and VA would be responsible for the construction and operation of the proposed facilities. In addition, VA would be responsible for implementation of, if applicable, the mitigation and avoidance measures identified in this EA.



Source: Data compiled by AECOM in 2012

**Figure ES-3:**

**Alternative 2 Site Plan**

## SUMMARY

Under NEPA, the Federal agency proposing an action must evaluate the environmental effects (impacts) that can reasonably be anticipated to be caused by or result from the Proposed Action and alternatives. The Proposed Action will be required to comply with Federal, State, and local laws and regulations. The potential environmental impacts that have been evaluated are those impacts which can reasonably be expected to result from the lawful implementation of the Proposed Action. In identifying direct impacts and reasonably foreseeable indirect impacts, the Navy and VA have taken into account all applicable measures and restrictions protective of human health and the environment that are required by existing laws and regulations. In many instances, the existence of such laws and regulations renders impacts that might have occurred in the absence of such laws highly unlikely and not reasonably foreseeable. In other instances, such laws and regulations work to lessen potential impacts to levels that are not significant. Because compliance with applicable laws is mandatory for the action proponent, compliance with the requirements of such laws and regulations is generally not identified separately as mitigation. Measures or controls that can be taken to reduce impacts to a level that is not significant are suggested for each alternative, as appropriate.

The Navy's Proposed Action is to dispose of excess property at the former NAS Alameda via a Fed-to-Fed transfer to VA. Transfer of the property by the Navy to the VA, an administrative action, would not, in itself, have a direct adverse impact on the human and natural environment. Therefore, this EA's impact analysis is focused on the potential impacts resulting from the VA's subsequent construction and operation of a VHA OPC, VBA Outreach Office, Conservation and Management Office, NCA Cemetery, off-site utility/road corridor, and associated infrastructure.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
<b>Biological Resources (see Final EA Section 3.1 for more information)</b>			
Vegetation and Wildlife Habitat	<p>No significant impact. Alternative 1 would result in the modification or loss of the existing vegetation and wildlife habitat area in an area limited to the VA Development Area. The majority of this area is comprised of marginal habitat (i.e., ruderal disturbed and nonnative annual grassland). To reduce the adverse impact (i.e., direct removal of, placement of fill into, or hydrological interruption of Federally protected wetlands resulting in a net loss) to the northern coastal salt marsh and seasonal wetlands habitat within the VA Development Area to less than significant, the VA will implement Mitigation Measure BIO-1. With implementation there would be no significant impact to northern coastal salt marsh and seasonal wetlands habitats.</p> <p>Mitigation Measure BIO-1</p> <p>The Proposed Action is within the USACE San Francisco District’s San Francisco Bay Wetland Mitigation Bank (Bank). Nontidal/seasonal wetland and other waters within the service area may be eligible to use the Bank for mitigation on a case-by-case basis (i.e., for projects with impacts to nontidal/seasonal wetlands or other waters that may have been historic tidal wetlands or other waters). VA proposes a replacement ratio of 1:1 and shall consult with USACE to determine if a Bank, in-lieu fee, or permittee-responsible mitigation is the appropriate mitigation. Should mitigation credits be unavailable at the Bank to suit the needs of the project, VA shall seek out other methods to mitigate permanent impacts to nontidal/seasonal wetlands in consultation with the USACE.</p>	<p>No significant impact. Alternative 2 would result in the modification or loss of 4.4 less acres of existing vegetation and wildlife habitat than Alternative 1. As with Alternative 1, implementation of Mitigation Measure BIO-1 would result in no significant impact to northern coastal salt marsh and seasonal wetlands habitats.</p>	<p>No significant impact.</p>

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
	<p>There is the potential for indirect adverse effects from construction-related activities including sources of noise (e.g., construction traffic and the operation of construction equipment) and increased human presence during construction to spill over into the remaining VA Transfer Parcel, including the CLT colony. To minimize and avoid adverse effects on the CLT, the VA, would implement avoidance and minimizations measures to control noise and other potential adverse effects that would be expected during construction.</p> <p>In addition, habitat within the VA Development Area would be improved with the introduction of managed landscaping and the majority of the VA Transfer Parcel, including the CLT colony and other existing wetlands (e.g., Runway and West Wetlands) would be left undeveloped open space.</p>		
<p>Federally Listed Threatened and Endangered Species</p>	<p>A description of the potential effects to the CLT and western snowy plover and a summary of the avoidance and minimization measures that VA would implement to minimize adverse impacts to the CLT and western snowy plover is provided in Section 3.1 (Biological Resources) of this EA. If VA were to proceed with Alternative 1, VA would complete formal consultation under Section 7 of the ESA as is legally required. Subsequent NEPA analysis would also be required to incorporate the findings and conclusions of the Section 7 formal consultation into the biological resources analysis for Alternative 1.</p>	<p>No significant impact.</p> <p>Alternative 2, with the implementation of specific avoidance and minimization efforts, would not result in a significant adverse impact to the CLT. All activities would take place within the VA Development Area, approximately 1,400 to 1,800 feet from the CLT colony. The remaining VA Transfer Parcel (approximately 511 acres), including the CLT colony would be left undeveloped open space. No direct activities would occur outside the VA Development Area and would not result in the modification or direct disturbance of the CLT colony or the habitat immediately surrounding it.</p>	<p>No significant impact.</p>

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
		<p>However, implementation of Alternative 2 would result in the development of approximately 112 acres of currently vacant land (i.e., VA Development Area). The alignment of the majority of the VA Development Area under Alternative 2 is now located within a portion of the area known as the Northwest Territories, as identified in the City of Alameda 1996 Reuse Plan, which is farther away from the CLT colony than under Alternative 1. The development footprint under Alternative 2, was specifically designed to reduce the potential effects of the Proposed Action on the CLT, including providing and maintaining most of the site as undeveloped open space which provides a large buffer between the CLT colony and development. However, the reintroduction of uses within this former military airfield area would have the potential to have an effect on the CLT, including predation, perceived predation and human disturbance, and reduce the ability to conduct effective predator management at the site.</p> <p>Direct effects to the CLT would primarily consist of increased noise and traffic, which could have an effect on the CLT colony. In addition, increased human activities may increase habitat for predators of the CLT. There is the potential for indirect adverse effects from activities including sources of noise (e.g., traffic) and increased human presence. To reduce the adverse</p>	

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
		<p>effects as described above, to the CLT to less than significant, the VA will implement Mitigation Measure BIO-2 to minimize the potential for harm and harassment of the CLT resulting from the project related activities. With implementation there would be no significant impact to the CLT from construction.</p> <p>Mitigation Measure BIO-2</p> <p>To minimize potential adverse effects of the VA’s Proposed Action, the VA will implement specific avoidance and minimization measures, as identified in the 2012 USFWS BO (see Appendix B [Biological Resources Supporting Information]). The measures pertain to the Navy’s Fed-to-Fed transfer and VA’s subsequent construction and operation of the Proposed Action as described under Alternative 2 in this EA. The measures provide for the long-term conservation and management of the CLT, including implementing land use restrictions for long-term maintenance, management, and monitoring of the CLT. A summary of the avoidance and minimization measures that the VA will implement is included in Section 3.1 (Biological Resources) of the EA.</p> <p>Western Snowy Plover</p> <p>Current evidence suggests that western snowy plover visits the surrounding</p>	

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
		<p>area sporadically as a foraging migrant. The increased presence of humans and equipment during construction would increase the likelihood of disturbances (e.g., noise, light, etc.) to foraging and resting birds. These impacts would be intermittent, and are unlikely to affect the use of the site by snowy plover. Potential indirect effects of the project action on western snowy plover are generally shared and similar to those identified for CLT. Potential indirect effects would arise from increased human activity near foraging and potential nesting areas (CLT colony) and the daily use of new structures in the vicinity of the of these areas. Should the western snowy plover reestablish itself as a nesting species in the action area, effects on the species are likely to be identical to those identified for the CLT and thus the proposed avoidance and minimization measures for the CLT are also adequately protective.</p> <p>For additional information on the CLT, potential impacts, and proposed avoidance and mitigation measures see Section 3.1 (Biological Resources) of the EA.</p>	

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
Common Wildlife and Special Status Species	No significant impact. Common species would be affected through the removal of marginal habitat (non-native grasslands), and removal of existing vegetated areas within the VA Development Area. In addition, common wildlife in the VA Development Area would be subjected to increases in noise and dust associated with construction. As a result, some habitats would be reduced in extent during construction and some common species would temporarily decline in local abundance. However, potential impacts to common species and habitats would not be substantial due to the current low abundance of wildlife on the site. Consequently, any impacts of the project on common species and habitats would have a negligible effect on regional populations. In addition, habitat within the VA Development Area would be improved with the introduction of managed landscaping and the majority of the VA Transfer Parcel would be left undeveloped open space, which could be utilized by common wildlife.	Same as Alternative 1.	No significant impact.
Habitat Linkages and Corridors	No significant impact. Because activities would be confined to the VA Development Area, impacts to migratory corridors are not expected to occur. Further, because the CLT colony would be preserved, and potential future public access would be limited to the perimeter of this area these areas are anticipated to be utilized by wildlife through the operational period of the VA facilities.	Same as Alternative 1.	No significant impact.
<b>Water Resources (see Final EA Section 3.2 for more information)</b>			
Water Quality	No significant impact. During the construction period, excavation and grading activities would expose soil to water runoff and entrain sediment in the runoff. Through compliance with these	Same as Alternative 1.	No significant impact.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
	requirements and regulations, construction-related impacts on water quality would not be significant.		
<b>Groundwater Resources</b>	<b>No significant impact.</b>	<b>Same as Alternative 1.</b>	<b>No significant impact.</b>
Floodplains	No significant impact. The proposed final elevation for the developed areas would be 13.6 feet above msl. Thus, the finished elevation of the project facilities would be located above the FEMA base 100-year flood elevation of 7 feet above msl.	Same as Alternative 1.	No significant impact.
Coastal Consistency	No significant adverse impact would be expected. Alternative 1 is consistent with the provisions of the San Francisco Bay Plan and related San Francisco Bay Area Seaport Plan. The VA is coordinating with San Francisco Bay Conservation and Development Commission and the Final EA will include a description of the outcome of this coordination.	Same as Alternative 1.	No significant impact.
<b>Transportation, Traffic, Circulation, and Parking (see Final EA Section 3.3 for more information)</b>			
Transportation, Traffic, Circulation, and Parking	<p>No significant impact. Construction-related transportation impacts would be temporary and would not have an adverse effect on weekday peak-hour traffic conditions. Operationally, the Proposed Action (year 2017) would not adversely affect any of the 11 study intersections during the weekday a.m. peak hour, weekday p.m. peak hour, and Saturday peak hour. All study intersections would operate at level of service (LOS) D or better.</p> <p>In addition, Alternative 1 would add additional passengers to the municipal transit system, provide new pedestrian and bicycle amenities, add pedestrian users and bicyclist, provide on-site user specific surface parking, and improve site access and on-site circulation. None of these</p>	Same as Alternative 1.	No significant impact.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
	components would result in a significant adverse impact.		
<b>Cultural Resources (see Final EA Section 3.4 for more information)</b>			
Archaeological Resources	No significant impact. No known archaeological resources would be directly or indirectly affected by construction, because no such resources are located within the boundary of the VA Transfer Parcel. The Proposed Action would have no adverse effect on known archaeological resources.	Same as Alternative 1.	No significant impact.
Historic Resources	No significant impact. No known historic resources would be directly affected by construction because no such resources are present in that area.  The proposed development would not detract from location, design, character, setting, materials, workmanship, and feeling of the NAS Alameda Historic District, and the historic district would still be able to convey its significance as a naval station dating to the 1930s and World War II designed in the Moderne style.	Same as Alternative 1.	No significant impact.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
<b>Visual Resources and Aesthetics (see Final EA Section 3.5 for more information)</b>			
Views and Visual Character	<p>No significant impact. Landscaping, landform, and perimeter barrier measures would not add any substantial vertical elements, but they would serve to reduce the amount of new development visible from surrounding areas.</p> <p>The structures proposed would be located in the central and/or inner portions of the VA Development Area that are less visible from outside the boundary than locations along the perimeter. For the most part, the buildings proposed would not be visually dominant relative to the flat foreground portions of the site. In addition, views of these new buildings from outside the VA Development Area would be set back sufficiently from the boundaries to render them visually subordinate to other visible features. In addition, the visual character would be improved compared to existing conditions.</p>	Same as Alternative 1.	No significant impact.
Light and Glare	<p>No significant impact. Construction activity would occur during daytime hours. Some security lighting would be required in construction staging areas, which would have a small effect on the area's ambient light levels. The construction contractor would use lighting features that would be shielded and directed downward to minimize light spillover to neighboring undeveloped land. This construction-related impact related to light would not be significant.</p> <p>Most proposed operations would take place during daytime hours. Nighttime lighting would consist primarily of shielded and downward-directed low-level security lights. Because the proposed facilities would be set back from the</p>	Same as Alternative 1.	No significant impact.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
	boundaries of the VA Transfer Parcel, night lighting would not be substantially noticeable from the east or to the CLT colony to the south. No substantial increase in glare would result from operation under Alternative 1.		
<b>Land Use (see Final EA Section 3.6 for more information)</b>			
Existing and Surrounding Land Uses	No significant impact. Alternative 1 would not physically divide an established community; conflict with substantive requirements of local land use plans or policies (as Federally owned property, the VA Transfer Parcel would be outside the jurisdiction of local and State planning and zoning laws and regulations); and is compatible with and would not have a substantial adverse impact on the existing character and planned uses of the surrounding community.	Same as Alternative 1.	No significant impact.
<b>Air Quality (see Final EA Section 3.7 for more information)</b>			
Criteria Air Pollutants	No significant impact. Construction related emissions would be short-term and primarily occur within the VA Development Area. All construction activities would meet applicable regulations and pollution control requirements to prevent exceedance of air quality standards during construction. Construction-related emissions of criteria air pollutants would be less than <i>de minimis</i> thresholds. Proposed operations would generate criteria pollutant emissions from onsite area sources and vehicles that access the project site. Annual operational emissions would not exceed any of the <i>de minimis</i> thresholds.	Same as Alternative 1.	No significant impact.
Odors	No significant impact. Because of the distance between the nearest receptor and the area’s high winds, there would be no significant construction-related impact from odors. The land uses proposed for the VA Transfer Parcel are not	Same as Alternative 1.	No significant impact.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
	land uses that would typically generate substantial concentrations of odors. Therefore, it is unlikely that operation would expose sensitive receptors to substantial odor concentrations.		
<b>Greenhouse Gas Emissions and Climate Change (see Final EA Section 3.8 for more information)</b>			
Greenhouse Gas Emissions	<p>The potential effects of proposed GHG emissions are by nature global and cumulative in their impacts, since individual sources (i.e., Proposed Action) of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when proposed GHG emissions from an action combine with GHG emissions from other human-made activities on a global scale. Since GHG emissions from the proposed action would equate to such a minimal amount of the U.S inventory, they would not substantially contribute to global climate change.</p> <p>Based on sea level rise predictions, sea level rise could cause flooding in some of the coastal areas of Alameda Island, including the VA Transfer Parcel and the VA Development Area. Specifically, the VA Development Area would be located in an area identified as potentially exposed to sea level rise. As part of construction of VA facilities, the ground elevation would be raised to a higher elevation than projected sea level rise. As a result, there would be no climate change–related sea level rise impacts at the proposed facilities through the year 2099.</p>	Same as Alternative 1.	No effect.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
<b>Socioeconomics and Environmental Justice (see Final EA Section 3.9 for more information)</b>			
Population, Employment, and Income	No significant impact. Construction and operation would result in a positive growth in both construction and operational employment. No significant adverse impact related to displacement of persons, residences, and/or businesses would occur.	Same as Alternative 1.	No significant impact.
Environmental Justice	No significant impact. The communities surrounding the VA Transfer Parcel do not have a disproportionately high minority or low-income population. In addition, there are no specific impacts on general health or quality of life that would adversely or disproportionately impact the surrounding population. Therefore, no disproportionate adverse environmental justice effects would occur.	Same as Alternative 1.	No significant impact.
<b>Hazards and Hazardous Materials (see Final EA Section 3.10 for more information)</b>			
Releases of Hazardous Substances, Pollutants, or Contaminants	No significant impact. The Navy would continue to perform its ongoing CERCLA obligations, including managing the investigation, remedy selection and remedial action phases, following the property transfer until completion of such obligations and approval by the regulatory agencies. Implementation of institutional controls (ICs) will allow the property to be developed for its intended use, subject to land use restrictions designed to prevent exposure to residual levels of hazardous materials. VA will comply with the CERCLA ICs and would not use the property for any use or activity that is prohibited by the ICs. Such compliance will ensure that the property after transfer will be used in a manner that is adequately protective of the environment and human health as required by CERCLA. Further, VA would be required to manage hazardous materials and wastes in	Same as Alternative 1.	No significant impact.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
	<p>accordance with applicable Federal, State, and local regulations.</p> <p>VA, as the Federal land manager and lead Federal agency after transfer, would be responsible for the release of environmental contaminants on the property identified after the date of transfer and for future and/or newly identified releases of environmental contaminants at, or from, the property that occur after the transfer. VA would not use the VA Transfer Parcel for any use or activity that is prohibited by CERCLA ICs. In addition, be responsible for any and all additional necessary remedial or corrective actions resulting from a change in land use set forth in VA land use plans revised following the date of property transfer.</p> <p>For any petroleum sites identified prior to transfer of the property, the Navy would continue to manage the investigation, corrective action plan, and corrective action implementation phases. The Navy’s responsibility for managing petroleum sites will cease upon the completion of corrective action or a no further action determination. VA would be responsible for managing lead-based paint, lead in soil, and asbestos in accordance with all applicable Federal, State, and local laws, regulations, or other requirements.</p>		
<p>Routine Use, Storage, Transport, or Disposal of Hazardous Materials</p>	<p>No significant impact. Hazardous materials uses and waste generation from proposed action operations and routine maintenance operations would not pose a substantial public health or safety hazard to the project vicinity.</p>	<p>Same as Alternative 1.</p>	<p>No significant impact.</p>

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
Exposure to Hazardous Materials via Upset and Accident Conditions	No significant impact. Compliance with applicable City, State, and Federal laws would minimize potential exposure to hazardous materials/waste, via upset and accident conditions and there would be no significant impact.	Same as Alternative 1.	No significant impact.
<b>Utilities (see Final EA Section 3.11 for more information)</b>			
Water Supply and Wastewater	No significant impact. The existing municipal system would be expected to have sufficient capacity to meet any future water supply and wastewater demands.	Same as Alternative 1.	No significant impact.
Stormwater Drainage Systems	No significant impact. With implementation of best management practices, stormwater infrastructure that would be constructed as part of the project would be appropriately sized.	Same as Alternative 1.	No significant impact.
Energy (Electricity, Natural Gas, and Fuel)	No significant impact. The existing electric and natural gas system would be expected to have sufficient capacity to meet any future energy demands.	Same as Alternative 1.	No significant impact.
Solid Waste Disposal	No significant impact. The anticipated volume of waste would be expected to be accommodated by landfills located in the region.	Same as Alternative 1.	No significant impact.
<b>Noise (see Final EA Section 3.12 for more information)</b>			
Noise	No significant impact. Construction and operation would not result in a substantial increase in the ambient noise environment.	Same as Alternative 1.	No significant impact.
Vibration	No significant impact. Construction and operation would not expose any sensitive human receptors to excessive levels of vibration.	Same as Alternative 1.	No significant impact.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
<b>Public Services (see Final EA Section 3.13 for more information)</b>			
Fire and Emergency Medical Services (EMS)	No significant impact. Construction and operational activities would not have a significant impact on fire and EMS services, including response times, site access, water supplies for fire suppression, or require an expansion of existing services.	Same as Alternative 1.	No significant impact.
Police Services	No significant impact. Development and use would not be expected to generate demand for additional municipal police services that would exceed existing capacity or result in an adverse impact to current service levels or require the need for an expansion of services.	Same as Alternative 1.	No significant impact.
Parks and Recreation	No significant impact. Alternative 1 includes an access road and sidewalk along the northern VA Development Area allowing limited access to additional open space and the shoreline. Further, the undeveloped portion of the VA Transfer Parcel, including the existing CLT colony, would remain undeveloped. The undeveloped area would add to the cumulative open space within the City of Alameda, a beneficial impact.	Same as Alternative 1.	No significant impact.
<b>Geology (see Final EA Section 3.14 for more information)</b>			
Erosion and Loss of Topsoil	No significant impact. Construction would require temporary disturbance of surface soils and removal of existing on-site pavement and existing subsurface infrastructure. Exposed fill materials would be susceptible to erosion during construction-related excavation. Stormwater runoff could cause erosion during project construction. With implementation of a stormwater pollution prevention plan (SWPPP), the construction-related impact of initial construction related to erosion and loss of topsoil would not be significant.	Same as Alternative 1.	No significant impact.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
Alteration of Topography	No significant impact. Construction would not involve any below-grade development or substantial change in the current topography. However, the topography in the VA Development Area would be raised above the current topography, but these changes would be contoured gradually over the development area.	Same as Alternative 1.	No significant impact.
Seismically Induced Ground Shaking and Associated Ground Failure	No significant impact. The project design would be required to include seismic safety-related features to mitigate the potential for seismically induced ground failure.	Same as Alternative 1.	No significant impact.
Seismically Induced Landslides or Slope Failures	No significant impact. No operational impact related to seismically induced landslides or slope failures would occur.	Same as Alternative 1.	No significant impact.
Expansive or Corrosive Soils	No significant impact.	Same as Alternative 1.	No significant impact.
<b>Cumulative Impacts (see Final EA Chapter 4 for more information)</b>			
Water Resources; Cultural Resources; Visual Resources and Aesthetics; Land Use; Air Quality; Greenhouse Gas Emissions; Socioeconomics and Environmental Justice; Hazards and Hazardous Substances; Utilities; Noise; Public Services; and Geology and Soils	No significant cumulative impact.	No significant cumulative impact.	No significant cumulative impact.
Biological Resources	If VA were to proceed with Alternative 1, VA would complete formal consultation under Section 7 of the ESA as is legally required. Subsequent NEPA analysis would also be required to incorporate the findings and conclusions of the Section 7 formal consultation into the biological resources analysis for Alternative 1.	No significant cumulative impact. There would be no significant adverse cumulative impacts from implementation of Alternative 2.	No significant cumulative impact.

**Table ES-2: Comparison of Alternatives – Potential Impacts**

Resource Area	Alternative 1	Alternative 2 (Preferred Alternative)	No Action Alternative
<p>Transportation, Traffic, Circulation, and Parking</p>	<p>No significant cumulative impact. During year 2035, the three intersections are projected to perform at unacceptable levels without the contribution of the Proposed Actions traffic. The deterioration of the performance of these intersections is a result from other foreseeable non-project actions occurring in the study area, including the redevelopment of Alameda Point. Importantly, with the Proposed Action, the intersections would already be performing at unacceptable levels by the year 2035. The minimal additional traffic resulting from the Proposed Action, will not, cumulatively, make the already unacceptable intersections significantly worse.</p> <p>Further, the total effect on the whole resource within the study area, even with the three intersections performing at unacceptable levels, would continue to operate at acceptable levels. Unlike a direct or indirect effect, a cumulative impact is an impact on the whole and not the individual parts or components of a resource. Therefore, there may not be a significant adverse cumulative impact even with three individual underperforming intersections. Therefore, as a total cumulatively impact, the Proposed Action would only minimally contribute to an adverse cumulative impact (i.e., minimal increase of projected delay at three already unacceptably performing intersections). However, the magnitude and significance of the cumulative effects, resulting from the Proposed Action, does not reach a level of magnitude to be considered a significant adverse cumulative impact on the total resource.</p>	<p>Same as Alternative 1.</p>	<p>No significant cumulative impact.</p>

This page intentionally left blank.

## 1.0 INTRODUCTION

This Final Environmental Assessment (EA) evaluates the potential environmental consequences resulting from the Department of the Navy's (Navy's) transfer of excess Federal property at the former Naval Air Station (NAS) Alameda to Department of Veterans Affairs (VA) and VA's subsequent construction and operation of an outpatient clinic, outreach office, National Cemetery, and associated infrastructure to serve San Francisco Bay Area (Bay Area) Veterans. The project area is shown in Figure 1-1.

This document has been prepared by the Navy and VA, acting as joint lead agencies, in accordance with:

- National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190, 42 U.S. Code [USC] 4321–4370f), as amended;
- Council on Environmental Quality (CEQ) regulations implementing the procedural provisions of NEPA (40 Code of Federal Regulations [CFR] 1500–1508);
- Navy procedures for implementing NEPA (32 CFR 775) and Office of the Chief of Naval Operations Instruction 5090.1C CH-1;
- Environmental Effects of Department of VA Actions (38 CFR 26); and
- VA NEPA Interim Guidance for Projects.

The Navy would be responsible for transfer of excess Federal property and VA would be responsible for site preparation activities and the construction and operation of the proposed facilities. In addition, VA would be responsible for implementation of mitigation measures identified in this EA.

### 1.1 PURPOSE AND NEED

#### 1.1.1 Navy Purpose and Need

##### **Navy Statement of Purpose and Need**

The Navy's purpose for the Proposed Action is to transfer excess property at the former NAS Alameda via a Federal-to-Federal (Fed-to-Fed) transfer to VA. The Navy's need for the Proposed Action is to comply with the Defense Base Realignment and Closure Act of 1990, as amended (Public Law 101-510, 10 USC 2687 [1994]). As described below, the 1993 Defense Base Closure and Realignment (BRAC) Commission recommended the closure of NAS Alameda.

##### **Navy Project Background**

The U.S. Department of Defense (DoD) has been reducing its basing and staffing requirements to match current force structure plans. As part of the process to close and realign military bases, the BRAC Commission recommended that the Secretary of Defense "... close NAS Alameda, California." The BRAC Commission's recommendation was approved by President Bill Clinton and accepted by the 103rd Congress in October 1993. NAS Alameda closed in 1997.



Source: Data compiled by AECOM in 2012

**Figure 1-1: Project Area, Former NAS Alameda, Alameda, California**

In 1996, the U.S. Fish and Wildlife Service (USFWS) submitted a request for a portion of the land area that is the subject of VA's current request for property transfer. This property included a California Least Tern<sup>1</sup> (CLT) colony and surrounding lands (including submerged lands), and was identified by USFWS as a proposed area for a national wildlife refuge. During a period from 2000–2001, USFWS and the Navy attempted to negotiate a memorandum of understanding (MOU) for the property transfer to occur in 2003, however, the agencies reached an impasse regarding transfer of this property. Subsequently, the Navy engaged in discussions with other Federal entities that had a long-term need to acquire lands to support their missions. VA expressed interest in the property and submitted a formal request for the property in 2006 through a Fed-to-Fed property transfer. The submerged lands considered for transfer in USFWS's prior property request are not included in the proposed Fed-to-Fed transfer to VA.

### 1.1.2 VA Purpose and Need

#### VA Statement of Purpose and Need

VA's purpose is to establish a single location for combined services consistent with the national "One VA" goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area. VA's need for the Proposed Action is to serve, care for, honor, and memorialize Bay Area Veterans in a manner that addresses the area's current and future capacity needs and provides a greater range of services at one location.

#### VA Project Background

VA was established as an independent agency under Executive Order 5398 on July 21, 1930, and elevated to Cabinet level on March 15, 1989 (Public Law 100-527). As an agency, VA includes a central office in Washington, D.C., and field facilities throughout the nation, which are administered by three major administrations:

- The Veterans Health Administration (VHA) provides medical and social support services to Veterans.
- The Veterans Benefits Administration (VBA) administers financial programs and other forms of assistance to Veterans and their families.
- The National Cemetery Administration (NCA) provides Veterans a final resting place and commemorates their service to the nation.

All three of these administrations currently provide VA services in the Bay Area. However, VA facilities are undersized and lack necessary specialty services to serve the Bay Area's current and projected Veteran populations. Additionally, these services are provided in multiple locations within a radius of nearly 100 miles, thus often requiring Veterans to travel to different locations to receive necessary services and care.

The One VA goal allows VA to create synergies and realize operational efficiencies by closely aligning the physical spaces used for various VHA, VBA, and NCA functions and services. Synergies and operational efficiencies include using shared space to reduce duplicate facility and utility expenses, aligning staff and programs to increase efficiency, and improving accessibility to multiple services to meet Veterans' needs.

---

<sup>1</sup> The California Least Tern (*Sterna antillarum browni*) is a Federally-listed endangered migratory bird.

The following elements would serve the needs of Veterans by providing new facilities at the former NAS Alameda:

- *VHA*—An Outpatient Clinic (OPC), consisting of an Ambulatory Care Clinic, VA/DoD Ambulatory Surgery Center, and potentially a jointly staffed VA/U.S. Coast Guard Women’s Health Clinic, to serve Veterans in northern Alameda County.
- *VBA*—A VBA Outreach Office co-located with VHA and NCA services in the VA OPC building to provide benefit services to Veterans on site.
- *NCA*—A columbarium-only, above-ground VA National Cemetery for cremated remains, to serve the long-term interment needs of Bay Area Veterans.

### ***Veterans Health Administration***

The mission of the VHA branch of VA is to serve the needs of America’s Veterans by providing primary care, specialized care, and related medical and social support services. In fulfillment of this mission, VHA provides comprehensive, integrated healthcare services to Veterans and other eligible persons pursuant to the provisions of the Veterans’ Health Care Eligibility Reform Act of 1996 (Public Law 104-262) and related other statutory authority and regulations (Public Laws 107-135 and 110-329), the Veterans’ Benefits Improvement and Health Care Authorization Act of 1986 (Public Law 99-576), and the Veterans Programs Enhancement Act of 1998 (Public Law 105-368).

The number of Veterans requiring VHA health benefits has grown during the last decade. The increase in the number of Veterans has resulted in a corresponding increase in demand for increased medical facilities on VA medical center campuses.

More than 9,000 Veterans are enrolled to use VHA’s clinical services in the Oakland/Alameda area; the number of patient visits has increased approximately 50% in the last five years. VHA currently operates two sites in Oakland that provide a variety of healthcare services: the Oakland OPC (the primary site) and the Oakland Behavioral Health (BH) Clinic. The Oakland OPC and BH Clinic are both located in buildings with leases due to expire after 2018. These facilities do not have the capacity to serve VHA’s current and future demands. The VHA needs a larger full-service outpatient clinic with mental health services as would be provided by the Proposed Action to meet these demands in the Alameda County area.

Veterans enrolled at the Oakland OPC who require specialty care and ambulatory surgical services that are not currently available at the Oakland facilities are typically referred to the Martinez OPC or the Sacramento VA Medical Center (approximately 24 and 92 miles away, respectively) for these services. The Proposed Action would provide a greater range of services at one location and reduce travel times in some cases.

### ***Veterans Benefits Administration***

The mission of the VBA branch of VA is to “to provide benefits and services to the Veterans and their families in a responsive, timely, and compassionate manner in recognition of their service to the Nation.” VBA administers programs that provide financial and other forms of assistance to Veterans, their dependents, and survivors. Major benefits include Veterans’ compensation, Veterans’ pension, survivors’ benefits, rehabilitation and employment assistance, education assistance, home loan guarantees, and life insurance coverage.

A recent growth in the population of Veterans has resulted in a corresponding increase in the demand for increased Veterans' benefits facilities. VBA has regional offices and intake sites around the nation. The VBA Oakland Regional Office is currently located in the Federal Building at 1301 Clay Street in Oakland. Under the Proposed Action, a VBA Outreach Office would be co-located with the VHA OPC to interface with the Oakland Regional Office providing more efficient coordination for staff and assistance for Veterans and their families at one location.

### ***National Cemetery Administration***

The mission of NCA is to honor the nation's Veterans with a final resting place in a national or state Veterans cemetery with lasting tributes to commemorate their service and sacrifice to the nation. NCA's strategic goal is to serve Veterans with burial options at VA national cemeteries or state Veterans cemeteries within 75 miles of their residence.

The two closest national cemeteries—the Golden Gate National Cemetery in San Bruno and the San Francisco National Cemetery located within the Presidio in San Francisco—are closed and no longer accepting new interments. Currently the closest burial options for Bay Area Veterans are the San Joaquin Valley National Cemetery in Santa Nella (approximately 60 miles from Alameda) or the Sacramento Valley National Cemetery in Dixon (approximately 120 miles from Alameda). A new National Cemetery is needed in Alameda to better serve Veterans and their families consistent with NCA's service goal.

## **1.2 PROJECT AREA**

The project area, hereafter referred to as the VA Transfer Parcel, is located within the southwest corner of the former NAS Alameda property. The VA Transfer Parcel is comprised of the airfield area of the former NAS Alameda, which consists of inactive runways and support facilities. In addition, a California Least Tern colony is located within a 9.7-acre fenced area of the former airfield (see Figure 1-2).

The VA Transfer Parcel is bordered by the San Francisco Bay to the west and south, and the remainder of the former NAS Alameda property, now referred to as Alameda Point, to the east and north. The City of Alameda is located east of the VA Transfer Parcel and the City of Oakland is located farther to the northeast. The majority of the VA Transfer Parcel is located within Alameda County, but a small portion in the southwest corner of the parcel is located in San Francisco County. Regional vehicular access routes to the project area include Interstate 880, Interstate 980, and the Webster/Posey Tubes. Major arterial streets serving Alameda Point include Atlantic Avenue (Ralph Appezato Memorial Parkway), Willie Stargell Avenue, Pacific Avenue, Central Avenue, Webster Street, and Constitution Way.

Depending on the action alternative selected, the VA Transfer Parcel would be either approximately 549 acres (Alternative 1) or 624 acres (Alternative 2) in size. Both action alternatives would include an approximate 112-acre VA Development Area within the larger VA Transfer Parcel. The remaining acreage within the VA Transfer Parcel, including the CLT colony, would remain undeveloped. The VA would also construct an off-site access utility/road corridor on approximately 6 acres of land to the east of the VA Transfer Parcel. More information on the action alternatives is included in Chapter 2 (Alternatives).



Source: Data compiled by AECOM in 2012

**Figure 1-2: Existing Conditions, Project Area, Alameda, California**

## 1.3 NEPA PROCESS AND PUBLIC INVOLVEMENT

NEPA establishes an environmental review process for actions undertaken by Federal agencies. The review process is intended to help public officials make decisions based on an understanding of the environmental consequences and take actions that protect, restore, and enhance the environment (40 CFR 1500.1). Further, the NEPA process recognizes the importance of public involvement in the agency decision-making process.

### 1.3.1 Public Scoping Period

In accordance with CEQ regulations (40 CFR 1506.6, “Public Involvement”), the Navy and VA initiated a scoping period in December 2008 by mailing and publishing a notice of public scoping to Federal, State, and local agencies, and members of the public known or expected to be interested in the Proposed Action. The purpose of the scoping period was to provide an opportunity for agencies and members of the public to comment on the potential environmental issues and concerns regarding the Proposed Action and to determine the scope of issues to be addressed in this EA.

The scoping period began on December 8, 2008 and ended on January 20, 2009 (total of 43 days). The public was invited and encouraged to provide scoping comments during this period. A scoping notice was published in three local newspapers: the *Alameda Sun*, the *Alameda Journal*, and the *Oakland Tribune*. Scoping notices were mailed to agencies and interested members of the public.

In addition, a public information meeting was held on December 18, 2008, at the *USS Hornet* Museum (707 West Hornet Avenue in Alameda). The meeting was conducted using a “town hall” format. Using this format, participants were able to ask questions and provide comments to VA and Navy personnel and other members of the project team. Approximately 66 people attended the meeting. Oral comments were received from 12 speakers at the scoping meeting. Written comment letters were subsequently received from 15 additional parties, including local agencies and interest groups. Comments received addressed a variety of concerns, including increased traffic; the effects of a community hospital and helipad that was initially proposed as part of the VA development; and the effect of the project on the CLT. Copies of the public information meeting notice, transcripts of the public meetings, and written comments received (requested personal information redacted) are included in Appendix A (EA Public Involvement).

Shortly after the public information meeting, on January 7, 2009, a presentation was made to the Alameda City Council, acting as the Alameda Reuse and Redevelopment Authority. In addition, several meetings were held with the Golden Gate Audubon Society and USFWS to discuss specific concerns related to the CLT, and possible ways that the project could be modified to address these concerns.

The Navy and VA considered the comments received during the scoping process to help determine the range of issues and alternatives to be evaluated in this Final EA. Further, based on agency and public concerns received during the scoping period, VA modified the total scale of development in its original 2008 Proposed Action, by eliminating a proposed VA hospital (250,000 gross square feet [gsf]) and helipad and by reducing the total area of office space.

### 1.3.2 Public Review of Draft EA

As part of the NEPA process, the Navy and VA released a Draft EA for a 56-day (February 22 - April 19, 2013) public review and comment period<sup>2</sup>. During this time period, a total of three separate public meetings were held on two separate days. Each meeting was preceded by an open information session to allow interested individuals to review information presented in the Draft EA. Navy and VA representatives were available during the information session to provide clarification as necessary related to the Draft EA. The three meetings were held at the following locations:

1. March 14, 2013, 1:00 – 3:00 p.m. - USS Hornet Museum, 707 W Hornet Avenue, Pier 3, Alameda, CA 94501;
2. March 14, 2013, 6:00 – 8:00 p.m. - USS Hornet Museum, 707 W Hornet Avenue, Pier 3, Alameda, CA 94501;and
3. April 10, 2013, 4:00 – 7:00 p.m. - City of Alameda Albert H. Dewitt Officers' Club, 641 West Redline Avenue, Alameda, CA 94501.

Two Notices of Availability (NOAs) announcing the review period, public meetings, and extension of the public review period were published in local newspapers (*Alameda Times-Star*, *Oakland Tribune*, and *San Francisco Chronicle*) and mailed to Federal, State, and local agencies and interested members of the public. The NOAs are provided in Appendix A (EA Public Involvement). Electronic copies of the Draft EA were mailed to Federal, State, and local agencies and interested members of the public and posted to the Navy's BRAC Program Management Office Website (<http://www.bracpmo.navy.mil>) and VA's Website (<http://www.northerncalifornia.va.gov/planning/Alameda>). Electronic copies of the Draft EA were also provided to individuals by request, and hard copies made available for review at the following public locations:

1. City of Alameda Planning Division - 2263 Santa Clara Avenue, Alameda, CA 94501;
2. City of Alameda Public Library – Main - 1550 Oak Street, Alameda, CA 50 ;
3. City of Alameda Public Library - Bay Farm Island Branch - 3221 Mecartney Road, Alameda, CA 50 ;
4. City of Alameda Public Library - West End Branch - 788 Santa Clara Avenue, Alameda, CA 94501;
5. City of Oakland City Hall/Planning - Citywide Planning Main Office, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, CA 94612;
6. City of Oakland Library – Main - 125 14th Street, Oakland, CA 94612;
7. City of Oakland Library - Cesar E. Chavez Branch - 3301 East 12th Street, Oakland, CA 94601;
8. City of Oakland Library - 81<sup>st</sup> Avenue Branch - 1021 81st Avenue, Oakland, CA 94621;
9. City of Oakland Library - Dimond Branch - 3565 Fruitvale Avenue, Oakland, CA 94602;
10. City of Oakland Library - Eastmont Branch -7200 Bancroft, Ste 211, Oakland, CA 94605; and
11. San Francisco Public Library – Main - 100 Larkin St., San Francisco, 94102

The purpose of the review and comment period was to collect public comments on the Draft EA. Federal, State, and local agencies and members of the public were encouraged to review and comment on the Draft EA during the 56-day public review period. Attendance and participation at the meeting was not required to provide comments. Federal, State, and local agencies, as well as interested parties, were also encouraged to review and comment on the Draft EA by mail, fax, and email. VA and Navy received comments associated with 17 written

---

<sup>2</sup> Based on comments from the public, the review and comment period was extended from 30 days to 56 days, and a third public meeting was held on April 10, 2013.

letters, eight written comments provided during the public meetings, eight e-mails, and the three public meetings transcripts. Equal weight was given to all comments received regardless of method received.

The Final EA has been revised, as appropriate, in response to the public comments received during the review and comment period, which have been considered by VA and the Navy to evaluate the Proposed Action's alternatives and environmental impacts for purposes of making a final decision. All Draft EA comments received and the Navy and VA's responses are presented in Appendix A (EA Public Involvement).

### **1.3.3 Public Availability of Final EA**

The Navy and VA have made this Final EA and the NEPA decision documents available to the public. An NOA announcing the availability of the Final EA and NEPA decision documents was published in the local newspapers (*Alameda Times-Star*, *Oakland Tribune*, and *San Francisco Chronicle*) and mailed to Federal, State, and local agencies and interested members of the public. Electronic copies of the Final EA and NEPA decision documents were mailed to Federal, State, and local agencies and interested members of the public and posted to VA's Website (<http://www.northerncalifornia.va.gov/planning/Alameda>). Electronic copies of the Final EA and NEPA decision documents were also provided to individuals by request, and hard copies made available at the same public locations that the Draft EA was made available (see Section 1.3.2 [Public Review of Draft EA] above).

## **1.4 SCOPE OF THIS ENVIRONMENTAL ASSESSMENT**

This Final EA evaluates the potential direct, indirect, short-term, and long-term impacts on the human and natural environment resulting from the Proposed Action. The Final EA also addresses potential cumulative impacts that may result from reasonably foreseeable projects in the region. The analysis of potential impacts is based on the full buildout of the Proposed Action. The Final EA documents the Navy's and VA's compliance with the requirements of NEPA, as amended and the CEQ regulations implementing NEPA (40 CFR 1500–1508).

Resource areas examined in this EA and potentially impacted include biological resources; water resources; transportation, traffic, circulation, and parking; cultural resources; visual resources and aesthetics; land use; air quality; greenhouse gas emissions and climate change; socioeconomics and environmental justice; hazards and hazardous substances; utilities; noise; public services; and geology and soils.

## **1.5 REGULATORY OVERVIEW AND REQUIRED FEDERAL PERMITS**

The major Federal, State, and local regulatory requirements and Federal permits, licenses, and other entitlements that must be obtained in implementing the Proposed Action are presented in the individual resource sections in Chapter 3 (Affected Environment and Environmental Consequences).

This page intentionally left blank.

## **2.0 ALTERNATIVES, INCLUDING THE PROPOSED ACTION**

This chapter describes the EA alternatives identification process, the alternatives considered and eliminated from further analysis, and the EA alternatives selected and retained for more detailed analysis.

### **2.1 IDENTIFICATION OF ALTERNATIVES**

Identifying and analyzing alternatives is an important part of the NEPA decision making process. To identify alternatives, VA and the Navy rigorously explored and objectively considered other potentially reasonable alternatives to the Proposed Action. The Proposed Action is the transfer of excess Federal real property from the Navy to VA and VA's subsequent construction and operation of a VHA OPC, VBA Outreach Office, NCA Cemetery, and associated infrastructure. The Navy would be responsible for transfer of the excess Federal real property, and VA would be responsible for the construction and operation of the proposed facilities.

As part of the alternatives planning process, a range of preliminary site alternatives were identified and then screened against the Proposed Action's purpose and need as well as VA siting criteria. Through this process, some alternatives were eliminated from further consideration and the remaining alternatives were studied in detail as part of this NEPA review.

The planning process for establishing a new VA facility to serve Bay Area Veterans began in 2004. At the start of the planning process, various alternative locations in the Bay Area were considered. The alternatives ranged from consideration of separate sites for each of the VA Administrations (i.e., VHA, VBA, and NCA) to a single site large enough to fit all of the project components (i.e., One VA goal). For each of the three VA Administrations, alternative site locations were evaluated against specific siting criteria that were developed and used to screen and reduce the number of alternatives considered. Geographic location, site size, and land use compatibility were the primary screening factors, along with the ability of each alternative to meet the Proposed Action's purpose and need. In addition, the planning process considered the One VA goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area. Table 2-1 lists VA's siting criteria.

There are no alternatives to the Navy's Proposed Action, aside from retention of the property by the U.S. government in caretaker status (i.e., No Action Alternative). To comply with the Defense Base Realignment and Closure Act of 1990, as amended, the Navy is required to transfer excess property at the former NAS Alameda.

### **2.2 SITE ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS**

Several possible site locations throughout the Bay Area were reviewed against the siting criteria and the Proposed Action's purpose and need. This section identifies the preliminary site alternatives that were eliminated from further consideration and not carried forward for detailed analysis in this EA. There were no potential sites that were eliminated from further consideration with respect to VBA services.

**Table 2-1: Siting Criteria for VA Facilities**

	<b>VHA Outpatient Clinic</b>	<b>NCA National Cemetery</b>	<b>VBA Outreach Office</b>
<b>Service Area (Catchment Area)</b>	- The proposed VHA OPC must be located within 30 minutes of the primary Veteran service area where the majority of the local Veterans reside, in this case, the Bay Area.	Cemetery that would serve 90% of San Francisco Bay Area Veterans by being located within 75 miles of their residences.	Co-location with other VA facilities desirable.
<b>Space/Acreage Requirements</b>	- 158,000 gsf* - Located on 15 to 20 acres	80 acres	3,906 gsf
<b>Other Considerations</b>	Additional location considerations for the OPC include: - Proximity to local civilian hospitals is a general requirement in the technical review process for an OPC and is considered during site selection. - The OPC must not be located close to churches, schools, or other sensitive land uses. - The OPC must avoid locating under the flight path of airports because of aircraft noise/post-traumatic stress disorder concerns. - Ability of VHA to own the property rather than a long-term lease.	Additional location considerations for the NCA cemetery include: - Area with dense Veteran population. - Sufficient space for at least a 100-year inurnment projection within a 75-mile radius of the projected site. - Shape of property. - Accessibility. - Availability of water and utilities. - Compatible surrounding land uses. - Topography. - Aesthetics. - VA-owned property rather than leased property.	Co-location with other VA facilities desirable.

Notes: gsf= gross square feet; NCA = National Cemetery Administration; OPC = Outpatient Clinic; VA = Department of Veterans Affairs; VBA = Veterans Benefits Administration; VHA = Veterans Health Administration

\* Based on VA space planning criteria in 2008, minimum square footage for the OPC, including the mental health/behavioral health facility, is 107,000 gsf.

### 2.2.1 VHA Outpatient Clinic Sites Considered but Eliminated

Early in the planning process, an internal VA Sierra Pacific Network 21 task force was formed to look at future placement of VHA medical facilities in Alameda County. Overall, a location in or near the City of Oakland was desired, because it could serve the Veteran population that resides in or near Oakland, some of whom use the existing Oakland VA facilities. A variety of sites were identified for a new OPC, and most of the sites considered were located within Alameda County. After careful consideration of all factors, including the Proposed Action’s purpose and need and siting criteria, the following sites were considered for an OPC, but were eliminated from detailed analysis.

#### The former Oakland Army Base (Oakland, Alameda County)

The former Oakland Army Base is a 425-acre cargo and distribution facility located on the Oakland waterfront, just south of the eastern terminus of the San Francisco–Oakland Bay Bridge and approximately 2 miles northwest of Oakland’s central business district. VA requested the former Oakland Army Base Clinic as a Fed-to-Fed transfer, so that it could provide permanent space for its mental health and substance abuse services. The 62nd Army Reserve was instead selected to receive the requested property under the BRAC Federal agency screening process.

Therefore, VA lost its opportunity for a Fed-to-Fed transfer at the Oakland Army Base site, and this option was eliminated from further consideration.

Originally, VA had a joint VA/DoD Sharing Agreement with the Army Reserve to operate a VA mental health clinic at no cost on the Oakland Army Base property. The VA had to explore other sites when this portion of the property was transferred to the Oakland Base Reuse Authority in 2003, and eventually it relocated this facility—now called the VA Oakland Behavioral Health Clinic—to its current location at 525 21st Street in Oakland.

### **The former Oak Knoll Naval Hospital Site (Oakland, Alameda County)**

The site of the former Oak Knoll Naval Hospital site is approximately 183 acres and is located in Oakland north of Interstate-580, between the Keller Avenue and Golf Links Road exits. The hospital was decommissioned in 1996 and established as the Oak Knoll Redevelopment Project Area by the City of Oakland in 1998.

This site was considered as a possible location for the VA OPC, but it was determined that the OPC would not be compatible with the property's existing condition and proposed future residential and commercial uses. The older facility that once served medical personnel on the site was deemed too deteriorated to reuse as a VA OPC. In 2005, a private developer purchased 167 acres of the Oak Knoll Naval Hospital site from the U.S. Government.

### **Fairmont Hospital Site (San Leandro, Alameda County)**

Fairmont Hospital, part of the Alameda County Medical Center, is located north of Interstate-580 and east of Fairmont Drive in the city of San Leandro. The Fairmont Hospital site was considered as a possible location for the proposed OPC because there was an opportunity to co-locate VA outpatient services with new outpatient facilities proposed at that location by Alameda County. However, VA determined that this site was not viable because funding limitations prevented Alameda County from pursuing its plans for the Fairmont Campus, and VA could not afford to purchase the land on their own for the proposed action. In addition, VA determined the location was too remote and distant from downtown Oakland which would make access difficult for much of Alameda County's VA user population.

### **Livermore VA Medical Center (Livermore, Alameda County)**

The Livermore VA Medical Center was considered for the proposed OPC, but was eliminated because it is located approximately 40 miles from the main Veteran service area in Alameda County (downtown Oakland), which would make access difficult for much of Alameda County's VA user population.

### **The former Concord Naval Weapons Station (Concord, Contra Costa County)**

The former Concord Naval Weapons Station was also reviewed for the proposed OPC, but was dismissed due to its location, approximately 30 miles from the main Veteran service area in Alameda County (downtown Oakland), which would make access difficult for much of Alameda County's VA user population.

### **The former Mare Island Naval Shipyard (Vallejo, Solano County)**

The former Mare Island Naval Shipyard was considered for the proposed OPC, but was eliminated because it is located more than 25 miles away from the main Veteran service area in Alameda County (downtown Oakland), which would make access difficult for much of Alameda County's VA user population.

### **Privately Owned Properties (Alameda County)**

In July 2008, Carpenter/Robbins Commercial Real Estate, Inc. completed a VA-commissioned study that identified privately owned properties that could accommodate the OPC and meet most of the siting criteria. Although these alternative sites would not meet VA's desire for a Fed-to-Fed land transfer, several sites were explored to provide a comparison of available land in the region. The study considered properties located within the geographical boundaries (northern Alameda County line, eastern Alameda County line, 98th Avenue in Oakland, and San Francisco Bay) that support the One VA goal. The study initially identified 11 sites large enough to accommodate the OPC. Nine of these sites were dismissed from further consideration, because their permitted/allowable use or ownership type was not compatible with the OPC use. The two sites that could potentially accommodate the OPC, both near the Oakland International Airport, were dismissed from further consideration, because they did not meet VA's desire for a Fed-to-Fed land transfer and the noise and vibration from aircraft operations could interfere with post traumatic stress disorder (PTSD) patient treatment. In addition, the sites were not large enough to allow co-location of VA facilities. Therefore, all 11 privately owned sites were eliminated from detailed analysis.

#### **2.2.2 National Cemetery Administration Cemetery Sites Considered but Eliminated**

Early in the planning process, several locations were considered for independently siting a new NCA Cemetery. The Bay Area was identified by the NCA as an ideal location for a columbarium in accordance with the NCA's Urban Initiative and with VA's service area goals. Identifying an adequate amount of acreage for a national cemetery was a difficult task because of location and cost issues. Three VA medical center properties in the Bay Area were considered (VA Palo Alto Health Care System [Palo Alto Division and Menlo Park Division] and the San Francisco VA Medical Center). None of these sites had the acreage available to meet the needs of a new national cemetery site and were eliminated from detailed analysis.

### **2.3 SELECTION OF VA TRANSFER PARCEL AT FORMER NAS ALAMEDA (ALAMEDA COUNTY)**

During the VA planning process, excess Federal property became available at the former NAS Alameda property. The available property included approximately 900 acres (525-upland and 375-submerged acres), that was originally intended to be transferred to the USFWS. This property became available when transfer negotiations between the Navy and USFWS reached an impasse. Subsequently, the Navy engaged in discussions with other Federal entities that had a long-term need to acquire lands to support their missions. VA expressed interest in a portion of this property, now referred to as the VA Transfer Parcel, and submitted a formal request for the property in 2006 through a Fed-to-Fed property transfer. The submerged lands considered for transfer in USFWS's prior property request are not included in the proposed Fed-to-Fed transfer to VA.

### **2.3.1 Selection of VA Transfer Parcel**

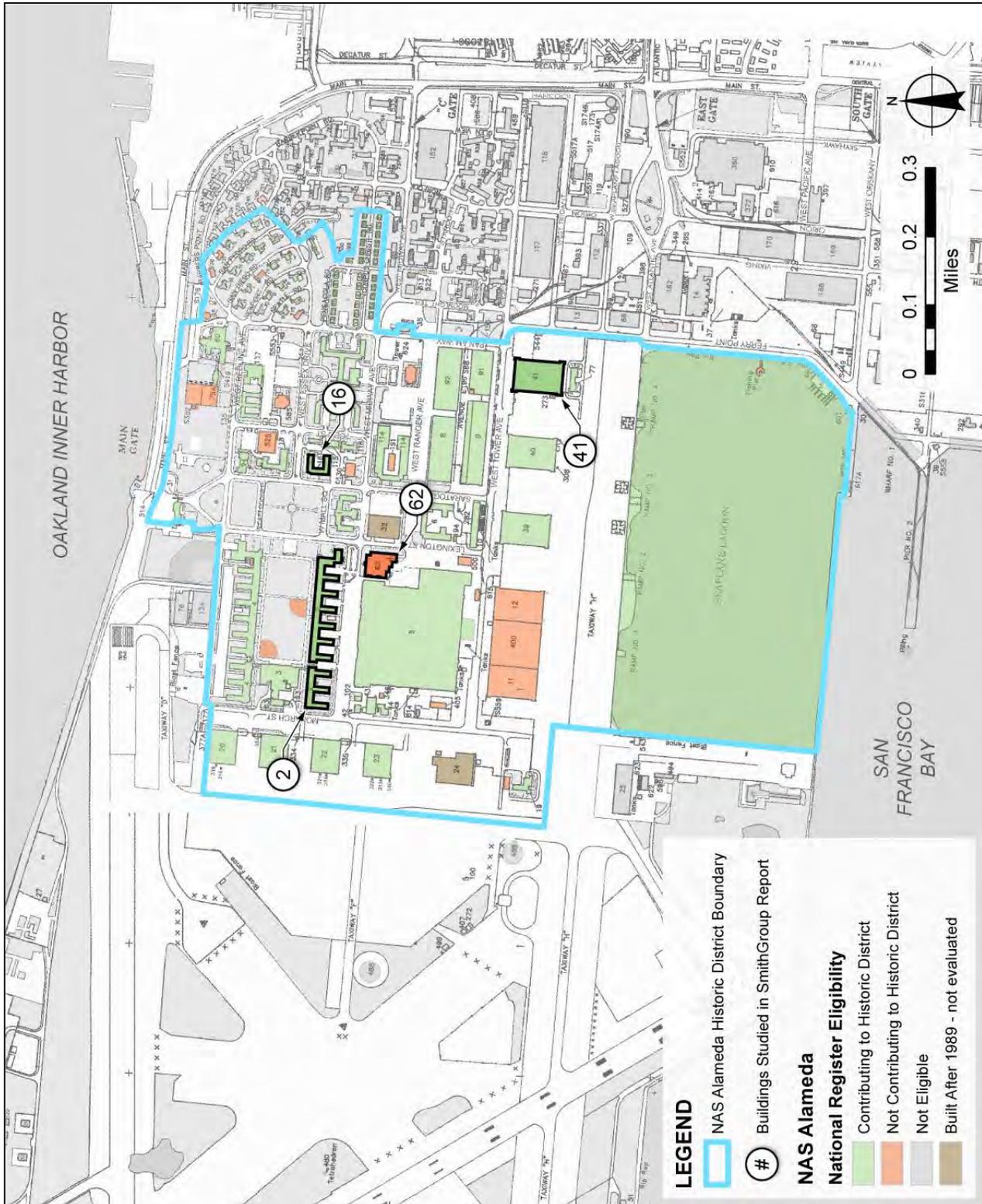
The VA Transfer Parcel has been identified by VA as the preferred location for its Proposed Action (i.e., construction and operation of a new OPC, VBA Outreach Office, and NCA Cemetery). The VA Transfer Parcel site best meets VA's purpose and need and siting criteria, including:

- The site is located within the desired VHA and NCA service areas, in this case Northern Alameda County and the Bay Area, respectively.
- The site is large enough to co-locate all components of the Proposed Action (i.e., OPC, VBA Outreach Office, and NCA Cemetery) at one site to meet the One VA goal, which advocates consolidating services wherever possible to ensure that the most centralized, coordinated, and efficient care and services are provided to Veterans in a local area.
- The site is not located in close proximity to sensitive land uses such as churches, schools, and aircraft flight paths.
- The site has sufficient space to meet future needs for NCA Cemetery internments (i.e., space to expand for at least 100 years).
- The Fed-to-Fed transfer would allow VA to own the property.
- The site is accessible to existing utility infrastructure and transportation networks.

After VA requested the upland acreage originally identified for transfer to the USFWS, VA began a more specific site planning process to determine the options for optimum site reuse. VA and the Navy carefully considered the existing environmental constraints and used them to guide the planning process, so that the project design could incorporate features that would minimize potential project impacts. Several meetings were also held with USFWS staff members, the Golden Gate Audubon Society, and other stakeholders to address concerns about potential impacts on the CLT colony. Consideration of these concerns led to VA's analysis of additional site locations at the former NAS Alameda that could reduce impacts to the CLT colony. Sections 2.3.2 and 2.3.3 describe the other NAS Alameda site locations and configurations that VA considered. At the conclusion of this site consideration process, VA ultimately identified two action alternatives to be carried forward for detailed analysis (see Section 2.4 below).

### **2.3.2 Other NAS Alameda Sites Considered but Eliminated**

Once the VA Transfer Parcel was identified an analysis was conducted by VA to review locations and functional arrangements at the former NAS Alameda where existing buildings and grounds could be potentially rehabilitated and reused for an OPC. The existing buildings at the former NAS Alameda that had the greatest potential for reuse were assessed in an October 2008 report prepared by SmithGroup, VA's architectural/engineering contractor assigned to address building reuse issues (SmithGroup, 2008). For the reasons described below, the following buildings at former NAS Alameda were considered for the OPC but rejected. Figure 2-1 shows the locations of the existing buildings at the former NAS Alameda that were assessed.



Source: Data provided by Navy in 2011

**Figure 2-1: Locations of Existing Buildings Considered but Eliminated at the Former NAS Alameda**

**NAS Alameda Building 2: Former Enlisted Barracks Building**—The former Enlisted Barracks Building, located at the northwest corner of West Midway Avenue and Lexington Street (Second Street), is a two-story concrete structure that was constructed in 1944. The building contains approximately 228,900 gsf of space. Reusing this facility for the OPC was considered. The primary reason that the former Enlisted Barracks Building was eliminated as a viable alternative was the cost and complexity of reusing the building and bringing it up to current codes and standards, compared to the cost of constructing a new clinic on a vacant site. The existing building would not function in a manner that would meet the clinical and administrative functions required by an OPC. Furthermore, there is not enough space in the area to allow for an adjacent surface parking lot. Additionally, the building is located within the NAS Alameda Historic District and is identified as contributing to the historic district. Therefore, any alterations to the building would be subject to requirements of the National Historic Preservation Act (NHPA), including consultation with the State Historic Preservation Officer under Section 106 of the NHPA, adding an additional level of complexity to its reuse.

**NAS Alameda Building 16: Former Naval Clinic Building**—The former Naval Clinic Building, located at the southeast corner of Third Street and West Essex Drive, is a concrete building constructed in 1941 that contains approximately 38,000 gsf of space on two floors, plus a partial third floor. Like Building 2, this building is located within the NAS Alameda Historic District and is identified as contributing to the historic district. Therefore, any alterations to the building would be subject to requirements of the NHPA, including consultation with the State Historic Preservation Officer under Section 106 of the NHPA. To fit the program for the OPC at this location, additional buildings, some of them also historic, would have to be acquired and demolished so that VA facilities could be constructed to meet the space requirements. It was determined that retrofitting the existing facilities would be more expensive than constructing a new clinic on a vacant site. Parking requirements would also be difficult to meet because of the land requirements and added cost to the project. Finally, the existing building is not suitable for the types of clinical and administrative functions required by an OPC.

**NAS Alameda Building 41: Former Hangar Building**—Building 41 is one of five identical hangars located on the south side of West Tower Avenue (Avenue F). The building, constructed in 1945, is a single-story free-spanning structure with mezzanines at the north and south ends. The hangar contains approximately 118,000 gsf of space. There is also a two-story support and office area in the center of the structure, effectively dividing the hangar into two identical areas at the north and south. There has been some construction within the open hangar areas to provide additional office and support space. Like Buildings 2 and 16, this building is located within the NAS Alameda Historic District and is identified as contributing to the historic district; therefore, any alterations to the building would be subject to requirements of the NHPA, including consultation with the State Historic Preservation Officer under Section 106 of the NHPA. It was determined that a hangar is not suitable for the types of clinical and administrative functions required for an OPC. Furthermore, the cost required to alter the structure to function as a clinic, along with the need to meet current codes and standards, would be greater than the cost of constructing a new OPC on a vacant site.

**NAS Alameda Building 62: Former Dining Facility and Credit Union**—The former Dining Facility and Credit Union, located at the southwest corner of Avenue C and Lexington Street, was originally constructed in 1942 and contains approximately 42,800 gsf of space on two floors. Although this building is located within the NAS Alameda Historic District, it is not identified as contributing to the historic district. The dining facility was designed as a single-floor concrete structure. The credit union was designed as a separate two-story concrete structure and was added at a later time. To accommodate the VA facilities, other buildings would need to be

demolished, and a new wing with approximately 64,000 gsf of space would need to be constructed. These alterations would be more costly than constructing a new clinic on a vacant site. Parking requirements would be challenging because of the limited space available. Finally, the existing building is not suitable for the types of clinical and administrative functions required by an OPC.

Based on the findings stated above, the assessment prepared by SmithGroup concluded that although these existing buildings at the former NAS Alameda are interesting structures both historically and architecturally, they would not adapt well for use as an OPC. Therefore, the rehabilitation of these existing buildings was dismissed from further consideration (SmithGroup, 2008).

### **NAS Alameda—East and South of Seaplane Lagoon**

Late in VA's planning process, the Navy and VA received comments recommending the general area east and south of the Seaplane Lagoon as an alternative site location for the VA project. In 2011, Lawrence Berkeley National Laboratory (LBNL) informed the City of Alameda it would not build a second campus at the former NAS Alameda. The location of the second campus for LBNL was proposed for approximately 45 acres southeast of the Seaplane Lagoon. This potential site has not been carried forward for consideration for the VA OPC for several reasons: (1) it is not large enough to site the proposed VA facilities together (as envisioned by the One VA goal); (2) the site is located entirely on property to be conveyed by the Navy to the City of Alameda via a no-cost economic development conveyance (EDC); and (3) the City of Alameda desires to locate a commercial tenant at this key waterfront location.

### **2.3.3 Other VA Transfer Parcel Alternatives Considered but Eliminated**

The following VA Transfer Parcel development alternatives were presented to the public during this EAs 2008 Scoping Period (December 8, 2008 through January 20, 2009) (see Section 1.3 [NEPA Process and Public Involvement]). The purpose of the scoping period was to provide an opportunity for agencies and members of the public to comment on the potential environmental issues and concerns regarding the Proposed Action and to determine the scope of issues to be addressed in this EA. Based upon the public comments received during the scoping period, including concerns about increased traffic and the potential effect of the project on the California Least Tern, the following alternatives were eliminated.

#### **“One VA” at Alameda Point Alternative**

VA would acquire a 549-acre parcel and develop a 113-acre portion of the site along the northern portion of the parcel. The development would include a NCA Cemetery (53 acres), OPC (107,000 gsf), community hospital (250,000 gsf) with helipad, VA support/medical office building (100,000 gsf), nature center, and trail system. This alternative was eliminated due to public concerns regarding the scale of development (457,000 gsf of usable medical and office space), noise, traffic, and potential impacts to the CLT.

#### **NCA Cemetery on Parcel and VHA Clinic at Other Alameda Point Site**

VA would acquire a 549-acre parcel and develop a NCA cemetery within the northwest portion of the VA Transfer Parcel. In addition, an OPC would be constructed within the larger former NAS Alameda property (i.e., Alameda Point). This alternative was eliminated from detailed study because it would require VA to lease or

purchase property within Alameda Point. In addition, the proposed alternative would not meet the One VA goal to consolidate services in one location. Further, the reuse of an existing building was determined not feasible due to the cost and complexity of reusing the building and bringing it up to current codes and standards. Also, the existing buildings would not function in a manner that would meet the clinical and administrative functions required by an OPC. Additionally, the buildings considered were located within the NAS Alameda Historic District and is identified as contributing to the historic district. Therefore, any alterations to the building would be subject to requirements of the NHPA, including consultation with the State Historic Preservation Officer under Section 106 of the NHPA, adding an additional level of complexity to its reuse.

### **NCA Cemetery on Parcel and VHA Clinic in Oakland**

VA would acquire a 549-acre parcel and develop a NCA cemetery within the northwest portion of the VA Transfer Parcel. In addition, a VHA clinic would be established in the City of Oakland. This alternative was eliminated from detailed study because it would require VA to lease or purchase property within the City of Oakland (for the VHA clinic). In addition, the proposed alternative would not meet the One VA goal to consolidate services in one location.

## **2.4 DESCRIPTION OF ALTERNATIVES**

Two action alternatives and a No Action Alternative were retained for detailed analysis in this EA. Each action alternative includes the transfer of excess Federal property from the Navy to VA and VA's subsequent construction and operation of an OPC, VBA Outreach Office, NCA National Cemetery, and associated infrastructure. Alternative 2 has been identified as the Preferred Alternative. The alternatives examined in this EA are described in detail below.

### **2.4.1 Alternative 1**

Under Alternative 1, the Navy would transfer approximately 549 acres of excess Federal real property at the former NAS Alameda to VA via a Fed-to-Fed transfer; this area is referred to as the VA Transfer Parcel. Following the Fed-to-Fed transfer, VA would construct and operate an VHA OPC, VBA Outreach Office, NCA Cemetery, Conservation Management Office, and associated infrastructure on approximately 111 acres of the total VA Transfer Parcel; this area is referred to as the VA Development Area. VA would also construct an off-site utility/road corridor on approximately 6 acres of land to the east of the VA Transfer Parcel. The project components of Alternative 1 are summarized in Table 2-2 and illustrated in Figure 2-2. Additional information on the various project components are detailed below.

The remaining 438 acres of the VA Transfer Parcel, including the existing CLT colony, would remain undeveloped. The undeveloped portion of the VA Transfer Parcel would be managed for the long-term persistence and sustainability of the CLT colony and access would be restricted during the CLT breeding/nesting season (estimated to be from April 1 through August 15). Under Alternative 1, the VA Development Area would be 1,430 feet away from the CLT colony.



Source: Data compiled by AECOM in 2012

Figure 2-2:

Alternative 1 Site Plan

**Table 2-2: VA Development Area under Alternative 1**

<b>Project Component</b>	<b>Gross Square Feet</b>	<b>Acres</b>
<b>Outpatient Clinic</b>	<b>158,000</b>	<b>20</b>
VHA Ambulatory Care Services	50,000	
VHA Specialty Services	25,000	
VHA Mental Health Services	25,000	
VHA Pharmacy/Lab/Radiology Services	18,500	
VHA Clinic Management/Education Space	4,000	
VHA Lobby	1,500	
Emergency Management Services/Medical Administration	12,500	
Canteen	7,500	
Police Services	1,500	
VBA Outreach Offices	5,000	
Courtyard	NA	
Surface Parking (632 spaces)	NA	
NCA Offices and Public Information Center	7,500	
<b>NCA Cemetery</b>	<b>2,700</b>	<b>80</b>
West Cemetery Committal Service Shelters	1,800	50
East Cemetery Committal Service Shelters	900	30
<b>Conservation Management Office</b> (acreage is part of gross square footage for East Cemetery Committal Service Shelters)	<b>2,500</b>	–
<b>On-site Utility/Road Infrastructure/Bicycle Lane/Pedestrian Pathway</b>	<b>NA</b>	<b>11</b>
<b>Off-site Utility/Road Corridor</b>	<b>NA</b>	<b>6</b>
<b>TOTAL</b>	<b>163,200</b>	<b>111 on-site and 6 off-site</b>

Notes: NA = not applicable; NCA = National Cemetery Administration; VA = Department of Veterans Affairs;  
VBA = Veterans Benefits Administration; VHA = Veterans Health Administration  
Source: Data compiled by AECOM in 2012

### VHA Outpatient Clinic

VA would construct a 158,000 gsf, two-story building located within a 20-acre portion of the VA Development Area. The OPC would include behavioral health services, a pharmacy, a radiology department, laboratories, outpatient surgery, urgent care, specialty clinics, and support functions including a canteen, clinic management and education center, administrative space, housekeeping, storage, and employee lockers and lounges. A surface parking area with 632 vehicle spaces would be provided adjacent to the OPC building, and would include a shuttle drop-off/pick-up area for Veterans and VA staff members. Table 2-2 summarizes and Figure 2-2 illustrates the major development components of Alternative 1.

The OPC building would be two stories and most of the building would be less than 40 feet in height. Portions of the building may be up to 54 feet in height to allow for mechanical equipment and a roof element at the building entrance; however, no more than 25% of the total roof area would exceed 40 feet in height. Materials used for the OPC building may include concrete masonry units, glass fiber reinforced concrete, metal panels, precast concrete, and cement plaster. The OPC building would be designed to meet VA's sustainability goals and to achieve Leadership in Energy and Environmental Design (LEED®) Silver certification.

The OPC would be in operation from 8 A.M. to 5 P.M., Monday through Friday. In addition, some outpatient services, including behavioral health services, would be offered on Saturday and Sunday from 8 A.M. to 12 noon. No emergency care or inpatient care (overnight stays) would be provided at the OPC. Based on data from other OPCs in the region, it is estimated that approximately 540 Veterans would be seen at the OPC each weekday and approximately 70 Veterans would be seen on each Saturday and Sunday. The normal staffing level during weekdays is anticipated to be approximately 250 employees (both full-time and part-time staff). The staffing level on the weekend is anticipated to be approximately 40 employees.

### **VBA Outreach Office**

A VBA Outreach Office would be located in the OPC building and would provide on-site benefit services to Veterans and their dependents. It is anticipated that up to four VBA staff members would work at this office on a daily basis.

### **NCA National Cemetery**

An 80-acre NCA Cemetery would be developed within the VA Development Area; 50 acres would be located to the west of the OPC and 30 acres to the east of the OPC (see Figure 2-2). The cemetery would only be for cremated remains (columbaria) and would include several wall-like structures (columbarium walls) with niches to house cinerary urns containing cremated remains. The columbarium walls would have a maximum height of 10 feet. Committal service shelters for inurnment or memorial services would also be provided. These pavilion-like structures are typically about 25 feet by 36 feet in size and approximately 25 feet in height; they provide seating for approximately 10–20 people and standing room for others attending the service. Up to three committal service shelters would be provided at the cemetery. Special holiday memorial services, such as those held on Memorial Day and Veterans Day, would be held within an assembly area. Other features of the assembly area include a memorial walkway, a flagpole, and a carillon (bell tower) that plays bells or tones.

A public information center for guests visiting the cemetery would be located in the OPC building (see above) and would consist of a reception area, restrooms, and offices. A staging area for funeral procession vehicles (Cortege Assembly Area) is proposed adjacent to the west side of the OPC building. This area would consist of three lanes for vehicles (up to 30 per service) to line up before proceeding to the committal service shelter. Additional parking would be provided adjacent to each committal service shelter to accommodate the funeral cortege.

Other features of the NCA National Cemetery would include a maintenance garage located on the north side of the OPC building near the service road, fencing along the perimeter of the cemetery areas, signage, landscaping, an irrigation system, benches, trash receptacles, and flower containers for floral offerings.

The cemetery would be open daily from sunrise to sunset, with possible expanded hours in the evening (until 8 P.M.) on Memorial Day and Veterans Day. On average, it is estimated that up to six memorial or inurnment services would take place each day, with attendance at these services typically ranging from 5 to 30 people. As part of military tradition, a military honors salute may be performed during inurnment ceremonies and special memorial services. The military honors salute is a ceremonial act performed at military funerals as part of the drill and ceremony of the Honor Guard, in which a rifle party fires blank cartridges in three volleys. The military honors salute would take place only at the proposed committal service shelters, all three of which would be more than 1,460 feet from the CLT colony. The rifle party would direct firing away from the CLT colony, and solid structures such as committal service shelters or columbarium walls would shield the firing locations from the colony. In addition, landscape berms may be created within the cemetery. These berms would be either 2,133 feet away from the CLT colony and up to 12 feet in height or within 2,133 feet of the colony and not exceeding 6 feet in height.

### **Conservation Management Office**

VA would construct a Conservation Management Office for the management of the existing CLT colony. The Conservation Management Office would operate daily from sunrise to sunset, with possible expanded hours during CLT breeding/nesting season if circumstances require monitoring or management activities beyond the normal hours of operation. The Conservation Management Office may include other uses, such as an interpretive center that supports volunteer and public education programs. This building would be located east of the OPC building and would accommodate VA staff members and contracted staff/volunteers involved with management of the CLT colony. The building would be a one-story structure with a maximum height of 25 feet and would occupy approximately 2,500 gsf of space. A small parking area, consisting of 8 to 10 parking spaces, would be located adjacent to this office.

### **Existing Bunkers**

Seven bunkers are located within the VA Transfer Parcel. VA would repurpose three of the bunkers, two for storage of emergency medical supplies and one for storage of emergency management supplies and equipment. The remaining four bunkers located within the VA Development Area would be left in place and unused. The locations of the seven bunkers are identified in Figure 2-2.

### **Emergency Preparedness Training**

Emergency preparedness training exercises may be held at the VA Development Area about every 14 months. Activities associated with these training exercises are primarily standard emergency management exercises such as tabletop (planning) activities and building evacuation and assembly drills. These activities would be conducted inside the Medical Clinic or outside in the immediate vicinity of the Medical Clinic.

In addition, operations-based exercises could potentially be conducted at the project site. Operations-based exercises include drills such as accessing cache supplies or disaster preparedness activities related to regional emergencies (e.g., disaster, earthquake). Operations-based exercises would take place only on the VA Development Area and would be conducted outside of the CLT breeding/nesting season.

## **Access and Internal Circulation**

Access to the VA Development Area would be provided via an on-site and off-site road network. Primary access would be provided by a main access road located along the northern portion of the VA Development Area. Branching from this main access road would be a network of on-site roads to provide access to the various components of Alternative 1 (e.g., OPC, NCA Cemetery). Parking would be available within surface parking lots adjacent to the OPC, within the National Cemetery area, and road-side along the on-site road network. Public access through the site would be achieved with a new two-lane main access road for vehicles that would include a painted bike lane on each side. In addition, a new pathway would allow for pedestrians to circulate separate from the road directly adjacent to and south of the main access road. The pathway would be constructed using existing paving to the extent possible and would be filled in with decomposed granite or asphalt to provide a continuous circulation route for pedestrians. The public access road and pathway would extend from the proposed OPC on the east toward the shoreline on the west, stopping before the 100-foot band under BCDC jurisdiction. At the terminus a turnaround for vehicles would be provided along with eight parking spaces, which would be created by restriping an existing paved area. These publically accessible zones would be separated from the entire VA Development Area by a security fence that would be controlled with gate access and patrolled by security personnel. Public entry/exit points would not be provided between the VA Development Area and the 100-foot setback area or other adjacent lands.

An off-site access utility/road corridor would be constructed to the east of the VA Development Area and would be located outside the VA Transfer Parcel on property located within Alameda Point. The off-site road would provide vehicle and bicycle access to the VA Development Area from the City of Alameda and is proposed to run along West Redline Avenue and connect to Main Street. No new vehicle roads would be developed outside the VA Development Area. On-site roads would be developed in accordance with VA design standards and specifications.

Secondary emergency access to the VA Development Area would be provided along the east boundary of the VA Transfer Parcel (Figure 2-2). This emergency access would be gated/access-controlled to prevent unauthorized vehicles from entering the undeveloped portion of the VA Transfer Parcel near the CLT colony.

As part of the proposed operation of the OPC, VA would provide shuttle service to the VA Development Area. A shuttle owned and operated by VA would transport Veterans and staff between the 12th Street Oakland City Center Bay Area Rapid Transit (BART) station and the VA Development Area. The shuttle would operate seven days a week with 60-minute headways and would have a capacity of up to 24 passengers.

## **Utility Infrastructure**

Site utilities, potable water, and storm drains for the VA Development Area would be constructed within the off-site road/utility corridor along West Redline Avenue and Main Street, and would tie into the existing City of Alameda infrastructure lines within the proposed off-site utility/road corridor (see above), east of the VA Transfer Parcel. Utility infrastructure would also be constructed within the VA Development Area to support proposed development.

## Landscaping

Landscape planting in the VA Development Area would prioritize native shrub and herbaceous species over nonnative species, and none of the species would be invasive. Landscaped areas would consist primarily of drought-tolerant plant species and open hardscape areas. A limited amount of turf area may be provided in areas such as primary entrances and cemetery assembly areas and other prominent areas. Landscape vegetation within the line of sight of the existing CLT colony would be less than 4 feet in height. In areas outside of the colony's line of sight, trees would be a maximum of 20 feet in height and shrubs would be a maximum of 6 feet in height. On berms, vegetation would be limited to native grasses and shrubs with a maximum height of 3 feet.

## Construction

Construction under Alternative 1 would take approximately 18 months to complete and would include development of the OPC and associated parking on 20 acres; access road and utilities infrastructure on 11 acres; the Conservation Management Office; and the first phase of the cemetery development to include 25,000 columbarium niches and support facilities, including two committal service shelters, internal roads, assembly area, and landscaping on an estimated 20 acres of the 80-acre cemetery area. The remainder of the cemetery area would remain undeveloped until there is a need for additional columbarium niches. VA typically phases cemetery development based on the demand expected during a 10-year period; VA estimates that approximately 25,000 columbarium niches (on approximately 6 acres) would be developed approximately every 10 years to meet the burial needs of Bay Area Veterans. Based on this phasing schedule, the final phase of the cemetery would be constructed around the year 2116.

In order to address seismically induced ground shaking and associated ground failure at the VA Development Area, 800 stone columns, 3.5 feet in diameter, to a depth of 40 feet below ground surface (bgs) would be installed along the main access road located along the northern portion of the VA Development Area. The stone columns would be installed using a direct push methodology where a probe is "pushed" into the ground using vibration techniques and then the resulting hole is filled with crushed stone. The columns then would work as vertical drainage to prevent the buildup of excess pressure.

It is anticipated that approximately 444,000 cubic yards of fill material would be needed to prepare for construction, which would include the OPC area, the Conservation Management Office, the first phase of cemetery development (approximately 20 acres), and on-site access roads. All fill material would be delivered via truck. The exact provider and source of the fill materials has not been determined; however, VA has determined that fill materials would come from a source less than 50 miles from the VA Development Area. It is anticipated that construction would take approximately 18 months—9 months of earthwork and installation of infrastructure and roadways, and another 9 months of building construction and installation of landscaping. Each subsequent cemetery phase (about every 10 years) would involve approximately 12 months of development, including earthwork and installation of columbarium structures and landscaping.

Dewatering and a geotextile layer may be required for base stability where excavations extend to near the shallow water table. Based on preliminary design recommendations, the OPC building would likely have a concrete pile foundation. Structural concrete mats could be a viable alternative to driven piles. The cemetery's columbarium would likely be constructed with concrete pile foundations. Grading and construction would require the use of

scrapers, dump trucks, bulldozers, a pile driver, concrete mixer trucks, pavers, pickup trucks, and mobile power generators. All construction staging areas would be located within the VA Development Area.

### **2.4.2 Alternative 2 (Preferred Alternative)**

Under Alternative 2, the Navy would transfer excess Federal real property at the former NAS Alameda to VA via a Fed-to-Fed transfer; this area is referred to as the VA Transfer Parcel. The VA Transfer Parcel under Alternative 2 is approximately 624 acres and extends farther north than the transfer parcel identified in Alternative 1 (see Figure 2-3). Following property transfer, VA would construct and operate the identical development components as identified in Alternative 1, including an OPC, VBA Outreach Office, NCA Cemetery, Conservation Management Office, and associated infrastructure on approximately 112 acres of the total VA Transfer Parcel. VA would also construct an off-site utility/road corridor on approximately 6 acres of land to the east of the VA Transfer Parcel. Under Alternative 2, the VA Development Area is located farther north than under Alternative 1. The placement of the VA Development Area under Alternative 2 moves the proposed development farther away from the CLT colony. In addition, the OPC, NCA Cemetery, Conservation Management Office, and access road would have a different configuration than under Alternative 1. The project components of Alternative 1 are summarized in Table 2-3 and illustrated in Figure 2-3. Additional information on the various project components are detailed below.

#### **Development of Alternative 2**

Alternative 2 was developed as a direct response to concerns raised by the USFWS after VA and the Navy initiated formal consultation under the Federal Endangered Species Act (ESA) for the Proposed Action. USFWS's concerns focused on the potential impacts of the Proposed Action on the CLT resulting from the construction and operation of Alternative 1 (see above). In response to these concerns, VA and the Navy coordinated with USFWS and other stakeholders, including East Bay Regional Park District (EBRPD) and City of Alameda to develop Alternative 2, which moved the VA Development Area farther north – 1,766 feet away from the CLT colony.

More information on the Navy and VA's formal ESA consultation with USFWS, including a description of the Biological Assessment (BA) submitted for Alternative 1 and USFWS's Biological Opinion (BO) received for Alternative 2 is included in Section 3.1 (Biological Resources).

#### **VHA Outpatient Clinic**

The OPC building would be the same size (e.g., 158,000 gsf, two stories) and would offer the same services, staffing levels, and hours of operation as under Alternative 1. However, the OPC building would have a different site layout/configuration under Alternative 2 (see Figure 2-3). The OPC would include an adjacent surface parking area (632 spaces) and would include a shuttle drop-off/pick-up area for Veterans and VA staff members.

#### **VBA Outreach Office**

As with Alternative 1, a VBA Outreach Office would be located in the OPC building and would provide on-site benefit services to Veterans and their dependents. The size and services provided at the VBA Outreach Office would be identical to those described under Alternative 1.



Source: Data compiled by AECOM in 2012

**Figure 2-3:**

**Alternative 2 Site Plan**

**Table 2-3: VA Development Area under Alternative 2 (Preferred Alternative)**

<b>Project Component</b>	<b>Gross Square Feet</b>	<b>Acres</b>
<b>Outpatient Clinic Building</b>	<b>158,000</b>	<b>20</b>
VHA Ambulatory Care Services	50,000	
VHA Specialty Services	25,000	
VHA Mental Health Services	25,000	
VHA Pharmacy/Lab/Radiology Services	18,500	
VHA Clinic Management/Education Space	4,000	
VHA Lobby	1,500	
Emergency Management Services/Medical Administration	12,500	
Canteen	7,500	
Police Services	1,500	
VBA Outreach Offices	5,000	
Courtyard	NA	
Surface Parking (632 spaces)	NA	
NCA Offices and Public Information Center	7,500	
<b>NCA Cemetery (Committal Service Shelters)</b>	<b>2,700</b>	<b>80</b>
<b>Conservation Management Office</b>	<b>2,500</b>	<b>2</b>
<b>On-site Utility/Road Infrastructure/Bicycle Lane/ Pedestrian Pathway</b>	<b>NA</b>	<b>10</b>
<b>Off-site Utility/Road Corridor</b>	<b>NA</b>	<b>6</b>
<b>TOTAL</b>	<b>163,200</b>	<b>112 on-site and 6 off-site</b>

Notes: NA = not applicable; NCA = National Cemetery Administration; VA = U.S. Department of Veterans Affairs; VBA = Veterans Benefits Administration; VHA = Veterans Health Administration  
Source: Data compiled by AECOM in 2012

### **NCA National Cemetery**

The NCA Cemetery would occupy one contiguous 80-acre area west of the OPC building and would have a different configuration and layout than under Alternative 1 (see Figure 2-3). Cemetery services and facilities (e.g., committal service shelters, walkways, carillon, public information center) would be the same as described for Alternative 1.

### **Conservation Management Office**

Under Alternative 2, the location of the Conservation Management Office would be located farther west than under Alternative 1 (see Figure 2-3). A small parking area, consisting of eight to 10 parking spaces, would be located adjacent to the office. The purpose for and operations within the office would be identical to those described in Alternative 1.

## **Existing Bunkers**

Identical to Alternative 1, VA would repurpose three of the seven bunkers located within the VA Transfer Parcel, two for storage of emergency medical supplies and one for storage of emergency management supplies and equipment. The remaining four bunkers would be left in place and unused.

## **Emergency Preparedness Training**

Identical to Alternative 1, emergency preparedness training exercises may be held at the VA Development Area about every 14 months. Such exercises would take place solely on the VA Development Area and would be conducted outside of the CLT breeding/nesting season.

## **Access and Internal Circulation**

Under Alternative 2, primary and emergency access to the VA Development Area and proposed site shuttle services would be identical to those described in Alternative 1, including the construction of an off-site utility/road corridor to (see Figure 2-3). However, the network of on-site access roads and a pedestrian pathway would be in a different configuration than under Alternative 1.

## **Utility Infrastructure**

Site utilities, potable water, and storm drains for the VA Development Area would be similar to the system described under Alternative 1 and would include the same off-site utility/road corridor.

## **Landscaping**

Landscaping, including site restrictions, under Alternative 2 would be identical to those described in Alternative 1.

## **Construction**

Grading and construction activities, phasing, and equipment for Alternative 2 would be the same as described for Alternative 1.

### **2.4.3 No Action Alternative**

Under this alternative, the Fed-to-Fed transfer would not take place, and no VA facilities would be constructed on the site. Under the No Action Alternative, the property would be retained by the Navy in caretaker status until another action was taken on the property. No construction or redevelopment of the property would take place. On-site activities would be limited to maintenance, cleanup, and other actions associated with the Navy's caretaker status of the site. The Navy would continue its environmental cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The VHA and VBA services would remain at the current locations, or because leasing arrangements would expire for some facilities, they would be relocated to other locations. For the NCA Cemetery, Bay Area Veterans would

use the San Joaquin National Cemetery in Santa Nella, California (approximately 100 miles away), the Sacramento Valley National Cemetery (65 miles away), or a private cemetery.

The No Action Alternative is evaluated in detail in this EA as prescribed by CEQ regulations and provides a baseline for analysis of the action alternatives.

## **2.5 REFERENCES**

SmithGroup. 2008. *Study of Existing Buildings at Alameda Point for Possible VA Outpatient Clinic*. October 13.

### 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the affected environment and evaluates the potential direct, indirect, short-term, and long-term impacts for each relevant human and natural environmental resource potentially impacted by the Proposed Action. An evaluation of the potential cumulative impacts resulting from the Proposed Action, when added to other past, present, and reasonably foreseeable future actions, is presented in Chapter 4 (Cumulative Impacts). The analysis of potential impacts is based on the full build-out of the Proposed Action. The study area examined includes the project area (i.e., VA Transfer Parcel) and, where applicable, the area surrounding the project area, including the larger Alameda Point area, the San Francisco Bay, and the City and County of Alameda.

Each environmental resource area potentially impacted by the Proposed Action is addressed in its own section, numbered as follows:

- Section 3.1: Biological Resources;
- Section 3.2: Water Resources;
- Section 3.3: Transportation, Traffic, Circulation, and Parking;
- Section 3.4: Cultural Resources;
- Section 3.5: Visual Resources and Aesthetics;
- Section 3.6: Land Use;
- Section 3.7: Air Quality;
- Section 3.8: Greenhouse Gas Emissions and Climate Change;
- Section 3.9: Socioeconomics and Environmental Justice;
- Section 3.10: Hazards and Hazardous Substances;
- Section 3.11: Utilities;
- Section 3.12: Noise;
- Section 3.13: Public Services; and
- Section 3.14: Geology and Soils.

Potential environmental impacts are identified, where applicable, according to their significance. According to the CEQ, the significance of an impact is determined by examining both its context and intensity (40 CFR 1508.27). Context is related to the affected region, the affected interests, and the locality, while intensity refers to the severity of the impact, which is based on the following considerations:

- Impacts may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial;
- The degree to which the proposed action affects public health or safety;
- Unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas;
- The degree to which the effects on the quality of the human environment are likely to be controversial;
- The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks;
- The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration;

- Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
- The degree to which the action may adversely affect districts, sites, highways, or structures, or objects listed in or eligible for listing in the NRHP or may cause loss or destruction of significant scientific, cultural, or historical resources;
- The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA; and
- Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

The impact analysis compares projected future conditions to the affected environment. For each resource area, the potential construction or operational impacts are identified, if applicable, and the methodology and general assumptions used in the impact analysis are presented. Each identified impact is characterized according to its significance. Impacts are either significant (with corresponding mitigation, as feasible) or not significant, or significant and unavoidable where mitigation is not feasible or would not eliminate or reduce the impact to not significant. Although the focus of this analysis is on identifying potential adverse impacts, some beneficial effects also are identified by the analysis. The Navy would be responsible for transfer of excess Federal property and VA would be responsible for the construction and operation of the proposed facilities. In addition, VA would be responsible for implementation of, if applicable, the mitigation and avoidance measures identified in this EA.

Under NEPA, the Federal agency proposing an action must evaluate the environmental effects (impacts) that can reasonably be anticipated to be caused by or result from the Proposed Action and alternatives. The Proposed Action will be required to comply with Federal, State, and local laws and regulations. The potential environmental impacts that have been evaluated are those impacts which can reasonably be expected to result from the lawful implementation of the Proposed Action. In identifying direct impacts and reasonably foreseeable indirect impacts, the Navy and VA have taken into account all applicable measures and restrictions protective of human health and the environment that are required by existing laws and regulations. In many instances, the existence of such laws and regulations renders impacts that might have occurred in the absence of such laws highly unlikely and not reasonably foreseeable. In other instances, such laws and regulations work to lessen potential impacts to levels that are not significant. Because compliance with applicable laws is mandatory for the action proponent, compliance with the requirements of such laws and regulations is generally not identified separately as mitigation. Measures or controls that can be taken to reduce impacts to a level that is not significant are suggested for each alternative, as appropriate.

The Navy's Proposed Action is to dispose of excess property at the former NAS Alameda via a Fed-to-Fed transfer to VA. Transfer of the property by the Navy to the VA, an administrative action, would not, in itself, have a direct adverse impact on the human and natural environment. Therefore, this EA's impact analysis is focused on the potential impacts resulting from the VA's subsequent construction and operation of a VHA OPC, VBA Outreach Office, Conservation and Management Office, NCA Cemetery, off-site utility/road corridor, and associated infrastructure.

## 3.1 BIOLOGICAL RESOURCES

This section describes the existing physical and regulatory setting related to biological resources, including vegetation, habitat, wildlife, and plant species and discusses the potential effects of the EA Alternatives on these resources.

### 3.1.1 Regulatory Framework

#### Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) (Title 16, Sections 3501 *et seq.* of the U.S. Code [16 U.S.C. 3501 *et seq.*], as amended in 1990 under the Coastal Zone Act Reauthorization Amendments), administered by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, provides for management of the nation's coastal resources and balances economic development with environmental conservation. The overall program objectives of CZMA remain balanced to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

California has a Federally approved Coastal Management Program, which includes the California Coastal Act and the McAteer-Petris Act. The program established the San Francisco Bay Conservation and Development Commission (BCDC) as the coastal management and regulatory agency responsible for governing coastal resources within San Francisco Bay. In accordance with its role in implementing CZMA, BCDC is responsible for conducting Federal consistency reviews for projects along the San Francisco Bay segment of the California coastal zone. The coastal management plan for the east side of San Francisco consists of the McAteer-Petris Act (California Public Resources Code Section 66600 *et seq.*), the *San Francisco Bay Plan* (Bay Plan) (BCDC, 2006), and local management programs. The coastal management plan, in conjunction with other BCDC regulations, forms BCDC's management program for complying with CZMA.

Federal lands, including the VA Transfer Parcel, are outside the coastal zone, but Federal activities on land outside the coastal zone that affect resources of the coastal zone must be conducted consistent with the Bay Plan and related policies to the maximum extent practicable.

#### Federal Endangered Species Act

The Endangered Species Act (ESA) was enacted in 1973 (7 U.S.C. 136, 16 U.S.C. 1531 *et seq.*). Under the ESA, the Secretary of the Interior and the Secretary of Commerce have the authority to list a species as threatened or endangered (16 U.S.C. 1533[c]). The ESA is administered by both NMFS and USFWS. NMFS is accountable for animals that spend most of their lives in marine waters, including marine fish, most marine mammals, and anadromous fish such as Pacific salmon. USFWS is accountable for all other Federally listed plants and animals.

Pursuant to the requirements of the ESA, a Federal agency authorizing, funding or carrying out a project within its jurisdiction must determine whether any Federally listed threatened or endangered species may be present in the project site and determine whether the agency's action could affect any Federally listed species (16 U.S.C. 1536(a)(2), (3)). If the action would likely affect a listed species, the agency must consult with the USFWS or NMFS under Section 7 of the ESA to determine whether the action is likely to jeopardize the continued existence

of the species or result in the destruction or adverse modification of designated critical habitat (16 U.S.C. 1536(a)(2)). Species subject to ESA are addressed below.

### **Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA), as amended, makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued by USFWS. The MBTA does not provide protection for habitat of migratory birds. Permits are issued to qualified applicants for only the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal.

Federal agencies, such as VA and Navy, are required to comply with Federal laws, including the MBTA; VA and Navy must analyze potential impacts of all actions, including the alternatives, on migratory birds.

### **Section 404 Clean Water Act**

Section 404 of the Clean Water Act (CWA) regulates temporary and permanent fill, as well as the disturbance of wetlands and Waters of the United States. A permit must be obtained from the U.S. Army Corps of Engineers (USACE) prior to dredging or discharging dredged or fill materials into any “Waters of the United States” or wetlands. Waters of the United States are broadly defined in the USACE regulations to include navigable waterways, their tributaries, lakes, ponds, and wetlands. Wetlands are defined as: “Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (USACE 1986). Wetlands that are not specifically exempt from Section 404 regulations (such as drainage channels excavated on dry land) are considered to be “jurisdictional wetlands.” USACE is required to consult with the USFWS, NMFS, USEPA, and SWRCB in carrying out its discretionary authority under Section 404 of the CWA.

### **Executive Order 11990—Protection of Wetlands**

Executive Order 11990 was passed in 1977, in furtherance of NEPA, to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. If there is no practicable alternative to locating in or affecting wetlands, a lead agency shall act to minimize potential harm to the wetlands. A lead agency shall also act to restore and preserve the natural and beneficial values of wetlands as part of the analysis of all alternatives under consideration.

### **Magnuson-Stevens Fishery Conservation and Management Act**

The Magnuson-Stevens Fishery Conservation and Management Act is the primary law governing marine fisheries management in Waters of the United States. It was enacted in 1976 and amended in 1996 and 2006. Passage of the act created eight regional fishery management councils to manage the fisheries and promote conservation. The 1996 amendments focused on rebuilding overfished fisheries, protecting essential fish habitat, and reducing the

amount of incidental fish caught, by controlling annual catch limits. In 2006, the act was further amended to promote fisheries stock recoveries.

### 3.1.2 Affected Environment

Both natural and manmade elements frame the character of the environment. The study area includes the VA Transfer Parcel and the surrounding area, specifically the Alameda Point Northwest Territories development area (see Figures 3.1-1 and 3.1-2). The land comprising the VA Transfer Parcel was created during fill activities in the first half of the twentieth century and is essentially flat and lies just above sea level. The area is surrounded by the San Francisco Bay to the south and west and the Oakland Estuary to the north. The Port of Oakland is situated farther to the north of the estuary. To the east lie developed industrial and urban lands with a row of large aircraft hangars immediately east of the study area. The study area is occupied by former runways and taxiways interspersed with vegetated areas and contains vacant airfield support structures.

#### Habitat Evaluation

Before fieldwork was conducted, a search was made of the California Department of Fish and Game's California Natural Diversity Database for the Oakland West U.S. Geological Survey (USGS) 7.5-minute quadrangle and eight adjacent quadrangles. In addition, a species list was obtained from the USFWS for the Oakland West quadrangle including all lands within 5 miles of VA Transfer Parcel, and the California Native Plant Society's *Inventory of Rare and Endangered Plants* was reviewed for the most recent distribution information for Federally listed plant species (AECOM, 2008 and 2011).

Aerial images of the VA Transfer Parcel were examined for potential vegetation and wildlife habitats. Reconnaissance-level surveys of most of VA Transfer Parcel were conducted on February 20 and June 13, 2008.

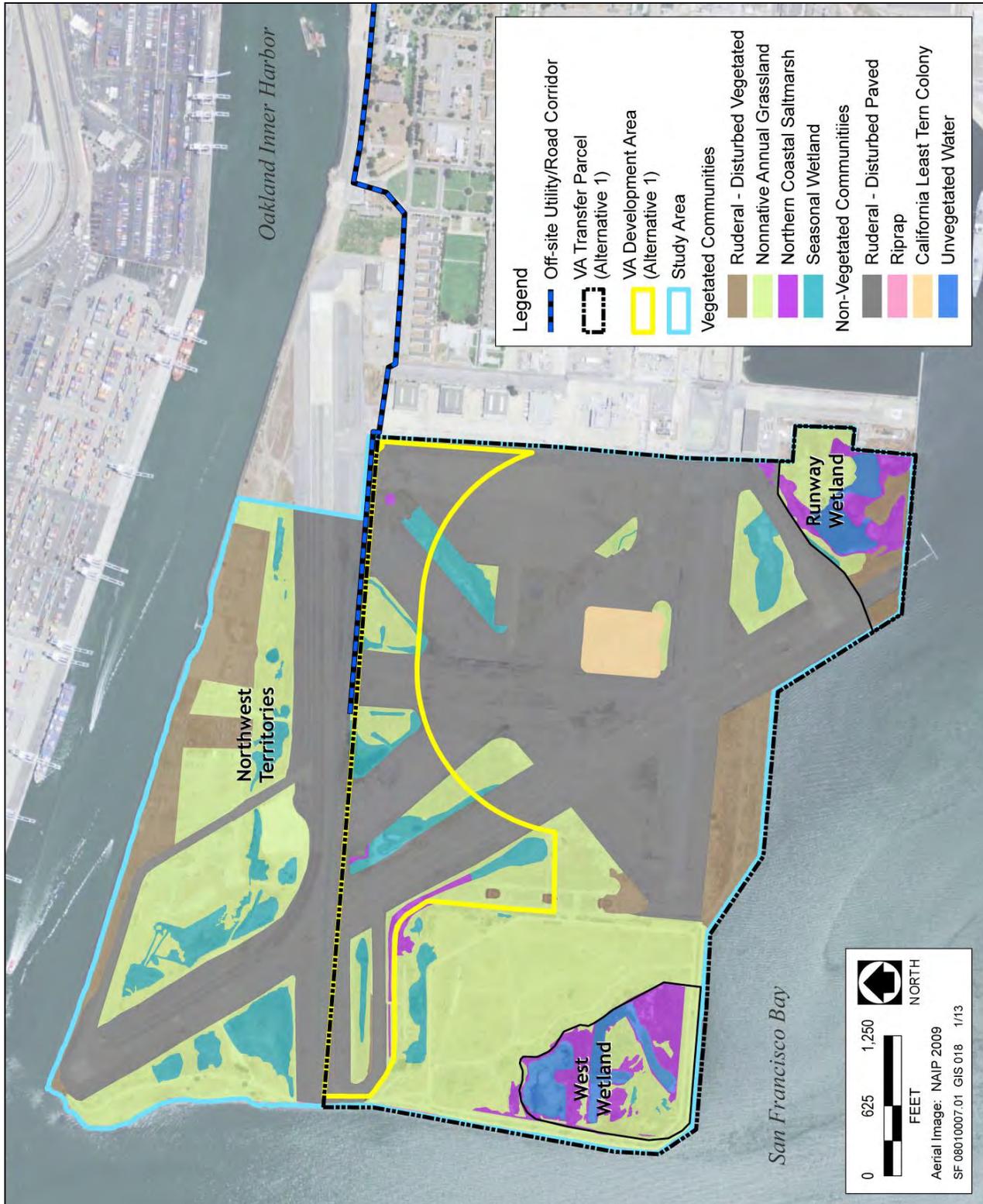
In addition, on May 16, 2008, and June 13, 2008, focused botanical surveys were conducted at the VA Transfer Parcel, and general biological conditions were noted. All distinct habitat types were identified, and all plant and wildlife species observed or detected by sign were recorded. cursory observations were made with binoculars from the edge of the fenced boundary at the northwest corner of the point on February 20, 2008. In addition, a follow-up survey was conducted on May 21, 2012 to review portions of the VA Transfer Parcel added under Alternative 2 and not surveyed in 2008.

#### Vegetation and Wildlife Habitat

The vegetation and wildlife habitats located within the VA Transfer Parcel is provided in Table 3.1-1, illustrated in Figures 3.1-1 and 3.1-2, and described below.

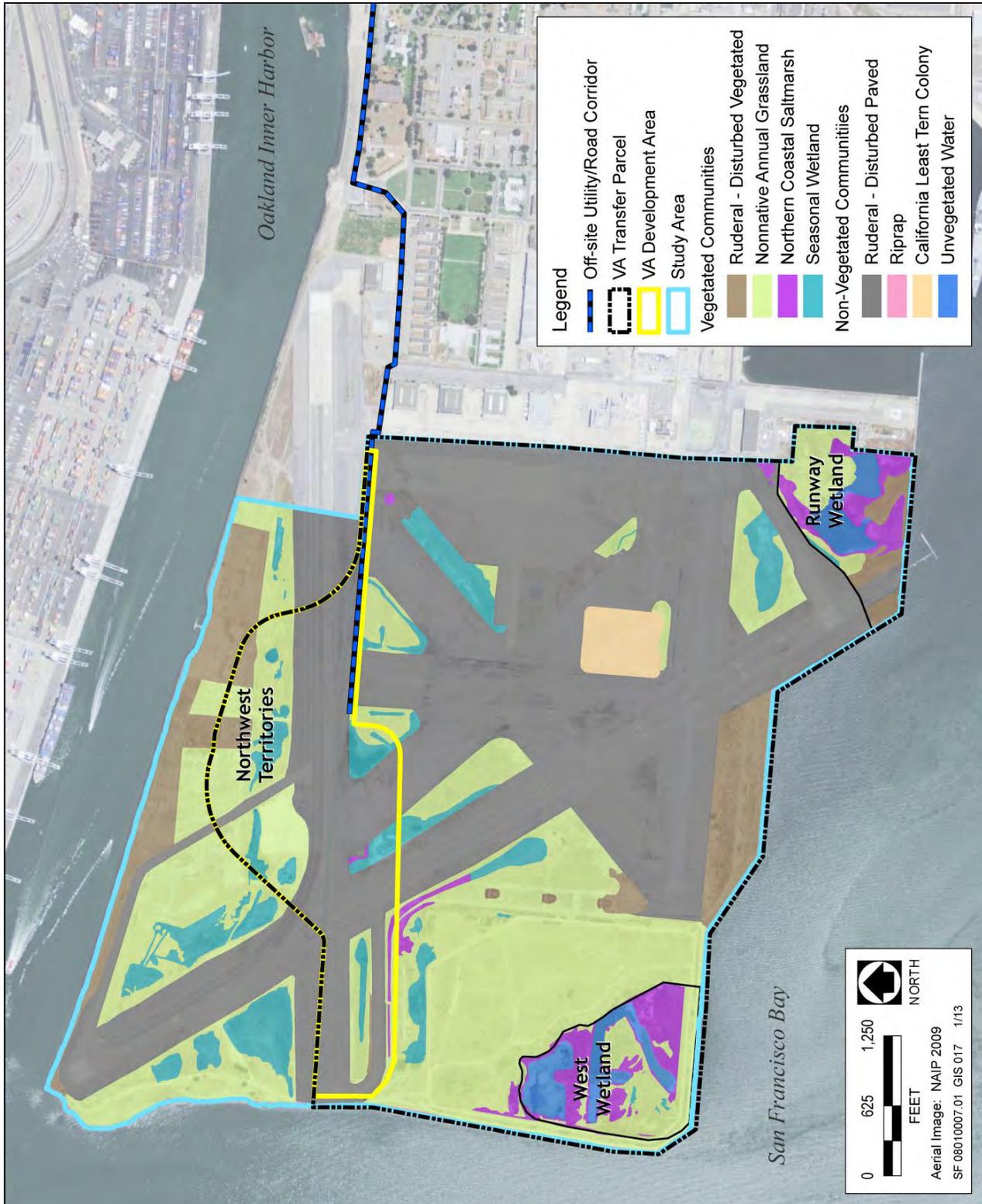
##### *Ruderal-Disturbed (Vegetated and Paved)*

The VA Transfer Parcel, and the larger Alameda Point area, sits on fill and has been severely disturbed by cut-and-fill operations and by grading, paving, and development. Ruderal-disturbed habitat is typical of disturbed lands on which the native vegetation has been completely removed by human activities, such as grading, disking, cultivation, or other surface disturbances. Disturbed areas, if left undeveloped, may become re-colonized by exotic species and native species. Native vegetation may ultimately become at least partially restored if the soils are left intact and there is no further disturbance.



Source: Data compiled by AECOM in 2012

**Figure 3.1-1: Vegetation and Wildlife Habitat, VA Transfer Parcel (Alternative 1)**



Source: Data compiled by AECOM in 2012

**Figure 3.1-2: Vegetation and Wildlife Habitat, VA Transfer Parcel (Alternative 2)**

**Table 3.1-1: Vegetation and Wildlife Habitat in the VA Transfer Parcel (Alternatives 1 and 2)**

Type	Alternative 1		Alternative 2	
	VA Transfer Parcel (acres)	VA Development Area (acres)	VA Transfer Parcel (acres)	VA Development Area (acres)
Ruderal - Disturbed (vegetated and paved)	310.2	69.1	353.9	68.0
Nonnative Annual Grassland	154.6	26.6	180.0	32.8
Northern Coastal Salt Marsh	24.1	2.1	24.1	1.1
Seasonal Wetland	26.6	13.2	31.7	10.5
Riprap	4.9	0.0	4.9	0.0
California Least Tern Colony	9.5	0.0	9.5	0.0
Unvegetated Waters	19.5	0.0	19.5	0.0
<b>Total</b>	<b>549.4</b>	<b>111.0</b>	<b>623.6</b>	<b>112.4</b>

Ruderal-disturbed habitat varies in vegetative cover and composition because of, among other causes, the degree of disturbance and vegetation re-colonization. There are two distinct ruderal-disturbed sub-habitats: (1) ruderal-disturbed vegetated habitat containing a greater coverage of vegetation, resulting mainly from soft sand or soil substrate, and (2) ruderal-disturbed paved habitat containing very sparse vegetation and a hard paved substrate. Ruderal-disturbed paved habitat represents the largest habitat, in terms of acreage, within the study area.

Ruderal-disturbed vegetated habitat in the study area is characterized by large expanses of nearly solid iceplant (*Carpobrotus edulis*) to large patches of iceplant interspersed with bare ground. Plant species present in these habitats include iceplant, rosy iceplant (*Drosanthemum floribundum*), and woolly sunflower (*Eriophyllum* sp.). In the upland areas, ruderal-disturbed habitat intergrades with nonnative annual grassland habitat. In these areas, patches of iceplant are interspersed with grasses and forbs typical of the nonnative annual grassland habitat described below.

Wildlife species generally associated with ruderal-disturbed lands include raccoon (*Procyon lotor*), opossum (*Didelphus virginianus*), European starling (*Sturnus vulgaris*), and mourning dove (*Zenaida macroura*). Killdeer (*Charadrius vociferus*) are also often associated with open disturbed substrates. Long-billed curlew (*Numenius americanus*) can be associated with open areas with clumps of vegetation. Wildlife species that feed on seeds or other parts of the vegetation, including finches, goldfinches, sparrows, and a variety of rodents, may occur in this habitat type. Insects present in disturbed habitats provide food for species such as western meadowlark (*Sturnella neglecta*), Brewer’s blackbird (*Euphagus cyanocephalus*), red-winged blackbird (*Agelaius phoeniceus*), loggerhead shrike (*Lanius ludovicianus*), horned lark (*Eremophila alpestris*), and western fence lizard (*Sceloporus occidentalis*). This community can support a variety of predators, including snakes, various raptors, and red fox (*Vulpes vulpes*). The study area’s close proximity to the waters of San Francisco Bay makes areas of ruderal-disturbed paved habitat on site suitable for shorebirds, such as CLT and Caspian tern (*Sterna caspia*), which typically nest on gravel or sandy substrates.

The Alternative 1 VA Transfer Parcel contains approximately 310.2 acres of ruderal-disturbed habitat. Of this area, approximately 69.1 acres are located in the Alternative 1 VA Development Area. The Alternative 2 VA

Transfer Parcel contains approximately 353.9 acres of ruderal-disturbed habitat. Of this area, approximately 68.0 acres are located within the Alternative 2 VA Development Area (Table 3.1-1; Figures 3.1-1 and 3.1-2).

### ***Nonnative Grassland***

Nonnative grassland is generally found in open areas in valleys and foothills throughout coastal and interior California (Holland, 1986). Nonnative grasses and weedy annual and perennial forbs, primarily of Eurasian/Mediterranean origin, dominate this vegetation type, probably because of human disturbance. Scattered native grass and wildflower species, representing remnants of the original vegetation, may also be common.

Nonnative annual grassland within the study area exists as a patchwork of perennial and annual grasses that intergrades and forms ecotones with ruderal-disturbed habitat, seasonal wetlands, and salt marsh (Figures 3.1-1 and 3.1-2). Characteristic annual and perennial nonnative grasses found in this habitat on site include tall fescue (*Festuca arundinacea*), velvet grass (*Holcus lanatus*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), Bermuda grass (*Cynodon dactylon*), Italian ryegrass (*Lolium multiflorum*), soft chess (*Bromus hordeaceus*), pampas grass (*Cortaderia selloana*), and annual bluegrass (*Poa annua*). Common nonnative forbs found include cranesbill (*Geranium dissectum*), red-stemmed filaree (*Erodium cicutarium*), vetch (*Vicia* sp.), cut-leaf plantain (*Plantago coronopus*), English plantain (*Plantago lanceolata*), iceplant, curly dock (*Rumex crispus*), and field bindweed (*Convolvulus arvensis*). Although this habitat is dominated by nonnative species, the native species coyote brush, saltgrass (*Distichlis spicata*), pickleweed (*Salicornia virginica*), and alkali heath (*Frankenia salina*) are also present.

Grassland habitats, both native and nonnative, attract reptiles and amphibians such as alligator lizard (*Gerrhonotus* spp.), western fence lizard, and Pacific slender salamander (*Batrachoseps attenuatus*), which feed on invertebrates found in this vegetation community. This habitat also attracts seed-eating and insect-eating species of birds and mammals. California quail (*Callipepla californica*), mourning dove, and western meadowlarks are a few granivores that nest and forage in grasslands. Insectivores such as the western scrub-jay (*Aphelocoma californica*), barn swallow (*Hirundo rustica*), and northern mockingbird (*Mimus polyglottos*) use the habitat for foraging only. Grasslands are important foraging grounds for insectivorous bats such as myotis (*Myotis* spp.) and pallid bats (*Antrozous pallidus*).

A large number of other mammal species, such as the California vole (*Microtus californicus*), deer mouse (*Peromyscus maniculatus*), Botta's pocket gopher (*Thomomys bottae*), Beechey (California) ground squirrel (*Spermophilus beecheyi*), red fox, striped skunk (*Mephitis mephitis*), and black-tailed jackrabbit (*Lepus californicus*), also forage and nest or den within grasslands. Small rodents attract raptors such as owls, which hunt at night, as well as day-hunting raptors such as the red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), and white-tailed kite (*Elanus leucurus*), among others. Some amphibian species that breed in adjacent ponds or wetlands may also aestivate (or spend the summer) in small mammal burrows within portions of these habitats.

Alternative 1 VA Transfer Parcel contains approximately 154.6 acres of nonnative annual grassland habitat. Of this area, approximately 26.6 acres are located in the Alternative 1 VA Development Area. The Alternative 2 VA Transfer Parcel contains approximately 180.0 acres of nonnative annual grassland habitat. Of this area, approximately 32.8 acres are located in the Alternative 2 VA Development Area (Figures 3.1-1 and 3.1-2).

### ***Northern Coastal Salt Marsh***

Northern coastal salt marsh consists of highly productive, herbaceous, and suffrutescent perennials up to 4 feet tall. Usually found along sheltered margins of bays, lagoons, and estuaries, this plant community develops a dense to moderate cover. Subject to continuously fluctuating salinity and water levels, northern coastal salt marsh is typically dominated by a low diversity of salt-tolerant hydrophytes.

Northern coastal salt marsh is located in a thin strip on the northern edge of the Northwest Territories along the Oakland Inner Harbor, the western edge of the VA Transfer Parcel area, the West Wetland, and the Runway Wetland areas (Figures 3.1-1 and 3.1-2). The majority of this habitat is peripheral to the proposed development alternative sites. Some of these areas are connected to San Francisco Bay via stormwater drains. On site the salt marsh is dominated by pickleweed (*Salicornia pacifica*) and saltgrass. Characteristic nonnative species include cranesbill, red-stemmed filaree, Mediterranean barley, bird's-foot trefoil, red sandspurry (*Spergularia rubra*), and bull thistle (*Cirsium vulgare*), among others. Northern coastal salt marsh may be considered Waters of the United States.

Both migratory and resident bird species utilize this habitat. Resident species like the American avocet (*Recurvirostra americana*) and black necked stilt (*Himantopus mexicanus*) use northern coastal salt marsh for nesting and breeding, while western sandpipers (*Calidris mauri*), marbled godwits (*Limosa fedoa*), and long-billed dowitcher (*Limnodromus scolopaceus*) are migratory shorebirds that use salt marsh habitat for resting and feeding. The savannah sparrow (*Passerculus sandwichensis*) nests in pickleweed and peripheral halophytes in upper marsh and upland transitional zones and the salt marsh common yellowthroat (*Geothlypis trichas sinuosa*) nests in tidal and nontidal brackish and freshwater marshes primarily in the South Bay, south of the project site. Non-breeding birds, including larger shorebirds, swallows, blackbirds, and other species roost in large numbers in salt marsh, while several species of ducks, and in a few locations, herons and egrets, also nest in salt marshes. The California vole (*Microtus californicus*) occurs here as well, and is often the most common small mammal. Salt marshes may also be utilized by fishes for breeding, rearing, and foraging for numerous insects and aquatic invertebrates.

The Alternative 1 VA Transfer Parcel contains approximately 24.1 acres of northern coastal salt marsh. Of this area, approximately 2.1 acres are located in the Alternative 1 VA Development Area. The Alternative 2 VA Transfer Parcel contains approximately 24.1 acres of northern coastal salt marsh habitat. Of this area, approximately 1.1 acres are located in the Alternative 2 VA Development Area (Table 3.1-1; Figures 3.1-1 and 3.1-2). The northern coastal salt marsh that occurs under each alternative is connected to San Francisco Bay via stormwater drains. In high-water-table conditions this situation has caused the salt water to combine with surface water.

### ***Seasonal Wetland***

Seasonal wetlands support annual and perennial native and nonnative wetland indicator plant species. This plant association typically resembles a wetland community only following the wet season; it dries up rapidly with the onset of summer and the wetland indicator species go dormant. During the dry season, such sites may not be readily recognizable as wetland species go to seed and typical upland grasses and forbs become established.

Within the VA Transfer Parcel, seasonal wetlands occur where water ponds and soils remain saturated during the growing season. Seasonal wetlands are found primarily in the Main Runway Area between the runways of the former airfield, in the southeast corner (i.e., Runway Wetland), and in the southwest corner (i.e., West Wetland) of the VA Transfer Parcel (Figures 3.1-1 and 3.1-2). The approximately 32-acre Runway Wetland encompasses two perennial ponds, surrounded by salt marsh and ruderal-disturbed lands. These two ponds are hydrologically connected to the San Francisco Bay through three openings in the southern rock seawall, and are connected to each other during periods of elevated water levels. The West Wetland is comprised of a linear, channel-like pond to the south and a second pond to the north, both of which are perennial. A strip of land ranging from 100- to 150-foot wide lies adjacent to the seawall, and separates the ponds from the Bay (Battelle and BBL, Inc. 2008 and Tetra Tech 2004). Both the Runway and West Wetland are located outside of the VA Development Area.

Seasonal wetlands are also located outside the northern border of the VA Transfer Parcel area within Alameda Point's Northwest Territories (Figures 3.1-1 and 3.1-2). These wetlands form where water ponds and soils remain saturated during the growing season and are found mainly in the tarmac area between the runways of the former airfield.

Plant species found in seasonal wetlands on site include nonnative species such as tall fescue, velvet grass, Bermuda grass, Mediterranean barley, curly dock, annual bluegrass, Italian ryegrass, bird's-foot trefoil (*Lotus corniculatus*), and loosestrife (*Lythrum hyssopifolia*). Native species present include common nut-sedge (*Cyperus eragrostis*), Baltic rush (*Juncus balticus*), toad rush (*Juncus bufonius*), rusty popcorn-flower (*Plagiobothrys nothofulvus*), and wooly marbles (*Psilocarphus* sp.). Seasonal wetlands may be considered Waters of the United States.

Though seasonal wetlands found within the VA Transfer Parcel are of low to medium quality, well developed seasonal wetland habitat can be very productive for wildlife in that they may offer water, food, and cover for a variety of species. Amphibians such as pacific treefrog (*Pseudacris regilla*) commonly occur in this habitat. Red-winged blackbird, common yellowthroat (*Geothlypis trichas*), and killdeer often use these areas for foraging and nesting. Snowy egret (*Egretta thula*), green heron (*Butorides virescens*), black-crowned night-heron (*Nycticorax nycticorax*), and mallard (*Anas platyrhynchos*), as well as numerous migrating shorebirds also forage in this habitat. Mammals commonly present in this habitat include California meadow vole, raccoon, striped skunk, and gray fox (*Urocyon cinereoargenteus*). This habitat may provide foraging and drinking areas for aerial and ground feeding insectivorous bats, such as *Myotis* species.

The Alternative 1 VA Transfer Parcel contains approximately 26.6 acres of seasonal wetland habitat. Of this area, approximately 13.2 acres are located in the Alternative 1 VA Development Area. The Alternative 2 VA Transfer Parcel contains approximately 31.7 acres of seasonal wetland habitat. Of this area, approximately 10.5 acres are located in the Alternative 2 VA Development Area (Table 3.1-1; Figures 3.1-1 and 3.1-2). Because of their location on a former airfield, these wetland areas are dispersed in a matrix composed of more asphalt than grassland or upland; therefore, these wetlands are considered medium to low quality. USACE completed a site verification field investigation of the VA Development Parcel on November 21, 2012. See Appendix C, which includes the Wetland Delineation and Preliminary Jurisdictional Determination Report and the verification letter from USACE dated March 13, 2013, for more information on study area seasonal wetlands (AECOM, 2012).

### ***Riprap***

Riprap is a non-natural permanent cover of rock, concrete, or other material, placed to protect shoreline. Riprap absorbs and deflects the energy of the waves and the gaps in between the riprap help slow water flow. This helps protect the land while reducing the erosion and scour of the shoreline edge.

There is very little or no vegetation in this habitat, although it is a site on which bay algae, other organic debris, flotsam, and jetsam collect. This habitat may be used by invertebrates and smaller mammals and birds for cover and foraging. Larger birds—such as California brown pelican and double-crested cormorant (*Phalacrocorax auritus*)—may utilize the rock riprap for roosting. On the aquatic side, subtidal portions of the riprap may be used as a refuge and grazing substrate for fishes and other aquatic animals.

Approximately 4.9 acres of riprap are found in the Alternative 1 and Alternative 2 VA Transfer Parcels. As shown in Figures 3.1-1 and 3.1-2, no riprap is located in the VA Development Area under Alternative 1 or Alternative 2.

### ***California Least Tern Colony***

The California Least Tern (CLT) (*Sternula antillarum browni*), Federally listed as endangered, nests and roosts on a ruderal-disturbed paved portion of the former NAS Alameda airfield area and forages in the adjacent open water (Figures 3.1-1 and 3.1-2). Its primary nesting area is an approximately 9.5-acre fenced section on the southern portion of the former airfield area in the VA Transfer Parcel. This area, known as the CLT colony, is continually managed to promote its use by CLT, including the regular removal of weedy vegetation and the introduction of gravel, seashells, and other nesting area substrates. The CLT was first documented nesting at the former NAS Alameda in 1976, while the air station and its runways were still active. Since that time and the closure of NAS Alameda, the colony has grown to be the largest in the San Francisco Bay Area. As seen in Figures 3.1-1 and 3.1-2, the existing CLT is not located in the VA Development Area under either Alternative 1 or Alternative 2, and a buffer from the boundary of this nesting colony (i.e., the fence) has been proposed to limit human activity close to the colony. No CLT nesting is known to occur in the VA Development Area. For an additional discussion on the CLT, see Section “Federally Listed Animal Species” below.

### ***Unvegetated Waters***

Unvegetated waters are the portions of permanent or intermittent water bodies such as lakes and pools, springs, canals, ponds, rivers and streams, with sparse to no vegetation cover. These areas provide refuge and foraging habitat to a variety of birds migrating through and inhabiting Alameda Point.

Unvegetated waters are found in the VA Transfer Parcel Runway Wetland and West Wetland areas indicated on Figures 3.1-1 and 3.1-2 as well as one small area of Oakland Estuary that encroaches within the straight-line boundary of the study area north of the Northwest Territories. At the Runway Wetland there are two perennial open water areas associated with the salt marsh and they are connected during high water to San Francisco Bay. There are three openings in the riprap that connect the ponds to the bay. Within the West Wetland, the canal-shaped pond was created by removing dredged materials to cover the landfill or disposal area. The northernmost pond is connected to the Bay by a culvert and both ponds are connected when inundated during higher tides.

In the Alternative 1 and Alternative 2 VA Transfer Parcels, approximately 19.5 acres of unvegetated waters are located in the Runway Wetland and the West Wetlands. These areas contain seasonal or perennial ponding water that may be considered Waters of the United States. As seen in Figures 3.1-1 and 3.1-2, no unvegetated waters are located in the VA Development Area under either Alternative 1 or Alternative 2.

### **Off-Site Utility/Road Corridor**

An off-site utility/road corridor would be constructed to the east of the VA Development Area and would be located outside the VA Transfer Parcel on property located within Alameda Point. The off-site corridor would provide vehicle and bicycle access and provide a utility right-of-way to the VA Development Area from the City of Alameda and is proposed to run along West Redline Avenue and connect to Main Street. The off-site corridor would encompass approximately 6 acres of property outside of the VA Transfer Parcel. This area is comprised of developed urban land consisting of former NAS Alameda buildings (currently utilized for commercial, administrative, and office uses), paved surface roads, sidewalks, managed lawns, non-native vegetation, recreational parks, and street trees. The off-site utility/road corridor does not contain any sensitive habitat areas. The existing habitat only supports a few avian species and other common terrestrial wildlife that are common in disturbed and urban settings.

### **Adjacent Marine Environment**

The open waters adjacent to the study area are typical of San Francisco Bay waters in general and have mainly silty mud and sand substrates that are naturally not more than 25 feet deep, although dredging operations for shipping operations in the Oakland Inner Harbor and Alameda pier area may deepen water to more than 50 feet. The San Francisco Bay is an estuarine system with a mixture of saline oceanic waters from the Pacific Ocean and outflow of fresh water from both local watersheds and distant watersheds, such as those from Coyote Creek and Guadalupe Rivers to the south and the Petaluma, Napa, Sacramento, and San Joaquin Rivers to the north. Vegetated habitats in the San Francisco Bay include sublittoral kelp populations and eelgrass (*Zostera marina*) beds.

Eelgrass beds exist both north of Alameda Point along the northern edge of the Oakland Inner Harbor and adjacent to the Alameda Point area at the southeastern terminus of the breakwater. Benthic, or bottom-dwelling, fauna in the open waters of San Francisco Bay include a large variety of invertebrates, such as polychaetes (i.e., marine worms), crustaceans (e.g., crabs, amphipods, and isopods), mollusks such as clams and mussels, echinoderms, and fishes such as halibut and sole. Pelagic organisms also are widely observed and include planktonic organisms (e.g., phytoplankton, copepods, and larval animals), crustaceans (e.g., shrimps and mysids), and many bony fish and shark species. These lower taxa provide a prey base for the higher taxa, such as marine mammals and birds, which also are commonly present in this environment. The VA Transfer Parcel does not have any marine habitats; however, the western and southern boundaries of the parcel border San Francisco Bay, which is considered essential fish habitat for several fish species. The VA Development Area does not border any marine habitats.

## **Federally Listed Threatened and Endangered Species**

### ***Federally Listed Plant Species***

Based on a review of California Department of Fish and Game's (CDFG) California Natural Diversity Database (CDFG 2011), the California Native Plant Society's *Inventory of Rare and Endangered Plants* (CNPS 2001, 2010), USFWS species list (USFWS 2010), and knowledge of the region, it was determined that 16 Federally listed plant species have been recorded as occurring within 5 miles (i.e., Oakland West USGS 7.5-minute quadrangle and 8 surrounding quadrangles) of the Proposed Action. A list of the 16 Federally listed plant species is presented in Appendix B (Biological Resources Supporting Information). Based on a review of available documentation and the results of reconnaissance and focused botanical surveys conducted during the species blooming periods in 2008, all 16 of the plant species are presumed absent from the VA Transfer Parcel or are not expected to occur due to a lack of suitable habitat and are not evaluated further.

The VA Transfer Parcel and VA Development Area under both Alternative 1 and Alternative 2 does not contain any designated or proposed critical habitat or Federally listed plant species.

### ***Federally Listed Animal Species***

Twenty six Federally listed terrestrial (i.e., amphibians, reptiles, birds, mammals, and insects) and marine (i.e., fish, crustaceans, and mammals) animal species have been recorded as occurring within 5 miles (i.e., Oakland West USGS 7.5-minute quadrangle and 8 surrounding quadrangles) of the Proposed Action. Based on a review of available documentation, including the results of focused surveys conducted for the Proposed Action and by local groups, 12 of the Federally listed terrestrial and all 10 of the marine animal species are presumed absent from the VA Transfer Parcel or are not expected to occur due to a lack of suitable habitat or lack of nearby source populations or suitable connectivity to the project site from presently extant populations and are not evaluated further. A list of the Federally listed terrestrial and marine animal species occurring within 5 miles of the Proposed Action is presented in the Biological Assessment in Appendix B (Biological Resources Supporting Information).

The following four Federally listed terrestrial animal species are known to occur on or in the vicinity of the Proposed Action:

#### ***California Least Tern***

As described in the "Vegetation and Wildlife Habitat Types" section above, the CLT, Federally listed as endangered, nests and roosts on a ruderal-disturbed paved portion of the former NAS Alameda airfield area (Figures 3.1-1 and 3.1-2) and forages in the adjacent open water. Its primary nesting area (CLT colony) is an approximately 9.5-acre fenced section on the southern portion of the former airfield area in the VA Transfer Parcel. The existing CLT colony is not located in the VA Development Area under either Alternative 1 or Alternative 2.

### ***California Clapper Rail***

The California clapper rail (*Rallus longirostris obsoletus*), Federally listed as endangered, has been observed in the *Spartina alterniflora* (and hybrid with *S. foliosa*) and pickleweed-dominated marshes 3 to 4 miles away (to the north and south) as recently as 2008. However, they have never been documented within the VA Transfer Parcel despite twice-monthly Friends of Alameda Wildlife Refuge (FAWR) bird counts which began in the spring of 2004 and biological surveys conducted within the VA Transfer Parcel. The VA Transfer Parcel lacks the important habitat elements for the species, including taller salt marsh vegetation such as *Scirpus* spp. and *Spartina* spp., including deep channels with full tidal connection; thus, suitable nesting habitat is absent and the quality of potential foraging habitat is diminished. Therefore, the likelihood that California clapper rails would occur on site is extremely low.

### ***Salt Marsh Harvest Mouse***

Although suitable habitat is present for salt marsh harvest mouse (*Reithrodontomys raviventris*), Federally listed as endangered, within the Runway Wetland and West Wetland areas, trapping surveys have resulted in negative findings (Navy, 1995, 1997; Bias and Morrison, 1999; Harvey, 2009). The probability of dispersal onto the VA Transfer Parcel is extremely low given the small dispersal range of the species and the large areas of unsuitable habitat between the site and source populations. Therefore, the potential for salt marsh harvest mouse to occur on site is extremely low.

### ***Western Snowy Plover***

The western snowy plover (*Charadrius alexandrinus nivosus*), Federally listed as threatened, has been observed in past years on Bay Farm Island near the Oakland Airport (CDFG 2010); the last recorded observation was in 1979. Since then, western snowy plovers have been observed within the VA Transfer Parcel during the bird count surveys by FAWR biologists. Since the inception of the twice-monthly FAWR bird counts in the spring of 2004, one western snowy plover was observed in July of 2004 (Hurt 2006) and one in September of 2006 (Euing 2007). Western snowy plovers were observed nesting within the CLT colony during at least 2 years in the early 1980s (Feeney 1994, Feeney and Collins 1993, USN 1999, USFWS 2000). Given the past and recent occurrences within the VA Transfer Parcel and presence of suitable habitat, the western snowy plover is likely to continue to use the action area as a stopover site during migration, and potentially, as a nesting location. Suitable nesting habitat is located within the CLT colony and other tarmac areas, and suitable foraging habitat occurs in the intertidal mudflats of the Runway Wetland and the West Wetland.

The California brown pelican (*Pelecanus occidentalis*) uses Breakwater Island (located south of the Runway Wetland) as a winter roost. This species was formerly listed as endangered but has since recovered and was officially delisted on November 17, 2009 (USFWS, 2009). For this reason, the California brown pelican is not discussed further in this EA.

The VA Transfer Parcel, under both Alternative 1 and Alternative 2, does not contain any designated or proposed critical habitat for Federally listed wildlife species. The San Francisco Bay adjacent to Alameda Point is designated critical habitat for the Central California Coast steelhead (*Oncorhynchus mykiss*) District Population Segments (DPS) and the North American green sturgeon southern (*Acipenser medirostris*) DPS.

## Common Wildlife and Special-Status Species

The VA Transfer Parcel is composed of developed and disturbed land that was previously utilized for military, industrial, and aircraft uses. The parcel is located entirely on manmade lands (i.e., fill material imported during the early to mid-20th century) and the majority of the parcel is situated on the inactive runways, taxiways, and other paved aircraft areas of the former NAS Alameda. The existing habitat only supports a few avian species and other common terrestrial wildlife that are common in disturbed and urban settings. Mammals recorded at the VA Transfer Parcel include striped skunks, Norway rats (*Rattus norvegicus*), Virginia opossums, gray foxes (*Urocyon cinereoargenteus*), red foxes, raccoons, Beechey ground squirrel, black-tailed hare, feral dogs (*Canis lupus familiaris*), feral cats (*Felis silvestris catus*), and a colony of domestic rabbits (*Oryctolagus cuniculus*). Western fence lizard is the only reptile recorded on site.

Raptor species documented on site include peregrine falcon (*Falco peregrinus*), Prairie falcon (*Falco mexicanus*), American kestrel (*Falco sparverius*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), red-tailed hawk, northern harrier, white-tailed kite, turkey vulture (*Cathartes aura*), great horned owl (*Bubo virginianus*), barn owl (*Tyto alba*), and short-eared owl (*Asio flammeus*). The western burrowing owl (*Athene cunicularia*), a California Species of Special Concern, has been documented on-site; however, as a predator species of CLT chicks, western burrowing owls and other predatory species are passively or actively relocated when necessary in compliance with the predator control program for CLT colony management. Because a long-term presence of burrowing owls on-site does not occur, this species is not discussed further.

Waterfowl and shorebird species recorded include Canada goose (*Branta Canadensis*), American coot (*Fulica Americana*), mallard, bufflehead (*Bucephala albeola*), lesser scaup (*Aythya affinis*), killdeer, western gull (*Larus occidentalis*), Wilson's snipe (*Gallinago delicate*), and willet (*Catoptrophorus semipalmatus*). Other bird species observed include loggerhead shrike, common raven (*Corvus corax*), American crow (*Corvus brachyrhynchos*), Horned larks, western meadowlark, black phoebe (*Sayornis nigricans*), European starling, Brewer's blackbird, mourning dove, white-crowned sparrow (*Zonotrichia leucophrys*), rock dove (domestic pigeon, *Columba livia*), and house finch (*Carpodacus mexicanus*).

## Habitat Linkages and Corridors

The VA Transfer Parcel is located within the far southwestern end of the former NAS Alameda property. Access to the site is limited to the public and is confined by urban development and the waters of the San Francisco Bay. Migration (i.e., habitat linkages and corridors) through the area is generally feasible only for bird species. The VA Transfer Parcel and its surrounding area serves as a migratory stopover for birds moving through the San Francisco Bay Area, including CLT (see above), which migrates to the western United States. In addition, parcel, contains suitable habitat, primarily the wetland habitats in the south and western portion of the parcel, which serves as a migratory linkage for many bird species. Although the Alternative 1 and Alternative 2 VA Development Areas are not located in the confined CLT colony, the area serves as a migratory stopover for other native birds traveling north-south along California's coast.

### 3.1.3 Environmental Consequences

#### Assessment Methods

The impact analysis compares projected future conditions to the affected environment, and identifies potential construction or operational impacts that can reasonably be anticipated to be caused by or result from the Proposed Action and alternatives.

On August 30, 2011, the Navy and VA submitted a Biological Assessment (BA) to the USFWS and requested formal Section 7 consultation, pursuant to Section 7(a)(2) of the ESA, for the Proposed Action, which at the time was the project as described under Alternative 1 in this EA. Following submission of the BA, the USFWS notified the Navy and VA on September 29, 2011 that they were unable to initiate formal consultation, citing a desire for additional information.. The USFWS, Navy, and VA then met numerous times to discuss the additional information needs as well as concerns regarding potential impacts of the project on the CLT. As a result of these discussions, the USFWS, Navy, VA, City of Alameda, and East Bay Regional Parks District (EBRPD) worked collaboratively to revise the project to minimize potential adverse affects of the Proposed Action on the CLT. This collaborative process resulted in the development of Alternative 2 (Preferred Alternative), which moved the proposed VA Development Area north, farther away from the CLT colony.

Following the development of the new alternative, the Navy and VA on May 24, 2012 requested formal Section 7 consultation for the proposed project as re-defined under Alternative 2. On August 29, 2012, the Navy and VA received a Biological Opinion (BO) from the USFWS concurring with the Navy and VA's determination on the Proposed Action (Preferred Alternative 2) (USFWS, 2012). More information on the BA and BO, including determination of effect and commitments to avoid and minimize potential impacts to the CLT are included below and in Appendix B (Biological Resources Supporting Information).

#### Alternative 1

##### *Construction*

##### *Vegetation and Wildlife Habitat*

Full build-out of the Alternative 1 VA Development Area would result in the modification or loss of approximately 20% (111.0 acres) of the existing vegetation and wildlife habitat area within the VA Transfer Parcel. The majority (86%) of the VA Development Area comprises previously disturbed and developed areas consisting of ruderal-disturbed vegetated and paved habitat (69.1 acres) and nonnative annual grassland (26.6 acres) situated on the former runways, taxiways, and aircraft parking areas of the former NAS Alameda. The remaining lands affected from development would be northern coastal salt marsh (2.1 acres) and seasonal wetland (13.2 acres) habitat. A summary of the vegetated and wildlife habitat potentially affected by Alternative 1 is included in Table 3.1-2.

Based on the habitat types present and the animal species generally found in the area, it is anticipated that impacts on ruderal-disturbed and nonnative annual grasslands within the VA Development Area would not result in adverse effects to habitat or vegetation, as they are generally sparse and are marginal habitat for local species.

**Table 3.1-2: Potential Effects - Vegetation and Wildlife Habitat in VA Transfer Parcel (Alternative 1)**

Type	VA Transfer Parcel		VA Development Area		
	Acres	Percent Total Area <sup>1</sup>	Acres	Percent Total Area <sup>1</sup>	Percent of Total Vegetation and Habitat Type within VA Transfer Parcel
Ruderal - Disturbed (vegetated and paved)	310.2	57%	69.1	62%	22%
Nonnative Annual Grassland	154.6	28%	26.6	24%	17%
Northern Coastal Salt Marsh	24.1	4%	2.1	2%	11%
Seasonal Wetland	26.6	5%	13.2	12%	50%
Riprap	4.9	<1%	0	0%	0%
California Least Tern Colony	9.5	2%	0	0%	0%
Unvegetated Waters	19.5	3%	0	0%	0%
Total	549.4	-	111.0	-	20%

Note:

<sup>1</sup> Percent calculations are approximate.

Approximately 13.2 acres of seasonal wetland and northern coastal salt marsh (2.1 acres) would be permanently impacted, an adverse impact, by the buildout of the VA Development Area under Alternative 1 (see Appendix C, which includes the Wetland Delineation and Preliminary Jurisdictional Report and the verification letter from USACE dated March 13, 2013). The northern coastal salt marsh is connected to San Francisco Bay via stormwater drains. In high-water-table conditions this situation has caused the salt water to combine with surface water.

These areas provide more suitable habitat for local plants and wildlife, especially local birds than the ruderal-disturbed and nonnative annual grassland habitats. However, as previously mentioned, the wetland and marsh habitat is located within a formerly developed area situated on the former NAS Alameda airfield and areas are dispersed within a matrix composed of more asphalt than grassland or upland. While the wetlands are generally well developed within that matrix, native species are few and overall species diversity and structural diversity is low. Therefore, these wetlands are considered medium to low quality.

The northern coastal salt marsh and seasonal wetlands within the VA Development Area are considered Waters of the United States and their disturbance would likely be subject to a CWA Section 404 permit prior to the start of construction. As part of the permitting process, VA would prepare a Section 404(b)(1) analysis in accordance with 40 CFR 230 to demonstrate that the Proposed Action represents the least environmentally damaging practicable alternative. Compensatory mitigation would be required to ensure no net loss to wetlands. Any compensatory mitigation proposed to offset unavoidable impacts to aquatic resources must conform to regulations specified in 40 CFR 230 ([http://www.epa.gov/owow/wetlands/pdf/wetlands\\_mitigation\\_final\\_rule\\_4\\_10\\_08.pdf](http://www.epa.gov/owow/wetlands/pdf/wetlands_mitigation_final_rule_4_10_08.pdf)). Compensatory mitigation can be achieved through four methods: restoration of a previously existing wetland or other aquatic site, enhancement of an existing aquatic site's functions, creation of a new aquatic site, or preservation of an existing aquatic site. The mechanisms for providing compensatory mitigation are permittee-responsible compensatory mitigation, mitigation banks, and in-lieu fee mitigation. USACE is responsible for

determining the appropriate form and amount of compensatory mitigation required for loss of Waters of the United States. Generally, depending on the quality of wetlands, mitigation is provided at a minimum 1:1 ratio; that is, for every 1 acre affected, 1 acre of mitigation is provided.

To reduce the adverse impact (i.e., direct removal of, placement of fill into, or hydrological interruption of Federally protected wetlands resulting in a net loss) to the northern coastal salt marsh and seasonal wetlands habitat within the VA Development Area to less than significant, VA will implement **Mitigation Measure BIO-1**. With implementation there would be no significant impact to northern coastal salt marsh and seasonal wetlands habitats.

### **Mitigation Measure BIO-1**

*The Proposed Action is within the USACE San Francisco District's San Francisco Bay Wetland Mitigation Bank (Bank). Nontidal/seasonal wetland and other waters within the service area may be eligible to use the Bank for mitigation on a case-by-case basis (i.e., for projects with impacts to nontidal/seasonal wetlands or other waters that may have been historic tidal wetlands or other waters). VA proposes a replacement ratio of 1:1 and shall consult with USACE to determine if a Bank, in-lieu fee, or permittee-responsible mitigation is the appropriate mitigation. Should mitigation credits be unavailable at the Bank to suit the needs of the project, VA shall seek out other methods to mitigate permanent impacts to nontidal/seasonal wetlands in consultation with the USACE.*

Direct impacts to existing vegetation and wildlife habitat areas would be limited to the VA Development Area. Under Alternative 1, the remaining portion of the VA Transfer Parcel, approximately 438 acres, including the existing CLT colony and adjacent ruderal disturbed, nonnative annual grassland, northern coastal salt marsh, and the West and Runway Wetlands, would be left undeveloped open space, and be preserved for future use of wildlife. The majority of the development would be landscaped or remain as open space and only limited areas would contain facility structures. Therefore, the habitat loss would be temporal because the existing small mammals, birds, and reptiles that currently use the grassland and ruderal disturbed habitats are adaptable to landscaped habitat. The landscaped areas would function similarly, as predator-supporting habitat, and would continue to support an alternative prey base for avian predators. In addition, existing paved surfaces (e.g., runways, taxiways, aircraft parking areas) would be removed from the VA Development Area and areas outside of building and structure footprints would be landscaped, increasing pervious surface area, adding managed vegetation, and improving habitat for common wildlife. The 438 acres of undeveloped open space and landscaped portions of the VA Development Area would be a beneficial impact.

There is the potential for indirect adverse effects from construction-related activities including sources of noise (e.g., construction traffic and the operation of construction equipment) and increased human presence during construction to spill over into the remaining VA Transfer Parcel, including the CLT colony. To minimize and avoid adverse effects on the CLT, VA will implement avoidance and minimization measures to control noise and other potential adverse effects that would be expected during construction. For a more detailed discussion of potential effects to the CLT colony, see "Federal Listed and Threatened Species" below. Given these conditions, construction-related activities would not result in a significant adverse indirect impact to the CLT colony and other vegetated and wildlife habitats.

Alternative 1 would result in the modification or loss of the existing vegetation and wildlife habitat area in an area limited to the VA Development Area (20% of the total VA Transfer Parcel). The majority of this area is comprised of marginal habitat (i.e., ruderal disturbed and nonnative annual grassland). To reduce adverse impacts to northern coastal salt marsh and seasonal wetlands located within the VA Development Area, VA will implement mitigation (i.e., **Mitigation Measure BIO-1**). In addition, habitat within the VA Development Area would be improved with the introduction of managed landscaping and the majority of the VA Transfer Parcel (80%), including the CLT colony and other existing wetlands (e.g., Runway and West Wetlands) would be left undeveloped open space. Therefore, Alternative 1 would not have a significant adverse construction-related impact on vegetated and wildlife habitat.

#### **Off-Site Utility/Road Corridor**

Construction of the off-site utility/road corridor would result in the installation of below-grade utilities and improvements to the existing paved surface roads. No sensitive habitat or protected plant or animal species are known to occur within this area, and therefore construction activities would not affect any sensitive biological resource and would only disturb an already densely developed urban environment. Alternative 1 would have no significant impact to biological resources within the off-site corridor.

#### **Adjacent Marine Environment**

No open water is located in the Alternative 1 VA Transfer Parcel, the VA Development Area is set back from the nearest open waters (i.e., Oakland Inner Harbor and San Francisco Bay), and no in-water work is proposed as part of the Proposed Action. Furthermore, development of a SWPPP (see Section 3.2 [Water Resources]) would minimize the potential for dust, accidental hazardous materials releases, and runoff during construction activities, thereby minimizing potential indirect effects on the adjacent marine environment. Construction activities would not have a significant impact on the adjacent marine environment or essential fish habitat.

#### **Federally Listed Threatened and Endangered Species**

##### *Federally Listed Plant Species*

As previously noted, the VA Transfer Parcel does not contain any designated or proposed critical habitat or Federally listed plant species. Therefore, Alternative 1 would have no construction-related impact to Federally listed or designated or proposed plant species and habitat.

##### *Federally Listed Animal Species*

Two Federally listed species, the CLT and western snowy plover, occur or have the potential to occur within the VA Transfer Area or surrounding area and/or be affected by the Proposed Action. CLT return each year to a fenced colony within the southern portion of the closed runway of the former NAS Alameda, and are considered to be present and breeding on site. The western snowy plover occurs occasionally within the VA Transfer Parcel or surrounding area, with the most recent sighting in September 2006. Although the VA Transfer Parcel contains suitable nesting habitat for western snowy plover, they have not been documented nesting on site since the 1980s. Regardless, western snowy plover is considered to have the potential to use the VA Transfer Parcel for both nesting and as a temporary stopover during migration. Because of their sporadic presence on-site, implementing

Alternative 1 may affect, but is not likely to adversely affect western snowy plover throughout the life of the project. Due to their presence in the VA Transfer Parcel, implementing Alternative 1 may affect, and is likely to adversely affect CLT throughout the life of the project. However, no direct loss of CLT nesting habitat would occur. Potential construction-related effects on the CLT and western snowy plover are discussed below. In addition, the analysis includes two other Federally listed animal species, California clapper rail and salt marsh harvest mouse, which have been known to occur only in the areas surrounding the VA Transfer Parcel.

The VA Transfer Parcel does not contain any Federally designated or proposed critical habitat. However, the waters of San Francisco Bay immediately adjacent to the VA Transfer Parcel (western and southern boundaries) fall within designated critical habitat for the Central California Coast steelhead DPS and the North American green sturgeon southern DPS. Because there is no open water within the VA Transfer Parcel and no in-water work proposed as part of VA's Proposed Action, there would be no direct effects to critical habitat for listed fish species. The project would employ standard prevention measures—such as a SWPPP, silt fences, and construction Best Management Practices—that would ensure there are no indirect effects to critical habitat within San Francisco Bay by minimizing noise, dust, and runoff. Therefore, Alternative 1 would have no construction-related impact (i.e., no effect) to Federally designated or proposed habitat.

The Navy and VA, in a BA submitted to the USFWS on August 30, 2011 requesting formal consultation under Section 7 of the ESA, and determined that the effects of Alternative 1 “may affect, and is likely to adversely affect” the CLT and “may effect, but is not likely to adversely affect” the western snowy plover. As identified above in section “Assessment Methodology,” the USFWS notified the Navy and VA that they were unable to initiate formal consultation on September 29, 2011. The USFWS, Navy, and VA then met numerous times to discuss concerns regarding potential impacts of the project on the CLT. As a result of these discussions, the USFWS, Navy, VA, City of Alameda, and EBRPD worked collaboratively to revise the project to minimize potential adverse affects of the Proposed Action on the CLT. This collaborative process resulted in the development of Alternative 2 (Preferred Alternative), which moved the proposed VA Development Area north, farther away from the CLT colony. Therefore, the Navy and VA did not receive concurrence from USFWS on their August 30, 2011 affects determination for Alternative 1.

Appendix B includes copies of the consultation letters. A description of the potential effects to the CLT and western snowy plover and a summary of the avoidance and minimization measures that VA would implement to minimize adverse impacts to the CLT and western snowy plover is provided below. If VA were to proceed with Alternative 1, VA would complete formal consultation under Section 7 of the ESA as is legally required. Subsequent NEPA analysis would also be required to incorporate the findings and conclusions of the Section 7 formal consultation into the biological resources analysis for Alternative 1.

### **California Least Tern**

Alternative 1 construction activities would take place within the VA Development Area, approximately 1,400 feet from the CLT colony. The remaining VA Transfer Parcel (approximately 438 acres), including the CLT colony would be left undeveloped open space.. No direct construction-related activities would occur outside the VA Development Area and would not result in the modification or direct disturbance of the CLT colony or the habitat immediately surrounding it. In addition, project construction would have no direct effects on CLT nesting or foraging habitat located outside the VA Transfer Parcel and VA Development Area.

Direct effects to the CLT from construction activities would primarily consist of increased noise and vibration, construction traffic, and operation of construction equipment, which could have an effect on the CLT colony. In addition, increased human activities associated with construction may increase habitat for predators of the CLT. To minimize or avoid any potential direct effects, including noise and vibration from construction activities within the VA Development Area, to the CLT, primary grading and site preparation activities would not occur during the CLT breeding season (April 1 through August 15). Additionally, a setback distance (approximately 1,400 feet) from the colony has been included that would limit potential impacts to nesting related to increased noise, lighting, or human presence. This setback area would be delineated using temporary construction fencing and would be overseen by approved biological monitors during the breeding season and remain in place during the non-breeding season. During the CLT breeding/nesting season, construction activities would be restricted to those activities that would not result in an increase in the ambient noise level and vibration in and around the CLT colony on the site. Pile driving and pavement demolition activities requiring the use of impact tools (e.g., hydraulic breakers, jack hammers, scarifiers, and compactors) would not occur during the species' nesting season because these activities and equipment have the potential to increase the ambient noise level and vibration in and around the CLT colony on the site.

There is the potential for indirect adverse effects from construction-related activities including sources of noise (e.g., construction traffic and the operation of construction equipment) and increased human presence during construction. To minimize and avoid adverse effects, VA, as described above, will implement conservation measures and best management practices to control noise and other potential effects that would be expected during construction. During the CLT breeding/nesting season, construction activities would be restricted to those activities that would not result in an increase in the ambient noise level and vibration in and around the CLT colony. To reduce the potential of adverse indirect effects of increased human presence during construction, a chain-link fence will be installed to establish a development setback area, preventing construction personnel and equipment from approaching the colony. Because stockpiled construction materials may provide additional cover, and garbage produced by construction waste and workers could attract predators, garbage will be properly disposed and a biological monitor will routinely check stockpiled construction materials for potential predators and other conditions. The off-site utility/road corridor alignments is proposed to follow the existing roadways, which have been used and in operation for decades in areas that contain no habitat for listed species and are well removed from any sensitive species habitat and would not have a significant effect on the CLT.

For additional information on the CLT, potential impacts, and proposed avoidance and mitigation measures see Appendix B (Biological Resource Supporting Information).

### **Western Snowy Plover**

Current evidence suggests that western snowy plover visits the surrounding area sporadically as a foraging migrant. As long as the species retains this status, direct effects on the species are likely to be minimal. The increased presence of humans and equipment during construction would increase the likelihood of disturbances (e.g., noise, light) to foraging and resting birds. These impacts would be intermittent, and are unlikely to affect the use of the site by snowy plover. Potential indirect effects of the project action on western snowy plover are generally shared and similar to those identified for CLT, albeit on a smaller scale as this species is currently only sporadically present as a migrant. Potential indirect effects would arise from increased human activity near foraging and potential nesting areas (CLT colony) and the daily use of new structures in the vicinity of the of

these areas. Should the western snowy plover reestablish itself as a nesting species in the action area, effects on the species are likely to be identical to those identified for the CLT and thus the proposed avoidance and minimization measures for the CLT are also adequately protective. Based on current habitat use by the snowy plover, the effects of Alternative 1 would be minimal. Therefore, there would be no significant adverse impact on the western snowy plover resulting from construction.

For additional information on the western snowy plover, potential impacts, and proposed avoidance and mitigation measures see Appendix B (Biological Resource Supporting Information).

### **California Clapper Rail**

Although California clapper rails have been observed in the *Spartina alterniflora* (and hybrid with *S. foliosa*) and pickleweed-dominated marshes 3 to 4 miles away (to the north and south) as recently as 2008, they have never been documented within the VA Transfer Parcel despite twice-monthly FAWR bird counts which began in the spring of 2004, and biological surveys conducted within the surrounding area. The VA Transfer Parcel lacks the important habitat elements for the species, including taller salt marsh vegetation such as *Scirpus* spp. and *Spartina* spp. and deep channels with full tidal connection; thus, suitable nesting habitat is absent and the quality of potential foraging habitat is diminished. Due to the surrounding unsuitable land uses isolating the VA Transfer Parcel from known populations, lack of documented observations within habitats on site despite regular avian surveys the last 8 years, and the low quality of salt marsh habitats for the species, the likelihood that clapper rails would occur within the action area is extremely low. Therefore, there would be no impact (i.e., no effect) on the California clapper rail resulting from construction.

### **Salt Marsh Harvest Mouse**

Trapping surveys for salt marsh harvest mouse have resulted in negative findings. An 8-night live trapping survey conducted in 1995 detected no salt marsh harvest mouse present (USN 1995, 1997) within the Runway Wetland or West Wetland marsh areas at that time. A second live-trapping survey was conducted in October 2009 (H.T. Harvey & Associates, 2009), which again found no salt marsh harvest mouse within the wetlands on site. The results of these surveys suggest that salt marsh harvest mouse has never occurred within the wetlands on site due to its isolation from source populations elsewhere around San Francisco Bay (H.T. Harvey & Associates, 2009). Potential salt marsh habitat on site is isolated from other marshes with known salt marsh harvest mouse populations by a minimum of 3 miles of barriers such as water bodies and highly developed urbanized areas. As a result, the probability of dispersal onto the VA Development Area is extremely low given the small dispersal range of the species (Bias and Morrison 1999). Therefore, there would be no impact (i.e., no effect) on the salt marsh harvest mouse resulting from construction.

### **Common Wildlife and Special-Status Species**

Common species would be affected through the removal of marginal habitat (non-native grasslands), and removal of existing vegetated areas within the VA Development Area. In addition, common wildlife in the VA Development Area would be subjected to increases in noise and dust associated with construction. As a result, some habitats would be reduced in extent during construction and some common species would temporarily decline in local abundance. However, potential impacts to common species and habitats would not be substantial due to the current low abundance of wildlife on the site. This is due to the extent of developed/urban land uses on

the site, the long history of site disturbance, the intensive nature of such disturbance in some areas, and the site's isolation from more extensive areas of natural habitat by the bay and by urban development in the project vicinity. Further, these species/habitats are abundant throughout many areas in the region, and the project site supports extremely small percentages of the populations. Consequently, any impacts of the project on common species and habitats would have a negligible effect on regional populations. In addition, habitat within the VA Development Area would be improved with the introduction of managed landscaping and the majority of the VA Transfer Parcel (80%) would be left undeveloped open space, which could be utilized by common wildlife. The majority of the development would be landscaped or remain as open space when compared to the limited area that would contain structures. Therefore, Alternative 1 would not have a significant adverse construction-related impact on common wildlife.

### **Habitat Linkages and Corridors**

As previously described under "Habitat Linkages and Corridors," because the VA Transfer Parcel is confined by urban development and the San Francisco Bay, there are limited non-avian habitat linkages or corridors. Existing terrestrial habitats only support a few non-avian species that have recently pioneered from nearby source populations and are common in disturbed and urban settings. There would be no impacts on non-avian habitat linkages and corridors and therefore they are not analyzed further in this EA.

The VA Transfer Parcel is utilized as a migratory stopover and nesting area for birds migrating along the Pacific Flyway. In particular, the existing wetlands present along the western edge of the VA Development Area, the West Wetland and the Runway Wetland, provide foraging and nesting habitat for these species. However, all construction activities would take place only within the VA Development Area. The remaining VA Transfer Parcel, including the West Wetland and the Runway Wetland would be left undeveloped open space. No direct construction-related activities would occur outside the VA Development Area and would not result in the modification or direct disturbance of these areas. The wetland areas within the VA Development Area generally contain marginal habitat for migrating birds, but these areas may still be used by grassland species. The wetland areas within the VA Development are dispersed within a matrix composed of more asphalt than grassland or upland; therefore, these wetlands are considered medium to low quality, and a 1:1 replacement ratio is proposed for mitigation. Discussions with USACE would take place to discuss replacement or enhancement opportunities on site or other options would be considered until a mutual mitigation solution is agreed upon. Construction within the VA Development Area would result in a loss of less than 3% of wetland habitat and 3% of grassland habitat used for migratory species. Because the impacts to wetlands would require at minimum 1:1 compensatory mitigation resulting in no net loss of wetlands, and because the area is used by wildlife adapted to disturbed and urban environments, it is anticipated that this loss would not result in a significant adverse impact.

### ***Operation***

#### **Vegetation and Wildlife Habitat**

There would be no significant direct adverse impacts to existing vegetation and wildlife habitat areas from the operation of Alternative 1. The majority of all operational activities would be limited to the VA Development Area, with exception to the CLT conservation and management activities, grounds maintenance activities, and limited use of the existing bunkers by VA. Operations will also not have a direct effect on CLT nesting or

foraging habitat. Operational activities would occur year round but are removed from foraging and nesting habitats at a sufficient distance to avoid direct effects to the CLT.

There is the potential for indirect adverse effects to the CLT colony from operational activities including effects to habitat and foraging, increased predation, increased human activity, noise, and lighting. However, to minimize and avoid adverse effects on the CLT colony, VA will implement avoidance and minimization measures to control noise and other potential effects that would be expected during operation. These measures would also be expected to help minimize and avoid adverse effects on other habitat areas. For a more detailed discussion of potential effects to the CLT colony see section “Federal Listed and Threatened Species” below.

#### **Off-Site Utility/Road Corridor**

Alternative 1 would have no operational impact to biological resources within the off-site utility/road corridor.

#### **Adjacent Marine Environment**

Operational activities would have no impact on the adjacent marine environment or essential fish habitat.

#### **Federally Listed Threatened and Endangered Species**

##### *Federally Listed Plant Species*

The VA Transfer Parcel does not contain any designated or proposed critical habitat or Federally listed plant species. Therefore, Alternative 1 would have no construction-related impact to Federally listed or designated or proposed plant species and habitat.

##### *Federally Listed Animal Species*

As identified above, the CLT and western snowy plover, have potential to occur within the VA Transfer Area or surrounding area and/or be affected by the Proposed Action. Because of the sporadic presence of the western snowy plover, implementing Alternative 1 may affect, but is not likely to adversely affect western snowy plover throughout the life of the project. Due to their presence in the VA Transfer Parcel, implementing Alternative 1 may affect, and is likely to adversely affect CLT throughout the life of the project. Potential operational effects on the CLT and western snowy plover are discussed below. In addition, the analysis includes two other Federally listed animal species, California clapper rail and salt marsh harvest mouse, which have been known to occur only in the areas surrounding the VA Transfer Parcel.

Alternative 1 would have no operational impacts to Federally designated or proposed habitat, including the adjacent San Francisco Bay (i.e., designated critical habitat for the Central California Coast steelhead DPS and the North American green sturgeon southern DPS).

#### **California Least Tern**

Alternative 1 would not result in a significant adverse impact to the CLT or the CLT colony from operational activities. All operational activities would take place within the VA Development Area, approximately 1,400 feet from the CLT colony. The remaining VA Transfer Parcel (approximately 438 acres), including the CLT colony

would be left undeveloped open space with limited use for CLT conservation and management, grounds maintenance, and limited use of the existing bunkers. In addition, operation would have no direct effects on CLT nesting or foraging habitat located outside the VA Transfer Parcel.

Operations would have no direct effects on CLT nesting or foraging habitat. Operational activities would occur year round but are removed from foraging and nesting habitats at a sufficient distance to avoid direct effects to the CLT. There is the potential for indirect adverse effects from operational activities including sources of noise (e.g., traffic and occupation and use of proposed facilities), increased human presence, and lighting. In addition, occupation and activities within the VA Development Area would have the potential to have an effect on the CLT, including predation, perceived predation and human disturbance, and reduce the ability to conduct effective predator management at the site. To reduce the adverse effects as described above, VA will implement avoidance and minimization measures to reduce potential adverse impacts. The measures would include preparing and implementing a long-term monitoring and management plan; vegetation control and weed removal; maintaining the undeveloped portions of the VA Transfer Parcel; design and treating building and structures with anti-perching devices; limiting height of vegetation; preparing an implementing a predator management plan; restricting access to the undeveloped portion of the VA Transfer Parcel; limiting OPC and cemetery operations to daytime hours; managing and directing noise generated from occasional cemetery memorial services away from CLT colony; and all exterior lighting will be strategically placed, would be directional and point downward using shielded valences/surrounds, and with anti-perching devices.

For additional information on the CLT, potential impacts, and proposed avoidance and minimization measures see Appendix B (Biological Resource Supporting Information).

### **Western Snowy Plover**

Alternative 1 would not result in a significant adverse impact to the western snowy plover from operational activities. As identified, current evidence suggests that western snowy plover visits the surrounding area sporadically as a foraging migrant. As long as the species retains this status, direct effects on the species are likely to be minimal. The increased presence of humans and other operational activities would increase the likelihood of disturbances (e.g., noise, light, etc.) to foraging and resting birds. These impacts would be intermittent, and are unlikely to affect the use of the site by snowy plover. Potential indirect effects of the project action on western snowy plover are generally shared and similar to those identified for CLT, albeit on a smaller scale as this species is currently only sporadically present as a migrant. Potential indirect effects would arise from increased human activity and the daily use of new structures in the vicinity. Should the western snowy plover reestablish itself as a nesting species in the action area, effects on the species are likely to be identical to those identified for the CLT and thus the proposed avoidance and minimization measures for the CLT are also adequately protective. Based on current habitat use by the snowy plover, the effects of Alternative 1 would be minimal. Therefore, there would be no significant adverse impact on the western snowy plover resulting from operation.

For additional information on the western snowy plover, potential impacts, and proposed avoidance and mitigation measures see Appendix B (Biological Resource Supporting Information).

### **California Clapper Rail**

Due to the surrounding unsuitable land uses isolating the VA Transfer Parcel from known populations, lack of documented observations within habitats on site despite regular avian surveys the last eight years, and the low quality of salt marsh habitats for the species, the likelihood that clapper rails would occur within the action area is extremely low. Therefore, there would be no impact (i.e., no effect) on the California clapper rail resulting from operation.

### **Salt Marsh Harvest Mouse**

As identified above, the probability of dispersal onto the VA Transfer Parcel is extremely low given the small dispersal range of the species (Bias and Morrison 1999). Therefore, there would be no impact (i.e., no effect) on the salt marsh harvest mouse resulting from operation.

### **Common Wildlife and Special-Status Species**

Potential adverse impacts from operation of Alternative 1 to common species and habitats would not be significant due to the current low abundance of wildlife on the site. This is due to the extent of developed/urban land uses on the site, the long history of site disturbance, the intensive nature of such disturbance in some areas, and the site's isolation from more extensive areas of natural habitat by the bay and by urban development in the project vicinity. In addition, habitat within the VA Development Area would be improved with the introduction of managed landscaping and the majority of the VA Transfer Parcel would be left undeveloped open space, which could be utilized by common wildlife. Therefore, the habitat loss would be temporal, because the existing small mammals, birds, and reptiles that currently use the grassland and ruderal disturbed habitats are adaptable to landscaped habitat. The landscaped areas would function similarly, as predator-supporting habitat, and would continue to support an alternative prey base for avian predators.

### **Habitat Linkages and Corridors**

Because ongoing operational activities at the VA facilities would be confined to the VA Development Area, impacts to migratory habitat in the remainder of the VA Transfer Parcel are not expected to occur. Further, because the CLT colony would be preserved, and potential future public access would be limited to the perimeter of this area these areas are anticipated to be utilized by wildlife through the operational period of the VA facilities. Therefore, operational impacts would not be significant.

## **Alternative 1 – Biological Resources Environmental Consequences Summary**

The potential biological environmental consequences presented for Alternative 1 are those as described in the Biological Assessment initially submitted to USFWS. A BO was neither rendered nor formally requested from USFWS, therefore the Navy and VA did not receive concurrence from USFWS on their determination of effects on listed and threatened species resulting from Alternative 1. If VA were to proceed with Alternative 1, VA would complete formal consultation under Section 7 of the ESA as is legally required. Subsequent NEPA analysis would also be required to incorporate the findings and conclusions of the Section 7 formal consultation into the biological resources analysis for Alternative 1.

**Alternative 2 (Preferred Alternative)**

**Construction**

**Vegetation and Wildlife Habitat**

Effects under Alternative 2 would be similar to those described under Alternative 1, except that the VA Transfer Parcel would be 75 acres larger (larger area is comprised mostly of additional ruderal-disturbed and non-native annual grasslands) and the VA Development Area (less than 2 acres larger than Alternative 1) would be located farther north. Full build-out of the Alternative 2 VA Development Area would result in the modification or loss of approximately 18% (112.4 acres) of the existing vegetation and wildlife habitat area within the VA Transfer Parcel. The majority (89%) of the VA Development Area is comprised of previously disturbed and developed areas consisting of ruderal-disturbed vegetated and paved habitat (68.0 acres) and nonnative annual grassland (32.8 acres) situated on the former runways, taxiways, and aircraft parking areas of the former NAS Alameda. The remaining lands affected from development would be northern coastal salt marsh (1.1 acres) and seasonal wetland (10.5 acres) habitat. A summary of the vegetated and wildlife habitat potentially affected by Alternative 2 is included in Table 3.1-3.

**Table 3.1-3: Potential Effects - Vegetation and Wildlife Habitat in VA Transfer Parcel (Alternative 2)**

Type	VA Transfer Parcel		VA Development Area		
	Acres	Percent Total Area <sup>1</sup>	Acres	Percent Total Area <sup>1</sup>	Percent of Total Vegetation and Habitat Type within VA Transfer Parcel
Ruderal - Disturbed (vegetated and paved)	353.9	57%	68.0	60%	11%
Nonnative Annual Grassland	180.0	29%	32.8	29%	5%
Northern Coastal Salt Marsh	24.1	4%	1.1	1%	<1%
Seasonal Wetland	31.7	5%	10.5	9%	2%
Riprap	4.9	0%	0.0	0%	0%
California Least Tern Colony	9.5	0%	0.0	0%	0%
Unvegetated Waters	19.5	0%	0.0	0%	0%
Total	623.6	-	112.4	-	18%

Note:

<sup>1</sup> Percent calculations have been rounded and may not equal 100%.

Alternative 2 would result in the modification or loss of the existing vegetation and wildlife habitat area in an area limited to the VA Development Area (18% of the total VA Transfer Parcel). The majority of this area is comprised of marginal habitat (i.e., ruderal-disturbed and nonnative annual grassland). To reduce adverse impacts to northern coastal salt marsh and seasonal wetlands located within the VA Development Area, VA would implement mitigation (i.e., **Mitigation Measure BIO-1**). In addition, habitat within the VA Development Area would be improved with the introduction of managed landscaping and the majority of the VA Transfer Parcel

(82%), including the CLT colony and other existing wetlands (e.g., Runway and West Wetlands) would be left undeveloped open space.

There is the potential for indirect adverse effects from construction-related activities including sources of noise (e.g., construction traffic and the operation of construction equipment) and increased human presence during construction to spill over into the remaining VA Transfer Parcel, including the CLT colony. To minimize and avoid adverse effects on the CLT, VA will implement avoidance and minimization measures to control noise and other potential effects that would be expected during construction. These measures would also be expected to help minimize and avoid adverse effects on other habitat areas. For a more detailed discussion of potential effects to the CLT colony see section “Federal Listed and Threatened Species” below. Therefore, Alternative 2 would not have a significant adverse construction-related impact to the CLT colony and other vegetated and wildlife habitats.

#### **Off-Site Utility/Road Corridor**

Effects under Alternative 2 would be similar to those described under Alternative 1. Therefore, no significant impact to biological resources would occur within the off-site utility/road corridor.

#### **Adjacent Marine Environment**

Effects under Alternative 2 would be similar to those described under Alternative 1. Therefore, no significant impact to biological resources would occur on the adjacent marine environment.

#### **Federally Listed Threatened and Endangered Species**

##### *Federally Listed Plant Species*

As previously noted, the VA Transfer Parcel does not contain any designated or proposed critical habitat or Federally listed plant species. Therefore, Alternative 2 would have no construction-related impact to Federally listed or designated or proposed plant species and habitat.

##### *Federally Listed Animal Species*

Effects under Alternative 2 would be less than those described under Alternative 1. Potential effects to the California clapper rail and salt marsh harvest mouse, no impact, are identical to Alternative 1 and are not described in detail below. In addition, Alternative 2 would have no construction-related impact to Federally designated or proposed habitat.

The Navy and VA has determined that the effects of Alternative 2 (Preferred Alternative) “may affect, and is likely to adversely affect” the CLT and “may effect, but is not likely to adversely affect” the western snowy plover. As identified above in section “Assessment Methodology,” the Navy and VA coordinated with and consulted with the USFWS pursuant to Section 7(a)(2) of the ESA, as amended, on this determination. The Navy and VA received concurrence from USFWS, as documented in the USFWS BO, dated August 29, 2012, on the determination that the “proposed project is likely to adversely affect the least tern” and “that the proposed project may affect, but is not likely to adversely affect the snowy plover” (USFWS 2012). The USFWS BO states that the “proposed project will increase predation pressure, increase the perception of predation, and reduce the quantity and quality of foraging habitat, adversely affecting all life stages of the least tern at NAS Alameda, thereby

resulting in take of the least tern in the form of harm, through habitat modification and disruptions in breeding success, and harassment.” The USFWS BO concludes, “that this level of anticipated take is not likely to result in jeopardy to the least tern” (USFWS 2012).

Appendix B includes copies of the consultation letters. A description of the potential effects to the CLT and western snowy plover and a summary of the avoidance and minimization measures that VA will implement to reduce adverse impacts to the CLT and western snowy plover is provided below.

### **California Least Tern**

Alternative 2, with the implementation of specific avoidance and minimization efforts, would not result in a significant adverse impact to the CLT from construction-related activities. All construction activities would take place within the VA Development Area, approximately 1,400 to 1,800 feet from the CLT colony. The remaining VA Transfer Parcel (approximately 511 acres), including the CLT colony would be left undeveloped open space. No direct construction-related activities would occur outside the VA Development Area and would not result in the modification or direct disturbance of the CLT colony or the habitat immediately surrounding it. However, implementation of Alternative 2 would result in the development of approximately 112 acres of currently vacant land (i.e., VA Development Area). The alignment of the majority of the VA Development Area under Alternative 2 is now located within a portion of the area known as the Northwest Territories, as identified in the City of Alameda 1996 Reuse Plan, which is farther away from the CLT colony than under Alternative 1. The development footprint under Alternative 2, was specifically designed to reduce the potential effects of the Proposed Action on the CLT, including providing and maintaining most of the site as undeveloped open space which provides a large buffer between the CLT colony and development. However, the reintroduction of uses within this former military airfield area would have the potential to have an effect on the CLT, including predation, perceived predation and human disturbance, and reduce the ability to conduct effective predator management at the site.

Direct effects to the CLT from construction activities would primarily consist of increased noise and vibration, construction traffic, and operation of construction equipment, which could have an effect on the CLT colony. In addition, increased human activities associated with construction may increase habitat for predators of the CLT. There is the potential for indirect adverse effects from construction-related activities including sources of noise (e.g., construction traffic and the operation of construction equipment) and increased human presence during construction. To reduce the adverse effects as described above, to the CLT to less than significant, VA will implement **Mitigation Measure BIO-2** to minimize the potential for harm and harassment of the CLT resulting from the project related activities. With implementation there would be no significant impact to the CLT from construction.

### **Mitigation Measure BIO-2**

*To minimize potential adverse effects of VA’s Proposed Action, VA will implement specific avoidance and minimization measures, as identified in the 2012 USFWS BO (see Appendix B [Biological Resources Supporting Information]). The measures pertain to the Navy’s fed-to-fed transfer and VA’s subsequent construction and operation of the Proposed Action as described under Alternative 2 in this EA. The measures provide for the long-term conservation and management of the CLT, including implementing*

*land use restrictions for long-term maintenance, management, and monitoring of the CLT. A summary of the avoidance and minimization measures that VA will implement include the following:*

- *The undeveloped portion of the VA Transfer Parcel will remain undeveloped, providing a buffer from human related activities, and will be managed in perpetuity for the long-term persistence and sustainability of the CLT colony.*
- *CLT management activities will continue at current levels or greater levels, as determined by an annual monitoring report. CLT colony management activities will include:*
  - *Vegetation control and weed removal within the undeveloped portions of the VA Transfer Parcel;*
  - *Maintenance of the fence surrounding the CLT colony;*
  - *Maintenance of the CLT colony and preparation for the breeding season by placement of appropriate substrates and other measures to enhance nesting habitat;*
  - *Breeding season monitoring of the CLT colony;*
  - *Management of feral cats and other terrestrial predators; and*
  - *Control of avian predators (e.g., gulls, corvids, and raptors).*
- *Preparation of a long-term monitoring and management plan and update as needed. The plan will be reviewed and approved by the USFWS.*
- *Preparation of a predator management plan to maintain protection from predator threats at current or lesser intensity. The plan will be reviewed and approved by the USFWS.*
- *VA will conduct an education program for all newly hired employees located at the VA Transfer Parcel.*
- *Lighting, including that for roads, building security, and public safety, will be designed to minimize nuisance nighttime light levels.*
- *VA will develop strategies to minimize erosion and introduction of pollutants into stormwater runoff according to RWQCB guidelines.*
- *VA will incorporate building and landscape design features to protect the CLT and its colony, including anti-perching features, limit the height of buildings, structures, and landscape plantings and features, and installing a permanent barrier along the VA Development Area to prevent unauthorized access into of the undeveloped portion of the VA Transfer Parcel.*
- *During CLT breeding season, a qualified biological monitor will be present, during all construction activities, to ensure that no activities adversely affect CLT using the colony.*
- *During the non-breeding season, a qualified environmental inspector will be present on site regularly throughout the non-breeding season.*

- *All refuse storage will be stored in secure, covered containers, and emptied on a regular basis and all dumpsters will have lids and placed in roofed enclosures.*
- *Military honors salutes will be conducted at committal service shelters or the designated assembly area only, and be conducted in a manner that directs firing (i.e., rifles or other small arms only) away from the CLT colony. No artillery or explosives salutes will be permitted.*
- *The volume of carillon output would be limited to ensure that use does not increase ambient noise levels at the CLT colony by more than 10%.*
- *During CLT breeding season, memorial events, such as those held on Memorial Day, will be conducted at designated assembly areas or committal services shelters. Events will be organized, staged, and conducted to direct noises away from the CLT colony. The use of amplifiers or public address systems will be permitted only to the extent that they do not increase ambient noise levels at the site, as measured at the north end of the CLT colony.*
- *All construction vehicles and equipment for construction activities will use designated site access points and remain on designated construction routes.*
- *Stockpiling of materials that may provide additional shelter for potential CLT predators at the construction site will be kept to a minimum and inspected on a regular basis by the biological monitor.*
- *During the CLT breeding season, no materials or equipment will be brought on site during evening or nighttime hours (i.e., dusk to dawn).*
- *Pile driving and pavement demolition activities requiring impact tools are prohibited during the CLT breeding season. The use of other types of construction equipment that would not increase the ambient noise level at the site, as measured from the north end of the CLT colony, are permitted during the CLT breeding season.*
- *The tops of buildings under construction, including on-site trailers, will be inspected for avian predators once each week from April 1 to August 15.*

The 2012 USFWS BO includes a complete and detailed list of the avoidance and minimization measures that VA will implement to minimize potential impacts to the CLT, see Appendix B (Biological Resources Supporting Information).

The off-site utility/road corridor alignments is proposed to follow the existing roadways, which have been used and in operation for decades in areas that contain no habitat for listed species and are well removed from any sensitive species habitat and would not have a significant effect on the CLT.

### **Western Snowy Plover**

Current evidence suggests that western snowy plover visits the surrounding area sporadically as a foraging migrant. As long as the species retains this status, direct effects on the species are likely to be minimal. The increased presence of humans and equipment during construction would increase the likelihood of disturbances (e.g., noise, light) to foraging and resting birds. These impacts would be intermittent, and are unlikely to affect the

use of the site by snowy plover. Potential indirect effects of the project action on western snowy plover are generally shared and similar to those identified for CLT, albeit on a smaller scale, as this species is currently only sporadically present as a migrant. Potential indirect effects would arise from increased human activity near foraging and potential nesting areas (CLT colony) and the daily use of new structures in the vicinity of these areas. Should the western snowy plover reestablish itself as a nesting species in the action area, effects on the species are likely to be identical to those identified for the CLT and thus the proposed avoidance and minimization measures (i.e., **Mitigation Measure BIO-2**) for the CLT are also adequately protective. Based on current habitat use by the snowy plover, the effects of Alternative 1 would be minimal. Therefore, there would be no significant adverse impact on the western snowy plover resulting from construction.

For additional information on the western snowy plover, potential impacts, and proposed avoidance and mitigation measures see Appendix B (Biological Resource Supporting Information).

#### **Common Wildlife and Special-Status Species**

Effects under Alternative 2 would be similar to those described under Alternative 1. Therefore, no significant construction-related impact to common wildlife would occur.

#### **Habitat Linkages and Corridors**

Effects under Alternative 2 would be similar to those described under Alternative 1. Therefore, no significant construction-related impact would occur to habitat linkages and corridors.

### ***Operation***

#### **Vegetation and Wildlife Habitat**

There would be no significant direct adverse impacts to existing vegetation and wildlife habitat areas from the operation of Alternative 2. The majority of all operational activities would be limited to the VA Development Area, with the exception of the CLT conservation and management activities, grounds maintenance activities, and limited use of the existing bunkers by VA. Operations will also not have a direct effect on CLT nesting or foraging habitat. Operational activities will occur year round but are removed from foraging and nesting habitats at a sufficient distance to avoid direct effects to the CLT.

There is the potential for indirect adverse effects to the CLT colony from operational activities including effects to habitat and foraging, increased predation, increased human activity, noise, and lighting. However, to minimize and avoid adverse effects on the CLT colony, VA will implement avoidance and minimization measures (i.e., **Mitigation Measure BIO-2**) to control noise and other potential effects that would be expected during operation. These measures would also be expected to help minimize and avoid adverse effects on other habitat areas. For a more detailed discussion of potential effects to the CLT colony see section “Federal Listed and Threatened Species” below. Given these conditions, operational activities would not result in a significant adverse indirect impact to the CLT colony and other vegetated and wildlife habitats.

### **Off-site Utility/Road Corridor**

Alternative 2 would have no operational impact to biological resources within the off-site utility/road corridor.

### **Adjacent Marine Environment**

Operational activities would have no impact on the adjacent marine environment or essential fish habitat.

### **Federally Listed Threatened and Endangered Species**

#### *Federally Listed Plant Species*

The VA Transfer Parcel does not contain any designated or proposed critical habitat or Federally listed plant species. Therefore, Alternative 2 would have no construction-related impact to Federally listed or designated or proposed plant species and habitat.

#### *Federally Listed Animal Species*

As identified above, effects under Alternative 2 would be similar to those described under Alternative 1. Potential effects to the California clapper rail and salt marsh harvest mouse, no significant impact, are identical to Alternative 1 and are not described in detail below. In addition, Alternative 2 would have no operational impact to Federally designated or proposed habitat.

The Navy and VA have determined that the effects of Alternative 2 (Preferred Alternative) “may affect, and is likely to adversely affect” the CLT and “may effect, but is not likely to adversely affect” the western snowy plover. As identified above in section “Assessment Methodology,” the Navy and VA coordinated with and consulted with the USFWS pursuant to Section 7(a)(2) of the ESA, as amended, on this determination. The Navy and VA received concurrence from USFWS, as documented in the USFWS BO, dated August 29, 2012, on the determination that the “proposed project is likely to adversely affect the least tern” and “that the proposed project may affect, but is not likely to adversely affect the snowy plover.” The USFWS BO states that the “proposed project will increase predation pressure, increase the perception of predation, and reduce the quantity and quality of foraging habitat, adversely affecting all life stages of the least tern at NAS Alameda, thereby resulting in take of the least tern in the form of harm, through habitat modification and disruptions in breeding success, and harassment.” The USFWS BO concludes, “that this level of anticipated take is not likely to result in jeopardy to the least tern” (USFWS 2012).

Appendix B includes copies of the consultation letters. A description of the potential effects to the CLT and western snowy plover and a summary of the avoidance and minimization measures that VA will implement to reduce adverse impacts to the CLT and western snowy plover is provided below.

### **California Least Tern**

Alternative 2, with the implementation of specific avoidance and minimization efforts, would not result in a significant adverse impact to the CLT from operational activities. All operational activities would take place within the VA Development Area, approximately 1,400 to 1,800 feet from the CLT colony. The remaining VA Transfer Parcel (approximately 511 acres), including the CLT colony would be left undeveloped open space. No

regular operational activities, except CLT conservation and management, grounds maintenance, and the use of the existing bunkers, would occur outside the VA Development Area and would not result in the modification or direct disturbance of the CLT colony or the habitat immediately surrounding it. No significant direct effects to the CLT from operational activities are expected. There is the potential for indirect adverse effects from operational activities including sources of noise (e.g., traffic and occupation and use of proposed facilities) and increased human presence. In addition, occupation and activities within the VA Development Area would have the potential to have an effect on the CLT, including predation, perceived predation and human disturbance, and reduce the ability to conduct effective predator management at the site. To reduce the adverse effects as described above, to the CLT to less than significant, VA will implement **Mitigation Measure BIO-2**. With implementation there would be no significant impact to the CLT from operation.

### **Western Snowy Plover**

Alternative 1 would not result in a significant adverse impact to the western snowy plover from operational activities. As identified, current evidence suggests that western snowy plover visits the surrounding area sporadically as a foraging migrant. As long as the species retains this status, direct effects on the species are likely to be minimal. The increased presence of humans and other operational activities would increase the likelihood of disturbances (e.g., noise, light, etc.) to foraging and resting birds. These impacts would be intermittent, and are unlikely to affect the use of the site by snowy plover. Potential indirect effects of the project action on western snowy plover are generally shared and similar to those identified for CLT, albeit on a smaller scale as this species is currently only sporadically present as a migrant. Potential indirect effects would arise from increased human activity and the daily use of new structures in the vicinity. Should the western snowy plover reestablish itself as a nesting species in the action area, effects on the species are likely to be identical to those identified for the CLT and thus the proposed conservation and avoidance measures for the CLT are also adequately protective. Based on current habitat use by the snowy plover, the effects of Alternative 2 would be minimal. Therefore, there would be no significant adverse impact on the western snowy plover resulting from operation.

For additional information on the western snowy plover, potential impacts, and proposed avoidance and mitigation measures see Appendix B (Biological Resource Supporting Information).

### **Common Wildlife and Special-Status Species**

Effects under Alternative 2 would be similar to those described under Alternative 1. Therefore, no significant operational impact would occur to common wildlife.

### **Habitat Linkages and Corridors**

Effects under Alternative 2 would be similar to those described under Alternative 1. Therefore, no significant operational impact would occur to habitat linkages and corridors.

## **Alternative 2 – Biological Resources Environmental Consequences Summary**

As discussed above, the effects of construction and operational activities under Alternative 2 would be similar to those described under Alternative 1, except that the VA Transfer Parcel would be located farther north.

Alternative 2 would result in the modification or loss of some existing vegetation and wildlife habitat area in the VA Development Area which is primarily comprised of marginal habitat (i.e., ruderal-disturbed and nonnative annual grassland). VA will implement Mitigation Measure BIO-1 to minimize and avoid adverse effects to northern coastal salt marsh and seasonal wetlands located within the VA Development Area and thereby reduce impacts to less than significant.

USFWS issued a BO dated August 29, 2012 concurring with the Navy and VA's determination that construction and operational activities under Alternative 2 "may affect, and is likely to adversely affect" the CLT and "may effect, but is not likely to adversely affect" the western snowy plover. The BO prescribes avoidance and minimization measures and requirements for the long-term maintenance, management, and monitoring of biological resources. VA will implement Mitigation Measure BIO-2 to minimize and avoid adverse effects to the CLT and western snowy plover.

Accordingly, with implementation of Mitigation Measures BIO-1 and BIO-2, Alternative 2 would not significantly impact biological resources.

### **No Action Alternative**

#### ***Construction***

Because the proposed VA facilities would not be constructed under this alternative, no construction-related biological effects would occur. There would be no impact.

#### ***Operation***

Under the No Action Alternative, there would be no operational biological resources effects. There would be no impact.

### **3.1.4 References**

- AECOM. 2008. *Draft Programmatic Biological Resources Report for the Former NAS Alameda, California*. Prepared for Department of Veterans Affairs and Department of the Navy.
- . 2011. *Biological Assessment for The Department of the Navy's Disposal of 549 Acres and the Department of Veterans Affairs (VA) Construction and Operation of an Outpatient Clinic and National Cemetery at the Former Naval Air Station (NAS) Alameda*. Prepared for Department of Veterans Affairs and Department of the Navy.
- . 2012. *Wetland Delineation and Preliminary Jurisdictional Determination Navy to VA Transfer & VA Outpatient Clinic and National Cemetery Project at the Former Naval Air Station Alameda*.
- Bias, M.A. and M.L. Morrison (Bias and Morrison). 1999. *Movements and Home Range of the Salt Marsh Harvest Mice*. *Southwestern Naturalist* 44(3):348-353.
- Holland, D. C. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. California Department of Fish and Game, The Resources Agency.

- H.T. Harvey & Associates (Harvey). 2009. *Salt Marsh Harvest Mouse Survey at the Former Naval Air Station, Alameda*. Prepared for the Department of the Navy, BRAC PMO West. November, 2009.
- U.S. Fish and Wildlife Service (USFWS). 2009. *Federal Register: Endangered and Threatened Wildlife and Plants; Removal of the Brown Pelican (Pelicanus occidentalis) from the Federal List of Endangered and Threatened Wildlife; Final Rule*. FR Doc. E9-27402. Part III. 50 CFR. Part 17. Vol. 74. No. 220: pp. 59443-59472. November 17, 2009. Available: <<http://edocket.access.gpo.gov/2009/pdf/E9-27402.pdf>>.
- . 2012 (August 29). *Final Biological Opinion on the Proposed Naval Air Station Alameda Disposal and Reuse Project in the City of Alameda, Alameda County, California*. (USFWS ID #: 81420-2009-F-0952-4.)
- U.S. Department of the Navy (Navy). 1995. *Salt Marsh Harvest Mouse Survey Report*. Prepared for Engineering Field Activity West, San Bruno, California. Prepared by PRC Environmental Management, Inc. October 4, 1995.
- . 1997. *Biological Assessment for Disposal and Reuse of Naval Air Station Alameda and Fleet and Industrial Supply Center, Alameda Facility and Annex Alameda, California*.

This page intentionally left blank.

## **3.2 WATER RESOURCES**

This section describes the existing physical and regulatory setting and discusses the potential effects of the EA Alternatives related to hydrology, water quality, floodplains, and coastal management.

### **3.2.1 Regulatory Framework**

#### **Clean Water Act**

The Clean Water Act (CWA) (33 U.S. Code [USC] 1251 et seq.) is the major Federal legislation governing the water quality aspects of implementing the Proposed Action. The CWA established the basic structure for regulating discharges of pollutants into Waters of the United States (not including groundwater) and waters of the State of California. The CWA authorizes the USEPA to implement pollution control programs.

Under the CWA, it is unlawful for any person to discharge any pollutant from a point source into navigable waters unless a National Pollutant Discharge Elimination System (NPDES) permit is obtained. In addition, the CWA requires each state to adopt water quality standards for receiving water bodies and to have those standards approved by USEPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing), along with water quality objectives necessary to support those uses.

Responsibility for the protection of water quality in California resides with the State Water Resources Control Board (SWRCB) and nine regional water quality control boards (RWQCBs). The SWRCB establishes State-wide policies and regulations for the implementation of water quality control programs mandated by Federal and State water quality statutes and regulations. The RWQCBs develop and implement water quality control plans, more commonly known as basin plans, which consider regional beneficial uses, water quality characteristics, and water quality problems.

#### ***Water Quality Control Plan for the San Francisco Bay Basin***

The Basin Plan for the San Francisco Bay Hydrologic Region identifies the beneficial uses of water bodies and provides water quality objectives and standards. Federal and State laws mandate protection of designated “beneficial uses” of water bodies. The beneficial uses of any specifically identified water body generally apply to all tributary streams to that water body. State law defines beneficial uses as “domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.” Those water bodies not specifically designated for beneficial uses in the Basin Plan are assigned the Municipal and Domestic Supply (MUN) use, in accordance with SWRCB Resolution No. 88-63.

#### ***Clean Water Act Section 303***

Section 303(c)(2)(b) of the CWA requires states to adopt water quality standards for each surface water body of the U.S. based on the water body’s designated beneficial use. Where multiple uses exist, water quality standards must protect the most sensitive use. Water quality standards applicable to the Proposed Action are listed in the Basin Plan.

Section 303(d) of the CWA requires each state and authorized Native American tribe to develop a list of water quality-impaired segments of waterways. The list includes waters that do not meet water quality standards necessary to support a waterway's beneficial uses even after the minimum required levels of pollution control technology have been installed. The 303(d) List for San Francisco Bay is developed through development of a draft list by the San Francisco Bay RWQCB, adoption by the SWRCB, and approval by EPA.

Listed water bodies are priority ranked for development of a total maximum daily load (TMDL). A TMDL is a calculation of the "amount" of a pollutant that a water body can receive on a daily basis and still safely meet water quality standards. The TMDLs include waste load allocations for urban stormwater runoff as well as municipal and industrial wastewater discharges. The SWRCB, RWQCBs, and EPA are responsible for establishing TMDL waste load allocations and incorporating approved TMDLs into water quality control plans, NPDES permits, and waste discharge requirements in accordance with a specified schedule for completion.

### ***Clean Water Act Section 402—NPDES Permits***

The NPDES stormwater permitting program, under Section 402(d) of the Federal CWA, is administered by the RWQCBs on behalf of EPA and establishes a framework for regulating nonpoint-source stormwater discharges (33 U.S. Code [U.S.C.] 1251). The objective of the NPDES program is to control and reduce discharges of pollutants to water bodies from surface water, which includes both municipal and industrial wastewater and stormwater runoff. Under the CWA, discharges of pollutants to receiving water are prohibited unless the discharge is in compliance with an NPDES permit. The NPDES permit specifies discharge prohibitions, effluent limitations, and other provisions such as monitoring deemed necessary to protect water quality based on criteria specified in the National Toxics Rule, the California Toxics Rule, and the Basin Plan.

The SWRCB has adopted a State-wide NPDES general permit for stormwater discharges associated with construction activities (Construction General Permit) (Order 2009-0009-DWQ), which became effective on July 1, 2010. Compliance with the Construction General Permit and preparation and implementation of a stormwater pollution prevention plan (SWPPP) that meets Construction General Permit conditions is required for sites that disturb 1 acre or more and drain to the separate sewer system. Construction activities subject to the Construction General Permit include clearing, grading, stockpiling, and excavating. Dischargers must eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. The permit also requires dischargers to consider the use of permanent post-construction management measures that would remain in service to protect water quality throughout the life of the project. All NPDES permits also have inspection, monitoring, and reporting requirements.

The requirements of the Municipal Regional Stormwater NPDES Permit (adopted October 14, 2009) are implemented by local agencies through the Alameda Countywide Clean Water Program. The Municipal Regional Stormwater NPDES Permit covers stormwater discharges from municipalities and local agencies in Alameda, Contra Costa, San Mateo, and Santa Clara Counties, and the cities of Fairfield, Suisun City, and Vallejo.

### **Executive Order 11988: Floodplain Management Act**

EO 11988 was passed in 1977 in furtherance of the National Flood Insurance Act of 1968, and the Flood Disaster Protection Act of 1973. The aim of this executive order is to avoid, to the extent possible, the long- and short-term

adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

If no floodplain impact is identified, the action may proceed without further consideration. If the agency determines that a proposed action is located in or would affect a floodplain, a floodplain assessment must be undertaken and included in the NEPA documentation. If there is no practicable alternative to locating in or affecting the floodplain, the agency must act to minimize potential harm to the floodplain. The agency also must act to restore and preserve the natural and beneficial values of floodplains as part of the analysis of all alternatives under consideration.

### **Coastal Zone Management Act**

The Coastal Zone Management Act (CZMA) (U.S.C. Sections 3501 et seq., as amended in 1990 under the Coastal Zone Act Reauthorization Amendments), administered by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, provides for management of the nation's coastal resources and balances economic development with environmental conservation. The overall program objectives of CZMA remain balanced to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

California has a Federally approved Coastal Management Program, which includes the California Coastal Act and the McAteer-Petris Act. The program established the San Francisco Bay Conservation and Development Commission (BCDC) as the coastal management and regulatory agency responsible for governing coastal resources within San Francisco Bay. In accordance with its role in implementing CZMA, the BCDC is responsible for conducting Federal consistency reviews for projects along the San Francisco Bay segment of the California coastal zone. The coastal management plan for the east side of San Francisco consists of the McAteer-Petris Act (California Public Resources Code Section 66600 et seq.), the *San Francisco Bay Plan* (Bay Plan) (BCDC, 2006), and local management programs. The coastal management plan, in conjunction with other BCDC laws and regulations, forms the BCDC's management program for complying with CZMA.

Federal lands, including the VA Transfer Parcel are outside the coastal zone, but Federal activities on land outside the coastal zone that affect resources of the coastal zone must be conducted consistent with the Bay Plan and related policies to the maximum extent practicable.

### **Section 438 of the Energy Independence and Security Act**

In December 2007, Congress passed the Energy Independence and Security Act (EISA) of 2007. Section 438 of the EISA establishes new stormwater design requirements for Federal development and redevelopment projects to reduce the impacts of stormwater runoff associated with new construction and help to sustain water resources. Federal facility projects that have a footprint greater than 5,000 gross square feet (gsf) or that would expand the footprint of existing facilities by more than 5,000 gsf must "maintain or restore, to the maximum extent technically feasible, the predevelopment<sup>1</sup> hydrology of the property with regard to the temperature, rate, volume, and duration of flow" (EPA, 2011).

---

<sup>1</sup> Before any "development" (i.e., greenfields site).

Section 438 of the EISA is to be implemented using low-impact development (LID) techniques to mimic the site's predevelopment stormwater runoff conditions by using site design techniques that store, infiltrate, evaporate, and detain runoff. The "maximum extent technically feasible" criterion requires full employment of accepted and reasonable stormwater retention and reuse technologies (e.g., bio-retention areas, permeable pavements, cisterns/recycling), subject to site and applicable regulatory constraints (e.g., site size, soil types, vegetation, demand for recycled water, existing structural limitations, State or local prohibitions on water collection).

Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance," was signed on October 5, 2009, and required EPA to issue guidance on implementing Section 438 of the EISA. The technical guidance was issued in December 2009 in document EPA 841-B-09-0001, *Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act*. This guidance creates two options for compliance with the stormwater runoff requirements contained in the EISA.

### 3.2.2 Affected Environment

#### Climate

Alameda Island, including the VA Transfer Parcel is located in the City of Alameda, which is considered semiarid with a moderate, Mediterranean climate characterized by cool dry summers and mild wet winters. Annual rainfall for the project site between 1971 and 2010 averaged approximately 23 inches, 95% of which occurred during the winter rainy season (October–April). The wettest month of the year is January, with an average rainfall of 4.9 inches (IDcide, 2012).

#### Hydrologic Features

##### *VA Transfer Parcel*

The VA Transfer Parcel's topography is flat. Its San Francisco Bay shoreline (on western and southern boundary) breakwater is lined rock riprap. No creeks or other natural watercourses cross the parcel, which is covered in large part by runway surfaces of the former NAS Alameda. Therefore, no designated wild and scenic rivers flow through the VA Transfer Parcel (USFWS, 2009). Seasonal flooding occurs, and there are jurisdictional wetlands on the parcel, as described in Section 3.1 (Biological Resources). Surface water occurs as sheet flow and is collected in a stormwater drainage system that conveys the water from the VA Transfer Parcel directly to receiving waters.

The Navy installed the existing storm drainage system at the former NAS Alameda in the early 1940s. The system, which consists of drains, catch basins, and discharge outfalls, is a gravity system; a pump station was installed on Main Street to reduce nuisance flooding<sup>2</sup> in the area (APCP, 2003). See Section 3.11 (Utilities) for additional discussion of stormwater drainage and the condition and operation of existing stormwater drainage infrastructure. Since the closure of NAS Alameda, the City of Alameda has been responsible for maintaining the existing storm drain system.

---

<sup>2</sup> Nuisance flooding is flooding that causes public inconvenience, but little or no property damage.

### ***Surrounding Area***

The VA Transfer Parcel is located in the western half of the former NAS Alameda (now referred to as Alameda Point), within the northern portion of the South Bay Basin as designated by the San Francisco Bay RWQCB in its *Water Quality Control Plan for the San Francisco Bay Basin* (i.e., Basin Plan) (SFBRWQCB, 2011). The South Bay Basin extends from eastern Livermore west to central San Francisco and Skyline Boulevard, and from Interstate-80 south to the Santa Clara County/Stanislaus County line just north of Henry W. Coe State Park.

Alameda Point is bordered by water on two sides, with San Francisco Bay to the west and south and the Oakland Estuary to the north. Historical records indicate that Alameda Point was formerly a shallow mudflat consisting of young Bay Mud with depths generally ranging from 20 feet to more than 100 feet thick. Over an extended period of time, from 1906 to about 1956, the area was filled to create land. Fill material largely consisted of dredge spoils from the surrounding San Francisco Bay and Oakland Inner Harbor (VA, 2009). The 7-mile-long Oakland Estuary separates the cities of Alameda and Oakland. North of Alameda Point, the Oakland Estuary has a north-south width of approximately 1,000 feet.

The Oakland Estuary has been heavily modified by dredging and bank stabilization projects that began in the mid 1800s, and it is heavily used by commercial ships to access Port of Oakland berths and by recreational boaters for boating and to access marinas located along the estuary. The Oakland Estuary is maintained by the USACE (ARRA, 2005). The Port of Oakland completed a 10-year dredging operation in late 2009 that deepened the estuary from 42 feet to a depth of 50 feet below mean lower low water<sup>3</sup> to accommodate the newest generation of deep-draft container ships. The Port of Oakland conducts annual maintenance dredging to maintain project depths (DredgingToday.com, 2011).

The existing uses of lower San Francisco Bay within the South Bay Basin, as established in the San Francisco Bay RWQCB's Basin Plan, are industrial service supply, commercial and sport fishing, shellfish harvesting, estuarine habitat, fish migration, preservation of rare and endangered species, fish spawning, wildlife habitat, water contact recreation, noncontact water recreation, and navigation. Lower San Francisco Bay generally extends from the Bay Bridge south to the Dumbarton Bridge (State Route 84).

The existing uses of the Oakland Inner Harbor within the South Bay Basin are estuarine habitat, wildlife habitat, water contact recreation, noncontact water recreation, and navigation (SFBRWQCB, 2011). Beneficial uses are explained in "Water Quality Control Plan for the San Francisco Bay Basin," below.

### **Water Quality**

#### ***VA Transfer Parcel***

The Oakland Estuary and San Francisco Bay are the receiving water bodies for runoff from the VA Transfer Parcel. Rainwater is the only runoff source on the VA Transfer Parcel.

---

<sup>3</sup> Mean lower low water is a tidal datum. It is the average of the lower low water height of each tidal day observed over the National Tidal Datum Epoch. The lower low water is the lower of the two low waters of any tidal day.

### ***Surrounding Area***

The Oakland Estuary and San Francisco Bay are the receiving water bodies for runoff for the area south of the VA Transfer Parcel. Within the former NAS Alameda property, the existing storm drainage system has historically been determined to be a reservoir and conveyance for contaminants, including petroleum hydrocarbons, metals, radiologic materials, and polycyclic aromatic hydrocarbons. The sources of these contaminants have included untreated industrial wastewater (before an industrial wastewater treatment system was implemented at Alameda Point in 1975) and contaminated surface soils entrained in stormwater (ARRA, 2005). Currently no industrial runoff occurs as these Navy operations have ceased.

### **Groundwater**

#### ***VA Transfer Parcel***

The VA Transfer Parcel is located in the East Bay Plain Subbasin within the Santa Clara Valley Groundwater Basin (DWR, 2004). Geotechnical studies specific to the VA Transfer Parcel have shown a groundwater depth of between 1 foot and 4.5 feet below the ground surface (AG, 2012). No aquifers are located underneath the VA Transfer Parcel (EPA, 2012).

#### ***Surrounding Area***

The Alameda Point area is located in the East Bay Plain Subbasin within the Santa Clara Valley Groundwater Basin (DWR, 2004). Groundwater has been encountered quite close to the present ground surface. This shallow water-bearing zone is not considered part of a regionally extensive aquifer (ARRA, 2005). The shallow groundwater at Alameda Island was historically of excellent quality and was recharged by rainfall. However, over pumping of shallow groundwater wells resulted in saltwater intrusion and closure of most of the wells by 1900. Only minor pumping of groundwater from the aquifer underlying Alameda Island has occurred since then (ARRA, 2005).

Based on the vulnerability of the shallow groundwater at Alameda Point to contaminants, low yield to wells, high levels of total dissolved solids, and likely land subsidence that may occur with extraction, the San Francisco Bay RWQCB's Basin Plan does not list any designated beneficial uses for this groundwater. Groundwater is not presently used for drinking water and is not considered a potential drinking water source because of its poor quality (Battelle, 2010).

The EPA defines a sole-source aquifer as an underground water source that supplies at least 50% of the drinking water consumed in the area overlying the aquifer. Areas that depend on sole-source aquifers have no alternative drinking water source(s) that could physically, legally, and economically supply all those who depend upon the aquifer for drinking water. No sole-source aquifers are located underneath the Alameda Point area (EPA, 2012).

## **Floodplains**

### ***A VA Transfer Parcel***

Elevations within the VA Transfer Parcel vary from 0 msl to approximately 10 feet above msl (CH2M Hill, 2011). Some locations within the VA Transfer Parcel may be subject to flooding during heavy rainstorms. In addition, the parcel is located within the tsunami inundation area (CDC, 2009). The VA Transfer Parcel may be subject to heavy stormwater runoff and from tsunamis. Although USACE indicates that it is not subject to significant tidal flooding hazards (ARRA, 2005), the low-lying portions of the VA Transfer Parcel are subject to inundation from the 100-year tidal event. Further, the San Francisco Bay and its tidally influenced tributaries are partially protected from inundation and damage associated with tsunamis because of restricted sea wave access at the Golden Gate (ARRA, 2005). In addition, the former NAS Alameda property, on which the proposed VA Transfer Parcel would be located, includes riprap constructed up to heights of approximately 15 feet in some areas; however, parts of the site are below the stillwater elevation and could be subject to inundation by water seepage through the riprap or overtopping of low areas (Navy, 1999).

### ***Surrounding Area***

The former NAS Alameda, including the VA Transfer Parcel, has not been included in FEMA's regional flood hazards mapping program; therefore, Flood Insurance Rate Maps (FIRMs), which typically delineate 100-year flood hazard zones, have not been prepared for the site. FEMA currently categorizes the former NAS Alameda property (FEMA Map #060001C0062G) as Zone D, "possible but undetermined flood hazards." The FEMA base 100-year flood elevation at the former NAS Alameda has been identified to be 7 feet above msl (Navy, 1999). The former NAS Alameda is not located within an identified area of dam-failure inundation hazards (CalEMA, 2009). Seasonal flooding may occur because of flat topography and the sheet flow nature of runoff.

A tsunami is a sea wave produced by an offshore earthquake, a volcanic eruption, or a landslide. Tsunamis can be exceedingly destructive upon reaching exposed coastlines, where they are capable of rising to 100 feet in height and moving at 30 miles per hour. Tsunami modeling for the San Francisco Bay and estuary has been performed by the University of Southern California's Tsunami Research Center. A suite of tsunami source events was selected for modeling, representing realistic local and distant earthquakes and hypothetical extreme undersea, near shore landslides. Based on this modeling, the former NAS Alameda is located within the tsunami inundation area (CDC, 2009). According to Garcia and Houston's *Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound* technical report (1975), simulated tsunami run-up heights for the probable 100-year tsunami ranges from elevation 4.7 to 5.5 feet above msl around the perimeter of NAS Alameda; the 500-year tsunami run-up ranges from 7.5 to 9.5 feet above msl (Navy, 1999). Another analysis of the 100-year tsunami run-up indicates that the northern, western, and southern margins of the NAS Alameda site may be inundated by such an event as a result of water seepage through the riprap or overtopping of low areas (Navy, 1999).

Extreme high tides in San Francisco Bay result from the combined effects of astronomical high tides (related to the lunar cycle) and other factors including winds, barometric pressure, ocean temperatures, and freshwater runoff. The USACE indicates that northern Alameda County lacks tidal flooding problems substantial enough to

warrant further evaluation of tidal flood control projects (ARRA, 2005). Maximum wave heights in major storm with winds of 60 knots have been calculated at 4 to 6 feet (Navy, 1999).

In addition, based on sea level rise predictions of 16 inches by 2050 and 55 inches by 2099 (BCDC, 2009), sea level rise could cause flooding in some of the coastal areas of Alameda Island, including the VA Transfer Parcel and the VA Development Area. See Section 3.8 (Greenhouse Gases and Climate Change) for more information on projected sea level rise associated with climate change.

### **3.2.3 Environmental Consequences**

#### **Assessment Methods**

Implementing the Proposed Action would change existing drainage patterns, introduce landscaping, and develop new structures on the site. The Proposed Action also would involve constructing a new drainage system to collect, drain, and discharge runoff from the VA Development Area to the Oakland Estuary and San Francisco Bay. The Proposed Action would include a new irrigation system for the proposed NCA Cemetery and other vegetation in the VA Development Area. Site preparation, construction, and operation activities would affect water resources.

The site of the Proposed Action is not located in an area containing a sole-source aquifer or a river designated as Wild and Scenic. Therefore, no impact would occur related to sole-source aquifers or Wild and Scenic Rivers, and these issues are not discussed further in this EA.

#### **Alternative 1**

##### ***Construction***

##### **Water Quality**

Excavation, grading, and construction within the VA Development Area would require temporary disturbance of surface soils and removal of existing on-site pavement. Grading would employ the use of scrapers, dump trucks, and bulldozers. All construction staging would be located within the VA Development Area. All installation of off-site utilities would occur in previously disturbed areas within existing roadways. During the construction period, excavation and grading activities would expose soil to water runoff and entrain sediment in the runoff.

Dewatering and use of a geotextile layer<sup>4</sup> may be required for base stability where excavations extend to near the shallow water table. Should dewatering be necessary during construction, the water could contain sediments and may require settling before discharge to San Francisco Bay receiving water. Sediment in discharge water as well as soil and debris on the haul truck tires, which in turn can be deposited on local streets, could cause increased sediment to be carried off site into the storm drain/sewer, potentially clogging inlets and reducing the functional capacity of the pipes to convey flows. In addition, such mobilized sediment could accumulate in new locations as runoff occurs and result in blockage of stormwater flows, potentially resulting in increased localized ponding or flooding.

---

<sup>4</sup> Geotextile layers are made of synthetic fibers manufactured in a woven or loose nonwoven blanket-like manner and are used for erosion control.

The delivery, handling, and storage of construction materials and waste, as well as the use of construction equipment, might introduce stormwater contamination. Spills or leaks from heavy equipment and machinery could also affect water quality through oil, grease, and hydrocarbon contamination. The on-site construction staging area could also be a source of pollution because paints, solvents, concrete, cleaning agents, and metals would be used during construction. If improperly handled, these pollutants could be transported in stormwater runoff that ultimately leads to San Francisco Bay and/or groundwater.

In order to avoid any potential stormwater adverse impacts, construction stormwater runoff will be managed in accordance with the requirements set forth in the State-wide NPDES Construction General Permit (Order 2009-0009-DWQ). Order 2009-0009-DWQ requires that project applicants (or its contractor, on the applicant's behalf) develop and implement a SWPPP to reduce/eliminate surface water pollution throughout the project's construction period. The SWPPP would include, at a minimum, specific and detailed management measures designed to mitigate construction-related pollutants. The SWPPP typically includes the following specific information:

- The pollutants that are likely to be used during construction that could be present in stormwater drainage and non-stormwater discharges, including fuels, lubricants, and other types of materials used for equipment operation;
- The means of waste disposal;
- Spill prevention and contingency measures, including measures to prevent or clean up spills of hazardous waste and of hazardous materials used for equipment operation, and emergency procedures for responding to spills;
- Personnel training requirements and procedures that must be used to ensure that workers are aware of permit requirements and proper installation methods for management measures specified in the SWPPP;
- The appropriate personnel responsible for supervisory duties related to implementation, inspection, and maintenance of management measures; and
- The effective combination of erosion- and sediment-control management measures and construction techniques accepted by the Alameda County Clean Water Program, Alameda County Public Works Agency's Clean Water Division, or other applicable local jurisdictions for use in the VA Development Area during construction that would reduce the potential for runoff and the release, mobilization, and exposure of pollutants from Proposed Action-related construction sites. These may include temporary erosion-control and soil stabilization measures, coir logs, sedimentation ponds, stormwater inlet protection, and silt fences. Drainage swales, ditches, and/or earth dikes/berms would be used to control erosion and runoff by conveying surface runoff down sloping land, preventing sheet flow over sloped surfaces, preventing runoff accumulation at the base of a grade, and avoiding flood damage along roadways and facility infrastructure.

Should dewatering be necessary during construction, the effluent may require on-site treatment before being discharged to San Francisco Bay. The Construction General Permit requires that any discharge resulting from dewatering activities be impounded in a sediment retention basin or other holding facility to settle the solids and provide treatment before discharge to receiving water to meet effluent limits for priority pollutants. Dewatering holding and/or treatment facilities will be located within the VA Development Area and will be operated throughout construction, as required and in compliance with applicable regulations. As stated in the Construction General Permit, all dewatering effluent must:

- Be filtered or treated, using appropriate technology;
- Meet the numeric effluent limitations and numeric action levels for pH and turbidity; and
- Not cause or contribute to a violation of water quality standards.

Although authorized non-stormwater discharges are allowed under the NPDES Construction General Permit from uncontaminated groundwater dewatering (SWRCB, 2010), it is unknown at this time whether dewatering effluent would be uncontaminated. If dewatering effluent is contaminated, the San Francisco Bay RWQCB may require an individual NPDES permit for dewatering effluent discharges.

Potential construction impacts also would be minimized by implementing the requirements for protection of land resources outlined in VA Specification Section 015719, "Temporary Environmental Controls." These include requirements such as setting work area limits, protecting the landscape, reducing exposure of unprotected soils, protecting disturbed areas, installing erosion- and sediment-control devices, managing spoil areas, and following good-housekeeping procedures.

Therefore, through compliance with these requirements and regulations, construction-related impacts of Alternative 1 on water quality would not be significant.

### **Groundwater**

Groundwater at the VA Development Area has been encountered at a depth of between 1 foot and 4.5 feet below the ground surface. Subsurface exploration was conducted using 25 borings over approximately 80 acres within the VA Development Area (AG, 2012:Figure 1). The installation of approximately 800 stone columns along the main access road located along the northern portion of the VA Development Area would be porous in nature and would allow the free movement of groundwater. Although there could be some mounding of groundwater in the vicinity of the columns during high rain events, the impacts to groundwater would be minimal. Should groundwater be encountered during construction, temporary dewatering would be necessary to keep the work area dry. Dewatering could lower local groundwater levels, but any changes in groundwater levels would be temporary and minimal. In addition, groundwater would not be used as a water supply during construction activities (e.g., for potable uses, or for dust suppression or other non-potable uses). Construction activities would not result in groundwater extraction for consumptive uses. Therefore, Alternative 1 construction-related impacts on groundwater would not be significant.

### **Floodplains**

Parts of the former NAS Alameda are located below the FEMA base 100-year flood elevation of 7 feet above msl (Navy, 1999). FEMA has not included areas of the former NAS Alameda within a FIRM. FEMA mapping completed for areas adjacent to the site indicates that portions of Alameda Point may be susceptible to inundation during the 100-year flood. In addition, if sea level rises as predicted (see Section 3.8 [Greenhouse Gas Emissions and Climate Change]), flood magnitude and frequency at the site could increase with time, exposing people and property to unacceptable flood-related hazards in the future. Although unlikely, a tsunami run-up of more than 2 feet coincident with high tides could inundate the western portion of the VA Transfer Parcel (ARRA, 2005).

Approximately 440,000 cubic yards of fill material would be used to prepare for Alternative 1 construction, which would include the VHA OPC, VBA Outreach Office, Conservation Management Office, approximately 20 acres of cemetery area, and associated infrastructure. Additional fill would be imported for the remaining cemetery area during later phases of development. The proposed final elevation for the VHA OPC and NCA Cemetery would be 13.5 feet above msl. Roadways, parking areas, and the Conservation Management Office would be constructed at 12.5 feet above msl. Thus, the finished elevation of the project facilities would be located above the FEMA base 100-year flood elevation of 7 feet above msl. Therefore, the operational impact of Alternative 1 associated with flooding would not be significant.

### **Coastal Resources**

No significant adverse impact would be expected. The VA Transfer Parcel (i.e., Federally owned lands) is located outside the coastal zone, but Federal activities on land outside the coastal zone that potentially affect resources of the coastal zone must be consistent to the maximum extent practicable with the provisions of the Federally approved state coastal management program, which includes the Bay Plan. The Proposed Action is consistent with the CZMA and the provisions of the Bay Plan.

### ***Operation***

#### **Downstream Flooding Resulting from Alteration of Drainage Patterns or Increase in Impervious Surfaces**

Implementing Alternative 1 would not alter the course of a stream or river, because none are present at or near the VA Transfer Parcel. As a result, potential flooding hazards caused by alteration of a watercourse would not be an issue under Alternative 1.

Implementing this alternative would reduce the amount of paved (i.e., impervious) surface within the VA Development Area from approximately 70 acres to 60.5 acres, a difference of approximately 9.5 acres. Because the overall impervious surface would be reduced, no increase in stormwater runoff and possible resultant flooding would be expected.

Under Alternative 1, VA would be required to comply with Section 438 of the EISA because construction at these Federal facilities would have a footprint greater than 5,000 gsf. It is anticipated that 9 months of mass grading and soil import would be necessary for initial project construction, and final drainage patterns could result in flooding. Grading and alteration of drainage patterns might result from implementing Alternative 1.

Therefore, VA would implement LID techniques (e.g., bioretention, permeable pavements, green roofs, cisterns) to mimic the site's predevelopment stormwater runoff conditions, along with measures to store, infiltrate, evaporate, and detain runoff to reduce the impacts of stormwater runoff associated with new construction. To comply with Section 438 of the EISA, VA would also conduct hydrologic and hydraulic analyses following one of the two options:

- *Option 1*—Design, construct, and maintain stormwater management practices that control rainfall on site and prevent runoff from all precipitation events less than or equal to the 95th-percentile rainfall event to the “maximum extent technically feasible.”

- *Option 2*—Use site-specific hydrologic conditions and investigations to design, construct, and maintain stormwater management practices that preserve predevelopment runoff conditions after construction.

Under Alternative 1, VA also would be required to conduct a hydrologic assessment for the 2-, 5-, 10-, 50-, and 100-year storm events in accordance with VA's *Site Utility Design Manual* (VA, 2010) and size the proposed drainage system for a minimum 10-year, 1-hour storm event.

Water use and efficiency management outlined in the *Department of Veterans Affairs Strategic Sustainability Performance Plan* would also require efficient use of outdoor irrigation water, requiring a 20 % reduction in water use by 2020 compared to the 2010 base year. This performance standard would reduce nuisance runoff associated with irrigation.

Although approval of drainage plans by Alameda County would not be required for this Federal project located in the county's unincorporated area, the City of Alameda would likely review and comment on the drainage plans. It is assumed that final drainage plans would comply with VA's *Site Utility Design Manual* (VA, 2010) and Section 438 of the EISA. Therefore, operational impacts of Alternative 1 related to downstream flooding resulting from alteration of drainage patterns or increases in impervious surfaces would not be significant.

### **Water Quality**

Implementing Alternative 1 would not substantially degrade water quality or contaminate the public water supply. All sanitary wastewater from the proposed buildings would flow into the sewer system, to be treated at EBMUDs main wastewater treatment plant before discharge into San Francisco Bay. Treatment would be provided pursuant to the effluent-discharge limitations set by the plant's NPDES permit, and thus, VA would comply with all local wastewater-discharge requirements.

Vehicle traffic and parking could increase in the VA Development Area with project operation under Alternative 1, which could, indirectly, result in increased pollutant concentrations in stormwater in the long term. Leaks of fuel or lubricants, tire wear, and fallout from exhaust contribute petroleum hydrocarbons, heavy metals, and sediment to the pollutant load in runoff. Runoff from common landscaped areas and turf grass areas of the proposed NCA Cemetery may contain residual pesticides and nutrients used during regular maintenance operations, which could introduce contaminants into the Oakland Estuary and San Francisco Bay. Surface water and runoff that infiltrates at the project site could contaminate groundwater if it were to contain any hazardous materials or high concentrations of constituents such as fertilizers or pesticides.

Implementing Alternative 1 would reduce the amount of impervious surface on the site by approximately 9.5 acres, creating additional opportunities for infiltration of stormwater runoff on site. Stormwater runoff from the VA Development Area that does not infiltrate into the ground would flow into a new storm drain network, which is included as part of Alternative 1. This network is not yet fully designed; the intent, however, is for the storm drain network to have three new outfalls upon final project buildout—two to the north into the Oakland Estuary and a third to the west into San Francisco Bay. Runoff would be treated through bioswales or other stormwater quality measures before entering the new storm drain network.

The project would be designed to meet the requirements of Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance," and Section 438 of the EISA. These requirements include

the implementation of sustainable stormwater design management measures (e.g., green roofs, vegetated swales, stormwater detention) that would provide on-site stormwater treatment prior to off-site discharge. In addition, the project would be required to use the *Department of Veterans Affairs Sustainable Design and Energy Reduction Manual* (VA, 2010b) to comply with VA Directive 0055. VA Directive 0055, “VA Energy and Water Management Program” (January 15, 2010), establishes comprehensive water management policies to comply with Federal mandates and achieve internal goals at all VA facilities. The *Sustainable Design and Energy Reduction Manual* describes techniques that can be used to treat stormwater on site, such as reducing source contaminants; using bioswales, vegetated filter strips, and green roofs; and using stormwater retention tanks that could also be used for rainwater harvesting and water reuse. None of these specific management measures have been committed to at this time, but the Proposed Action ultimately would be designed to meet the requirements of the Alameda Countywide Clean Water Program.

The project would be required to pursue the commitment to pollution prevention and water use efficiency described in the *Department of Veterans Affairs Strategic Sustainability Performance Plan* (VA, 2011). VA Directive 0057 includes a policy to reduce or eliminate the quantity of toxic and hazardous chemicals and materials acquired, generated, used, and/or disposed, to the extent possible (VA, 2010a). VA Handbook 0057.2, *Chemicals Management and Pollution Prevention*, would be used to ensure compliance with VA Directive 0057, thereby reducing the potential for water quality impacts associated with operating the proposed VA facilities.

Overall, operation of the facilities proposed under Alternative 1 would not provide substantial additional sources of polluted runoff or otherwise degrade water quality. It is assumed that facility operation would comply with Section 438 of the EISA and VA Directives 0055 and 0057. Therefore, the operational impact of Alternative 1 related to water quality degradation would not be significant.

#### **Depletion of Groundwater Resources**

The former NAS Alameda contains impervious paved runway surfaces, which effectively prevent surface water from infiltrating into the soil. Approximately 70 acres (63 %) of the VA Development Area for Alternative 1 is currently paved. With implementation of Alternative 1, the amount of impervious surfaces would decrease from 70 acres to 60.5 acres; approximately 54.5 % of the total VA Development Area for Alternative 1. The remaining 50.5 acres would be planted as either shrubs/ground cover or maintained lawn areas.

The decrease in impervious surface on the site either would have a neutral effect or would serve to increase overall infiltration and groundwater recharge quantities at Alameda Point, because areas of infiltration would increase over current levels. In addition to the decrease in impervious surface, permanent management measures would be implemented to infiltrate, evaporate, and detain stormwater before it enters the new storm drain network. Implementing these management measures to achieve compliance with Section 438 of the EISA may also serve to increase groundwater recharge quantities. Thus, no measurable change in infiltration characteristics would result from implementation of Alternative 1.

In addition, groundwater would not be used as a water supply during operation of the Proposed Action (e.g., for potable uses or other nonpotable uses), so Alternative 1 would not result in groundwater extraction for consumptive uses. Therefore, operational impacts on groundwater would not be significant under Alternative 1.

### **Flooding as a Result of Location within a Floodplain**

Parts of the former NAS Alameda are located below the FEMA base 100-year flood elevation of 7 feet above msl (Navy, 1999). FEMA has not included areas of the former NAS Alameda within a FIRM. FEMA mapping completed for areas adjacent to the site indicates that portions of Alameda Point may be susceptible to inundation during the 100-year flood. In addition, if sea level rises as predicted by EPA, flood magnitude and frequency at the site could increase with time, exposing people and property to unacceptable flood-related hazards in the future. Although unlikely, a tsunami runup of more than 2 feet coincident with high tides could inundate the western portion of the VA Transfer Parcel (ARRA, 2005).

Approximately 440,000 cubic yards of fill material would be used to prepare for Alternative 1 construction, which would include the OPC area, Conservation Management Office, access road, and approximately 20 acres of cemetery area. Additional fill would be imported for the remaining cemetery area. The proposed final elevation for the OPC would be 13.5 feet above msl. Roadways, parking areas, and the Conservation Management Office would be constructed at 12.5 feet above msl. Thus, the finished elevation of the project facilities would be located above the FEMA base 100-year flood elevation of 7 feet above msl. Therefore, the operational impact of Alternative 1 associated with flooding risk would not be significant.

Refer to Section 3.8 (Greenhouse Gas Emissions and Climate Change) for discussion regarding flooding associated with climate change and sea level rise.

### **Coastal Resources**

The VA Transfer Parcel (i.e., Federally owned lands) are outside the coastal zone, but Federal activities on land outside the coastal zone that potentially affect resources of the coastal zone must be consistent to the maximum extent practicable with the provisions of the Federally approved state coastal management program, which includes the Bay Plan. The Proposed Action is consistent with the provisions of the Bay Plan.

## **Alternative 2 (Preferred Alternative)**

### ***Construction***

#### **Water Quality**

Alternative 2 would involve the same project components as Alternative 1; however, under Alternative 2, the VA Development Area would be located farther north. Therefore, the construction-related impacts of Alternative 2 would be the same as those described for Alternative 1. Compliance with regulatory/administratively required stormwater requirements throughout construction, construction-related impacts of Alternative 2 on water quality would not be significant.

#### **Groundwater**

Like Alternative 1, any dewatering that would take place during construction of Alternative 2 would be temporary and would not deplete groundwater resources. Groundwater also would not be used as a source of drinking water

or consumptive water supply during construction. Therefore, construction-related impacts of Alternative 2 on groundwater resources not be significant.

### **Coastal Resources**

No significant adverse impact would be expected. In accordance with the Federal Coastal Zone Management Act (CZMA) of 1972, as amended, and the National Oceanic and Atmospheric Administration Federal Consistency Regulations (Title 15 Code of Federal Regulations Part 930), VA has determined that the Proposed Action is consistent to the maximum extent practicable with the Coastal Management Program for the San Francisco Bay segment of the California Coastal Zone (i.e., Bay Plan). As defined in Section 304 of the CZMA, the term “coastal zone” does not include “lands the use of which is by law subject solely to the discretion of or which is held in Trust by the Federal government.” The Proposed Action is located on land wholly owned by the federal government and is excluded from the coastal zone; however, VA recognizes that actions outside the coastal zone may affect land or water uses or natural resources located within the coastal zone. Consequently, an analysis of the potential effects of the Proposed Action on the coastal zone was conducted to determine consistency with the CMP. VA submitted a consistency determination to BCDC identifying that the Proposed Action is consistent to the maximum extent practicable with the Bay Plan on July 1, 2013 (see Appendix I). VA will continue to coordinate with BCDC through the conclusion of the consistency determination process.

### **Operation**

#### **Downstream Flooding Resulting from Alteration of Drainage Patterns or Increase in Impervious Surfaces**

Like Alternative 1, Alternative 2 would not alter the course of a stream or river, because none are present at or near the VA Transfer Parcel. Implementing this alternative would reduce the amount of paved (i.e., impervious) surface within the VA Development Area from approximately 68.5 acres to 47.7 acres, a difference of approximately 20.8 acres (Pahed, pers. comm., 2012). Because the overall impervious surface would be reduced, no increase in stormwater and possible resultant flooding would be expected.

Grading and alternation of drainage patterns, however, might result from implementing Alternative 2. Under Alternative 2, VA would be required to comply with Section 438 of the EISA because construction at this Federal facility would have a footprint greater than 5,000 gsf. VA also would be required to conduct a hydrologic assessment for the 2-, 5-, 10-, 50-, and 100-year storm events in accordance with VA’s *Site Utility Design Manual* (VA, 2010c) and size the proposed drainage system for a minimum 10-year, 1-hour storm event. Existing seasonal flooding problems caused by deteriorating storm drains would be reduced by installing new storm drainage infrastructure, which would be sized to the specifications set out by VA in its *Site Utility Design Manual*.

Implementing the requirements of the Section 438 of the EISA in the VA Development Area would ensure that infrastructure would be properly sized to handle stormwater and wastewater flows to protect from down-gradient flooding hazards. VA would also be required to use LID techniques for infiltration, evaporation, and detention of stormwater to comply with Section 438 of the EISA; using such techniques would preserve pre-development stormwater runoff conditions. Thus, with implementation of the requirements of Section 438 of the EISA, Alternative 2 would not substantially contribute to downstream flooding. Therefore, operational impacts related to downstream flooding resulting from alteration of drainage patterns or increases in impervious surfaces would not be significant.

### **Water Quality Degradation Caused by Changes in Intensity of Land Use and Increases in Impervious Surface**

As under Alternative 1, wastewater from the buildings proposed as part of Alternative 2 would flow into the sewer system and would be treated at East Bay Municipal Utility District's main wastewater treatment plant before discharge into San Francisco Bay, pursuant to the effluent discharge limitations set by the plant's NPDES permit. Thus, VA would comply with all local wastewater-discharge requirements.

Implementing Alternative 2 would reduce the amount of impervious surface on the site by approximately 20.8 acres, creating additional opportunities for infiltration of stormwater runoff on site. Stormwater runoff from the VA Development Area that does not infiltrate into the ground would flow into a new storm drain network, which is included as part of Alternative 2 and would be designed according to the VA's *Site Utility Design Manual*, as well as to meet the requirements of the Alameda Countywide Clean Water Program. Runoff would be treated through bioswales or other stormwater quality measures, as applicable. Incorporating LID or other techniques required by Section 438 of the EISA would also serve to protect water quality during project operation. As a result, operation of the facilities proposed under Alternative 2 would not provide substantial additional sources of polluted runoff or otherwise degrade water quality. Therefore, the operational impact of Alternative 2 related to water quality degradation would not be significant.

### **Depletion of Groundwater Resources**

Similar to Alternative 1, the VA Development Area under Alternative 2 contains impervious paved runway surfaces, which effectively prevent surface water from infiltrating into the soil. Approximately 68.5 acres (61 %) of the VA Development Area for Alternative 2 is currently paved. With implementation of Alternative 2, the amount of impervious surface would decrease from 68.5 acres to 47.7 acres (approximately 42 % of the total VA Development Area for Alternative 2). The remaining 64.7 acres would be planted as either shrubs/ground cover or maintained lawn areas. Landscape planting within the VA Development Area would prioritize native shrub and herbaceous species over nonnative species, and none of the species would be invasive.

As described for Alternative 1, the decrease in impervious surface on the site should serve to increase overall infiltration and groundwater recharge quantities at Alameda Point. In addition to the decrease in impervious surface, permanent management measures would be implemented to infiltrate, evaporate, and detain stormwater before it enters the new storm drain network. Implementing these management measures to achieve compliance with Section 438 of the EISA may also serve to increase groundwater recharge quantities. Groundwater would not be used as a water supply during operation of Alternative 2. The operational impact of Alternative 2 on groundwater resources would not be significant.

### **Flooding as a Result of Location within a Floodplain**

As under Alternative 1, it is anticipated that approximately 440,000 cubic yards of fill material would be needed to prepare for construction under Alternative 2, which would include the OPC area, the Conservation Management Office, approximately 20 acres of cemetery development, and on-site access roads. Additional fill would be imported for the remaining cemetery area. As described for Alternative 1, the proposed final elevation for the OPC would be 13.5 feet above msl. Roadways, parking areas, and Conservation Management Office would be constructed at 12.5 feet above msl. Thus, the finished elevation of the project facilities would be located

above the FEMA base 100-year flood elevation of 7 feet above msl (Navy, 1999). The operational impact of Alternative 2 associated with flooding risk would not be significant.

Refer to Section 3.8 (Greenhouse Gas Emissions and Climate Change) for additional discussion regarding flooding associated with sea level rise.

### **Coastal Resources**

No significant adverse impact would be expected. The VA Transfer Parcel (i.e., Federally owned lands) is located outside the coastal zone, but Federal activities on land outside the coastal zone that potentially affect resources of the coastal zone must be consistent to the maximum extent practicable with the provisions of the Federally approved state coastal management program, which includes the Bay Plan. The Proposed Action is consistent with the CZMA and the provisions of the Bay Plan. The VA submitted a consistency determination to BCDC identifying that the Proposed Action is consistent to the maximum extent practicable with the Bay Plan on July 1, 2013 (see Appendix I). VA will continue to coordinate with BCDC through the conclusion of the consistency determination process.

### **No Action Alternative**

#### ***Construction***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development (e.g., VHA OPC, VBA Outreach Office, NCA Cemetery, etc.) would not be built. Therefore, no significant construction impacts on water resources would occur.

#### ***Operation***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development would not be built. Therefore, no significant operational impacts on water resources would occur.

### **3.2.4 References**

Alameda Point Community Partners (APCP). 2003 (June 30). *Alameda Point Preliminary Master Storm Drain Study*. Prepared by Carlson, Barbee & Gibson, Inc. San Francisco, CA.

Alameda Reuse and Redevelopment Authority (ARRA). 2005 (March). *Alameda Point Golf Course Environmental Impact Report*. State Clearinghouse #2001062107. Alameda, CA. Prepared by EDAW, Inc. San Francisco, CA.

Allegiance Group, LLC (AG). 2012 (April 5). *Interim Geotechnical Investigation Report: Alameda Point Veterans Administration Project, Alameda, CA*.

Battelle and BLL (Battelle). 2010 (August). *Final Record of Decision for IR Site 2, Former Naval Air Station Alameda, California*. Prepared for U.S. Department of the Navy.

- California Department of Conservation (CDC). 2009 (July 31). Tsunami Inundation Map for Emergency Planning, Oakland West Quadrangle, Alameda County. Produced by California Emergency Management Agency, California Geological Survey, and University of Southern California—Tsunami Research Center. Mapped at 1:24,000 scale. July 31. Available: <[http://www.conservation.ca.gov/cgs/geologic\\_hazards/Tsunami/Inundation\\_Maps/Alameda/Documents/Tsunami\\_Inundation\\_OaklandWest\\_Quad\\_Alameda.pdf](http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Alameda/Documents/Tsunami_Inundation_OaklandWest_Quad_Alameda.pdf)>. Accessed April 4, 2012.
- California Department of Water Resources (DWR). 2004 (February 27). *California's Groundwater, Bulletin 118. Santa Clara Valley Groundwater Basin, East Bay Plain Subbasin*. Sacramento, CA.
- California Emergency Management Agency (CalEMA). 2009 (April). Dam inundation registered images and boundary files in ShapeFile format.
- CH2M Hill. 2011 (January). *Final Site Inspection Report Transfer Parcels FED-1A, FED-2B, and FED-2C Alameda Point Alameda, California*. Prepared for U.S. Department of the Navy.
- DredgingToday.com. 2011. Port of Oakland Secures \$18 Million in Federal Funding for Dredging Project. Available: <<http://www.dredgingtoday.com/2011/06/01/usa-port-of-oakland-secures-usd-18-million-in-federal-funding-for-dredging-project/>>. Accessed April 4, 2012.
- IDcide—Local Information Data Server (IDcide). 2012. Alameda, CA Weather: Oakland Museum Weather station, 2.89 miles from Alameda. Available: <<http://www.idcide.com/weather/ca/alameda.htm>>. Accessed April 4, 2012.
- Pahed, Juliet. HDR Architecture, Inc. August 21, 2012—e-mail to Kelsey Bennett of AECOM regarding estimated impervious acreage for Alternative 2.
- San Francisco Bay Conservation and Development Commission (BCDC). 2009 (April 7). *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on the Shoreline*. Draft Staff Report.
- . 2006 (March). San Francisco Bay Plan. Available: <http://www.bcdc.ca.gov/pdf/bayplan/bayplan.pdf>. Accessed October 17, 2012.
- San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2011. *San Francisco Bay Basin (Region 2) Water Quality Control Plan (Basin Plan)*. Incorporating all amendments approved by the Office of Administrative Law as of December 31, 2011. Oakland, CA.
- State Water Resources Control Board (SWRCB). 2010. *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Construction and Land Disturbance Activities*, Order No. 2009-0009-DWQ, NPDES No. CAS000002. September 2, 2009; modified November 16, 2010.
- U.S. Department of the Navy (Navy). 1999 (October). Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Alameda/Fleet and Industrial Supply Center Alameda Annex and Facility Alameda, California.

- U.S. Department of Veterans Affairs (VA). 2009 (May). *Technical Review of the Department of the Navy's Environmental Plan for Naval Air Station Alameda*. Prepared by AECOM Environment.
- . 2010a (January 15). *VA Directive 0057, VA Environmental Management Program*. Washington, DC.
- . 2010b (April). *Department of Veterans Affairs Sustainable Design and Energy Reduction Manual*.
- . 2010c (July). *Site Utility Design Manual. Including Sanitary for New Hospitals, Replacement Hospitals, Ambulatory Care, Clinical Additions, Energy Centers, Outpatient Clinics, Animal Research Facilities, and Laboratory Buildings*. Office of Construction & Facilities Management, Facilities Quality Service (00CFM1A). Washington, DC.
- . 2011 (June 3). *Department of Veterans Affairs Strategic Sustainability Performance Plan*.
- U.S. Environmental Protection Agency (EPA). 2011. Federal Stormwater Management Requirements. Available: <<http://www.epa.gov/oaintrnt/stormwater/requirements.htm>>. Last updated August 16, 2011. Accessed April 7, 2012.
- . 2012. Ground Water: Sole Source Aquifer. EPA Pacific Southwest, Region 9. Available: <<http://www.epa.gov/region9/water/groundwater/ssa.html>>. Accessed April 5, 2012.
- U.S. Fish and Wildlife Service (USFWS). 2009 (September). National Wild and Scenic Rivers Map, Continental United States.

This page intentionally left blank.

### 3.3 TRANSPORTATION, TRAFFIC, CIRCULATION, AND PARKING

This section describes the transportation network in the vicinity of the VA Transfer Parcel and summarizes the transportation impacts projected to result from implementation of the EA Alternatives. Aspects of the transportation system evaluated in this section include traffic operations, parking and loading needs, transit service, and pedestrian and bicycle safety and circulation. A detailed transportation impact analysis is included in Appendix D (Transportation Impact Study).

#### 3.3.1 Regulatory Framework

There are no applicable Federal standards related to transportation and parking. The VA Transfer Parcel is located on Federal land owned by the Navy and that would be transferred to VA; thus, the proposed development is exempt from local planning regulations of the adjacent jurisdictions, which include the City of Alameda, Alameda County, and the City and County of San Francisco. Although the Proposed Action is not subject to the regulations of regional and local jurisdictions, relevant policies related to transportation, traffic, circulation, and parking are discussed below.

#### Alameda County Transportation Commission

As the Congestion Management Agency for Alameda County, the Alameda County Transportation Commission (ACTC) plans, funds, and delivers transportation programs and projects throughout Alameda County. The Alameda County Transportation Commission is also responsible for preparation of the Congestion Management Plan (CMP). The CMP is a plan that describes the policies and strategies to address congestion problems in the county. California legislation mandates that a biennial assessment of the CMP roadway network be conducted to assess level of service (LOS) and traffic volumes. The CMP roadway network consists of State routes and principal arterials within Alameda County. The *Congestion Management Plan 2011* (ACTC, 2011) identifies a level of service standard of E for facilities within the CMP network.

#### Alameda General Plan Element

The City of Alameda General Plan Transportation Element contains goals, objectives, and policies related to transportation and circulation with an emphasis on supporting the development of a multimodal transportation system.

Objective 4.1.1: Provide for the safe and efficient movement of people, goods, and services.

Policy 4.1.1.i: Design transportation facilities to accommodate current and anticipated transportation use.

Policy 4.1.1.o.2: Manage operations to maintain acceptable levels of LOS

- a. Develop and implement a strategy to increase the use of alternative modes of transportation by 10 percentage points by the year 2015.
- b. Reduce the percentage of Alameda traffic made up of single occupant vehicle trips (e.g. based on Census data, or do survey to establish baseline)

- c. Shift 10 % of peak hour trips to less congested times of day
- d. Collaborate with Alameda Unified School District (AUSD) to explore opportunities to reduce congestion during peak school times, for example staggering class times, encouraging parents to carpool, etc.

Objective 4.1.2: Protect and enhance the service level of the transportation system.

Objective 4.1.6: Increase the efficiency of the existing transportation system by emphasizing Transportation System Management (TSM) strategies and Transportation Demand Management (TDM) techniques.

Policy 4.1.6.a: Identify, develop, and implement travel demand management strategies to reduce demand on the existing transportation system.

1. Establish peak hour trip reduction goals for all new developments as follows:
  - 10 % peak hour trip reduction for new residential developments
  - 30 % peak hour trip reduction for new commercial developments.
2. Develop a Transportation Demand Management (TDM) toolbox that identifies a menu of specific TDM measures and their associated trip reduction percentages.
3. Develop a citywide infrastructure assessment using a Systems Engineering approach to determine capital investment needs.
4. Require implementation of ITS infrastructure as part of all new developments.

Policy 4.1.6.b: Identify locations where signal coordination could be employed to improve traffic flow and reduce vehicle emissions.

Objective 4.2.1: Design and maintain transportation facilities to be compatible with adjacent land uses.

Objective 4.2.5: Manage both on-street and off-street parking to support access and transportation objectives.

Objective 4.3.2: Enhance opportunities for pedestrian access and movement by developing, promoting, and maintaining pedestrian networks and environments.

Objective 4.3.5: Assess the impacts on all transportation modes (including auto, transit, bike and pedestrian) when considering mobility and transportation improvements.

Objective 4.4.2: Ensure that new development implements approved transportation plans, including the goals, objectives, and policies of the Transportation Element of the General Plan and provides the transportation improvements needed to accommodate that development and cumulative development.

## Alameda Bike Master Plan Update

The Transportation Element addressed bicycling in a general sense, based on how it interacts with other transportation modes. Supplemental and specific policies are included in the Bike Master Plan Update that are applicable to the project:

### Goal BP-2: Provide Additional End-of-Trip Facilities

e) Require major developers and businesses to monitor use of existing bicycle parking facilities in their properties and the immediate vicinity to help determine adequate needs for bicycle racks and lockers in the area.

### Goal BP-5: Expand the Bicycle Network

a) Establish and maintain bikeways to priority destinations in Alameda, especially for travel to employment centers, commercial districts, transit stations and corridors, institutions, and recreational destinations.

## 3.3.2 Affected Environment

### VA Transfer Parcel

The VA Transfer Parcel is located in the western half of the former NAS Alameda. The location and vicinity of the VA Transfer Parcel are illustrated in Figure 3.3-1. Roadways within the VA Transfer Parcel and the VA Development Area are not publicly accessible, and are old and deteriorating given the closure of NAS Alameda 15 years ago. Panoramic Drive, an unpaved roadway, enters the site north of its intersection with Avenue A.

### Surrounding Area

#### *Regional Access*

Regional access to and from the VA Transfer Parcel is provided by Interstate-880 (I-880), Interstate-980 (I-980), and the Webster Street Tube/Posey Tube (Figure 3.3-1).

- **I-880** provides access to the south and to the north, with connections to Interstate 80 and San Francisco via the Bay Bridge.
- **I-980** provides access to the northeast, connecting with Interstate 580 and State Route (SR) 24.
- **The Webster Street Tube/Posey Tube**, also known as SR-260 and SR-61,<sup>1</sup> are two parallel tunnels operating as a one-way couplet connecting the cities of Oakland and Alameda and running beneath the Oakland Inner Harbor. The Webster Street Tube serves southbound traffic into Alameda, while the Posey Tube operates in the northbound direction. The Webster Street Tube/Posey Tube is designated as part of the network for the ACTC's CMP.

---

<sup>1</sup> SR 260 and SR 61 share the same roadway alignment along the Webster Street and Posey Tube, which is why there are two State route designations for this couplet.



### ***Local Access***

Local access to and from the VA Transfer Parcel is provided by the 11 major arterial streets described below.

- **Atlantic Avenue (Ralph Appezato Memorial Parkway)** is an east-west arterial in Alameda that runs between Ferry Point and Triumph Drive. Atlantic Street is two lanes wide in each direction, with a curb and gutter along both sides of the roadway. Atlantic Avenue is designated as part of the ACTC CMP network between Webster Street and Main Street. The posted speed limit is 35 miles per hour (mph), or 25 mph in the school zone when children are present. Parking is prohibited along both sides of the roadway. The roadway primarily serves residential and institutional development.
- **Main Street** is a north-south local roadway that begins north of Pacific Avenue and extends north of Willie Stargell Avenue. Main Street is two lanes wide in each direction, with a curb, gutter, and sidewalk along both sides of the roadway between Pacific Avenue and Atlantic Avenue. The posted speed limit is 35 mph, and parking is prohibited along both sides of the roadway north of Atlantic Avenue. Main Street is designated as a roadway of regional significance within the Metropolitan Transportation Commission's (MTC's) Metropolitan Transportation System (MTS). The roadway primarily serves residential and institutional development.
- **Willie Stargell Avenue** is an east-west collector that runs between Main Street and Webster Street. Willie Stargell Avenue is one lane wide in each direction, with a curb and gutter along both sides of the roadway, and sidewalks are provided along the south side. Willie Stargell Avenue becomes West Midway Avenue west of Main Street. The posted speed limit is 25 mph, and parking is prohibited along both sides of the roadway. The roadway primarily serves residential and institutional development.
- **Jackson Street** is a north-south collector that runs between Lakeside Drive and First Street. Jackson Street is one lane wide in each direction, with a curb, gutter, and sidewalk along both sides of the roadway. Parking is allowed on both sides of the roadway. The roadway primarily serves residential development.
- **Harrison Street** is a north-south collector that runs between Monte Vista Avenue and 1st Street. Harrison Street is one-way northbound between 4th Street and 10th Street with three travel lanes and a curb, gutter, and sidewalk along both sides of the roadway. The posted speed limit is 25 mph, and parking is allowed on both sides of the roadway. Harrison Street operates as a one-way couplet, with Webster Street operating in the southbound direction and Harrison Street operating in the northbound direction. The roadway primarily serves retail development.
- **Webster Street** is a north-south arterial that begins at 51st Street in Oakland and continues south into Alameda. Webster Street operates as a one-way southbound roadway between the Webster Street Tube and Broadway in Oakland. In the project vicinity, Webster Street is two lanes wide in both directions, with a curb, gutter, and sidewalk along both sides of the roadway. The posted speed limit is 35 mph, and parking is provided on the west side of the roadway. Webster Street is designated as SR-260 and SR-61, and is part of the CMP roadway network, between the Webster Street Tube/Posey Tube and Central Avenue. The roadway primarily serves retail and residential development.
- **Broadway** is a major north-south arterial stretching from Jack London Square in the south to SR-24 in the north. In the vicinity of the Project, Broadway consists of two lanes in the northbound direction and two lanes in the southbound direction. Broadway is the primary north-south roadway in the downtown area.

- **5th Street** is an east-west collector that runs between Peralta Street and Oak Street in Oakland. The one-way eastbound 5th Street has one to three travel lanes and a curb, gutter, and sidewalk along the south side of the roadway. The posted speed limit is 25 mph, and parking is allowed on both sides of the roadway. As a one-way couplet, 5th Street operates in the eastbound direction, with 6th Street operating in the westbound direction. The 5<sup>th</sup> Street roadway primarily serves industrial development.
- **6th Street** is an east-west collector that runs between Fallon Street and Market Street. The one-way westbound 6th Street has two to three travel lanes and a curb, gutter, and sidewalk along the north side of the roadway. The posted speed limit is 25 mph, and parking is allowed on both sides of the roadway. As a one-way couplet, 6th Street operates in the westbound direction, with 5th Street operating in the eastbound direction. The 6th Street roadway primarily serves retail and residential development.
- **7th Street** is an east-west arterial that runs between Fallon Street and Navy Roadway, where 7th Street becomes Middle Harbor Road. The one-way eastbound 7th Street is located between Fallon Street and Castro Street with four travel lanes and a curb, gutter, and sidewalk long both sides of the roadway. As a one-way couplet, 7th Street operates in the eastbound direction, with 8th Street operating in the westbound direction. The 7th Street roadway primarily serves retail and residential development and has a posted speed limit of 25 mph.
- **8th Street** is an east-west arterial that runs between Fallon Street and Castro Street. The one-way westbound 8th Street has four travel lanes and a curb, gutter, and sidewalk along both sides of the roadway. As a one-way couplet, 8th Street operates in the westbound direction, with 7th Street operating in the eastbound direction. The 8th Street roadway primarily serves retail and residential development and has a posted speed limit of 25 mph.

## Existing Traffic Conditions

### *VA Transfer Parcel*

Because the public does not have site access, the only traffic on the VA Transfer Parcel is generated by Navy-authorized vehicles providing conservation management services for the existing California Least Tern Colony or assisting ongoing remediation activities.

### *Surrounding Area (Study Intersections and Existing LOS)*

Eleven intersections in Alameda and downtown Oakland were selected for study (see Figure 3.3-2) because these intersections would most likely be affected by the Proposed Action. Traffic counts for these 11 intersections were collected on Wednesday, November 16, 2011, and Saturday, December 3, 2011. Four of the study intersections are in the City of Alameda and the other seven are in City of Oakland. The existing traffic volumes in the vicinity of the VA Transfer Parcel were determined by collecting weekday A.M. and P.M. peak-period turning movement counts (between 7 A.M. and 9 A.M. and between 4 A.M. and 6 P.M.) and Saturday peak-period turning movement counts (between 10 A.M. and noon) at the study intersections. The traffic count data are presented in Appendix D (Transportation Impact Study) to this EA.

The LOS definitions for signalized intersections as presented in the 2000 *Highway Capacity Manual* (HCM) are described below. All study intersections are signalized; as such, the LOS definitions for unsignalized intersections are not presented. The LOS is based on average delay (in seconds per vehicle) for the various movements within an intersection. A combined weighted-average delay and an LOS are identified for an intersection. LOS is a



Source: AECOM, 2012

**Figure 3.3-2: Intersection Analysis Locations in the Study Area**

qualitative indication of the level of delay and congestion experienced by motorists. LOS is designated by the letters A through F, with A corresponding to the lowest level of congestion and F corresponding to the highest level of congestion.

The City of Alameda considers an intersection to be operating acceptably at LOS D or better, while the City of Oakland considers an intersection to be operating acceptably at LOS E or better if it is located in the downtown area of Oakland. LOS for signalized intersections are defined in Table 3.3-1. In addition, the CMP legislation requires a LOS standard of LOS E for all CMP roadways. All study roadways are operating at LOS E or better, and therefore currently operate at acceptable levels.

**Table 3.3-1: Level-of-Service Definitions for Signalized Intersections**

LOS	Description	Average Delay (seconds/vehicle)
A	Little or no delay	< 10.0
B	Short traffic delay	> 10.0 and < 20.0
C	Average traffic delay	> 20.0 and < 35.0
D	Long traffic delay	> 35.0 and < 55.0
E	Very long traffic delay	> 55.0 and < 80.0
F	Extreme traffic delay	> 80.0

Notes: Delay in seconds per vehicle.  
For signalized intersections, average delay represents the average of all approaches.  
Source: TRB, 2000

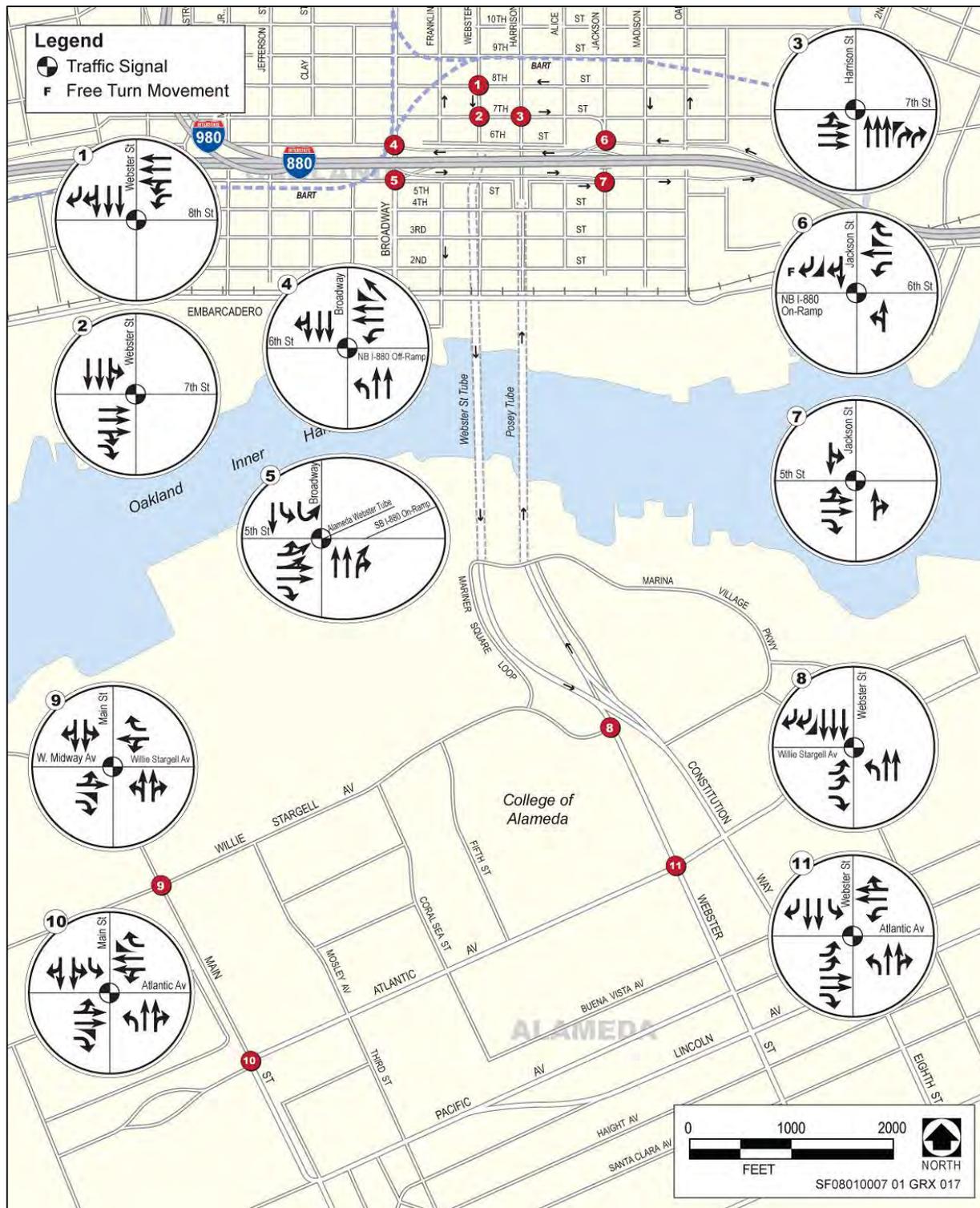
Table 3.3-3 presents the LOS summary of the study intersections under existing (2011) conditions. Lane geometries<sup>2</sup> for each study intersection are shown in Figure 3.3-3. The existing (2011) weekday A.M. and P.M. peak-hour volumes and Saturday peak-trip volumes of these intersections are presented in Figure 3.3-4. All the study intersections are operating at an acceptable LOS D or better during the weekday A.M. and P.M. peak hours and Saturday peak hour, as defined by the LOS standards of the Cities of Alameda and Oakland. Detailed LOS calculations are provided in Appendix D (Transportation Impact Study).

**Table 3.3-2: Level-of-Service Definitions for Roadway Segments**

LOS	Volume-to-Capacity Ratio	Description
A	0.00 to 0.60	Represents free flow. Individual users are virtually unaffected by others in the traffic stream.
B	0.61 to 0.70	Stable flow, but the presence of other users in the traffic stream begins to be noticeable.
C	0.71 to 0.80	Stable flow, but the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
D	0.81 to 0.90	Represents high-density, stable flow.
E	0.91 to 1.00	Represents operating conditions at or near the capacity level.
F	>1.00	Represents forced or breakdown flow.

LOS = level of service Source: TRB, 1985

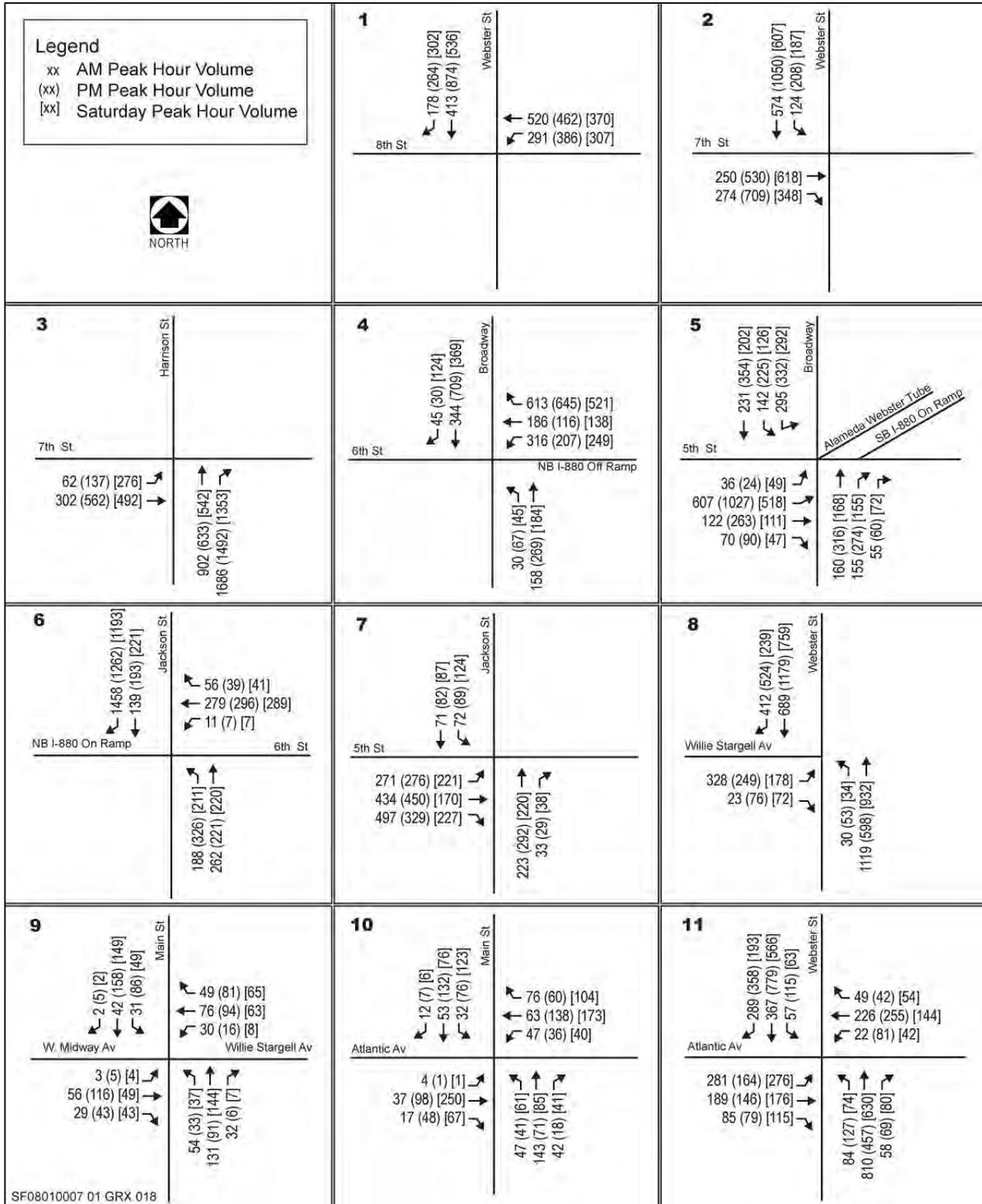
<sup>2</sup> The lane geometry is the lane configuration at each approach of an intersection (e.g., left-turn lane, through lane, and right-turn lane).



Source: AECOM 2012

Figure 3.3-3:

Lane Geometry of Study Intersections



Source: AECOM 2012

**Figure 3.3-4: Existing (2011) Traffic Volumes at Study Intersections**

### ***Roadway Segments***

Operations of the roadway segments were assessed using a volume-to-capacity (V/C) ratio methodology. For freeway segments, a per-lane capacity of 2,000 vehicles per hour was used, consistent with ACTC's 2011 CMP document. Levels of service for roadway segments are defined in Table 3.3-2.

The existing traffic volumes for roadway segments were collected from the Performance Measurement System Web site operated by the California Department of Transportation (Caltrans). The roadway segment volumes on I-880 were collected for the A.M. and P.M. peak hours during a Wednesday for the peak month of travel in 2011. In addition, weekday roadway volumes for the Webster Street Tube/Posey Tube for 2010 were collected from City of Alameda Department of Public Works staff members. The data from the Performance Measurement System was used to determine the peak month of travel for 2010, and the volumes collected for the Webster Street Tube/Posey Tube from the City of Alameda were adjusted to reflect volumes to be associated with the peak month of travel.

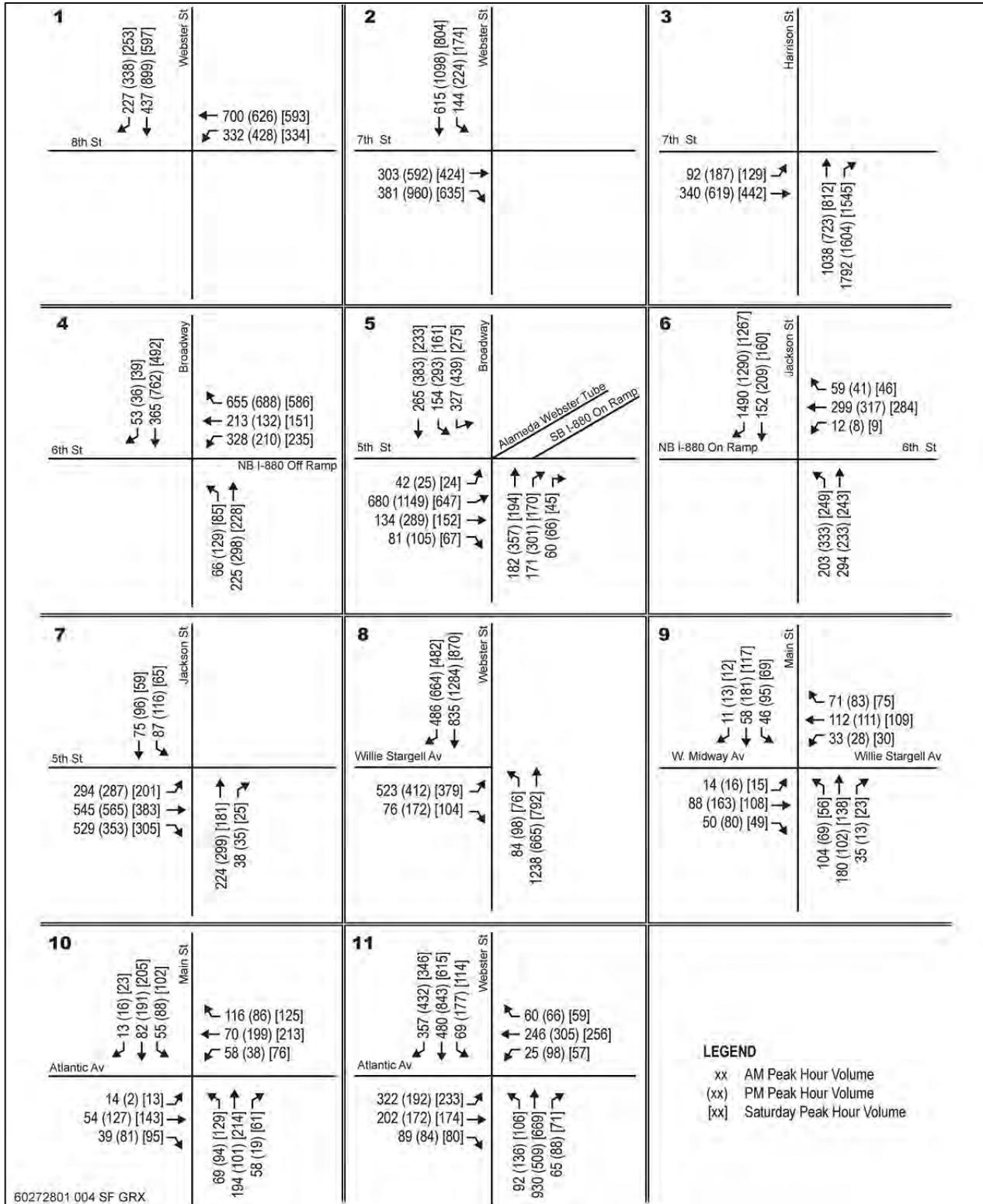
### ***2017 Background Traffic Conditions***

The Year 2017 background traffic conditions for LOS and roadway segments are presented, because 2017 represents the start of service of the proposed VHA OPC, VBA Outreach Office, and the first phase of the proposed NCA National Cemetery. The 2017 background traffic conditions include planned and approved developments, such as the Navy Environmental Restoration Program activities at Alameda Point, and transportation network changes in the study area illustrated in Figure 3.3-1. Some aspects of the Environmental Restoration Program activities were assumed would occur simultaneously with construction activities for Phase I of the Proposed Action. VA would coordinate with the Navy in order to ensure that the one-way peak hour and peak month trips accessing Alameda Point would not exceed 78 and 935 truck trips, respectively. In addition to traffic from known development projects, background traffic growth from throughout Alameda County has been estimated as described below.

Background traffic volumes for the 11 study intersections and ten roadway segments in 2017 were determined by applying growth factors to existing (2011) traffic volumes. Specifically, the future volumes for the four study intersections in Alameda were derived from the City of Alameda's travel demand model, and future volumes for the seven study intersections in Oakland were derived from the ACTC travel demand model. The ACTC and Alameda travel demand models include assumptions by the City of Alameda for NAS base redevelopment based on the NAS Alameda Community Reuse Plan from 1996. The weekday a.m. and p.m. peak-hour volumes and Saturday peak-hour volumes for the study intersections in 2017 are shown in Figure 3.3-5.

Table 3.3-3 presents the LOS summary for the study intersections under 2017 background traffic conditions. As shown in Table 3.3-3, all study intersections are projected to operate at acceptable levels (LOS D or better in Alameda and LOS E or better in downtown Oakland). Detailed LOS calculations are provided in Appendix D (Transportation Impact Study). The LOS remains unchanged between 2011 existing conditions and future 2017 conditions for four of the study intersections. By contrast, the following intersections would experience a decrease in LOS between 2011 and 2017 conditions:

- 7th Street/Harrison Street from LOS C to LOS D during the weekday P.M. peak hour;
- Broadway/6th Street from LOS B to LOS C during the weekday P.M. peak hour;
- Broadway/5th Street from LOS D to LOS E during the P.M. peak hour;



Source: AECOM 2012

**Figure 3.3-5: Background (2017) Traffic Volumes at Study Intersections**

**Table 3.3-3: Intersection Levels of Service—Existing (2011) and 2017 Conditions**

	Intersection	Peak Hour <sup>1</sup>	Existing (2011) Conditions		Near-Term (2017) Conditions	
			LOS	Delay <sup>2</sup>	LOS	Delay <sup>2</sup>
1	8th Street/Webster Street	Weekday A.M.	C	24.7	C	25.7
		Weekday P.M.	C	26.3	C	27.4
		Saturday	C	24.5	C	25.5
2	7th Street/Webster Street	Weekday A.M.	B	11.6	B	11.8
		Weekday P.M.	B	16.3	B	17.7
		Saturday	A	8.4	A	9.6
3	7th Street/Harrison Street	Weekday A.M.	B	15.3	B	16.2
		Weekday P.M.	C	25.9	D	45.2
		Saturday	B	11.6	B	13.2
4	Broadway/6th Street	Weekday A.M.	B	16.2	B	17.7
		Weekday P.M.	B	18.5	C	21.1
		Saturday	B	16.1	B	17.7
5	Broadway/5th Street	Weekday A.M.	C	30.7	C	33.7
		Weekday P.M.	D	52.4	E	76.4
		Saturday	C	27.0	C	28.2
6	Jackson Street/6th Street	Weekday A.M.	A	7.3	A	8.1
		Weekday P.M.	A	9.3	B	10.1
		Saturday	B	10.6	B	13.4
7	Jackson Street/5th Street	Weekday A.M.	B	18.0	C	31.8
		Weekday P.M.	B	14.0	B	15.2
		Saturday	B	11.8	B	13.5
8	Willie Stargell Avenue/Webster Street	Weekday A.M.	B	12.5	B	16.6
		Weekday P.M.	B	12.5	B	14.9
		Saturday	A	9.4	B	12.2
9	Willie Stargell Avenue/Main Street	Weekday A.M.	A	4.8	A	5.6
		Weekday P.M.	A	5.3	A	5.9
		Saturday	A	4.5	A	5.3
10	Atlantic Avenue/Main Street	Weekday A.M.	B	11.1	B	12.8
		Weekday P.M.	B	11.8	B	14.7
		Saturday	B	12.1	B	15.8
11	Atlantic Avenue/Webster Street	Weekday A.M.	C	29.9	D	44.7
		Weekday P.M.	C	24.7	C	26.7
		Saturday	C	21.0	C	23.7

Notes:

**Bold** indicates intersection operating at unacceptable levels (LOS F in downtown Oakland and LOS E or F in Alameda).

<sup>1</sup> "Saturday" indicates Saturday peak-trip-generation hour of the project.

<sup>2</sup> Delay presented in seconds per vehicle.

Source: AECOM, 2012

- Jackson Street/6th Street from LOS A to LOS B during the weekday P.M. peak hour;
- Jackson Street/5th Street from LOS B to LOS C during the weekday A.M. peak hour;
- Willie Stargell Avenue/Webster Street from LOS A to LOS B during the Saturday peak hour; and
- Atlantic Avenue/Webster Street from LOS C to LOS D during the weekday A.M. peak hour.

Despite these decreases in LOS, these seven intersections would still operate acceptably, as noted previously.

Table 3.3-4 presents the LOS summary for the 10 roadway segments under 2017 background traffic conditions. As shown, all roadway segments are projected to operate at acceptable levels as indicated by the City of Oakland’s criteria.

**Table 3.3-4: Roadway Segment Levels of Service—Existing (2011) and Near-Term (2017) Conditions**

Roadway Segment	Existing (2011) Conditions						2017 Conditions					
	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour			Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
	Volume	V/C Ratio	LOS	Volume	V/C Ratio	LOS	Volume	V/C Ratio	LOS	Volume	V/C Ratio	LOS
<b>Northbound</b>												
SR 260 Posey Tube	3,161	0.79	C	2,392	0.60	A	3,240	0.81	D	2,452	0.61	B
I-880 between 6th Street and I-980	3,580	0.36	A	4,285	0.43	A	3,766	0.38	A	4,507	0.45	A
I-880 between I-980 and 5th Street	1,943	0.24	A	2,648	0.33	A	2,015	0.25	A	2,746	0.34	A
I-880 between 5th Street and Union Street	4,901	0.82	D	4,712	0.79	C	5,063	0.84	D	4,868	0.81	D
I-880 between Union Street and 7th Street	3,866	0.48	A	3,802	0.48	A	4,004	0.50	A	3,938	0.49	A
I-880 between Embarcadero and 22nd Avenue	3,302	0.55	A	3,515	0.59	A	3,393	0.57	A	3,612	0.60	B
<b>Southbound</b>												
SR 260 Webster Street Tube	1,985	0.50	A	3,231	0.81	D	2,034	0.51	A	3,312	0.83	D
I-880 between 7th Street and Union Street	3,422	0.43	A	3,564	0.45	A	3,604	0.45	A	3,753	0.47	A
I-880 between 5th Street and 10th Avenue	3,818	0.48	A	3,491	0.44	A	3,940	0.49	A	3,602	0.45	A
I-880 between 10th Avenue and Embarcadero	3,221	0.54	A	3,135	0.52	A	3,321	0.55	A	3,233	0.54	A

Notes:  
I-880 = Interstate 880; I-980 = Interstate 980; SR = State Route; V/C ratio = volume-to-capacity ratio  
**Bold** indicates a roadway segment operating at an unacceptable level (i.e., LOS F)  
Source: AECOM, 2012

**Transit**

***VA Transfer Parcel***

No transit service currently accesses the VA Transfer Parcel.

***Surrounding Area***

The primary transit service in the surrounding area is provided by Alameda–Contra Costa Transit District (AC Transit). AC Transit provides local and regional bus service within Alameda and Contra Costa Counties and between the East Bay and the San Francisco Transbay Terminal. The AC Transit bus routes are summarized in Table 3.3-5 by bus line, frequency, and nearest stop.

**Table 3.3-5: AC Transit Service in the Project Vicinity**

Line	Route	Frequency (minutes)		Nearest Stop to the VA Transfer Parcel (miles)
		A.M. Peak	P.M. Peak	
31	Alameda Point to MacArthur BART via Midway Avenue (Local)	30 minutes	30 minutes	Saratoga Street and W Midway (1.0 mile)
51A	Rockridge BART to Fruitvale BART (Local)	10 minutes	10 minutes	Webster Street and Atlantic Avenue (3.0 miles)
20	Diamond District to Downtown Oakland (Local)	30 minutes	30 minutes	Webster Street and Atlantic Avenue (3.0 miles)
O	Fruitvale BART to Transbay Temporary Terminal (Transbay)	30 minutes	10–20 minutes	Webster Street and Atlantic Avenue (3.0 miles)
W	Broadway and Blanding Avenue to Transbay Temporary Terminal (Transbay)	20 minutes (Westbound only)	20 minutes (Eastbound only)	Webster Street and Atlantic Avenue (3.0 miles)

Notes:

AC Transit = Alameda–Contra Costa Transit District; BART = Bay Area Rapid Transit; VA = Department of Veterans Affairs.

Source: Data provided by AC Transit in 2012

Line 851 provides overnight service between downtown Berkeley and the Fruitvale Bay Area Rapid Transit (BART) station. Buses operate every 60 minutes between midnight and 4 A.M. The nearest stop to the VA Transfer Parcel is located approximately 3 miles away at Webster Street and Atlantic Avenue.

The City of Alameda operates two free shuttles: the City of Alameda Paratransit Shuttle for Alameda and the Estuary Crossing Shuttle. The City of Alameda Paratransit Shuttle, which serves Alameda seniors 55 years and older and individuals with disabilities, makes runs every 60 minutes between 9 A.M. and 3 P.M. on Tuesday, Wednesday, and Thursday. The West Loop route operates on Tuesdays and the nearest stop to the VA Transfer Parcel is located approximately 1.5 miles away at West Midway Avenue and Orion Street. The Estuary Crossing Shuttle between Alameda’s west end and the Lake Merritt BART station makes runs every weekday between the Lake Merritt BART station and two stops near the College of Alameda every 30 minutes between 7 A.M. and 11:30 A.M. and between 3:30 P.M. and 7 P.M. The shuttle seats 18 passengers and can carry 13 bicycles.

Additionally, VA owns and operates two 12-passenger shuttles and one 6-passenger van. The two 12-passenger vans currently provide shuttle service between the Oakland OPC and Martinez OPC (four trips per day) and

between the Oakland OPC and the San Francisco VA Medical Center (two trips per day). The 6-passenger van currently provides local trips between the Oakland OPC and Behavioral Health Clinic, both located in Oakland. The transportation is provided free of charge to accommodate Veterans with scheduled appointments. Veterans must make reservations in advance to schedule shuttle service. Once the proposed OPC at Alameda Point is operational, VA's Oakland OPC and Oakland Behavioral Health Clinic would be closed. This shuttle service would be rerouted to serve the VA Development Area and is expected to continue operation between the project site and Martinez and San Francisco.

BART provides local and regional rail service throughout the Bay Area. At approximately 4.5 miles away, the Lake Merritt BART station is the closest station to the Alameda Point area and can be accessed via bus or shuttle. AC Transit bus lines 11, 62, 88, and 611 all have bus stops at the Lake Merritt station. The City of Alameda's Oakland Inner Harbor Crossing Shuttle also has a stop at the Lake Merritt station. Three BART lines serve the Lake Merritt station (Richmond to Fremont, Daly City to Fremont, and Daly City to Dublin/Pleasanton). Service to and from the Lake Merritt BART station generally operates every 15 minutes or less during weekday peak periods.

The Alameda/Oakland Ferry is a public-transit ferry service connecting the cities of Alameda and Oakland to San Francisco across San Francisco Bay. The City of Alameda and Port of Oakland contract with the privately run Blue & Gold Fleet to provide the service. The Alameda (Main Street) ferry terminal is located at 2990 Main Street, approximately 1 mile from the VA Transfer Parcel. Ferries run between Alameda/Oakland and San Francisco approximately every 60 minutes between 6 A.M. and 9 P.M. on weekdays. Every ferry ticket comes with an attached AC Transit bus transfer, allowing ferry riders free AC Transit connections to and from the Alameda (Main Street) or Clay Street (Jack London Square) ferry terminals. An additional charge is required for AC Express buses.<sup>3</sup>

## **Pedestrian**

### ***VA Transfer Parcel***

Access to the VA Transfer Parcel is currently restricted, and no formal pedestrian facilities (i.e., improved sidewalks) exist on the property.

### ***Surrounding Area***

All major streets in the surrounding area have sidewalks, and all major intersections have marked crosswalks. Generally, little pedestrian activity was observed in the area immediately adjacent to the VA Transfer Parcel (i.e., Alameda Point area) during the weekday and weekend peak periods. During these peak periods, nearby sidewalk and crosswalks were observed to be operating at free-flow conditions, with pedestrians moving at normal walking speeds and with freedom to bypass other pedestrians.

---

<sup>3</sup> Express buses operate more frequently during peak commute times and have fewer stops along routes than traditional buses.

## **Bicycle**

Caltrans's *Highway Design Manual* defines three types of bikeways:

- *Class I bicycle facilities (bike paths)* provide a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross-flow minimized. Examples include shoreline bike paths, abandoned railroad rights-of-way, or paths within parks.
- *Class II bicycle facilities (bike lanes)* provide a striped lane for one-way bicycle travel on a street or highway, adjacent to the curb lane.
- *Class III bicycle facilities (bike routes)* provide for shared use with pedestrian or motor vehicle traffic. Bike routes are typically used to provide continuity to other bicycle facilities (usually bike lanes), or to designate preferred routes through high-demand corridors.

### ***VA Transfer Parcel***

Access to the VA Transfer Parcel is currently limited, and no formal bicycle facilities or lanes exist on the property.

### ***Surrounding Area***

Several bicycle facilities are provided or planned for implementation in the area immediately adjacent to the VA Transfer Parcel (i.e., Alameda Point area), as identified in the *City of Alameda Bicycle Plan Update* (Alameda, 2010). The existing bicycle facilities in the vicinity of the VA Transfer Parcel are as follows:

- Class I bicycle paths:
  - Main Street (east side), between Ralph Appezato Memorial Parkway and Singleton Avenue;
  - Main Street (west side), between the Main Street ferry terminal and north of the Lincoln Avenue/Central Avenue intersection;
  - Willie Stargell Avenue, between Mariner Square Loop and Webster Street; and
  - Constitution Way, between Marina Village Parkway and south of Atlantic Avenue.
- Class II bicycle lanes:
  - Atlantic Avenue, between Constitution Way and Eagle Avenue;
  - Marina Village Parkway, between Mariner Square Drive and Constitution Way;
  - Willie Stargell Avenue, between 5th Street and Mariner Square Loop; and
  - 5th Street, between Ralph Appezato Memorial Parkway and Willie Stargell Avenue.
- Class III bicycle route:
  - Willie Stargell Avenue, between Main Street and Mariner Square Loop.

The *City of Alameda Bicycle Plan Update* also identifies several planned bicycle facilities in the vicinity of the VA Transfer Parcel:

- Extension of the bicycle lanes on Ralph Appezato Memorial Parkway and Willie Stargell Avenue;
- Extension of the Alameda Point and Main Street Bay Trail segments;
- Extension of the bicycle route on Pacific Avenue;
- Addition of a Class III bicycle route on 3rd Street, between Ralph Appezato Memorial Parkway and Central Avenue; and
- Development of bicycle lanes along major streets within the Alameda Point area.

Bicyclists are allowed to use the Oakland Inner Harbor Crossing Shuttle, which operates every weekday between the Lake Merritt BART station and two stops near the College of Alameda. The shuttle runs every 30 minutes between 7 A.M. and 11:30 A.M. and between 3:30 P.M. and 7 P.M. The shuttle seats 18 passengers and can carry 13 bicycles. All AC Transit buses have front-mounted racks that can accommodate two bicycles at a time. Bicycles are permitted on BART trains except as indicated on the BART schedule during weekday-commute peak hours. All ferries are equipped with racks where bicycles can be parked for the duration of the trip.

The *City of Oakland Bicycle Plan Update* (Oakland, 2007) identifies several existing and planned bicycle facilities. The existing bicycle facilities in the vicinity of the VA Transfer Parcel are as follows:

- Class I bicycle paths:
  - Posey Tube/Harrison Street (northbound), between 6th Street and Constitution Way; and
  - Jack London Square Waterfront and Lake Merritt Trail, between the ferry terminal and 1st Street/Embarcadero.
- Class II bicycle lanes:
  - 8th Street, between Jefferson Street and Broadway; and
  - Broadway, between 25th Street and Interstate-580.
- Class III bicycle routes:
  - Broadway, between 2nd Street and 25th Street;
  - 2nd Street, between Oak Street and Brush Street; and
  - Washington Street, between 2nd Street and 10th Street.

The following bikeway projects are under development in the vicinity of the VA Transfer Parcel:

- Broadway Corridor bicycle lane;
- 10th Street (Oak Street to 5th Avenue) bicycle lane;
- Harrison Street/Oakland Avenue Bicycle Lane and Route Project; and
- East 7th Street Bikeway Improvement Project.

## **Parking and Loading**

### ***VA Transfer Parcel***

There are no designated parking or loading facilities on the VA Transfer Parcel.

### ***Surrounding Area***

In general, on-street parking in the surrounding area consists of time-limited parallel parking. Existing on-street parking conditions were qualitatively assessed through field observations conducted during weekday peak periods. Based on the field observations, it was determined that on-street parking is generally well utilized throughout the day, although particular occupancy percentages can vary depending on location and peak period.

## **3.3.3 Environmental Consequences**

### **Assessment Methods**

#### ***Overview of Assessment***

The following scenarios were evaluated to identify the potential transportation impacts of the Proposed Action:

- Existing (2011) Conditions.
- After Completion of Initial Construction—2017:
  - No Action;
  - Plus Project Alternative 1; and
  - Plus Project Alternative 2.
- Cumulative Conditions—2035:
  - No Action;
  - Plus Project Alternative 1 (Including subsequent cemetery construction); and
  - Plus Project Alternative 2 (Including subsequent cemetery construction).

Existing (2011) Conditions were analyzed to describe the current conditions in Year 2011. Initial facility (2017) conditions were analyzed to describe conditions when the first phase of construction (i.e., VHA OPC, VBA Outreach Office, Conservation and Management Office, NCA Cemetery [Phase 1], and associated infrastructure) would be complete. The trip generation for the subsequent cemetery expansion was calculated, but no quantitative analysis was conducted for this scenario. The trip generation for the cemetery expansion was needed because each subsequent phase after initial construction would generate the same number of trips. Year 2035 was chosen for analysis because this is the forecast year for the regional travel demand model.

A conservative analysis was completed for Cumulative (2035) Plus Project Alternative Conditions. All trips generated for the complete Proposed Action were added to Cumulative (2035) No Project Conditions, even though the NCA Cemetery would not be fully built out until Year 2116. In addition, this approach for Cumulative Conditions was used to be consistent with other VA documents for cemeteries. See Section 4.0 (Cumulative Impacts) for a discussion of forecast Year 2035.

### ***Intersections***

Existing and 2017 overall peak-hour traffic conditions were evaluated at the intersections that would most likely be affected by the EA Alternatives. The assessment methodology consists of estimating travel demand associated with the EA Alternatives and then adding the vehicle trips to the future background conditions in 2017. Next, LOS calculations were performed and compared to the standards of the Cities of Alameda and Oakland. See below for details on the travel demand forecasts.

### ***Transit***

Impacts on transit operations and facilities as a result of trips related to the Proposed Action were assessed by comparing the projected transit ridership against the available capacity on transit operators providing access to the surrounding area.

### ***Roadway Segments***

Existing and 2017 peak-hour traffic conditions were evaluated only at the regional roadway segments that would generate trips on the CMP network or the MTS. The CMP network is a designated roadway system that includes all interstate highways, State routes, and portions of the street and roadway system operated and maintained by the local jurisdictions. The MTS is a broader designated system that includes the entire CMP network and transit services, rail, maritime ports, airports, and transfer hubs. The entire MTS and the CMP network are defined in the ACTC's CMP. The following roadway segments were selected for analysis:

- 1) SR 260 (Posey Tube) south of I-880;
- 2) SR 260 (Webster Street Tube) south of I-880;
- 3) I-880 between 7th Street and Union Street;
- 4) I-880 between 5th Street and 10th Avenue;
- 5) I-880 between 10th Avenue and Embarcadero ;
- 6) I-880 between 6th Street and I-980;
- 7) I-880 between I-980 and 5th Street;
- 8) I-880 between 5th Street and Union Street; and
- 9) I-880 between Embarcadero and 22nd Avenue.

Traffic conditions at the roadway segments were analyzed during the weekday a.m. and p.m. peak traffic hours. The weekday A.M. peak period is typically between 7 A.M. and 9 A.M., while the weekday p.m. peak period is typically between 4 P.M. and 6 P.M. The Saturday peak traffic period was not analyzed because roadway volumes are typically higher on weekdays than on weekend days, and therefore, more traffic impacts would occur on weekdays. This report focuses on the highest volume traffic hour for each roadway segment during the weekday A.M. and P.M. peak periods.

### ***Pedestrians***

Pedestrian conditions throughout the study area were qualitatively assessed, including the number of new pedestrian trips that would be added to the existing pedestrian network. The adequacy of pedestrian connections to nearby transit routes was also determined. Furthermore, potential pedestrian safety issues were identified, including potential conflicts between vehicular traffic and pedestrian circulation. Impacts on pedestrian conditions as a result of activities related to the Proposed Action, including traffic generation, were also qualitatively assessed.

### ***Bicycles***

Bicycle conditions throughout the study area, including safety and right-of-way issues, were evaluated qualitatively as they relate to the study area for the Proposed Action as illustrated in Figure 3.3-1. Impacts on bicycle conditions as a result of activities related to the Proposed Action, including traffic generation and driveway movements, were also qualitatively assessed.

### ***Parking and Loading***

The Proposed Action's proposed supply of parking and loading spaces was evaluated against the requirements of the City of Alameda Municipal Code.

### ***Proposed Action Travel Demand Methodology***

Travel demand refers to the new trips by vehicles, transit, pedestrians, and bicycles and other trips that would be generated by a proposed action. This section provides an estimate of the travel demand that would be generated by the Proposed Action. The travel demand estimates were based on information contained in the 2000 U.S. Census's Journey-to-Work data and the Institute of Transportation Engineers' (ITE's) *Trip Generation* (8th Edition).

Because facilities associated with either Alternative 1 or Alternative 2 would be located on former NAS Alameda property that is currently inaccessible to the public, and because both alternatives propose the same land uses types and sizes, Alternatives 1 and 2 would have the same travel demand characteristics and would affect the same study intersections.

### ***Trip Generation***

Trip generation relates land uses to the number of persons or vehicles entering or exiting the site. The trip generation for the Proposed Action was based on the proposed land uses and development program described in Chapter 2.0, (Alternatives, including the Proposed Action). Standard trip generation rates were obtained from ITE *Trip Generation* (8th Edition) and information provided by VA. The ITE rates account for vehicle trips only. For this analysis, trips made by all modes of travel were evaluated. The vehicle trips generated by the Proposed Action were adjusted using the national-average vehicle occupancy rate of 1.08 passengers per vehicle (U.S. Census, 2000) to determine total "person trips."

The person-trip generation for the Proposed Action was developed for Years 2017 and 2027. The following presents the person-trip generation for forecast Year 2017. See Section 4.0 (Cumulative Impacts) for a discussion

of forecast Year 2035. The Year 2035 was chosen for analysis, as 2035 is the forecast year for the regional travel demand model.

### ***Initial Construction Completion 2017***

The 2017 background traffic conditions are used as a future baseline against which to compare 2017 plus Proposed Action Conditions to identify impacts related to implementing Phase 1 of the Proposed Action. In 2017, the VHA OPC and Conservation Management Office would be fully built out and in operation, and the first 18 acres of the NCA National Cemetery providing space for 25,000 niches would be completed and in operation. The trip generation for the OPC and Conservation Management Office was based on ITE trip generation rates (ITE land use code 630 and 710). The OPC would have approximately 250 staff members and would include 10,000 square feet of office space for the VBA Outreach Office and NCA in the building. A 2,500-square-foot Conservation Management Office would be constructed to support the management of the California Least Tern Colony.

A cemetery is a unique land use and has unique operating characteristics, and thus, information from VA's NCA was used in this analysis instead of trip generation rates from ITE's *Trip Generation* manual. Vehicle trips to and from the cemetery would come from staff members, visitors, delivery people, and corteges. The following information was used to develop the trip generation for the cemetery:

- Memorial or inurnment services would occur Monday through Friday between 9 A.M. and 3 P.M. (based on NCA statistics);
- Approximately six services would take place Monday through Friday, with up to 15 vehicles per service, and would last approximately 15–30 minutes (based on NCA statistics);
- Seven cemetery staff members would work in the OPC building Monday through Friday between 8 A.M. and 5 P.M.;
- One delivery would occur in the weekday a.m. peak hour and p.m. peak hour;
- Visitors would amount to 40 vehicles each weekday and 60 vehicles each weekend day (based on NCA statistics); and
- Buildout of the cemetery would occur in 10-year increments providing space for 25,000 niches (based on NCA projections).

Trip generation associated with the VHA OPC, Conservation Management Office, VBA Outreach Office, and cemetery employees was converted to person trips using the 1.08 occupancy factor. Cemetery visitors and deliveries were assumed as one person per vehicle. According to VA, funeral corteges average three persons per vehicle. Table 3.3-6 presents the person-trip generation for Year 2017 for Alternatives 1 and 2.

The Proposed Action would generate 2,900 person trips during the weekday, of which 371 would occur during the weekday a.m. peak hour, 370 would occur during the weekday p.m. peak hour, and 38 would occur during the Saturday peak hour.

### ***Subsequent Cemetery Expansion 2027***

As discussed previously, the NCA Cemetery would be built in 10-year increments. The person trips associated with the additional 25,000 niches to meet the projected burial needs for Phase 2 was estimated for Alternatives 1 and 2. The number of person-trips generated by the Proposed Action including the subsequent cemetery phases would be the same as that generated by the complete facility. The only new person trips that would be generated

**Table 3.3-6: Year 2017 Person-Trip Generation for Alternatives 1 and 2**

Land Use	Size	Weekday Daily	A.M. Peak Hour			P.M. Peak Hour			Saturday Peak Hour of Generator		
			In	Out	Total	In	Out	Total	In	Out	Total
Office	12,500 SF	149	19	2	21	4	16	20	2	2	4
Clinic	250 employees	2,093	239	93	332	136	196	332	10	10	20
<b>Cemetery</b>											
Employees	7 employees	30	8	0	8	0	8	8	0	0	0
Visitors		80	4	4	8	4	4	8	7	7	14
Corteges		540 <sup>1</sup>	0	0	0	0	0	0	0	0	0
Deliveries		8	1	1	2	1	1	2	0	0	0
<b>Total</b>		<b>2,900</b>	<b>271</b>	<b>100</b>	<b>371</b>	<b>145</b>	<b>225</b>	<b>370</b>	<b>19</b>	<b>19</b>	<b>38</b>

Notes: SF = square feet; While the number of employees is used as the independent variable to calculate the trip generation for the clinic, the number of trips generated are from both employees and patients.

<sup>1</sup> The total number of daily person trips associated with corteges is 540 for each phase.  
 Source: U.S. Census, 2000; AECOM, 2012

in Year 2027 under Alternatives 1 and 2 would be from cemetery visitors and corteges. The number of OPC, Conservation Management Office, and cemetery staff members and deliveries would remain the same as those from Year 2017. Table 3.3-7 presents the person-trip generation for Year 2027 (Alternatives 1 and 2).

**Table 3.3-7: Year 2027 Person-Trip Generation for Alternatives 1 and 2**

Land Use	Weekday Daily	A.M. Peak Hour			P.M. Peak Hour			Saturday Peak Hour of Generator		
		In	Out	Total	In	Out	Total	In	Out	Total
<b>Cemetery</b>										
Visitors	80	4	4	8	4	4	8	7	7	14
Corteges	540 <sup>1</sup>	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>620</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>14</b>

Notes:  
<sup>1</sup> The total number of daily person trips associated with corteges is 540 for each phase.  
 Source: AECOM, 2012

See Chapter 4 (Cumulative Impacts) for a discussion of forecast Year 2035.

***Trip Distribution***

***Initial Construction Completion 2017***

To evaluate the traffic-related effects of the Proposed Action, the trips that would be generated by the Proposed Action were distributed onto the roadway network. Trip distribution simulates the geographical pattern of travel, and was based on the residence zip codes of the employees who currently work at the existing Oakland OPC and Behavioral Health Clinic and the residence zip codes of the Veterans who currently receive treatment at the existing Oakland OPC and Behavioral Health Clinic as provided by VA. The zip code information of employees and patients would best represent the trip distribution patterns for the Proposed Action because staff members and patients would now work and receive treatment, respectively, at the new site. The estimated approach and departure directions and traffic distribution percentages for the Proposed Action are presented in Table 3.3-8.

**Table 3.3-8: Trip Distribution for Alternatives 1 and 2, Phase 1**

<b>From/To</b>	<b>Percentage</b>
I-880 North	19%
I-880 South	19%
I-980	7%
City of Oakland (Local)	49%
City of Alameda (Local)	6%
<b>Total</b>	<b>100%</b>

Notes: I-880 = Interstate 880; I-980 = Interstate 980  
Source: AECOM, 2012

***Subsequent Cemetery Expansion 2027***

The person trips that would be generated for Year 2027 were not distributed onto the roadway network to obtain trip distribution numbers for Alternatives 1 and 2 from subsequent cemetery expansion. Rather, the trip distribution scenario in Year 2027 was qualitatively analyzed based on the person trips generated during the weekday, of which eight would occur during the weekday a.m. peak hour, eight would occur during the weekday p.m. hour, and 14 would occur during the Saturday peak trip hour. The trip distribution to and from the roadway network identified in Table 3.3-8 would be minimal. Consequently LOS calculations for study area intersections were not performed.

***Transportation Mode Choice***

The person trips associated with the Proposed Action were assigned to travel modes to determine the number of automobile, BART, AC Transit, and “other” trips. “Other” trips include those by motorcycles, taxis, bicycles, and pedestrians.

Given the close proximity and somewhat similar development pattern within the Broadway Auto Row/Medical Center neighborhood in Oakland, the *Downtown Transportation and Parking Plan* (Dowling Associates, 2003) provides empirical mode splits for commute trips by employees working in various parts of downtown Oakland.

Adjustments were made to the mode split to account for Alameda Point’s more auto-oriented, suburban, and isolated location (on an island with limited transit service and limited connectivity with the existing regional roadway network). Differences in visitor mode choice between a general employment generator (such as an office building) and a VA clinic were also considered.

Table 3.3-9 shows the mode split for the Proposed Action. It was assumed that persons taking BART to the VA Development Area would then take a VA shuttle that would operate between the 12th Street Oakland City Center BART station (the closest BART station to Alameda Point) and the VA Development Area.

**Table 3.3-9: Mode Split for Alternatives 1 and 2**

<b>Mode</b>	<b>Percentage</b>
Car, truck, van (includes carpool)	91%
AC Transit	2%
BART	5%
Motorcycle	0%
Bicycle	0%
Walk	2%
Amtrak	0%
<b>Total</b>	<b>100%</b>

Notes: AC Transit = Alameda–Contra Costa Transit District; BART = Bay Area Rapid Transit  
 Source: AECOM, 2012

The trip generation by mode for the Proposed Action under both Alternatives 1 and 2 in Year 2017 is summarized in Table 3.3-10. Only OPC staff members and visitors, office staff members, and cemetery staff members were assumed to use all modes of transportation, whereas the major mode of transportation for cemetery corteges, deliveries, and visitors was assumed to be personal vehicles.

***Trip Assignment***

Trips generated by the various phases of the Proposed Action were assigned to the roadway network and study intersections based on the trip distribution pattern presented in Table 3.3-8.

**Alternative 1**

***Construction***

***Traffic***

Construction activities for Alternative 1, would take approximately 18 months to complete. Construction would generally occur Monday through Friday between 7 A.M. to 7 P.M. which are within City-designated construction hours per the City of Alameda Noise Ordinance Number 2712. Construction is not anticipated to occur on Saturdays, Sundays, or major legal holidays.

**Table 3.3-10: 2017 Trip Generation by Mode—Alternatives 1 and 2**

Direction	Person Trips						Total	Vehicle-Trips <sup>2,3</sup>
	Auto	AC Transit	BART	Walk	Bike	Other <sup>1</sup>		
<b>Weekday A.M. Peak Hour</b>								
Inbound	248	5	13	5	0	0	271	230
Outbound	92	2	5	2	0	0	101	85
<b>Total</b>	<b>340</b>	<b>7</b>	<b>18</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>372</b>	<b>315</b>
<b>Weekday P.M. Peak Hour</b>								
Inbound	133	3	7	3	0	0	146	124
Outbound	203	4	11	4	0	0	222	188
<b>Total</b>	<b>336</b>	<b>7</b>	<b>18</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>368</b>	<b>312</b>
<b>Saturday Peak Hour</b>								
Inbound	18	0	1	0	0	0	19	17
Outbound	18	0	1	0	0	0	19	17
<b>Total</b>	<b>36</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>34</b>

Notes: AC Transit = Alameda–Contra Costa Transit District; BART = Bay Area Rapid Transit

<sup>1</sup> “Other” mode includes motorcycles and taxis.

<sup>2</sup> An average vehicle occupancy of 1.08 from the 2000 U.S. Census Summary File 3 QT-PT23 was used to convert person trips to vehicle trips.

<sup>3</sup> Includes vehicle trips from cemetery visitors, corteges, and deliveries.

Sources: U.S. Census, 2000; AECOM, 2012

Construction activities would include import of fill/grading/excavation and below-grade concrete, installation of below-ground stone columns, above-grade structure, paving, and painting. The paving and painting activities would occur concurrently with the above-grade structure activity. Construction under Alternative 1 is expected to begin in July 2015, with an approximate completion date of December 2017. Details regarding the various construction activities (maximum daily trips, daily trucks, and daily personal vehicles) are included in Appendix D (Transportation Impact Study).

Throughout the construction period, construction-related trucks would flow into and out of the VA Development Area. It is anticipated that construction-related trucks would use I-880 and designated truck routes in Oakland and Alameda to access the VA Development Area. Because there are a limited number of intersections that can be used to access the VA Development Area from I-880, construction-related truck trips and Personnel Occupied Vehicles (POV) were assumed to travel through those intersections providing the most direct connection between I-880 and the VA Development Area. The details of construction traffic are summarized in Table 3.3-11.

Construction associated with Alternative 1 for all combined activities would generate a maximum of 406 daily truck trips (one-way) and 92 daily POV (one-way) trips during the peak month of construction (Table 3.3-11). All construction staging areas would be located within the VA Development Area. It is anticipated that no regular travel lanes or AC Transit bus stops would need to be closed or relocated during the construction period, because the nearest AC Transit bus stop is 1 mile away from the VA Development Area (Table 3.3-5). As described above, a low level of pedestrian activity was observed during the weekday and weekend peak periods in the Alameda Point area. Given the low volume of pedestrian activity, and because the VA Development Area is

**Table 3.3-11: Estimate of Construction Traffic—Alternatives 1 and 2**

Construction Activity	Approximate Start–End Date	Duration (Months)	Maximum Daily Trips (One-Way) by Activity			Peak-Month <sup>1</sup> Daily Trips (One-way) for All Activities		
			Trucks	POV	Total	Trucks	POV	Total
Access Road	7/2015–12/2015	6	378	10	388	378	10	388
Cemetery Support	7/2015–12/2015	6	16	62	78	16	62	78
Conservation Management	7/2015–6/2016	12	16	62	78	6	10	16
Outpatient Clinic	7/2015–12/2016	18	16	62	78	6	10	16

Notes:

POV = Personnel Occupied Vehicles

<sup>1</sup> Peak month of construction occurs in December 2015

Source: AECOM, 2012

currently restricted, construction activities would not affect pedestrian circulation. Any temporary sidewalk or traffic lane closures would be coordinated with the City of Alameda to minimize impacts on traffic.

The construction-related truck trips and POV were assumed to travel through the study intersections identified for the Proposed Action. Thus, it is likely that the construction-related traffic for Alternative 1 would travel along Willie Stargell Avenue or Atlantic Avenue going to and from the VA Development Area. Some of the 406 truck trips (one-way) and 92 POV (one-way) trips during construction would travel along Willie Stargell Avenue, which is identified as a Class III bicycle route. With current bicycle and traffic volumes on the Alameda Point streets near the VA Development Area, bicycle travel generally occurs without major impedances or safety problems. Construction activities are not expected to substantially affect bicycle circulation.

Construction traffic for Alternative 1—both construction truck traffic and additional vehicular traffic from construction workers—would not substantially affect vehicular, pedestrian, and bicycle circulation and would be temporary. Intersection traffic operations were analyzed with the peak-month Phase 1 construction traffic added to Year 2017 background traffic, which includes truck trips generated from the Navy’s Environmental Restoration Program activities at Alameda point. Some aspects of the Environmental Restoration Program activities would occur simultaneously with Phase 1 construction activities of the Proposed Action. VA would, however, coordinate with the Navy in order to ensure the total number of peak month daily one-way truck trips accessing the Alameda Point area from the combination of construction of the Proposed Action and the Environmental Restoration activities would not exceed 935 truck trips. This also translates into a total number of peak hour one-way truck trips of 78. The daily and peak hour truck trip thresholds would not be exceeded in order to ensure acceptable operations at the study intersections. All study intersections are forecast to operate at acceptable levels according to the criteria of the Cities of Alameda and Oakland for the weekday a.m. and p.m. peak hours. Overall, construction-related transportation impacts would be temporary and would not have an adverse effect on weekday peak-hour traffic conditions. Accordingly, construction-related traffic impacts of Alternative 1 would not be significant.

### **Parking**

Construction workers who drive to the VA Development Area would generate temporary demand for parking. Parking demand generated by construction workers' personal vehicles is expected to be accommodated in the portions of the VA Development Area that are not under construction at any given time and/or that have already been developed with internal roadways or runways. Construction-related parking demand would be short-term and would not result in spillover parking demand onto neighboring properties. As a result, construction-related impacts of the various phases of Alternative 1 on parking demand would not be significant.

### **Operation**

#### **Traffic**

Traffic volumes generated by operation under Alternative 1 were added to 2017 background traffic volumes to obtain the 2017 plus Proposed Action traffic volumes (Figure 3.3-6). The 2017 plus Alternative 1 conditions would not adversely affect any of the 11 study intersections during the weekday a.m. peak hour, weekday p.m. peak hour, and Saturday peak hour (Table 3.3-12). All study intersections would operate at LOS D or better. Therefore, operational impacts of Alternative 1 on traffic operations at intersections would not be significant.

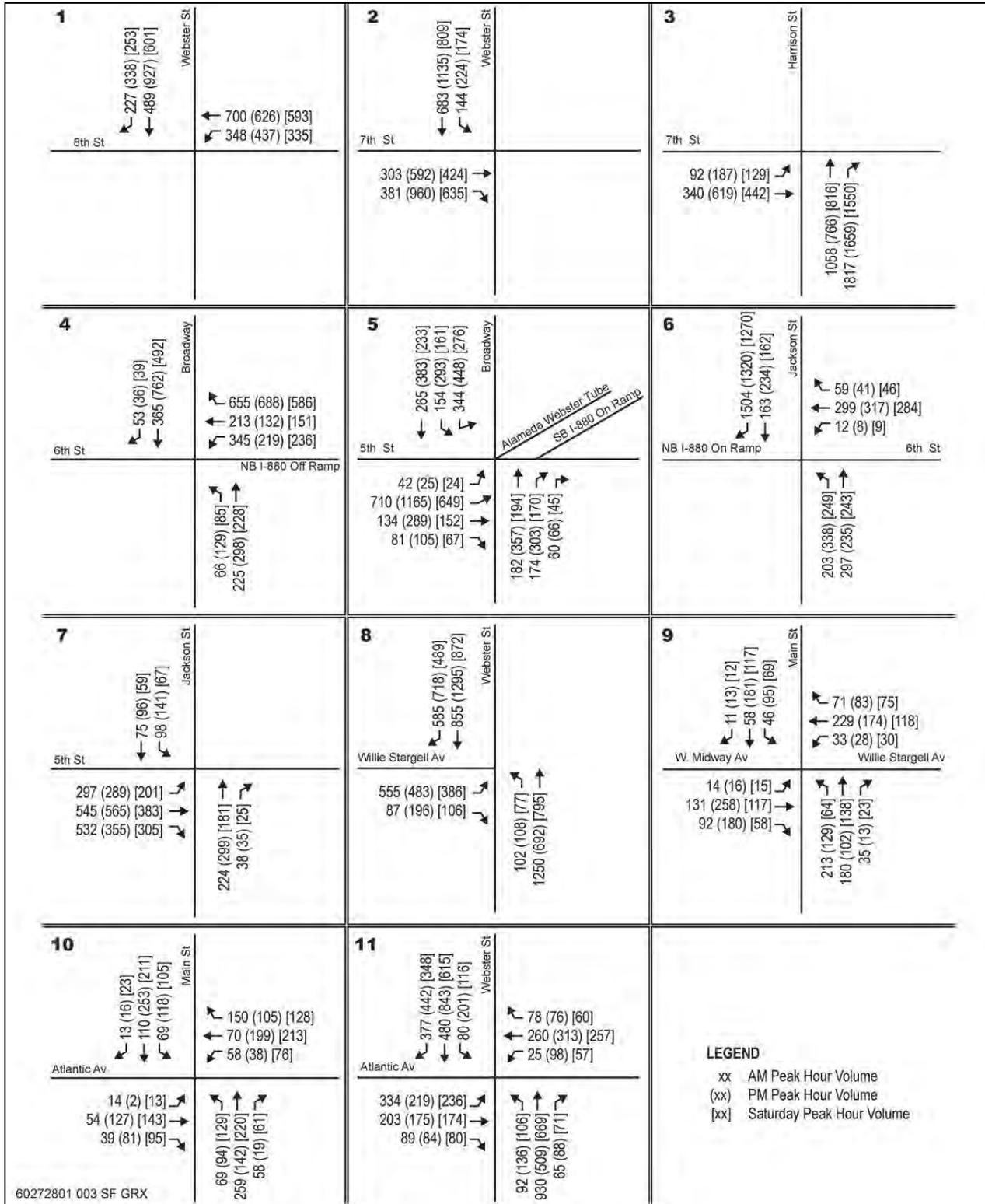
The 2017 plus Alternative 1 conditions would not adversely affect any of the 10 study roadway segments during the weekday a.m. peak hour, weekday p.m. peak hour, and Saturday peak hour (Table 3.3-13). All study roadway segments would operate at LOS D or better. Therefore, operational traffic impacts of Alternative 1 on traffic operations on roadway segments would not be significant.

#### **Transit**

As shown in Table 3.3-10, operation under Alternative 1 would generate the following numbers of transit trips:

- 25 transit trips (seven on AC Transit and 18 on BART) during the weekday A.M. peak hour;
- 25 transit trips (seven on AC Transit and 18 on BART) during the weekday P.M. peak hour; and
- Two transit trips (zero on AC Transit and two on BART) during the Saturday peak hour.

In addition, the VA shuttle that would operate between the 12th Street Oakland City Center BART station and the VA Development Area would accommodate all BART riders traveling to the VA Development Area. The 18 additional BART riders during the A.M. and P.M. peak hours associated with Alternative 1 could be AC Transit bus line 31 is the closest bus line to the VA Development Area, with a bus stop approximately 1 mile from the eastern edge of the VA Development Area. Line 31 provides service by two buses each in the northbound and southbound directions, with approximately 30-minute headways during the peak commute periods (A headway is the scheduled time interval between any two buses operating in the same direction on a route). In the future, after buildout of the proposed VHA OPC, the route of bus line 31 could be realigned to be closer to or extend into the VA Development Area, but that decision would be made by AC Transit. Assuming that the existing transit service for line 31 would remain the same, approximately two more transit riders per bus would use the bus stop during the weekday A.M. and P.M. peak hours with implementation of Alternative 1 (It was assumed that on Saturday, no new AC Transit riders would be associated with implementation of Alternative 1). These new riders could be accommodated by the current available ridership capacity of the bus service in the area accommodated by the



Source: AECOM 2012

**Figure 3.3-6: 2017 Plus Proposed Action Intersection Traffic Volumes—Alternatives 1 and 2**

**Table 3.3-12: Intersection Levels of Service—2017 plus Alternatives 1 and 2 Conditions**

Intersection	Peak Hour <sup>1</sup>	2017 Conditions		2017 plus Proposed Action Conditions	
		LOS	Delay <sup>2</sup>	LOS	Delay <sup>2</sup>
1 8th Street/Webster Street	Weekday A.M.	C	25.7	C	25.8
	Weekday P.M.	C	27.4	C	27.6
	Saturday	C	25.5	C	25.5
2 7th Street/Webster Street	Weekday A.M.	B	11.8	B	12.2
	Weekday P.M.	B	17.7	B	18.4
	Saturday	A	9.6	A	9.6
3 7th Street/Harrison Street	Weekday A.M.	B	16.2	B	16.4
	Weekday P.M.	D	45.2	D	54.7
	Saturday	B	13.2	B	13.2
4 Broadway/6th Street	Weekday A.M.	B	17.7	B	17.8
	Weekday P.M.	C	21.1	C	21.1
	Saturday	B	17.7	B	17.7
5 Broadway/5th Street	Weekday A.M.	C	33.7	D	35.6
	Weekday P.M.	E	76.4	E	80.0
	Saturday	C	28.2	C	28.3
6 Jackson Street/6th Street	Weekday A.M.	A	8.1	A	8.2
	Weekday P.M.	B	10.1	B	10.5
	Saturday	B	13.4	B	13.4
7 Jackson Street/5th Street	Weekday A.M.	C	31.8	C	32.3
	Weekday P.M.	B	15.2	B	15.7
	Saturday	B	13.5	B	13.5
8 Willie Stargell Avenue/Webster Street	Weekday A.M.	B	16.6	B	17.4
	Weekday P.M.	B	14.9	B	15.7
	Saturday	B	12.2	B	12.2
9 Willie Stargell Avenue/Main Street	Weekday A.M.	A	5.6	A	8.2
	Weekday P.M.	A	5.9	A	7.3
	Saturday	A	5.3	A	5.3
10 Atlantic Avenue/Main Street	Weekday A.M.	B	12.8	B	13.8
	Weekday P.M.	B	14.7	B	15.4
	Saturday	B	15.8	B	15.9
11 Atlantic Avenue/Webster Street	Weekday a.m.	D	44.7	D	50.7
	Weekday p.m.	C	26.7	C	27.5
	Saturday	C	23.7	C	23.8

Notes:

LOS = level of service

**Bold** indicates intersection operating at unacceptable levels (LOS F in downtown Oakland and LOS E or F in Alameda).

<sup>1</sup> "Saturday" indicates Saturday peak trip generation hour of the Proposed Action.

<sup>2</sup> Delay presented in seconds per vehicle.

Source: AECOM, 2012

**Table 3.3-13: Roadway Segment Levels of Service—2017 plus Alternatives 1 and 2 Conditions**

Roadway Segment	2017 No Project Conditions						2017 Plus Project (Alternatives 1 and 2) Conditions					
	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour			Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
	Volume	V/C ratio	LOS	Volume	V/C ratio	LOS	Volume	V/C ratio	LOS	Volume	V/C ratio	LOS
<b>Northbound</b>												
SR 260 Posey Tube	3,240	0.81	D	2,452	0.61	B	3,285	0.82	D	2,551	0.64	B
I-880 between 6th Street and I-980	3,766	0.38	A	4,507	0.45	A	3,780	0.38	A	4,537	0.45	A
I-880 between I-980 and 5th Street	2,015	0.25	A	2,746	0.34	A	2,026	0.25	A	2,769	0.35	A
I-880 between 5th Street and Union Street	5,063	0.84	D	4,868	0.81	D	5,074	0.85	D	4,891	0.82	D
I-880 between Union Street and 7th Street	4,004	0.50	A	3,938	0.49	A	4,015	0.50	A	3,961	0.50	A
I-880 between Embarcadero and 22nd Avenue	3,393	0.57	A	3,612	0.60	B	3,423	0.57	A	3,628	0.60	B
<b>Southbound</b>												
SR 260 Webster Street Tube	2,034	0.51	A	3,312	0.83	D	2,153	0.54	A	3,377	0.84	D
I-880 between 7th Street and Union Street	3,604	0.45	A	3,753	0.47	A	3,634	0.45	A	3,769	0.47	A
I-880 between 5th Street and 10th Avenue	3,940	0.49	A	3,602	0.45	A	3,951	0.49	A	3,627	0.45	A
I-880 between 10th Avenue and Embarcadero	3,321	0.55	A	3,233	0.54	A	3,332	0.56	A	3,258	0.54	A

Notes: I-880 = Interstate 880; LOS = level of service; SR = State Route; V/C ratio = volume-to-capacity ratio  
**Bold** indicates a roadway segment operating at an unacceptable level (i.e., LOS F)  
 Source: AECOM, 2012

current capacity of BART service in the area. The VA shuttle would operate 7 days a week with 30-minute headways and a capacity of up to 24 passengers. The transit trips generated by Alternative 1 would not adversely affect transit. Therefore, operational impacts of Alternative 1 on transit operations would not be significant.

An additional 25,000 cemetery niches would be provided in 2027 under Alternative 1. As described previously, it was assumed that cemetery corteges, delivery people, and visitors would travel by personal vehicles. Therefore, it is not likely that this phase of this alternative would result in any additional transit trips. Operational impacts of subsequent cemetery expansion phases under Alternative 1 on transit operations would not be significant.

### **Pedestrian**

Pedestrian trips generated by Alternative 1 would include walk trips to and from the VA Development Area. Pedestrian walk-ins as a mode of transportation to the VA Development Area are anticipated to be infrequent, and pedestrian volumes are expected to be very low. As shown in Table 3.3-10, Alternative 1 would generate the following number of pedestrian trips to and from the VA Development Area:

- Seven walk trips (five inbound trips and two outbound trips) during the weekday A.M. peak hour;
- Seven walk trips (three inbound trips and four outbound trips) during the weekday P.M. peak hour; and
- No walk trips during the Saturday peak hour of generation.

The nearby existing Alameda Point sidewalks and crosswalks and the proposed VA Development Area sidewalks could accommodate the new pedestrian trips associated with Alternative 1. Thus, these new pedestrian trips would not adversely affect pedestrian operations along the existing sidewalks and crosswalks. A pedestrian pathway is also proposed to connect from the sidewalk at the OPC on the east and would continue toward the shoreline on the west, stopping before the 100-foot band under BCDC jurisdiction. The volume of pedestrians near the VA Development Area is relatively low. Thus, no conflicts between traffic from Alternative 1 and pedestrians are expected, and public sidewalks would not become substantially overcrowded and create potentially hazardous conditions for pedestrians. Operational impacts of Alternative 1 on pedestrians would not be significant.

### **Bicycle**

Alternative 1, Phase 1 is not expected to generate bicycle trips (Table 3.3-10). Bicycle travel generally occurs without major impedances or safety problems in the Alameda Point area. Bicycle lanes would be located within the new two-lane main access road and would be painted for separation in each direction. As a result, implementing Alternative 1, Phase 1 would not affect the demand and use of existing and proposed bicycle facilities in Alameda and Oakland. Alternative 1, Phase 1 would generate 311 weekday A.M. and 311 weekday P.M. peak-hour vehicle trips (Table 3.3-10). The vehicle trips would be distributed onto the roadway network as shown in Table 3.3-8 and would not interfere with, impede, or create safety concerns for bicycle facilities. Therefore, operational impacts of Alternative 1 on bicycles would not be significant.

### **Parking and Loading**

The following parking and loading requirements in the City of Alameda Municipal Code applicable to Alternative 1:

- *Office use:* 2.5 spaces for each 1,000 square feet of occupied floor area;
- *Clinic use:* 4.0 spaces for each 1,000 square feet of occupied floor area; and
- *Other uses:* 1.0 loading space for every nonresidential building in excess of 12,500 square feet.

Based on these requirements, VA would be required to provide 623 parking spaces (31 spaces for the office use and 592 spaces for the clinic use) and one loading space under Alternative 1.

Under Alternative 1 VA would provide a total of 640 parking spaces for employees, visitors, and patients, and two full-size truck bays to accommodate a typical semi-truck (approximately 55 feet in length). The total proposed parking supply consists of 630 parking spaces adjacent to the VHA OPC building and approximately 10 spaces

adjacent to the Conservation Management Office. The total proposed parking supply (640 spaces and two loading spaces) would satisfy the City of Alameda Municipal Code's requirements of 623 parking spaces and one loading space for Alternative 1. VA also would provide approximately 30 parking spaces in the proposed NCA Cemetery adjacent to each committal service shelter. Two committal service shelters (including 60 parking spaces) would be built by 2017. Thus, adequate parking would be provided under Alternative 1, Phase 1. Operational impacts of Alternative 1 related to parking and loading would not be significant.

### **Site Access and Circulation**

Access to the VA Development Area would be provided via Main Street, Navy Way, and West Redline Avenue (Figure 3.3-1). The intersection of West Redline Avenue and Monarch Street would connect with the proposed main access road serving the VA Development Area.

Other internal roads would connect to the main access road and would provide access to the VHA OPC building, Conservation Management Office, and NCA Cemetery (see Figure 2-2). In addition, a cortege assembly area would consist of one or more lanes for vehicles to queue before proceeding to a committal service shelter. The cemetery road would be developed in accordance with VA design and construction standards and specifications for national cemeteries. The main access road would be developed in accordance with the design and construction standards of the American Association of State Highway and Transportation Officials (AASHTO), and would incorporate bicycle lanes in each direction.

Taxis, private vehicles, and emergency vehicles would use the new main access and internal roadways. An additional emergency vehicle access point would be provided on the eastern perimeter of the VA Transfer Parcel. Implementation of Alternative 1 would not adversely affect site access and circulation or access by emergency vehicles; access to and from the VA Development Area, as well as internal circulation within the VA Development Area, would adequately serve travel demand and would be designed in accordance with accepted VA and AASHTO standards. Accordingly, operational impacts of Alternative 1 related to site access and circulation would not be significant.

### **Traffic Safety Impacts**

The utility corridor would be built to City of Alameda design standards. The internal main access roadway would be built to the AASHTO standards, as this would be a Federal roadway. The internal roadways that would provide circulation within the cemetery would be built in compliance with Section 12.7, "Road Width and Road Minimum Radius," in Section 5.1, "Site Development Design Criteria for National Cemetery Projects, Department of Veterans Affairs," of VA's *National Cemetery Administration (NCA) Facilities Design Guide* (VA, 2010). The design guide specifies the road widths and minimum radius for the various types of roads (i.e., entrance road, primary road, secondary road, service roads, and committal service shelter drives). The design of the NCA Cemetery's roads should accommodate anticipated traffic volume at a maximum design speed of 24 kilometers per hour (15 mph) (VA, 2010). Because the access and internal circulation roads would conform to the City of Alameda, AASHTO, and VA NCA roadway design standards, impacts of Alternative 1 on traffic safety would not be significant.

## **Alternative 2 (Preferred Alternative)**

### ***Construction***

#### **Traffic**

Construction activities and their level of intensity under Alternative 2 would be the same as those described for Alternative 1. These activities would include import of fill/grading/excavation and below-grade concrete, above-grade structure, paving, and painting. For the same reasons as cited for Alternative 1, the effect of construction traffic associated with Alternative 2—both construction truck traffic and additional vehicular traffic from construction workers—would not substantially affect vehicular, pedestrian, and bicycle circulation. Therefore, as under Alternative 1, construction-related traffic impacts of Alternative 2 would not be significant.

#### **Parking**

Construction-related parking impacts of Alternative 2 would be the same as those described for Alternative 1 because parking demand would be accommodated in the portions of the VA Development Area that are not under construction at any given time. As a result, construction-related parking demand under Alternative 2 would be short term and temporary and would be minor. As with Alternative 1, construction-related parking impacts of Alternative 2 would not be significant.

### ***Operation***

#### **Traffic**

Vehicle trips generated under Alternative 2 would be the same as those generated under Alternative 1 (Table 3.3-10). The resulting traffic volumes for 2017 plus Proposed Action Alternative 2 operations are the same as for Alternative 1 (Figure 3.3-6). The LOS results for all 11 study intersections and 10 roadway segments under Alternative 2 are the same as those presented previously for Alternative 1. Operational impacts of Alternative 2 on traffic operations would not be significant.

#### **Transit**

Transit trips generated under Alternative 2 would be the same as those generated under Alternative 1 (Table 3.3-10). As under Alternative 1, the transit trips generated by Alternative 2 would be accommodated by the current available ridership capacity of the area's AC Transit bus service and of BART. In addition, the VA shuttle that would operate between the BART station and the VA Development Area would accommodate all BART riders traveling to the VA Development Area. As a result, the operational impact of Alternative 2 on transit operations would not be significant.

#### **Pedestrian**

Pedestrian trips generated under Alternative 2 would be the same as those generated under Alternative 1 (Table 3.3-10). The nearby existing Alameda Point sidewalks and the proposed VA Development Area sidewalks could accommodate the new pedestrian trips associated with Alternative 2. A pedestrian pathway is also proposed to connect from the sidewalk at the OPC on the east and would continue toward the shoreline on the west, stopping

before the 100-foot band under BCDC jurisdiction. Thus, these new pedestrian trips would not adversely affect pedestrian operations along the existing sidewalks and crosswalks. The volume of pedestrians near the VA Development Area is relatively low. Thus, no conflicts between traffic from Alternative 2 and pedestrians are expected, and public sidewalks would not become substantially overcrowded and create potentially hazardous conditions for pedestrians. Operational impacts of Alternative 2 on pedestrians would not be significant.

### **Bicycle**

Bicycle trips generated under Alternative 2 would be the same as Alternative 1 and summarized in Table 3.3-10. Bicycle lanes would be located within the new two-lane main access road and would be painted for separation in each direction. Bicycle impacts under Alternative 2 would be the same as Alternative 1 and discussed above. The negligible increase in bicycle trips under Alternative 2 within the area would not be substantial enough to affect overall bicycle circulation in the area or the operations of adjacent bicycle facilities. Thus, bicycle impacts would not be significant under Alternative 2.

### **Parking and Loading**

Under Alternative 2, VA would need to meet the same parking and loading requirements of the City of Alameda Municipal Code as described above for Alternative 1. The total proposed parking supply would consist of 640 parking spaces and two loading spaces, satisfying the City of Alameda Municipal Code's requirements for 623 parking spaces and one loading space. Thus, adequate parking would be provided under Alternative 2. Operational impacts of Alternative 2 related to parking and loading would not be significant.

### **Site Access and Circulation**

Site access and circulation under Alternative 2 would be similar to site access and circulation under Alternative 1, except that the internal roadways would have a slightly different alignment than under Alternative 1. The proposed internal main-access roadway for the VHA OPC building and the NCA Cemetery would tie into Alameda's existing roadway system. This roadway would be located along the northern boundary of the VA Development Area and would incorporate bicycle lanes in each direction. Taxis, private vehicles, and emergency vehicles would use the new main access and internal roadways.

The VHA OPC building would be located farther north under Alternative 2 and would have a different building orientation than under Alternative 1. The cemetery would be developed within one 80-acre area west of the OPC building, rather than in two separate areas on both the west and east sides of the OPC building as under Alternative 1. For the same reasons as described for Alternative 1, implementing Alternative 2 would not have an adverse effect on site access and circulation or emergency access. Operational impacts of Alternative 2 related to site access and circulation would not be significant.

### **Traffic Safety Impacts**

Traffic safety impacts of Alternative 2 would be the same as those of Alternative 1. The utility corridor would be built to City of Alameda design standards. The main internal access road along the northern boundary of the VA Development Area would be built to AASHTO standards. The internal roadways that would provide circulation within the cemetery would be built in compliance with Section 12.7, "Road Width and Road Minimum Radius,"

in Section 5.1, “Site Development Design Criteria for National Cemetery Projects, Department of Veterans Affairs,” of VA’s *National Cemetery Administration (NCA) Facilities Design Guide* (VA, 2010). As a result, as with Alternative 1, impacts of Alternative 2 on traffic safety would not be significant.

## **No Action Alternative**

### ***Construction***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place, and no VA facilities would be constructed. Therefore, no significant construction-related impacts to transportation, traffic, circulation, or parking would occur.

### ***Operation***

Under the No Action Alternative, no new vehicle, transit, bicycle, or pedestrian trips or new parking demand would be generated because no new facilities or uses are proposed. Thus, no operational impact on study intersections, existing transit services, existing roadways, parking, loading, site access/circulation, or traffic safety would occur under the No Action Alternative.

Under the No Action Alternative, the Fed-to-Fed transfer would not take place, and no VA facilities would be operated on the property. The property would be retained by Navy in caretaker status until another action on the property is taken. Therefore, no significant operational-related to transportation, traffic, circulation, or parking impacts would occur.

## **3.3.4 References**

- AECOM. 2012. *Alameda Point Transfer, Clinic, and Cemetery Environmental Assessment Transportation Impact Study*.
- Alameda, City of (Alameda). 2010 (November). *City of Alameda 1999 Bicycle Master Plan (Updated November 2010)*.
- Alameda County Transportation Commission (ACTC). 2011. *Congestion Management Program 2011*. December.
- Oakland, City of (Oakland). 2007 (December). *City of Oakland Bicycle Master Plan*.
- Dowling Associates. 2003. *Downtown Transportation and Parking Plan*. Prepared for the City of Oakland Redevelopment Agency & Community and Economic Development Agency.
- Transportation Research Board (TRB). 1985 (August). *Highway Capacity Manual*. Washington, DC.
- . 2000. *Highway Capacity Manual 2000*. Washington, DC.
- U.S. Census Bureau (U.S. Census). 2000. *Census 2000 Summary File 3, QT-P23. Journey to Work: 2000*. Washington, DC.

U.S. Department of Veterans Affairs (VA). 2010 (March). *National Cemetery Administration (NCA) Facilities Design Guide*. Published June 1999, Section 5 revised March 2010. National Cemetery Administration, Office of Facilities Management, Facilities Quality Office. Washington, DC. Section 5, “Design Criteria.”

This page intentionally left blank.

## 3.4 CULTURAL RESOURCES

This section describes the historical setting and existing physical and regulatory setting related to archaeological and historic resources and addresses the potential effects of the EA Alternatives on such resources.

### 3.4.1 Regulatory Framework

#### Section 106 of the National Historic Preservation Act of 1966

Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations (Title 36 of the Code of Federal Regulations [CFR], Part 800 [36 CFR 800]) require that Federal agencies take into account the effects of their actions (referred to as “undertakings” under Section 106) on properties that may be eligible for or listed in the National Register of Historic Places (NRHP), and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment. To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (i.e., archaeological, historical, and architectural properties) that could be affected by the undertaking must be inventoried and evaluated for inclusion in the NRHP.

Consistent with 36 CFR 800.3(a)(1), VA and the Navy have determined that the proposed Fed-to-Fed transfer of property from Navy to VA—as a transfer of property from one Federal agency to another, with the property remaining in Federal ownership—is not an undertaking that has the potential to affect historic properties. Therefore, the following analysis focuses on the potential impacts of VA’s project: the construction and operation of the VHA OPC, VBA Outreach Office, Conservation and Management Office, NCA Cemetery, off-site utility/road corridor, and associated infrastructure.

The regulations implementing Section 106 require consultation with the State Historic Preservation Officer (SHPO), tribal governments, and interested members of the public throughout the process. The four principal steps are:

1. Initiate the Section 106 process, including a plan for public involvement (36 CFR 800.3);
2. Identify historic properties, consisting of those resources within an Area of Potential Effect (APE) that are eligible for inclusion in the NRHP (36 CFR 800.4);
3. Assess the effects of the undertaking on historic properties in the APE (36 CFR 800.5); and
4. Resolve adverse effects (36 CFR Part 800.6).

Adverse effects on historic properties may be resolved through preparation of a memorandum of agreement or a programmatic agreement developed in consultation between the lead Federal agency, the SHPO, tribal governments, and interested members of the public. The ACHP is also invited to participate.

### **National Register of Historic Places Evaluation Criteria**

The NRHP is a register of districts, sites, buildings, structures, and objects of significance in American history, architecture, archaeology, engineering, and culture. The NRHP is maintained by the Secretary of the Interior. A property may be listed in the NRHP if it meets criteria for evaluation defined in 36 CFR 60.4:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- That are associated with events that have made a significant contribution to the broad patterns of our history; or
- That are associated with the lives of persons significant in our past; or
- That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- That have yielded, or may be likely to yield, information important in prehistory or history.

Under Section 106 of the NHPA, only cultural resources that have been determined to be eligible for listing in the NRHP or that are listed in the NRHP need to be considered when evaluating an action's effects on cultural resources.

### **Archaeological Resources Protection Act**

The Archaeological Resources Protection Act (ARPA) amended the Antiquities Act of 1906 (16 U.S. Code 431–433) and set a broad policy that archaeological resources are important to the nation and should be protected, and required special permits before the excavation or removal of archaeological resources from public or tribal lands. The purpose of ARPA was to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites that are on public lands and tribal lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals having collections of archaeological resources and data that were obtained before October 31, 1979.

## **3.4.2 Affected Environment**

### **Background Research Efforts**

Existing conditions were identified through pre-field research at and a review of existing information for the former NAS Alameda. Research efforts included a request to the Northwest Information Center (NWIC) of the California Historical Resources Information System to conduct a records and literature search of the VA Transfer Parcel and a surrounding one-quarter-mile area. The NWIC responded with comments on March 26, 2012 (NWIC File No. 11-1036). The search identified no known historic properties within the VA Transfer Parcel or within the surrounding one-quarter-mile area. The records search report compiled by the NWIC included several historic-era maps: the maps of the 1871 San Antonio Ranch Plat, the 1895 San Francisco 15-minute Quadrangle, the 1899 San Francisco 15-minute Quadrangle, the 1915 San Francisco Quadrangle, and the 1942 San Francisco 15-minute

Quadrangle. The maps indicate that no portion of the land later occupied by former NAS Alameda existed before 1871. By 1895 the Southern Pacific Railroad (narrow gauge), consisting of a narrow finger of filled land, had been constructed north of the present-day VA Transfer Parcel. The 1915 San Francisco 15-minute Quadrangle map indicates that additional landfill work had been done north and east of the VA Transfer Parcel, and that a deep-water channel leading to Oakland's inner harbor had been constructed. Other sources reviewed (cited as appropriate in the text below) include previous studies conducted by the Navy for NAS Alameda, documentation of prior Section 106 consultations conducted by the Navy, and overviews of previous archaeological research in the region. The results of the investigation are summarized later in this section.

### **Previous Studies and Documentation**

Two previous Navy studies have analyzed the low potential of encountering archaeological resources at the former NAS Alameda. In 1996, an archaeological evaluation of the former Fleet Industrial Supply Center – Alameda Annex and Family Housing Areas was prepared for the Navy (PAR, 1996). Evaluation of that project area, located to the east of the present project area and Main Street, included a pedestrian survey and analysis of historic maps. The report concluded that the project area had been an undeveloped natural marshland before 1918, when it was filled. The map analysis also demonstrates that the majority of the former NAS Alameda (and all of the VA Transfer Parcel) was built on artificial fill, filled in multiple phases between 1892 and 1960 (PAR, 1996).

In 1999, the Navy prepared an Environmental Impact Statement (EIS) concerning the disposal and reuse of the former NAS Alameda, which also analyzed the potential for archaeological resources at the former NAS Alameda (Navy *et al.*, 2009). Based upon the fill history of the former NAS Alameda and the manner in which the fill was placed during construction of the installation, the EIS concluded that the potential for buried cultural resources, either prehistoric or historic, is considered to be extremely low. The EIS examined the possibility of historic-period archaeological resources beneath the Navy's fill. These potential resources included remnants of historic land uses of portions of the property that would become the NAS Alameda, such as the former South Pacific Coast Railroad Terminal, Alameda Municipal Airport, Pan Am airline facilities, Alameda Yacht Basin, ship hulls used in land creation, and the Army's Benton Field (see the Historic Context section below). However, the EIS concluded that the potential to encounter these remnants or historic period archaeological resources is considered low due to the manner in which the Navy's artificial fill was placed. The EIS states that the Twelfth Naval District was reportedly responsible for the acquisition, dredging, filling, and construction of NAS Alameda. Prior to infilling, construction debris (e.g., concrete, asphalt, and building rubble) was removed, and scarification of the area occurred. By removing all pilings and submerged objects from the water before fill was introduced, the fill material was allowed to settle more evenly and to prevent potential future construction obstructions (Navy, 1999; PAR 1996).

Additional studies and Section 106 consultation address the known historic properties identified at the former NAS Alameda. The NAS Alameda Historic District is located immediately adjacent and to the east of the VA Transfer Parcel Area. Based on the study *Historic Architectural Resources Inventory for Naval Air Station, Alameda* (Woodbridge, 1992), the Navy determined in 1992 that the historic district was eligible for listing in the NRHP. That same year, the SHPO concurred with the Navy's conclusion. The NAS Alameda Historic District was determined eligible for the NRHP under Criterion A for its significance as a World War II-era naval air station (1938 to 1945) under the contextual theme of the development of Navy bases in the San Francisco Bay Area in World War II; and under Criterion C because of its master planning and architecture in the Moderne style.

The NAS Alameda Historic District initially included 85 resources. The number of district contributors was increased to 87 through the Navy's consultation with the SHPO, but subsequently was reduced to 86 contributing resources after a fire damaged one building.

In 1997, the *Guide to Preserving the Character of the Naval Air Station Alameda Historic District* was prepared for the Navy to identify character-defining elements of the NAS Alameda Historic District (JRP, 1997). The study also defined significant vistas, viewsheds, open spaces, streetscapes, and landscape elements that contributed to the historic district.

In 1999, the Navy entered into a Section 106 Memorandum of Agreement (MOA) titled *Memorandum of Agreement Among the United States Navy, the Advisory Council on Historic Preservation and the California State Historic Preservation Regarding the Layaway, Caretaker Maintenance, Leasing, and Disposal of Historic Properties on the Former Naval Air Station, Alameda, California*. The MOA identified the NAS Alameda Historic District and the south jetty of the "Oakland Inner Harbor Jetties and Federal Channel Historic District" (Alameda Training Wall) as historic properties. The Alameda Training Wall is located outside the project area. The 1999 MOA did not identify any archaeological sites eligible for the NRHP (Navy et al., 1999). To support transfer of portions of the former NAS Alameda to the City of Alameda, the Navy prepared additional evaluation reports and a NRHP Nomination for the NAS Alameda Historic District in 2011 and 2012. These reports (a) completed the identification of historic properties on NAS Alameda through the evaluation of buildings and structures constructed before 1989; and (b) nominated the NAS Alameda Historic District to the NRHP. Two evaluation reports were prepared: the *Combined Specific Buildings Survey and Evaluation Report/Cold War Era Historic Resources Survey and Evaluation Report* (Combined Evaluation Report) (JRP, 2011) and *Cultural Landscape Report of Naval Air Station Alameda* (CLR) (JRP and PGA, 2012).

The Combined Evaluation Report concluded that no buildings and/or structures at the former NAS Alameda met the criteria for listing in the NRHP or the California Register of Historical Resources individually under World War II or Cold War-era contexts. The report found no Cold War-era buildings eligible for NRHP listing. The report also identified 13 additional contributing elements to the NAS Historic District (JRP, 2011).

In 2012, the CLR identified a historic-designed landscape as a contributing element of the NAS Alameda Historic District. The CLR concluded that no NRHP-eligible cultural landscapes or landscape features occur outside the boundary of the historic district (JRP and PGA, 2012).

The SHPO concurred with the findings of the Combined Evaluation Report in 2011 (OHP, 2011) and with the findings of the CLR in 2012 (OHP, 2012a).

The Navy has also prepared a NRHP nomination for the NAS Alameda Historic District. This nomination was submitted to the Keeper of the National Register in December 2012. The NAS Alameda Historic District is expected to be listed on the NRHP in early 2013.

## Cultural and Historical Contexts

### *Prehistoric Archaeological Context*

There is no archaeological context specific to the VA Development Area or VA Transfer Parcel, because the area was built on fill and no resources have been identified. As discussed above and as discussed in more detail below in the Historic Context section below, the majority of the former NAS Alameda was built on artificial fill and filled in multiple phases between 1892 and 1960. Therefore, the culture history discussed here focuses on the original Alameda Peninsula (to the southeast of the current project area) and the San Francisco Bay Area as a whole.

The earliest well-documented entry and spread of native peoples into the San Francisco region occurred at the beginning of the Paleo-Indian Period (12,000–8000 years Before Present [B.P.]<sup>1</sup>). Social units are thought to have been small and highly mobile. Known sites have been identified in the contexts of ancient pluvial lakeshores and coastlines, as evidenced by such characteristic hunting implements as fluted projectile points and flaked stone crescent forms. Prehistoric adaptations over the ensuing centuries have been identified in the archaeological record by numerous researchers working in the Bay Area since the early 1900s, as summarized by Fredrickson (1974) and Moratto (1984).

Few archaeological sites have been found in the Bay Area that date to the Paleo-Indian Period or the subsequent Lower Archaic (8000–5000 B.P.) time period, probably because of high sedimentation rates and sea level rise. Archaeologists have, however, recovered a great deal of information from sites occupied during the Middle Archaic Period (5000–2500 B.P.). By this time, broad regional subsistence patterns gave way to more intensive procurement practices. Economies were more diversified, possibly including the introduction of acorn-processing technology. Populations were growing and occupying more diverse settings. Permanent villages that were occupied throughout the year were established, primarily along major waterways. The onset of status distinctions and other indicators of growing sociopolitical complexity mark the Upper Archaic Period (2500–1300 B.P.). Exchange systems became more complex and formalized, and evidence of regular sustained trade between groups began to appear.

Several technological and social changes characterized the Emergent Period (1300–200 B.P.). Territorial boundaries between groups became well established. It became increasingly common for distinctions in an individual's social status to be linked to acquired wealth. In the latter portion of this period (500–200 B.P.), exchange relations became highly regularized and sophisticated. The clamshell disk bead became a monetary unit, and specialists arose to govern various aspects of production and material exchange.

The Middle Archaic, Upper Archaic, and Emergent Periods can be broken down further according to additional cultural manifestations that are well represented in archaeological assemblages in the Bay Area:

- *Windmiller Pattern* (5000–1500 B.P.) peoples placed an increased emphasis on acorn use and on a continuation of hunting and fishing activities. Ground and polished charmstones, twined basketry, baked-clay

---

<sup>1</sup> By convention, “present” is defined as 1950 A.D. The year 1950 A.D. is the baseline date from which age of certain materials are calculated when using carbon-14 dating techniques. “A.D.” refers to the number of years after the death of Jesus Christ.

artifacts, and worked shell and bone were hallmarks of Windmill culture. Widely ranging trade patterns brought goods in from the Coast Ranges and trans-Sierran sources as well as closer trading partners.

- The *Berkeley Pattern* (2200–1300 B.P.) exhibited an increase in the use of acorns as a food source compared to what was seen previously in the archaeological record. Distinctive stone and shell artifacts differentiated this period from earlier or later cultural expressions. Burials were most often placed in a tightly flexed position and frequently included red ochre.
- The *Augustine Pattern* (1300–200 B.P.) reflected increasing populations resulting from more intensive food procurement strategies, as well as a marked change in burial practices and increased trade activities. Intensive fishing, hunting and gathering, complex exchange systems, and a wider variety in mortuary patterns were all hallmarks of this period.

Before European contact, the original Alameda Peninsula (to the southeast of the project area) was occupied by a small Penutian-speaking group that was part of the larger Ohlone cultural affiliation. Members of this tribelet were largely dependent on the resources (waterfowl, fish, and shellfish) derived from the bayshore areas and from streams, creeks, and tributaries (Navy, 1999; Page and Turnbull, 2005; PAR, 1996). Examples of such Archaic Period sites were excavated in the early part of the 20th century. In the early 1900s, Captain Clark, an amateur archaeologist, excavated a prehistoric midden known as Sather Mound where flaked stone tools and a reported 450 burials were identified. The mound site closest to the project area, however, was the Emeryville Shellmound, excavated in 1902. It extended to approximately 30 feet in depth and contained 700 flexed burials and a large number of associated artifacts (PAR, 1996). An additional five Ohlone village sites have been reported within the city of Alameda. These mounds and sites were located on the high ground of the Alameda Encinal area on the original Alameda Peninsula, approximately 4 miles to the southeast of the project area (Navy, 1999; Page and Turnbull, 2005; PAR, 1996). The arrival of Spanish settlers, however, negatively impacted the traditional Ohlone cultural system, and exposure to European-borne diseases, a declining birth rate, and the enforced mission system resulted in the near-eradication of Ohlone peoples in the vicinity.

### ***Historic Context***

The earliest documented Euro-American expeditions into the San Francisco Bay region occurred in 1776 with the settlement of the Mission San Francisco de Asis and the Presidio of San Francisco. In August 1820, Governor Pablo Vicente de Solá<sup>2</sup> issued the Rancho San Antonio land grant to Luis María Peralta. This large land grant encompassed the city of Alameda, among other cities. The rancho became the first permanent settlement after Mission San Jose, which was established in 1797 (Kyle et al., 1990). In 1850, California became a state and portions of the rancho known as Bolsa de Encinal were sold off and eventually developed into agricultural land. Later, a commercial center (present-day Alameda) was established (Alameda, 1980).

Alameda continued to grow and prosper, particularly after 1864 when the San Francisco & Oakland Railroad built the first alignment from eastern Alameda to the Alameda Point area.<sup>3</sup> During that same period, a ferry system was established, providing citizens the means to live in Alameda and commute to work in San Francisco. The City of Alameda was incorporated in 1872 and became a charter city in 1884. Between the 1880s and early 1900s, the City of Alameda witnessed a steady population increase associated with industrial and commercial enterprises.

<sup>2</sup> Colonial governor (1815–1822) of Spanish Alta California, which was a province and territory in the Viceroyalty of New Spain and later a territory in independent Mexico.

<sup>3</sup> “Alameda Point” is used here as the historic name of the western end of the Alameda Peninsula.

The City continued to prosper through the 1940s with World War II and the creation of the former NAS Alameda (Alameda, 1980).

Development of the Alameda Point area began in the 1880s with oil refinery operations in a small area known as Woodstock, a community bounded by today's Lincoln Avenue, Third Street, San Francisco Bay, and Atlantic Avenue. It occupied what would become the southeastern section of NAS Alameda. Woodstock was absorbed into the City of Alameda in 1872. Railroad development returned to Alameda Point; and a kerosene refinery was located at the intersection of Pacific Avenue and Main Street, along the southeastern border of former NAS Alameda. Industrial development of Alameda Point area remained confined to this small area and continued into the early 1900s (Page and Turnbull, 2005).

During World War I, the Alameda Point area became a focal point for the aviation industry after a military study determined that the area would be advantageous to the military's efforts. While Congress delayed approval of a Navy base, development efforts moved forward by the City of Alameda, private groups, and the Army. The Alameda Municipal Airport opened in 1929, as did the San Francisco Bay Aerodrome. That same year, the Army started construction of its own airfield (Benton Field) between the San Francisco Bay Aerodrome and the municipal airport.

The former NAS Alameda consists almost entirely of engineered, artificial fill that was installed on marshlands or shallow waters within San Francisco Bay. The first documented filling occurred in the 1890s to construct a mole, or bermed railroad track, by the Southern Pacific Railroad. By the late 1920s, the northern part of what is now the former NAS Alameda had been filled by the Alameda Municipal Airport and Benton Field. The Navy acquired Benton Field and the Alameda Municipal Airport in 1936. Then, in 1938, the Navy began construction of former NAS Alameda focusing on erecting buildings on the eastern half of the installation and filling the southern and western parts of the facility for the bulk of the runway areas (Navy, 1999; JRP, 2011).

Completed under the direction of the Navy's Bureau of Yards and Docks, the original design for NAS Alameda was part of a master-planning approach that improved efficiency and functions for naval operations. With the start of U.S. involvement in World War II, former NAS Alameda was enhanced to accommodate increased military demands during wartime. Throughout World War II, former NAS Alameda played a critical role in the U.S.'s naval success with its primary mission of aircraft assembly and repair (JRP, 2011).

After World War II, former NAS Alameda witnessed a reduction in workforce as the Navy consolidated its efforts. The contributions of former NAS Alameda changed starting in 1950, with the onset of the Korean War. Operations at former NAS Alameda expanded and the number of military and civilian personnel peaked in 1951, making former NAS Alameda the largest naval air station in the U.S (JRP, 2011).

Former NAS Alameda served a critical role in Navy operations during the Korean War. The base grew and altered its existing facilities to accommodate changes in military technology. Former NAS Alameda was used to perform aircraft assembly, overhaul, and repair which continued into the 1960s as the U.S. entered the Vietnam War (JRP, 2011).

Historically, the VA Transfer Parcel and VA Development Area were used by former NAS Alameda as its airfield. Runways were completed in 1942, and after World War II, they were heavily altered to accommodate jet

aircraft. Support structures and buildings, including some for magazine and ordnance storage, were constructed to support the operation of the runways and the overall functions of the fleet during the Cold War era (JRP, 2011).

At the end of the Vietnam War in the 1970s, a reduction at former NAS Alameda took place. During the 1970s and 1980s, former NAS Alameda accommodated the changes in the Navy's fleet and remained open. By 1985, former NAS Alameda was identified for possible closure. The base remained in operation until 1997, when it officially closed after 57 years of continued operation (JRP, 2011).

## **Known Cultural Resources**

### ***Archaeological Resources***

No archaeological resources have been identified within in the VA Transfer Parcel, including the VA Development Area (for either Alternative 1 or 2). No archaeological resources have been identified within the proposed off-site road/utility corridor.

### ***Historic Resources***

#### **VA Development Area**

No historic resources have been identified within the VA Transfer Parcel, including the VA Development Area (for either Alternative 1 or 2). Under each alternative, the VA Transfer Parcel is located on a portion of the former NAS Alameda airfield and contains former ammunition storage bunkers, former runways, and other infrastructure built to support airfield operations. The Navy previously evaluated the airfield and related structures and SHPO has concurred that they are not eligible for the National Register. As discussed in the Navy's Combined Evaluation Report, the built resources in the VA Transfer Parcel do not qualify as contributing resources to the NAS Alameda Historic District because previous alterations to the former airfield generally impacted the airfield's ability to convey any historical significance associated with World War II (JRP, 2011; OHP, 2011). Further, the Combined Evaluation Report concluded and SHPO has concurred that the airfield area and its structures are not eligible for the National Register based upon associations with the Cold War (JRP, 2011; OHP, 2011). Therefore, the VA Transfer Parcel, including the VA Development Area does not contain historic resources.

#### **Off-site Utility/Road Corridor**

No historic resources have been identified within the proposed off-site utility/road corridor. The off-site utility/road corridor would be constructed within a corridor along West Redline Avenue and Main Street, which runs directly adjacent to the northern boundary of the NAS Alameda Historic District. The two roads are not contributing resources to the historic district. Therefore, no historic resources are located within this corridor.

#### **NAS Alameda Historic District**

The NAS Alameda Historic District is located immediately adjacent to and east of the VA Transfer Parcel. This historic district is eligible under NRHP Criterion A for its association with the strategic development of naval air stations in the 1930s, development of naval facilities in the Bay Area during World War II and the Navy's role in

Pacific theater naval operations during World War II. The NAS Alameda Historic District also is eligible under Criterion C for its distinctive characteristics of type, period, and method of construction (Moderne style) in its design and planning.

The NAS Alameda Historic District was identified as eligible for listing in the NRHP in 1992. In 2011, the historic district was reassessed, and its boundary was expanded to include 13 additional contributing resources. In 2012, a historic designed landscape was also identified as a contributing element of the NAS Alameda Historic District (JRP, 2011; JRP and PGA, 2012; OHP, 2011; OHP, 2012b). Presently, the NAS Alameda Historic District contains 100 contributing resources: 99 buildings and structures, and 1 site (the historic designed landscape) and 57 noncontributing buildings/structures with a period of significance of 1938 to 1945.

No NRHP-eligible historic properties are present within the VA Transfer Parcel or the off-site utility/road corridor; however, construction activities proposed in these areas have the potential to affect the setting of the adjacent NAS Alameda Historic District, which is eligible for listing in the NRHP.

### 3.4.3 Environmental Consequences

#### Assessment Methods

This section assesses effects on cultural resources that meet the eligibility criteria for listing in the NRHP. When evaluating the significance of project impacts under NEPA, the following analysis applies the NHPA Section 106 criteria for adverse effect. 36 CFR Part 800.5 defines an undertaking (action) as having an adverse effect on historic properties if the effect would alter the characteristics that qualify a property for inclusion in the NRHP. Examples of adverse effects include:

- Physical destruction of or damage to all or part of the property;
- Alteration of the property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (36 CFR 68) and applicable guidelines;
- Removal of the property from its historic location;
- Change in the character of the property's use or of physical features within the property's setting that contribute to its historic significance;
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's character-defining features;
- Neglect of the property that causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Native American tribe or Native Hawaiian organization; or
- Transfer, lease, or sale of the property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.

The following analysis considers the potential effects resulting from the construction and operation of the VHA OPC, VBA Outreach Office, Conservation Management Office, NCA Cemetery, and associated infrastructure

within the VA Development Area and the off-site utility/road corridor. No development would occur within the remaining portion of the VA Transfer Parcel, which would remain undeveloped open space.

## **Alternative 1**

### ***Construction***

#### **Archaeological Resources**

No known archaeological resources would be directly or indirectly affected by construction, because no such resources are located within the boundary of the VA Transfer Parcel for Alternative 1 or within the off-site road/utility corridor. In addition, the likelihood of encountering unknown archaeological resources within the VA Development Area or the off-site road/utility corridor is very low because of the fill history and destructive nature of the construction efforts (dredging, scarification, and filling) used during the construction of former NAS Alameda (Navy, 1999). No development would occur within the remaining VA Transfer Parcel.

In the unlikely event of an inadvertent discovery of previously undocumented archaeological resources or human remains, consultation with the SHPO, in accordance with 36 CFR 800.13, will occur and the following management measure will be followed.

If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains) or human remains is made during construction activities associated with the Proposed Action, ground disturbances in the area of the find will be halted and a qualified professional archaeologist will be notified regarding the discovery. The archaeologist will determine whether the resource is potentially significant per the evaluation criteria of the NHPA and will develop appropriate mitigation. If human remains are encountered, the Alameda County Coroner will be notified immediately upon their discovery. If the coroner determines that the remains are of Native American origin, the provisions of NAGPRA will apply.

Implementation of this management measure would reduce potentially adverse impacts of Alternative 1 resulting from inadvertent damage or destruction of presently undocumented archaeological resources and human remains during construction. Therefore, no significant adverse impact from construction impacts on archaeological resources would be expected.

#### **Historic Resources**

##### ***VA Transfer Parcel***

No known historic resources would be directly affected by construction within the VA Development Area because no such resources are present in that area. No development would occur within the remaining VA Transfer Parcel. Therefore, Alternative 1 would not have a direct significant adverse impact on historic resources.

Indirect impacts on historic districts have the potential to occur if changes to the visual setting, atmospheric intrusions, or other features of a proposed action outside the historic district's boundaries would diminish the district's ability to convey its significance. The proposed development includes the construction of buildings and

structures for the VHA OPC, VBA Outreach Office, Conservation Management Office, NCA Cemetery, associated infrastructure, and some new landscaping on a portion of the VA Development Area, all of which would introduce subtle new visual elements to the setting of the NAS Alameda Historic District. Proposed buildings would be approximately one to two stories tall and between 40 and 54 feet in height, and planned landscaping would be a maximum 20 feet in height. This development would be visible from certain locations within the boundary of the NAS Alameda Historic District and from more distant locations with views of the overall historic district (see Figure 3.5-8 in Section 3.5 [Visual Resources]). However, the planned construction would occur nearly one half mile from the boundary of the historic district; this distance would allow it to become part of the light industrial setting that already exists to the northwest. The planned construction would not obstruct current views directly to the west or to the southwest, because construction would take place at the north end of the former runway area. Views from within the NAS Alameda Historic District would remain similar to current views, with the minor difference that some low buildings would be added to the middle ground in front of the port's industrial structures in the background. Likewise, external views of the row of hangar buildings along the western boundary of the NAS Alameda Historic District would not be obscured or diminished by the proposed development. The scale of the construction planned under Alternative 1 is roughly similar to the scale of buildings/structures currently on the site, and the existing scale and character of the historic district would not change. The proposed development would not detract from location, design, character, setting, materials, workmanship, and feeling of the NAS Alameda Historic District, and the historic district would still be able to convey its significance as a naval station dating to the 1930s and World War II designed in the Moderne style. Therefore, there would be no significant, indirect impacts on the NAS Alameda Historic District as a result of the visual introduction of the Proposed Action.

Construction-related activities for the proposed undertaking would introduce groundborne vibration, and would result in noise effects on the surrounding area, including the adjacent NAS Alameda Historic District. However, because of the distance between the proposed development and the historic district (nearly one half mile), the potential for these activities to cause structural and cosmetic damage to the historic district and its contributing resources through vibration would be negligible. Any construction-related sounds would be temporary and would dissipate over the distance between the VA Development Area and the NAS Alameda Historic District; thus, noise effects on the historic district would be minimal. Therefore, there would be no significant, indirect impacts on the NAS Alameda Historic District associated with vibration or noise. More information on the projected levels of construction noise and vibration is provided in Section 3.12 (Noise).

#### *Offsite Utility/Road Corridor*

No known historic resources would be directly affected by construction within the off-site utility/road corridor because no such resources are present in that area.

Planned infrastructure for the VA facilities would be constructed within a utility corridor along West Redline Avenue and Main Street that would tie into existing infrastructure lines east of the VA Transfer Parcel. The new infrastructure line would be located directly north of the NAS Alameda Historic District; however, because the existing roadway would be paved over the new line once installed, the proposed infrastructure would not alter the viewshed of the historic district, the district's character-defining features, or its ability to convey its significance. Any construction-related sounds or vibrations in the offsite road/utility corridor would be temporary and are not anticipated to be at levels that could cause damage to the NAS Alameda Historic District (See Section 3.12

[Noise]). Therefore, the construction of planned infrastructure in the off-site utility/road corridor would not have significant, indirect impacts on historic resources.

#### *NAS Alameda Historic District*

The Proposed Action would take place adjacent to and outside the boundary of the NAS Alameda Historic District, which is eligible for the NRHP. Because the planned construction would take place outside the boundary of the historic district, no direct construction-related impacts on historic properties would occur. Potential indirect effects from construction within the VA Development Area have been addressed above. There would be no significant, indirect impacts on the NAS Alameda Historic District.

### **Operation**

#### **Archaeological Resources**

Operation of the proposed VA facilities would not involve ground disturbance or vibration, and no known archaeological resources are located within the boundary of the VA Transfer Parcel or within the off-site road/utility corridor. Therefore, no significant operational impacts on archaeological resources would occur under Alternative 1.

#### **Historic Resources**

##### *VA Transfer Parcel*

Proposed operational activities would not cause direct impacts on known historic resources within the VA Transfer Parcel because no such resources are present in that area and the proposed operational activities would not have a significant impact on the NAS Alameda Historic District.

##### *Off-site Road/Utility Corridor*

Proposed operational activities would not cause direct impacts on known historic resources within the offsite road/utility corridor because no such resources are present in that area and the proposed operational activities in the corridor would not have a significant impact on the NAS Alameda Historic District.

##### *NAS Alameda Historic District*

As discussed above, proposed operational activities (outside of the NAS Alameda Historic District) would not have a significant impact on the NAS Alameda Historic District.

In summary, the construction and operational activities described in Alternative 1 would not have significant impact on cultural resources.

## **Alternative 2 (Preferred Alternative)**

### ***Construction***

#### **Archaeological Resources**

No known archaeological resources would be directly or indirectly affected by construction, because no such resources are located within the boundary of the VA Transfer Parcel for Alternative 2 or within the off-site road/utility corridor. In addition, similar to Alternative 1, the likelihood of encountering unknown archaeological resources within the VA Development Area or the off-site road/utility corridor is very low because of the fill history and destructive nature of the construction efforts (dredging, scarification, and filling) used during the construction of former NAS Alameda (Navy, 1999). No development would occur within the remaining VA Transfer Parcel. In the unlikely event of an inadvertent discovery of previously undocumented archaeological resources or human remains, consultation with the SHPO, in accordance with 36 CFR 800.13, will occur and the following management measure will be followed.

If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains) or human remains is made during construction activities associated with the Proposed Action, ground disturbances in the area of the find will be halted and a qualified professional archaeologist will be notified regarding the discovery. The archaeologist will determine whether the resource is potentially significant per the evaluation criteria of the NHPA and will develop appropriate mitigation. If human remains are encountered, the Alameda County Coroner will be notified immediately upon their discovery. If the coroner determines that the remains are of Native American origin, the provisions of NAGPRA will apply.

Implementation of this management measure would reduce potentially adverse impacts of Alternative 2 resulting from inadvertent damage or destruction of presently undocumented archaeological resources and human remains during construction. Therefore, no significant adverse construction impacts on archaeological resources would occur.

#### **Historic Resources**

Alternative 2 would involve development similar to that of Alternative 1, except that the proposed construction and the VA Development Area would be located farther north. Therefore, the construction-related impacts of Alternative 2 on historic resources would be similar to those discussed for Alternative 1. No known historic resources would be directly affected by construction within the VA Development Area because no such resources are present in that area. No development would occur within the remaining VA Transfer Parcel.

As with Alternative 1, views from within the NAS Alameda Historic District would remain similar to current views, with the minor difference that some low buildings would be added to the middle ground in front of the port's industrial structures in the background (see Figure 3.5-8 in Section 3.5 [Visual Resources]). The proposed development would not detract from location, design, character, setting, materials, workmanship, and feeling of the NAS Alameda Historic District, and the historic district would still be able to convey its significance as a naval station dating to the 1930s and World War II designed in the Moderne style.

No significant adverse construction-related impact on historic resources would occur under Alternative 2. Any construction-related sounds would be temporary and would dissipate over the distance between the VA Development Area and the NAS Alameda Historic District; thus, noise effects on the historic district would be minimal. Therefore, there would be no significant impact on the NAS Alameda Historic District associated with vibration or noise. More information on the projected levels of construction noise and vibration is provided in Section 3.12 (Noise).

### ***Operation***

#### **Archaeological Resources**

Operation of the VA facilities proposed under Alternative 2 would be similar to that under Alternative 1. No significant operational impacts on archaeological resources would occur under Alternative 2. Therefore, no significant adverse operational impacts on archaeological resources would occur.

#### **Historic Resources**

Operation of the VA facilities proposed under Alternative 2 would be similar to that under Alternative 1. Therefore, no significant operational impacts on historic resources would occur under Alternative 2. In summary, the construction and operational activities described in Alternative 2 would not have a significant impact on cultural resources. No historic properties are located in the VA Development Area or the off-site road/utility corridor. The proposed development and its construction-related and operational activities would have no adverse effects on the adjacent NAS Alameda Historic District and the district would still be able to convey its historical significance.

In accordance with NHPA requirements, VA has initiated consultation under Section 106 of the NHPA with the California SHPO on the proposed action with a letter dated August 13, 2012 that identified the Area of Effect (AOE) and proposed plan for public involvement. SHPO concurred with the APE and plan for public involvement in a letter dated August 23, 2012 (Donaldson, 2012). In April 2013, the VA submitted a Finding of Effect (FOE) that determined that proposed undertaking would have no adverse effect on historic properties. In a letter dated May 17, 2013, SHPO concurred that the proposed action would not adversely affect historic properties (Roland-Nawi, 2013).

Copies of the Section 106 consultation letters, including documents supporting the analysis of potential effects on cultural resources and the FOE are located in Appendix E (Cultural Resources Supporting Information).

### **No Action Alternative**

#### ***Construction***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development (e.g., VHA OPC, VBA Outreach Office, NCA Cemetery, etc.) would not be built. Therefore, no significant construction impacts on cultural resources would occur.

## ***Operation***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development and operations (e.g., VHA OPC, VBA Outreach Office, NCA Cemetery, etc.) would not occur. Therefore, no significant operational impacts on cultural resources would occur.

### **3.4.4 References**

- City of Alameda Planning Department (Alameda). 1980. City of Alameda Historic Preservation Element. Available: <http://www.cityofalamedaca.gov/About-Alameda/Historic-Preservation> Accessed April 2012. Fredrickson, D. A. 1974. Cultural Diversity in Early Central California: A View from the North Coast Ranges. *Journal of California Anthropology* 1(1):41–54.
- Fredrickson, D. A. 1974. Cultural Diversity in Early Central California: A View from the North Coast Ranges. *Journal of California Anthropology* 1(1):41–54.
- JRP Historical Consulting Services LLC (JRP). 1997. *Guide to Preserving the Character of the Naval Air Station Alameda Historic District*. Prepared for Engineering Field Activity, West Naval Facilities Engineering Command and Naval Air Station Alameda, California. April 1997.
- . 2011. *Combined Specific Buildings Survey and Evaluation Report/Cold War Era Historic Resources Survey and Evaluation Report for Naval Air Station Alameda*. Davis, CA. Prepared for Naval Facilities Engineering Command Southwest.
- JRP Historical Consulting LLC and PGAdesign, Inc. (JRP and PGA). 2012. *Cultural Landscape Report for Naval Air Station Alameda*. Draft. Davis, CA. Prepared for Naval Facilities Engineering Command Southwest.
- Kyle, D. E., M. B. Hoover, H. E. Rensch, E. G. Rensch, and W. N. Abeloe. 1990. *Historic Spots in California*. Stanford, CA: Stanford University Press.
- Moratto, M. 1984. *California Archaeology*. New York: Academic Press.
- Office of Historic Preservation (OHP). 2011 (January 7). Former Naval Air Station Alameda Cold War Update, Naval Air Station Alameda, CA. Letter from California State Historic Preservation Officer Milford Wayne Donaldson to U.S. Department of the Navy. Reference USN090603A. Sacramento: California Department of Parks and Recreation.
- . 2012a (March 19). Former Naval Air Station Alameda Cultural Landscape Report, Naval Air Station Alameda, CA. Letter from California State Historic Preservation Officer Milford Wayne Donaldson to U.S. Department of the Navy. Reference USN120221A. Sacramento: California Department of Parks and Recreation.
- . 2012b (September 13). Naval Air Station Alameda Historic District. Letter from California State Historic Preservation Officer Milford Wayne Donaldson to U.S. Department of the Navy. Concurrence on NAS Alameda Historic District National Register nomination. Sacramento: California Department of Parks and Recreation.

- Page and Turnbull, Inc. 2005 (June 22). *NAS Alameda Historic District Assessment and Historic Preservation Strategy, Alameda Point Preliminary Development Concept*. Prepared for the Alameda Reuse and Redevelopment Authority.
- PAR Environmental Services, Inc (PAR). 1996. An Archaeological Evaluation of the Fleet Industrial Supply Center—Alameda Annex/Facility, and Navy Alameda Family Housing, Alameda County, California. Prepared by M. L. Maniery, C. Baker, and K. Syda.
- U.S. Department of the Navy (Navy). 1999. *Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Alameda and the Fleet and Industrial Supply Center, Alameda Annex and Facility, Alameda, California*. Engineering Field Activity, West, Naval Facilities Engineering Command. San Bruno, CA.
- U.S. Department of the Navy, Advisory Council on Historic Preservation, and California State Historic Preservation Officer (Navy et al.). 1999. Memorandum of Agreement (MOA) Among the United States Navy, the Advisory Council on Historic Preservation and the California State Historic Preservation Officer regarding the Layaway, Caretaker Maintenance, Interim Leasing, and Disposal of Historic Properties on the Former Naval Air Station, Alameda, California.
- Woodbridge, Sally B. 1992. Historic Architectural Resources Inventory for the Naval Air Station, Alameda. Alameda County, California.

## 3.5 VISUAL RESOURCES AND AESTHETICS

This section describes the aesthetics setting, visual resources and relevant regulatory framework. Within this context, potential effects on views, visual character, and in relation to light and glare are assessed.

### 3.5.1 Regulatory Framework

There are no applicable Federal standards that relate to visual resources or aesthetics.

### 3.5.2 Affected Environment

#### Views and Visual Character

The VA Transfer Parcel is located at the west end of Alameda Island and is bordered by the Oakland Inner Harbor and the Port of Oakland to the north, San Francisco Bay to the west and south, and the City of Alameda to the east. The topography is flat, and bordered by urban and industrial land uses and open water of the San Francisco Bay.

The VA Transfer Parcel consists primarily of former Navy (now abandoned) runways and taxiways that do not include any substantial vertical elements. Throughout the site there are views of the surrounding Bay Area and the San Francisco skyline (see Figure 3.5-1A). Heavy-industrial uses associated with the Port of Oakland including large shipping cranes are visible across the Oakland Inner Harbor north of Alameda Point. Other industrial and urban development is also immediately visible. The downtown Oakland skyline is noticeable farther to the northeast (see Figure 3.5-1B). The East Bay Hills are seen to the northeast and east.

#### *View Aesthetics*

Views are considered sensitive when they have high scenic quality and are experienced by relatively large numbers of people (i.e., views from publically accessible areas). Scenic quality is a measure of the overall impression or appeal of an area created by the physical features of the landscape, such as natural features (landforms, vegetation, water, color, adjacent scenery, and scarcity) and human-made features (roads, buildings, railroads, and agricultural patterns).

#### *Views Outward from the VA Transfer Parcel*

The VA Transfer Parcel is primarily a flat open area and does not contain vertical structures (see Figure 3.5-2A). Depending on weather and air quality conditions (e.g., fog, smog), views outward from the VA Parcel Transfer extend in all directions. Unobstructed views are available from the edge of most shoreline locations along the perimeter of the VA Transfer Parcel. Important regional features viewed from the area include San Francisco Bay (to the west and south), Downtown San Francisco (to the west), the San Francisco Bay Bridge (to the northwest), and Mt. Tamalpais (far to the northwest). Views of the Oakland Inner Harbor are available from the edge of the northern portion of the VA Transfer Parcel. The Port of Oakland and the former Fleet Industrial Supply Center Oakland, both industrial lands, occupy an area along the north shore of the Inner Harbor, directly opposite the VA Transfer Parcel. These facilities provide an industrial waterfront character that includes docking facilities for large oceangoing cargo vessels and large, mechanized loading and unloading cranes. There are expansive storage areas for cargo containers, numerous warehouses, and several rail lines in this area. Short- and mid-range views to the east include a row of former hangars (see Figure 3.5-2B) that are now a part of the NAS Alameda Historic



A: View to the Northwest of San Francisco Skyline and San Francisco–Oakland Bay Bridge from the VA Transfer Parcel



B: View to the Northeast of Port of Oakland Facilities, Oakland Skyline, and East Bay Hills from the VA Transfer Parcel

**Figure 3.5-1: Representative Views from the VA Transfer Parcel**



A: View to the East of the Former NAS Alameda Runway from within the VA Transfer Parcel



B: View to the East of Former NAS Alameda Hangars from within the VA Transfer Parcel

**Figure 3.5-2: Representative On-Site Views of the VA Transfer Parcel**

District, while long-range views include portions of the East Bay Hills. The East Bay Hills provide a visual backdrop to the urban foreground depicting former military uses.

Outward views might be considered sensitive. Currently the VA Transfer Parcel is not publically accessible; hence these outward views are not available to the public.

### ***Views into the VA Transfer Parcel***

Publically accessible views of the VA Transfer Parcel and VA Development Area are found between the former NAS Alameda hangars east of the VA Transfer Parcel (see Figure 3.5-3 Point B and Figure 3.5-4 B), and from Middle Harbor Shoreline Park across the Oakland Estuary in the City of Oakland to the north (see Figure 3.5-3, Points A and C, and Figures 3.5-4A and 3.5-4C for views from ground level as well as the top tower platform at the Middle Harbor Shoreline Park). Publically accessible views are also available from more distant land points such as the Oakland Ferry Terminal; elevated locations (i.e., hills or tall buildings) in Oakland; and from a portion of Yerba Buena Island, across which the San Francisco Bay Bridge traverses halfway between San Francisco and Oakland.

In addition, boats passing through the Oakland Estuary, including the San Francisco–Alameda Ferry, and cars traveling eastward on the San Francisco Bay Bridge or along Interstate 880 have passing views of the VA Transfer Parcel and VA Development Area. Specifically, the San Francisco–Alameda Ferry traverses the Oakland Estuary and San Francisco Bay, adjacent to and with views for approximately 3–5 minutes of the proposed VA Development Area, which would not be along the shorelines but rather set back farther inland. See Figure 3.5-3, Points D–I, and Figures 3.5-4D through 3.5-4I, for views of the proposed VA Development Area from the top platform of a ferry that is en route from San Francisco to Alameda.

Views into the VA Transfer Parcel from the San Francisco Bay Bridge, San Francisco, the East Bay Hills, and any other publically accessible locations would not be considered sensitive, because these views are only distantly visible consisting primarily of abandoned runways and deteriorated outbuildings with low scenic quality.

Views to the southeast of the VA Transfer Parcel and VA Development Area from Middle Harbor Shoreline Park include open fields characterized by bunkers interspersed among grassy areas (see Figure 3.5-4A). Views to the northwest of the VA Transfer Parcel and VA Development Area from the former NAS Alameda hangars include flat open areas and do not contain vertical structures (see Figure 3.5-4B). This view is characterized by the former NAS Alameda airfield, which contains abandoned runways interspersed with grassy areas. The Port of Oakland cranes, the San Francisco Bay Bridge, and Yerba Buena Island provide a visual backdrop to the primarily flat foreground, which is the developed former airfield.

## **Light and Glare**

### ***VA Transfer Parcel***

The VA Transfer Parcel consists of large expanses of abandoned runways and few small support buildings that were used when the site functioned as the airfield for NAS Alameda. No nighttime lighting or daytime glare emits from these sources.



Source: Compiled by AECOM in 2012 and 2013

**Figure 3.5-3: Photograph Viewpoints from Publically Accessible Locations**



A: View to the Southeast toward the VA Development Area from Middle Harbor Shoreline Park in Oakland



B: View to the Northwest toward the VA Development Area from between Former NAS Alameda Hangars

**Figure 3.5-4: Publicly Accessible Views of the VA Development Area**



C: View to the Southeast toward the VA Development Area from top tower platform at Middle Harbor Shoreline Park



D: View to the East toward the VA Development Area from top platform of San Francisco–Alameda Ferry

**Figure 3.5-4 (cont):**

**Publicly Accessible Views of the VA Development Area**



E: View to the Southeast toward the VA Development Area from top platform of San Francisco–Alameda Ferry



F: View to the Southeast toward the VA Development Area from top platform of San Francisco–Alameda Ferry

**Figure 3.5-4 (cont):**

**Publically Accessible Views of the VA Development Area**



G: View to the South toward the VA Development Area from top platform of San Francisco–Alameda Ferry



H: View to the Southwest toward the VA Development Area from top platform of San Francisco–Alameda Ferry

**Figure 3.5-4 (cont):**

**Publicly Accessible Views of the VA Development Area**



I: View to the West toward the VA Development Area from top platform of San Francisco–Alameda Ferry

**Figure 3.5-4 (cont):**

**Publicly Accessible Views of the VA Development Area**

The VA Transfer Parcel is located within viewing distance of surrounding urban areas such as the more developed eastern portion of Alameda Island, industrialized areas of West Oakland, the San Francisco waterfront and hills, and the San Francisco Bay Bridge. Limited nighttime light spillage from these sources does reach the VA Transfer Parcel. Light-sensitive receptors also may include wildlife. An existing colony of the CLT, a bird species that is Federally and State listed as endangered, is located on the VA Transfer Parcel 1,430–1,766 feet south of the VA Development Area. See Section 3.1 (Biological Resources) for a complete discussion of how light may affect the existing CLT colony.

The VA Transfer Parcel does not contain buildings with reflective materials or windows, and is therefore not a substantial source of glare. No glare-sensitive receptors are located near the VA Transfer Parcel.

### **3.5.3 Environmental Consequences**

#### **Assessment Methods**

This section describes the visual impacts of the EA Alternatives and the area surrounding the VA Transfer Parcel. Several variables affect the degree of visibility, visual contrast, and ultimately project impacts: the scale and size of facilities, viewer types and activities, distance and viewing angle, and the influences of adjacent scenery or land uses. Viewer response and sensitivity vary depending on viewer perceptions and expectations. Viewer sensitivity is distinguished among various project viewers depending upon identified scenic corridors and types of use such as recreational, residential, office, and industrial areas. Recreational areas and scenic corridors are considered to

have relatively high sensitivity, residential areas have moderate sensitivity, and office and industrial areas typically have low sensitivity.

As part of this analysis, various areas in the City of Alameda and City of Oakland were screened as potential view locations. These areas were screened based on whether the VA Transfer Parcel is visible from those locations, and the degree to which viewers would be sensitive to proposed physical changes at the VA Transfer Parcel during construction and operation of the proposed VA facilities.

A set of locations constituting a representative cross section of views experienced by typical observers was chosen for the analysis. Views from these locations were photographed and are included in this EA to illustrate existing conditions and to facilitate determination of project impacts. Conceptual design drawings and information about height and massing of the proposed project were used in conjunction with the photographs to identify whether and when construction and operation of the proposed VA facilities would result in a potential visual impact.

## **Alternative 1**

### ***Construction***

#### **Visual Character**

Alternative 1 would involve construction of the VHA OPC, VBA Outreach Office, Conservation Management Office, NCA Cemetery, an off-site utility/road corridor, and associated infrastructure within the VA Development Area. No development would occur within the remaining VA Transfer Area. Construction staging areas would be established within the VA Development Area and large construction equipment and vehicles would be present during construction activities.

Because the VA Development Area would still be restricted from public access during construction, the construction staging areas would not need to be screened. The construction contractor would implement management measures to screen construction staging areas during construction of the subsequent cemetery expansion phases, thus limiting the frequency and prominence of views of construction equipment, vehicles, and materials. Therefore, this construction-related impact of Alternative 1 related to visual character would not be significant.

#### **Light**

Construction activity under all phases of Alternative 1 would take place during daytime hours; therefore, no construction equipment lighting would be needed. Some low-level security lighting would be required in construction staging areas, which would have a small effect on the area's ambient light levels. However, the construction contractor would use lighting features that would be shielded and directed downward, as required by management practices to minimize light spillover to neighboring undeveloped land on the VA Transfer Parcel. Therefore, this construction-related impact of Alternative 1 related to light would not be significant.

## ***Operation***

### **Visual Character**

Under Alternative 1, VA would operate the VHA OPC, VBA Outreach Office, Conservation Management Office, the first 18 acres of the NCA Cemetery, and associated infrastructure. The OPC building (158,000 gsf) would be two stories tall and the majority of the building would be less than 40 feet tall. Only a small portion of the building may extend up to 54 feet tall to allow for mechanical equipment or a roof element at the building entrance; however, no more than 25% of the total roof area would exceed 40 feet in height. Materials used for the VHA OPC building would include concrete masonry units, glass fiber reinforced concrete, metal panels, precast concrete, and cement plaster. A parking area with 632 parking spaces would be located adjacent to the OPC building. The Conservation Management Office building (2,500 gsf) would be a one-story structure with a maximum height of 25 feet; this building would have a small adjacent parking area with up to 10 parking spaces.

The proposed NCA Cemetery would consist of several wall-like structures (columbarium walls) with niches to house cinerary urns containing cremated remains, up to three committal service shelters for interment or memorial services, and a staging area for vehicles in a funeral procession (known as the Cortege Assembly Area). The columbarium walls would be up to 10 feet tall; the pavilion-like committal shelters would be about 25 feet by 36 feet in size and up to 25 feet tall, and would provide seating for approximately 10 to 20 people and standing room for others. Figure 3.5-10 includes a conceptual depiction of the cemetery structures and configuration from the street level and from an aerial viewpoint. The Cortege Assembly Area would be located adjacent to the west side of the VHA OPC, could accommodate up to 30 vehicles, and would include a memorial walkway, a flagpole, and a carillon (bell tower) that plays bells or tones. Note that Figure 3.5-10 does not reflect the proposed landscaping details. See Figure 3.5-11 for the proposed landscaping for the VA Development Area.

The VA Development Area would include fencing along its perimeter, signage, landscaping, an irrigation system, benches, trash receptacles, and flower containers for floral offerings. Landscape planting in the VA Development Area would prioritize native shrub and herbaceous species over nonnative species and would consist primarily of drought-tolerant plant species and open hardscape areas. Development within the VA Development Area has incorporated various measures to minimize and avoid potential impacts to the existing CLT colony. These measures include standards for the height of landscaping, landforms, and permanent barriers (see Section 3.1 [Biological Resources] for more information) for the proposed VA Development Area. Among these measures are the following:

- Within 2,132 feet of the CLT colony, landscaping shall not exceed 4 feet in height. In areas more than 2,132 feet from and within the line of sight of the colony, landscaping shall not be greater than 6 feet. In areas more than 2,132 feet from the CLT colony, tree species shall not be greater than 20 feet and be light limbed with a density not to exceed 5 trees per 10,000 square feet of VA developed/improved area (USFWS, 2012).
- Within 2,132 feet of the CLT colony, landforms (landscape berms) shall not exceed 6 feet in height. Beyond 2,132 feet from the colony, the landforms may be a maximum of 12 feet in height. On portions of berms within line of sight of the CLT colony, vegetation shall not exceed 6 inches in height. On portions of berms out of the line of sight of the colony, vegetation shall not exceed 30 inches in height (USFWS, 2012).
- The barrier along the southern perimeter of the VA Development Area shall be a minimum of 8 feet and a maximum of 10 feet in height. The barrier south of the cemetery entrance road shall be a minimum of 6 feet

and a maximum of 10 feet in height. These barriers may be phased with the VA development and may be architecturally treated (USFWS, 2012).

Implementing these landscaping, landform, and perimeter barrier measures would not add any substantial vertical elements, but they would serve to reduce the amount of new development visible from surrounding areas. In addition, the landscaping, landform, and perimeter barriers would blend the development into the surrounding open field characterized by the former NAS Alameda airfield which is interspersed with grassy areas.

The VHA OPC, Conservation Management Office, and committal shelter structures proposed under Alternative 1 would be located in the central and/or inner portions of the VA Development Area that are less visible from outside the boundary than locations along the perimeter. A conceptual aerial view of the clinic and columbarium structures in the center and the surrounding open space is depicted in Figure 3.5-10. For the most part, the buildings proposed for central and inner portions of the VA Development Area would not be visually dominant relative to the flat foreground portions of the site, given the distance to the proposed VA facilities from publically accessible viewing locations at the end of Main Street and Middle Harbor Shoreline Park. In addition, views of these new buildings from outside the VA Development Area would be set back sufficiently from the boundaries to render them visually subordinate to other visible features. Therefore, buildings proposed for the central and inner portions of the VA Development Area would have a small effect on views and would minimally affect the visual character of the VA Transfer Parcel.

The new roadway and eastern half of the cemetery proposed for the eastern VA Development Area under Alternative 1 would be visible in some views from the end of Main Street. From areas where views are less obstructed, people could observe the proposed VA facilities located at the eastern edge of the VA Development Area. The VA facilities may be noticeable from some publically accessible locations but would be consistent with the existing buildings in the area.

The rendering shown in Figure 3.5-5 provides an aerial perspective conceptually illustrating the proposed facility massing at buildout of the development of Alternative 1 combined with the existing layout of the VA Development Area. The view is toward San Francisco Bay to the northwest. As shown, the VA facilities would not substantially alter Bay views. Rather, the location of the VHA OPC building would take advantage of the panoramic views of the Bay to the west. In addition, the visual character of the VA Development Area would be improved compared to the former NAS Alameda airfield, which contains abandoned runways and taxiways that are no longer in use. In addition, the cemetery portion of the development is lower in height and allows for views through the site in any direction. Finally, accessible views toward the VA Development site from several locations is distant and due to shifting weather conditions prevalent in the Bay Area, including heavy fog and air quality, it is hard to distinguish new development within the proposed project setting. Therefore, the operational impacts related to visual character under Alternative 1 would not be significant.

### **Light and Glare**

Most proposed operations under Alternative 1 would take place during daytime hours. Nighttime lighting would consist primarily of shielded and downward-directed low-level security lights used around the VHA OPC and CMO buildings and parking facilities. Because the proposed VA facilities would generally be set back from the eastern and southern boundaries of the VA Transfer Parcel, low-level night lighting would not be substantially



Source: Image provided by SmithGroup in 2008

**Figure 3.5-5: Aerial Perspective (Looking Northwest) toward the Proposed VA Alameda Facilities at Buildout of Alternative 1 in 2117**

noticeable to distant residents to the east or to the CLT colony to the south. The operational impact of Alternative 1 related to nighttime lighting would not be significant.

No substantial increase in glare would result from operation of the VHA OPC, NCA Cemetery, and Conservation Management Office under Alternative 1. The windows of the VHA OPC and Conservation Management Office buildings in the VA Development Area may reflect the sun's rays at times, but these occurrences would be intermittent. Therefore, the operational impact of Alternative 1 related to daytime glare would not be significant.

## **Alternative 2 (Preferred Alternative)**

### ***Construction***

The construction of VA facilities under Alternative 2 would be similar to that under Alternative 1, except that a portion of the development area would be moved farther north. Therefore, impacts of construction under Alternative 2 on visual character and on light and glare would be the same as those described for Alternative 1. Construction-related impacts of Alternative 2 would not be significant.

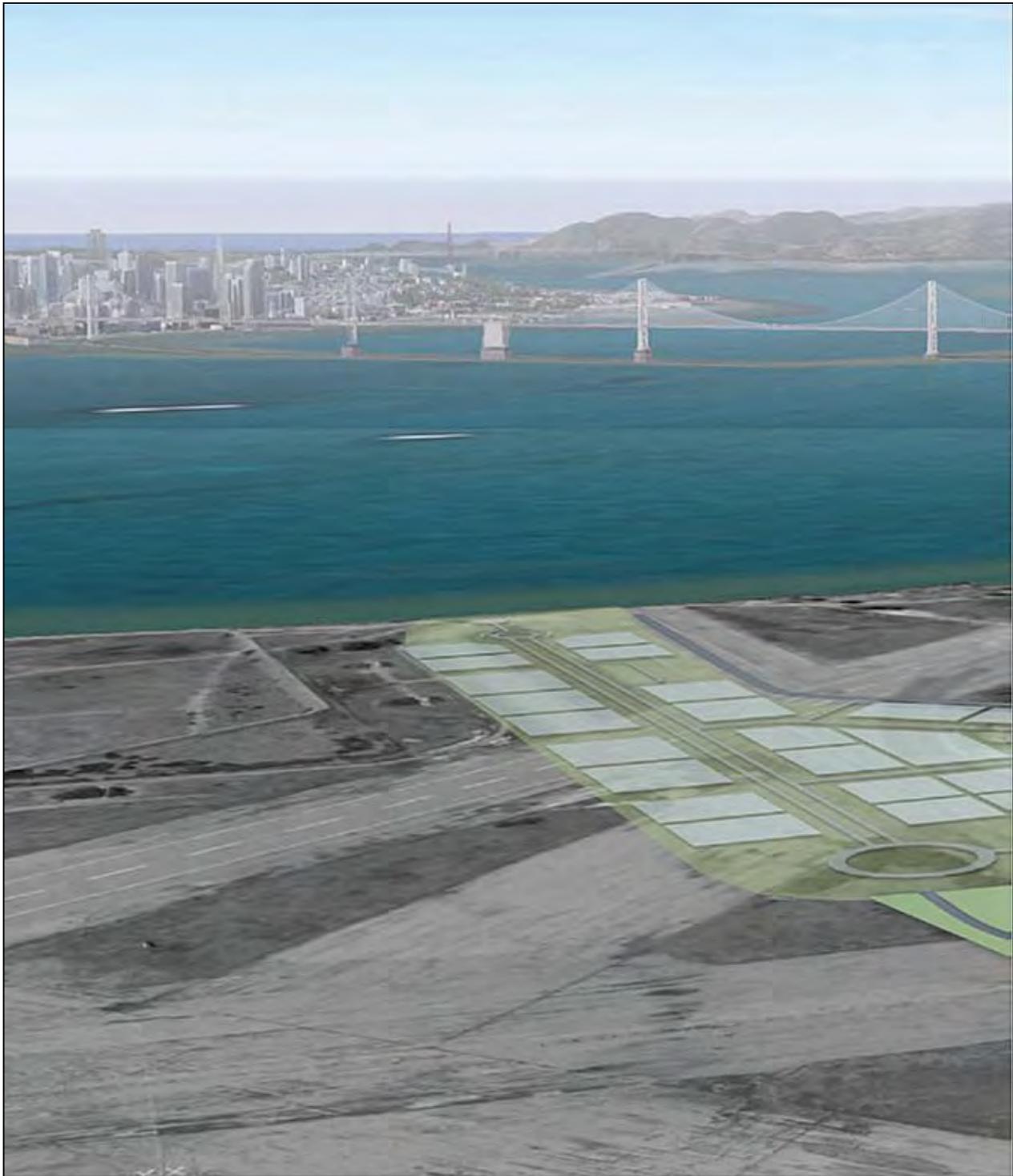
### ***Operation***

The operation of VA facilities under Alternative 2 would be similar to that under Alternative 1, except that a portion of the development area would be moved farther north. Impacts of facility operation under Alternative 2 on visual character and on light and glare would be the same as those described for Alternative 1. Operation-related impacts of Alternative 2 would not be significant.

The renderings shown in Figures 3.5-6 and 3.5-7 provide aerial perspectives conceptually illustrating the proposed facility massing at buildout development of Alternative 2 combined with the existing layout of the VA Development Area. The views are toward San Francisco, the San Francisco Bay Bridge, and San Francisco Bay to the west and northwest. As shown, the proposed VA facilities would not substantially alter views of the Bay. Rather, the shape and location of the VHA OPC building would take advantage of the panoramic views of San Francisco, the San Francisco Bay Bridge, and the Bay to the west. In addition, the cemetery portion of the development is lower in height and allows for views through the site in any direction.

Figures 3.5-8A through 3.5-8I provide visual simulations of Alternative 2 from publically accessible locations currently near the site: Middle Harbor Shoreline Park, former NAS Alameda hangars immediately east of the VA Transfer Parcel, and the San Francisco–Alameda Ferry. As depicted in the simulated views from Middle Harbor Shoreline Park and from between former NAS Alameda hangars, the new development on the site is not noticeable at this distance and blends in with the industrial backdrop of the setting.

As depicted in the simulated views from the top platform of the San Francisco–Alameda Ferry, the new development on the site would be noticeable at these distances but would not be prominent within the views, because the proposed VA facilities would be set back from the shoreline by approximately 700 feet. In addition, the new development would be considered more attractive than the existing industrial setting of the abandoned airfield.



Source: Image provided by HDR in 2012

**Figure 3.5-6: Aerial Perspective (Looking West) toward the Proposed VA Alameda Facilities at Buildout of Alternative 2 in 2117**



Source: Image provided by HDR in 2012

**Figure 3.5-7: Aerial Perspective (Looking Northwest) toward the Proposed VA Alameda Facilities at Buildout of Alternative 2 in 2017**



Source: Image provided by HDR in 2012

A: Proposed view to the Southeast toward VA Development Area from Middle Harbor Shoreline Park in Oakland



Source: Image provided by HDR in 2012

B: Proposed View to the Northwest toward VA Development Area from between Former NAS Alameda Hangars

**Figure 3.5-8: Visual Simulations Looking Toward the Proposed VA Alameda Facilities (from Publically Accessible Views) at Buildout of Alternative 2 in 2117**



Source: Image provided by HDR in 2013

C: Proposed View to the Southeast toward the VA Development Area from top tower platform at Middle Harbor Shoreline Park



Source: Image provided by HDR in 2013

D: Proposed View to the East toward the VA Development Area from top platform of San Francisco–Alameda Ferry

**Figure 3.5-8 (cont): Visual Simulations Looking Toward the Proposed VA Alameda Facilities (from Publically Accessible Views) at Buildout of Alternative 2 in 2117**



Source: Image provided by HDR in 2013

E: Proposed View to the Southeast toward the VA Development Area from top platform of San Francisco–Alameda Ferry



Source: Image provided by HDR in 2013

F: Proposed View to the Southeast toward the VA Development Area from top platform of San Francisco–Alameda Ferry

**Figure 3.5-8 (cont): Visual Simulations Looking Toward the Proposed VA Alameda Facilities (from Publically Accessible Views) at Buildout of Alternative 2 in 2117**



Source: Image provided by HDR in 2013

G: Proposed View to the South toward the VA Development Area from top tower platform at Middle Harbor Shoreline Park



Source: Image provided by HDR in 2013

H: Proposed View to the Southwest toward the VA Development Area from top platform of San Francisco–Alameda Ferry

**Figure 3.5-8 (cont): Visual Simulations Looking Toward the Proposed VA Alameda Facilities (from Publically Accessible Views) at Buildout of Alternative 2 in 2117**



Source: Image provided by HDR in 2013

I: Proposed View to the West toward the VA Development Area from top platform of San Francisco–Alameda Ferry

**Figure 3.5-8 (cont): Visual Simulations Looking Toward the Proposed VA Alameda Facilities (from Publically Accessible Views) at Buildout of Alternative 2 in 2117**

The visual character of the VA Development Area would not be impaired but rather improved compared to the former NAS Alameda airfield. Finally, the changing weather patterns in the Bay Area include conditions affected by fog and air quality which would further make views toward the VA Development site difficult to distinguish new structures on the landscape. Additional perspectives of the proposed Alternative 2 structures and configuration are depicted in Figure 3.5-9. Note that Figure 3.5-9 does not reflect the proposed landscaping details. See Figure 3.5-11 for the proposed landscaping for the VA Development Area.

**No Action Alternative**

***Construction***

Because the VA facilities would not be constructed under the No Action Alternative, no construction-related changes in visual character, light, or glare would result. No significant construction-related impact would occur.

***Operation***

Under the No Action Alternative, there would be no operational changes in views, visual character, light, or glare. No significant operational impact would occur.



Source: Data Image provided by HDR in 2012

**Figure 3.5-9: Conceptual Perspectives of the Front and Back of the Proposed VA Alameda Facilities**



Source: Data Image provided by HDR in 2012

**Figure 3.5-10: Conceptual Perspectives Depicting the Columbarium Structures at Street and Aerial Viewpoints**



Source: Data Image provided by HDR in 2013

**Figure 3.5-11: Conceptual Perspectives Depicting the Proposed Landscaping for the VA Development Area**

### **3.5.4       References**

U.S. Fish and Wildlife Service (USFWS). 2012 (August 29). *Final Biological Opinion on the Proposed Naval Air Station Alameda Disposal and Reuse Project in the City of Alameda, Alameda County, California*. USFWS ID #81420-2009-F-0952-4.

## **3.6 LAND USE**

This section describes the existing physical and regulatory setting related to land use, existing and planned land uses, and discusses the potential effects of the EA Alternatives related to land use and planning.

### **3.6.1 Regulatory Framework**

The VA Transfer Parcel is located on Federal land owned by the Navy and that would be transferred to VA ownership; thus, the Proposed Action is exempt from local planning regulations of the adjacent jurisdictions, which include the City of Alameda, Alameda County, and the City and County of San Francisco. Although the Proposed Action is not subject to the regulations of regional and local jurisdictions, relevant jurisdictional bodies and plans are discussed below, to provide a land use planning context.

#### **NAS Alameda Community Reuse Plan**

The City of Alameda and the Alameda Reuse and Redevelopment Authority (ARRA) adopted the *NAS Alameda Community Reuse Plan* (Reuse Plan) in 1996, which was prepared to guide future development of the property following disposal from Federal ownership (ARRA, 1996). The Reuse Plan is a long-term plan that envisions redeveloping former NAS Alameda into a mixed-use, transit-oriented land use community. The redevelopment would be phased and generally consist of residential, commercial mixed use, town center retail, neighborhood center mixed-use, employment center, and community/civic uses (ARRA, 2006). The Reuse Plan does not apply to the VA Transfer Parcel (as Federally owned property, the VA Transfer Parcel would be outside the jurisdiction of local and State planning and zoning laws and regulations) and only applies to the larger Alameda Point planning area.

#### **City of Alameda Zoning Ordinance**

The City of Alameda Zoning Ordinance provides development regulations for all properties within the City. The VA Transfer Parcel is currently zoned M-2-G, a general industrial (manufacturing) district with a special government combining overlay (G). Permitted uses consist of a wide range of commercial and industrial uses, including heavy manufacturing. Conditionally permitted uses include airports and related facilities, shipping terminals, unenclosed uses, and commercial marinas. The G combining district is intended to be combined with other zoning districts and to be applied to lands under government ownership. As Federally owned property, the VA Transfer Parcel is outside the jurisdiction of local and State planning and zoning laws and regulations and the City of Alameda Zoning Ordinance does not apply.

#### **Coastal Zone Management Act (CZMA)**

The CZMA requires that Federal actions be consistent to the maximum extent practicable with Federally approved state coastal plans. Coastal states prepare coastal management programs under the CZMA. Once the Federal government approves a state's coastal management program, a state gains Federal consistency review authority. California's Federally approved coastal management program contains two designated coastal zone management agencies that implement the Federal consistency provisions: the California Coastal Commission for all coastal areas outside San Francisco Bay and the San Francisco Bay Conservation and Development

Commission (BCDC) for the coastal areas in San Francisco Bay. Refer to Section 3.2 (Water Resources) for further discussion of the CZMA and BCDC.

### **3.6.2 Affected Environment**

#### **Existing Land Uses on the VA Transfer Parcel**

The VA Transfer Parcel is located in the western portion of former NAS Alameda (see Figure 1-1). The parcel is located within the boundaries of the City of Alameda, with the exception of the southwest corner, which is within the jurisdictional boundaries of the City and County of San Francisco.

The VA Transfer Parcel is comprised of the airfield area of former NAS Alameda. The entire parcel, which is comprised of human-made lands, has been developed or disturbed and is mostly comprised of former airfield infrastructure (e.g., inactive paved runways and taxiways), paved aircraft parking areas, vacant structures and buildings, seven former military bunkers, and other airfield support infrastructure. Areas of vegetated open space are located throughout the parcel, with the largest vegetated areas located in the southern and western portions of the parcel. In addition, a California Least Tern colony is located within a 9.7-acre fenced area of the former airfield (see Figure 1-2). With the exception of the ongoing California Least Tern management efforts, the VA Transfer Parcel is vacant and unused.

#### **Surrounding Land Uses**

The VA Transfer Parcel is bordered by the San Francisco Bay to the west and south, and the remainder of the former NAS Alameda property (Alameda Point) to the north and east. The Alameda Point area to the north of the VA Transfer Parcel is comprised of vegetated open space, former airfield infrastructure, and vacant buildings and structures. Further north is the Oakland Inner Harbor and the Port of Oakland, an industrial shipping container terminal. The Alameda Point area to the east of the VA Transfer Parcel is comprised of the former air stations aircraft hangars, office and industrial buildings, and recreational space. This area is currently being utilized by tenants for non-military light-industrial/manufacturing, public administration, office, commercial, and recreational uses. Further east is the City of Alameda, including residential land uses.

The Alameda Point area is the focus of redevelopment by the City of Alameda. The City of Alameda adopted the *NAS Alameda Community Reuse Plan* (Reuse Plan) in 1996, which was prepared to guide future development of Alameda Point following disposal from Federal ownership. The Reuse Plan is a long-term plan that envisions redeveloping the former NAS Alameda into a mixed-use, transit-oriented land use community. The redevelopment would be phased and would consist of residential, commercial mixed use, town center retail, neighborhood center mixed-use, employment center, and community/civic uses (ARRA, 2006). The Reuse Plan does not apply to the VA Transfer Parcel (as Federally owned property, the VA Transfer Parcel would be outside the jurisdiction of local and State planning and zoning laws and regulations) and only applies to the larger Alameda Point area.

### **3.6.3 Environmental Consequences**

#### **Assessment Methods**

The land use analysis compares land use conditions at full build-out of each alternative against the existing land use environment or baseline condition. Impacts related to coastal zone management are discussed in Section 3.2, (Water Resources). Impacts related to recreational uses are discussed in Section 3.13 (Public Services).

#### **Alternative 1**

##### ***Construction***

Construction of Alternative 1 would not contribute to the physical division of an established community by constructing physical barriers or obstacles to circulation. In addition, construction activities associated with this alternative would occur within the boundaries of the VA Transfer Parcel and would not result in direct conflicts with existing and planned land uses in the surrounding community. Therefore, no significant adverse construction impacts on land use would occur.

##### ***Operation***

In the past, NAS Alameda operated as a secured military site and provided no public access, with little physical connectivity to the surrounding community. Alternative 1 would redevelop a portion of this underutilized and vacant property and provide limited public access within the VA Development Area. However, access would be limited within the larger VA Transfer Parcel, specifically the CLT colony and open space areas located within the southern portion of the parcel. This area would be limited for the protection and conservation of the CLT (see Section 3.1 [Biological Resources] for more information).

Proposed land uses in the surrounding community (i.e., Alameda Point Reuse Plan), when combined with the Proposed Action, would provide a more continuous land use pattern than existing conditions and provide new services. Alternative 1 would provide improved connectivity between the VA Development Area and land uses in the surrounding community by improving and providing new pedestrian, bicycle, and street connections. Therefore, Alternative 1 would not physically divide an established community; rather it would integrate the VA Development Area into the surrounding community. This would be considered a beneficial impact.

Under Alternative 1, the built environment of the VA Development Area would change and include new land uses and activities, including medical, memorial, and cemetery uses, than under existing conditions. Reuse of the VA Transfer Parcel as proposed under Alternative 1 would alter the existing land use character by converting the currently underutilized land uses within the project site to productive uses; provide infrastructure improvements and community services; and provide limited access open space. As such, Alternative 1 would improve the existing land use condition and would result in a beneficial impact.

Following transfer from the Navy to VA, the property would remain under Federal ownership and would continue to not be under the jurisdiction of local and State land use and zoning and local planning regulations and reviews would not be applicable. However, the Proposed Action would be compatible with existing and proposed land uses surrounding the VA Transfer Parcel, including the Alameda Point Civic Core planning area (e.g., mixed-use

office, institutional, industrial, attached residential, and recreational land uses) to the east and the Alameda Point Northwest Territories planning area (e.g., park and recreational land uses) to the north.

Implementation of Alternative 1 would not physically divide an established community; conflict with substantive requirements of local land use plans or policies (as Federally owned property, the VA Transfer Parcel would be outside the jurisdiction of local and State planning and zoning laws and regulations); and the Proposed Action is compatible with and would not have a substantial adverse impact on the existing character and planned uses of the surrounding community. Therefore, Alternative 1 would not have a significant adverse impact on land use.

## **Alternative 2 (Preferred Alternative)**

### ***Construction***

Effects on land use resulting from implementation of Alternative 2 would be identical to those identified under Alternative 1. Therefore, no significant adverse construction impacts on land use would occur.

### ***Operation***

Alternative 2 would involve the same project components as Alternative 1; however, under Alternative 2, the VA Development Area would be located farther north and would extend into the Northwest Territories subarea of the NAS Alameda property. The operation of VA facilities proposed under Alternative 2 would be similar to operation under Alternative 1, because this alternative would include the same types of uses, only in a different site configuration and a larger area. Thus, operational land use impacts of Alternative 2 would essentially be the same as those of Alternative 1.

Implementation of Alternative 2 would not physically divide an established community; conflict with substantive requirements of local land use plans or policies; and the Proposed Action is compatible with and would not have a substantial adverse impact on the existing character and planned uses of the surrounding community. Therefore, Alternative 2 would not have a significant adverse impact on land use.

## **No Action Alternative**

### ***Construction***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development (e.g., VHA OPC, VBA Outreach Office, NCA Cemetery) would not be built. Therefore, no significant construction impacts on land use would occur.

### ***Operation***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development and operations (e.g., VHA OPC, VBA Outreach Office, NCA Cemetery, etc.) would not occur. Therefore, no significant operational impacts on land use would occur.

### 3.6.4 References

- Alameda Reuse and Redevelopment Authority (ARRA). 1996 (January). *NAS Alameda Community Reuse Plan*. Alameda, CA. Prepared by EDAW, Inc., San Francisco, CA.
- . 2006 (February). *Alameda Point Preliminary Design Concept*. Alameda, CA. Prepared by Roma Design Group.

This page intentionally left blank.

## **3.7 AIR QUALITY**

This section describes the existing conditions and regulatory framework and also evaluates the potential air quality effects of each of the EA Alternatives.

### **3.7.1 Regulatory Framework**

Air quality in the San Francisco Bay Area Air Basin (SFBAAB) is regulated at the Federal level by USEPA, at the state level by the California Air Resources Board (ARB), and at the local level by the Bay Area Air Quality Management District (BAAQMD). Each of these agencies develops rules, regulations, and policies for regulating air quality in accordance with applicable legislation. Although USEPA regulations may not be superseded, both state and local regulations may be more stringent. Applicable regulations associated with emissions of criteria air pollutants, toxic air contaminants (TACs), and odors are described in the following sections.

#### **Clean Air Act (CAA)**

The USEPA is the agency responsible for enforcing the CAA of 1970 and its 1977 and 1990 amendments. The purpose of the CAA is to establish national ambient air quality standards (NAAQS), which classify areas as to their attainment status relative to NAAQS; develop schedules and strategies to meet the NAAQS; and to regulate emissions of criteria pollutants and air toxics to protect public health and welfare. Under the CAA, individual states are allowed to adopt ambient air quality standards and other regulations, provided they are at least as stringent as Federal standards. The Clean Air Act Amendments (CAAA) established new deadlines for achievement of NAAQS, dependent upon the severity of nonattainment.

The USEPA requires each state to prepare a State Implementation Plan (SIP), which describes how that state will achieve compliance with NAAQS. A SIP is a compilation of goals, strategies, schedules, and enforcement actions that will lead the state into compliance with all Federal air quality standards. Each change to a compliance schedule or plan must be incorporated into the SIP. In California, the SIP consists of separate elements for each air basin, depending upon the attainment status of the particular air basin.

The CAAA also require that states develop an operating permit program that would require permits for all major sources of pollutants. The program would be designed to reduce criteria pollutant emissions and control emissions of hazardous air pollutants by establishing control technology guidelines for various classes of emission sources. Under the CAA, state and/or local agencies may be delegated authority to administer the requirements of the CAA.

#### **General Conformity Rule**

Pursuant to the implementing regulations of the CAA, as amended, (40 CFR Part 93 and the provisions of Part 51, Subchapter C, Chapter I, Title 40, Appendix W of the CFR), Federal agencies are required to demonstrate that Federal actions conform with the applicable SIP. In order to ensure that Federal activities do not hamper local efforts to control air pollution, Section 176(c) of the CAA, 42 USC 7506(c) prohibits Federal agencies, departments, or instrumentalities from engaging in, supporting, providing financial assistance for, licensing, permitting or approving any action which does not conform to an approved SIP or Federal implementation plan.

The purpose of the General Conformity Rule is to ensure that Federal activities do not cause or contribute to new violation of NAAQS; ensure that actions do not cause additional or worsen existing violations of criteria air pollutants or contribute to new violations the NAAQS; and ensure that attainment of the NAAQSs is not delayed.

In order to demonstrate conformity with the General Conformity Rule, a project must clearly demonstrate that it does not cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard, any required interim emission reductions, or other milestones in any area. A conformity applicability analysis is required for each of the nonattainment pollutants or its precursor emissions. A Federal action is except from the General Conformity Rule requirements if the action's total net emissions are below the applicable *de minimis* threshold or are otherwise exempt per 40 CFR 51.153. In the past, USEPA has also required that an action's annual emissions are evaluated against 10% of the region's nonattainment or maintenance pollutants to determine if the action's emissions are regionally significant. On March 24, 2010, USEPA removed this requirement from their General Conformity Rule (EPA, 2010). Nevertheless, for a conservative analysis, this EA also evaluates the project's emissions for regional significance.

The General Conformity Rule as it relates to the Proposed Action is discussed below under each of the EA Alternatives (see Section 3.7.3 "Environmental Consequences").

### **3.7.2 Affected Environment**

The VA Transfer Parcel is located in Alameda County, which is within the SFBAAB. The SFBAAB encompasses all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties; the southern portion of Sonoma County; and the southwestern portion of Solano County. About 19% of California's population resides in the Bay Area, and pollution sources in the region account for about 15% of the total State-wide emissions of criteria pollutants (ARB, 2009a). Existing air quality conditions in an area are influenced by natural factors such as topography, meteorology, and climate in addition to the sources of emissions, as discussed below.

#### **Climate and Topography**

The SFBAAB is characterized by complex terrain consisting of coastal mountain ranges, inland valleys, and bays that affect wind flow patterns. The climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell, and results in cool, damp summers and mild, rainy winters. The Coast Ranges, which trend northwest along the west side of the SFBAAB, have two major open areas (located at the Golden Gate Bridge and at the Carquinez Strait) that allow air to flow in and out of the SFBAAB and the Central Valley. The greatest distortions to normal wind flow occur when low-level inversions are present and the air beneath the inversion flows independently of air above the inversion, a condition that is common in the summer. During these summertime inversions, pollutant concentrations can build to unhealthy levels within the inversion layer because of the lack of dispersion. During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate (BAAQMD, 2010a).

## Properties, Effects, and Sources of Criteria Pollutants

The USEPA currently focuses on the following criteria air pollutants as indicators of ambient air quality: ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), and lead (Pb). Because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, these pollutants are commonly referred to as *criteria air pollutants*. The Federal CAA requires USEPA to set outdoor air quality standards for the nation. USEPA has established primary and secondary NAAQS for the criteria pollutants; for PM, standards have been established for respirable particulate matter (PM<sub>10</sub>) and for fine particulate matter (PM<sub>2.5</sub>). The primary standards protect the public health and the secondary standards protect public welfare.

The EPA also permits states to adopt additional or more protective air quality standards if needed. The ARB has established California ambient air quality standards (CAAQS) for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particulate matter, in addition to the above-mentioned criteria air pollutants. In most cases, the CAAQS are more stringent than the NAAQS. In addition, the same criteria air pollutants are subject to a General Conformity review if the region where the Proposed Action is taking place has been designated a nonattainment or maintenance area (see Section “Local Air Basin Attainment Status” below). The CAAQS and NAAQS are listed in Table 3.7-1 and described below.

### *Ozone*

O<sub>3</sub> is a gas that is not directly emitted into the atmosphere but formed when reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>), both as byproducts of combustion, undergo photochemical reactions in the presence of sunlight. ROG can also originate from the evaporation of chemical solvents or fuels. Ozone concentrations are generally highest during the summer months when maximum solar isolation and warm temperatures are conducive to ozone formation. Because of the reaction time involved in forming ozone, peak concentrations are often found many miles downwind of their precursor emissions. As a result, O<sub>3</sub> is known as a regional pollutant, which has concentrations that are homogeneously spread throughout an airshed.

### **Carbon Monoxide**

CO is a colorless, odorless gas produced by the incomplete combustion of fuels, primarily from transportation sources. Wood-burning stoves, incinerators, and other industrial processes represent other sources of CO. Concentrations of CO tend to be the highest during winter mornings, when light winds and surface-based inversions trap the pollutant at ground levels. Since the primary source of CO occurs from motor vehicles operating at slow speeds, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections. In contrast to O<sub>3</sub>, which has regional impacts, the impacts of CO are localized in nature.

### *Nitrogen Dioxide*

NO<sub>2</sub> is a brownish, highly reactive gas that is present in all urban environments. The major human-made NO<sub>2</sub> sources are combustion devices, such as boilers or turbines, and internal combustion engines, such as automobile or generator engines. Combustion devices emit primarily nitrogen oxide (NO), which reacts through oxidation in the atmosphere to form NO<sub>2</sub>. Nitrogen oxide and NO<sub>2</sub> are collectively referred to as NO<sub>x</sub>. As NO<sub>2</sub> is formed and

**Table 3.7-1: Summary of Ambient Air Quality Standards and Attainment Designations (SFBAAB and Alameda County)**

Pollutant	Averaging Time	California Standards (CAAQS)		National Standards (NAAQS) <sup>a</sup>		
		Standards <sup>b,c</sup>	Attainment Status <sup>d</sup>	Primary <sup>e,e</sup>	Secondary <sup>e,f</sup>	Attainment Status <sup>g</sup>
Ozone (O <sub>3</sub> )	8-hour	0.070 ppm (137 µg/m <sup>3</sup> )	<b>Nonattainment</b>	0.075 ppm (147 µg/m <sup>3</sup> )	Same as Primary	<b>Nonattainment</b>
	1-hour	0.09 ppm (180 µg/m <sup>3</sup> )	<b>Nonattainment</b>	-	-	-
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m <sup>3</sup> )	Attainment	9 ppm (10 mg/m <sup>3</sup> )	None	Attainment
	1-hour	20 ppm (23 mg/m <sup>3</sup> )	Attainment	35 ppm (40 mg/m <sup>3</sup> )	None	Attainment
Nitrogen Dioxide (NO <sub>2</sub> )	1-hour	0.18 ppm (339 µg/m <sup>3</sup> )	Attainment	0.100 ppm (188 µg/m <sup>3</sup> )	None	Unclassified
	Annual	0.030 ppm (57 µg/m <sup>3</sup> )	-	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary	Attainment
Sulfur Dioxide (SO <sub>2</sub> )	24-hour	0.04 ppm (105 µg/m <sup>3</sup> )	Attainment	0.14 ppm (365 µg/m <sup>3</sup> )	-	Attainment
	1-hour	0.25 ppm (655 µg/m <sup>3</sup> )	Attainment	0.075 ppm (196 µg/m <sup>3</sup> )	-	Attainment
	Annual	-	-	0.03 ppm	-	Attainment
Particulate Matter (PM <sub>10</sub> )	Annual	20 µg/m <sup>3</sup>	<b>Nonattainment</b>	-	Same as Primary	Unclassified
	24-hour	50 µg/m <sup>3</sup>	<b>Nonattainment</b>	150 µg/m <sup>3</sup>	Same as Primary	Unclassified
Fine Particulate Matter (PM <sub>2.5</sub> )	Annual	12 µg/m <sup>3</sup>	<b>Nonattainment</b>	15 µg/m <sup>3</sup>	Same as Primary	Attainment
	24-hour	-	-	35 µg/m <sup>3</sup>	Same as Primary	<b>Nonattainment</b>
Lead (Pb)	30-day Average	1.5 µg/m <sup>3</sup>	-	-	-	Attainment
	Quarterly	-	-	1.5 µg/m <sup>3</sup>	-	Attainment
	Rolling 3-month Average	-	-	0.15 µg/m <sup>3</sup>	-	-

Notes: ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter; mg/m<sup>3</sup> = milligrams per cubic meter

- <sup>a</sup> National standards (other than ozone, particulate matter, and those standards based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM<sub>10</sub> 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than 1 day. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 % of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The NO<sub>2</sub> standard is attained when the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area does not exceed 0.100 ppm (effective January 22, 2010).
- <sup>b</sup> California standards for ozone, CO (except Lake Tahoe), NO<sub>2</sub>, and particulate matter are not to be exceeded. All others are not to be equaled or exceeded.
- <sup>c</sup> Concentrations are expressed first in units in which they were issued (i.e., ppm or µg/m<sup>3</sup>). Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius (°C) and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- <sup>d</sup> Unclassified (U): The data are incomplete and do not support a designation of attainment or nonattainment.  
Attainment (A): The State standard for that pollutant was not violated at any site in the area during a 3-year period.  
Nonattainment (N): There was at least one violation of the State standard for that pollutant in the area.
- <sup>e</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- <sup>f</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- <sup>g</sup> Nonattainment (N): Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.  
Attainment (A): Any area that meets the national primary or secondary ambient air quality standard for the pollutant.  
Unclassifiable (U): Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

Sources: ARB, 2009b, 2012a; EPA, 2011; BAAQMD, 2010b

depleted by photochemical reactions in the atmosphere, NO<sub>2</sub> concentrations in a particular geographical area may not be representative of the local NO<sub>x</sub> emissions sources.

### ***Sulfur Dioxide***

SO<sub>2</sub> is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning sulfur contained in fuel oils and coal and from chemical processes occurring at chemical plants and refineries. Sulfur dioxide is subsequently converted to sulfates (SO<sub>4</sub>) in the atmosphere and, like O<sub>3</sub>, has peak annual concentrations in the summer months.

### ***Respirable Particulate Matter and Fine Particulate Matter***

PM<sub>10</sub> and PM<sub>2.5</sub> consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen, forest fires, and windblown dust, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, combustion products, abrasion of tires and brakes, and construction activities. Particulate matter can also be formed in the atmosphere by chemical conversion of NO<sub>x</sub>, SO<sub>2</sub>, and ROG.

### ***Lead***

Pb occurs in the atmosphere as particulate matter. Historically, the combustion of leaded gasoline was the primary source of airborne lead in the Bay Area, though the use of leaded gasoline is no longer permitted for on-road motor vehicles. Other sources of lead include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters.

### **Local Air Basin Attainment Status**

As identified in Table 3.7-1, Alameda County and the SFBAAB are designated nonattainment for:

- O<sub>3</sub> (8-hour) CAAQS and NAAQS standards;
- O<sub>3</sub> (1-hour) CAAQS standard;
- PM<sub>10</sub> (annual and 24-hour) CAAQS standards;
- PM<sub>2.5</sub> (annual) CAAQS standards; and
- PM<sub>2.5</sub> (24-hour) NAAQS standards.

The SFBAAB and Alameda County is in attainment for all other CAAQS and NAAQS standards, including CO, NO<sub>2</sub>, SO<sub>2</sub>, the NAAQS 1-hour PM<sub>2.5</sub> standard; and it is unclassified for the PM<sub>10</sub> NAAQS standards and the 1-hour NAAQS NO<sub>2</sub> standard. In addition, the SFBAAB is a maintenance area for the Federal CO standards (EPA, 2012).

### **Existing Emissions and Sources of Criteria Pollutants**

Criteria air pollutants are monitored at several monitoring stations throughout the SFBAAB. The monitoring station closest to the VA Transfer Parcel is located in West Oakland. This monitoring station measures ozone,

NO<sub>2</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub>, and toxics (including hexavalent chromium). In general, the ambient air quality measurements from this station are representative of the air quality in the vicinity of Alameda Point. A summary of the air quality data from the most recent 3 years for which data are available (2008–2010) is included in Appendix F (Air Quality and Greenhouse Gas Supporting Information). During this period, there were no measured violations of the State 1-hour or 8-hour ozone standards. The State CO and NO<sub>2</sub> standards were also not exceeded in any of the last 3 years. The State 24-hour PM<sub>10</sub> standard was not exceeded on any days during the 3-year period; however, the PM<sub>2.5</sub> national standard was exceeded multiple times in 2009.

Sources of criteria pollutants in Alameda County include area, stationary, and mobile sources. Mobile sources are the greatest contributors of CO, NO<sub>x</sub>, and PM<sub>2.5</sub> in Alameda County, contributing about half of the ROG emissions. Stationary and area wide sources are also substantial contributors of ROG emissions (from solvent cleaning, consumer products, and architectural coatings), while area wide and mobile sources are the greatest contributors of PM<sub>10</sub> (from construction and demolition, paved road dust, and cooking) (ARB, 2009c).

### ***VA Transfer Parcel***

Existing sources of criteria pollutant emissions on the VA Transfer Parcel are limited to vehicles and construction equipment associated with maintenance, security, and short-term activities, such as activities associated with the management of the CLT colony. No permitted stationary sources of criteria pollutants are associated with the VA Transfer Parcel.

### ***Surrounding Area***

Existing sources of emissions adjacent to or near the VA Transfer Parcel include industrial equipment, space heating equipment, and vehicles associated with interim reuse activities at Alameda Point; remediation activities undertaken by the Navy; ships and industrial activities at the Port of Oakland; and marine vessels in San Francisco Bay and the Oakland Estuary. The closest permitted stationary off-site source is Delphi Productions Inc., located approximately 1,500 feet from the southeastern-most portion of the VA Transfer Parcel.

There are no major roadways near the project site (i.e., those carrying more than 10,000 vehicles per day, per BAAQMD guidance). The maximum hourly traffic volume at affected intersections east of the VA Transfer Parcel and VA Development Area is approximately 3,121 vehicles per hour during p.m. peak hours at the intersection of 5th Street and Broadway. This vehicle volume is far less than the volume of vehicles that could result in a CO hotspot at a nearby intersection (approximately 44,000 vehicles per hour); therefore, there is little potential for CO hotspots at or near the VA Transfer Parcel and VA Development Area (BAAQMD, 2010a).

### **Hazardous Air Pollutants**

Air quality regulations also address localized HAPs, which are also called TACs. Like criteria pollutants, TACs may be emitted by stationary, area, or mobile sources; unlike criteria pollutants, TACs may also originate from indoor, non-combustion sources (e.g., building materials and consumer products like pesticides, cleaning solvents). Common stationary sources of TAC (and PM<sub>2.5</sub>) emissions include gasoline stations, dry cleaners, and diesel backup generators, which are subject to local air districts' permit requirements. The other, often more important, sources of TACs (and PM<sub>2.5</sub>) emissions are motor vehicles on freeways, high-volume roadways, or other areas with high numbers of diesel vehicles such as distribution centers. Off-road mobile sources include

construction equipment, ships, and trains. The EPA and ARB have ongoing programs to identify and regulate TACs. Among the many substances identified as TACs are asbestos, lead, and diesel exhaust particulates (which contain hundreds of TACs). TACs generally are regulated through statutes and rules that require the use of MACT or BACT to limit TAC emissions.

### ***VA Transfer Parcel***

No stationary sources of TACs exist near the VA Transfer Parcel, and very minor amounts of heavy truck trips or other mobile sources of diesel PM are associated with current operation of these areas.

### ***Surrounding Area***

Of the TACs for which data are available in California, diesel PM, benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene pose the greatest ambient risks (ARB, 2009a). Diesel PM poses the greatest health risk among these 10 TACs, making up 79% of the 2007 State-wide health risk (ARB, 2009a). Health risks associated with diesel PM are expected to drop by the year 2020 with implementation of EPA's Highway Diesel Rule and ARB's heavy-duty vehicle regulations and Diesel Risk Reduction Plan (ARB, 2009a).

Sources in the SFBAAB emit an estimated 4,151 tons of diesel PM each year, or approximately 12% of the diesel PM emissions in California (ARB, 2009a). Overall, levels of most TACs have decreased in the SFBAAB since 1990 (ARB, 2009a). Several stationary sources of TACs exist in Alameda County; one such source, Delphi Productions, is located approximately 1,500 feet east of the VA Transfer Parcel (BAAQMD, 2012). Also, the Port of Oakland, which generates TAC emissions associated with daily operational activities, is located approximately 5,300 feet north of the VA Transfer Parcel (BAAQMD, 2012).

### **Odors**

Odor is considered an air quality issue in the context of NEPA, both at the local level (e.g., odor from wastewater treatment) and at the regional level (e.g., smoke from wildfires). Odors are generally regarded as an annoyance rather than a health hazard. The ability to detect odors varies considerably among the population and is subjective.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. *Intensity* refers to the strength of the odor. Odor intensity depends on the odorant concentration in the air. Examples of common land use types that generate substantial odors include wastewater treatment plants, landfills, composting/green-waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating operations, rendering plants, and food packaging plants.

### ***VA Transfer Parcel***

There are no known odor sources within the VA Transfer Parcel.

### ***Surrounding Area***

A search of ARB databases was conducted by standard industrial classification code for permitted stationary sources that could also generate odors (ARB, 2011). There are no known major odor sources near the VA Transfer Parcel.

### **Existing Sensitive Receptors**

Some members of the population (e.g., children, elderly, persons with respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise) are especially sensitive to emissions of air pollutants and should be given special consideration when evaluating air quality impacts from projects. Structures that house these persons or places where they gather are defined as sensitive receptors, and include residences, schools, daycare centers, playgrounds, parks, and healthcare facilities (including hospitals and nursing homes).

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposures to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise may be short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Commercial and industrial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent because most workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public.

### ***VA Transfer Parcel***

No sensitive receptors (residences, healthcare facilities, clinics, parks, or schools) are located within the VA Transfer Parcel.

### ***Surrounding Area***

No sensitive receptors (residences, healthcare facilities, clinics, parks, or schools) are located in close proximity of the VA Transfer Parcel. The nearest sensitive receptors are residents approximately 3,700 feet east of the VA Transfer Parcel along Pan Am Way.

## **3.7.3 Environmental Consequences**

### **Assessment Methods**

#### ***Construction Emissions***

Alternative 1 and Alternative 2 propose the same development (i.e., VHA OPC, VBA Outreach Office, Conservation Management Office, NCA Cemetery, and associated infrastructure) and would require similar construction activities. Alternative 1 and Alternative 2 would require the same amount of fill material; therefore, construction activities modeled would represent anticipated construction emissions for both Alternative 1 and Alternative 2.

Construction emissions of criteria pollutants were modeled using URBEMIS2007 (URBEMIS), Version 9.2.4 computer program (Rimpo, 2011). Cemetery construction phasing information was provided by VA. Assumptions about construction equipment (type and number) to be used on site, when not available from project-specific sources, were determined based on URBEMIS defaults. VA provided assumptions about heavy-duty haul truck trips for building material delivery, soil import, and other miscellaneous construction materials, as well as vehicle trips by construction workers. Trips by on-road vehicles (i.e., heavy-duty haul trucks and construction worker vehicles) were modeled using EMFAC2011, ARB's motor-vehicle emissions inventory model (ARB, 2012). Emissions from EMFAC2011 were added to URBEMIS to calculate the total construction emissions associated with construction activities. Construction emissions were estimated on an annual basis and then converted to average annual emissions by dividing the total construction emissions by the number of construction years (i.e., 1.5 years or 18 months).

Construction under both Alternative 1 and 2 would take approximately 18 months to complete and would include development of the VHA OPC and associated parking on 20 acres; access road and utilities infrastructure on 11 acres; the Conservation Management Office; and the first phase of the cemetery development on an estimated 20 acres of the 80-acre cemetery area. Construction activities would include grading and excavation, trenching, installation of below-ground columns, building construction, asphalt paving, and application of architectural coatings. Construction activities for all proposed components (i.e., OPC, the Conservation Management Office, the cemetery facilities, and infrastructure) have been assumed to start simultaneously in 2015. All components would require initial site grading activities to various extents. Overall, it is anticipated that initial construction would require the import of approximately 444,000 cubic yards for both Alternative 1 and Alternative 2 of fill material to the VA Development Area. As described in Chapter 2 (Alternatives), the source of the fill materials has not yet been determined at the time of this analysis. However, VA has determined that the fill materials would come from a source no greater than 50 miles away. Although it is likely that fill materials would come from some sources less than 50 miles away, for a conservative analysis, all material haul truck emissions were modeled assuming 50 miles for a one-way trip. The heavy-duty haul truck emissions associated with import of this soil material were also quantified and included in the emissions estimates. Refer to the description above and Appendix F for additional details of how haul truck emissions, other on-road emission sources, and off-road construction emissions were modeled.

Construction of subsequent phases of the cemetery would involve development of an additional 6 acres of cemetery (beginning in approximately 2026) approximately every 10 years. Based on this phasing schedule, the final phase of the cemetery would be constructed around the year 2116. Each phase of cemetery development would require the import of approximately 62,400 cubic yards of fill material; construction would last approximately 12 months. Construction is anticipated to be less intensive under the individual phases of cemetery expansion. Development of the subsequent cemetery phases would occur during full operation of the VHA OPC, Conservation Management Office, and existing NCA cemetery.

Accordingly, to account for all emissions-generating scenarios under both Alternative 1 and 2, it was assumed that emissions from subsequent cemetery phase construction activities would be comparable to the average annual emissions from the initial site construction. However, subsequent cemetery phase annual emissions likely would be less than the average annual emissions from initial construction, for multiple reasons. The intensity of construction activities for subsequent cemetery phases would be less than that for initial construction, and

construction emission rates from vehicles and heavy-duty construction equipment would decrease with time because of fleet turnover and new emissions technology.

No indirect construction emissions of criteria pollutants would occur other than those associated with incidental electricity use during project construction; however, emissions associated with grid-based power would already be accounted for within the SFBAAB's air quality plans and California's SIP.

No construction activities would occur under the No Project Alternative; therefore, no modeling was performed for the No Project Alternative.

Data supporting the air quality analysis, including modeling assumptions and projections are included in Appendix F (Air Quality and Greenhouse Gas Supporting Information).

### ***Operational Emissions***

For Alternatives 1 and 2, direct operational area emissions of criteria pollutants were modeled using the URBEMIS2007 computer program (Rimpo, 2011). URBEMIS2007 estimates daily and annual operational emissions for area sources (e.g., natural gas combustion, periodic architectural coatings, landscape maintenance) and mobile sources (e.g., vehicle trips to and from the project site) based on the type and amount of land uses to be built. The traffic study prepared for this EA was used to obtain estimates of motor vehicle trips associated with the proposed land uses; see Section 3.3 (Transportation, Traffic, Circulation, and Parking) and Appendix D (Transportation Impact Study) (AECOM, 2012). Lastly, although it is anticipated that the Proposed Project would be fully built out by 2116, this analysis evaluates full buildout of the cemetery in year 2035.

It should be noted that emissions related to electricity that would use grid-based power delivery were not included, because these emissions would already be accounted for in the SFBAAB's air quality plans and California's SIP, discussed previously. As a result, no indirect effects are expected with operation of the proposed VA facilities that have not already been accounted for in regional and State air quality management plans. Data supporting the air quality analysis, including modeling assumptions and projections are included in Appendix F (Air Quality and Greenhouse Gas Supporting Information).

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development (e.g., VHA OPC, VBA Outreach Office, NCA Cemetery, etc.) would not be built. Therefore, no net change in operational emissions would occur, and no modeling was conducted for the No Action Alternative.

### **General Conformity Review**

As identified above, Alameda County and the SFBAAB is a designated nonattainment area for O<sub>3</sub> (8-hour) CAAQS and NAAQS standards; O<sub>3</sub> (8-hour) CAAQS standards; PM<sub>10</sub> (annual and 24-hour) CAAQS standards; PM<sub>2.5</sub> (annual) CAAQS standards; and PM<sub>2.5</sub> (24-hour) NAAQS standards. In addition, the SFBAAB is a maintenance area for the Federal CO standards (EPA, 2012). Therefore, since VA's Proposed Action (as identified in the following analysis) would result in the emission of one or more of these nonattainment or maintenance area criteria air pollutants, a review has been conducted for the each of the EA Alternatives to determine if the VA's Proposed Action is subject to the General Conformity Rule. The SFBAAB and Alameda County is in attainment for all other CAAQS and NAAQS standards, including CO, NO<sub>2</sub>, SO<sub>2</sub>, the NAAQS 1-

hour PM<sub>2.5</sub> standard; and it is unclassified for the PM<sub>10</sub> NAAQS standards and the 1-hour NAAQS NO<sub>2</sub> standard. Therefore no further review of these criteria air pollutants is required.

A Federal action is except from the General Conformity Rule requirements if the action’s total net emissions are below the *de minimis* threshold (see Table 3.7-2), are not regionally significant (i.e., emissions would exceed 10 % of an area’s total emissions), or are otherwise exempt per 40 CFR 51.153. If net emissions exceed the relevant *de minimis* value, or if a project is regionally significant, a formal conformity determination process must be

**Table 3.7-2: General Conformity Rule *de minimis* Thresholds (SFBAAB)**

Nonattainment and Pollutant	Pollutant to be Controlled	<i>de minimis</i> Threshold (tons/year) <sup>e</sup>
O <sub>3</sub>	NO <sub>x</sub>	100 <sup>b</sup>
	VOC/ROG	50 <sup>b</sup>
CO	CO	100 <sup>a</sup>
PM <sub>10</sub>	PM <sub>10</sub>	– <sup>c</sup>
PM <sub>2.5</sub>	PM <sub>2.5</sub>	100 <sup>d</sup>

Notes:

CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less; PM<sub>10</sub> = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; ROG = reactive organic gases; VOC = volatile organic compound

<sup>a</sup> Attainment/maintenance area for CO.

<sup>b</sup> Marginal nonattainment area for 8-hour ozone precursors: NO<sub>x</sub> and VOC.

<sup>c</sup> The SFBAAB is unclassifiable for PM<sub>10</sub>.

<sup>d</sup> Nonattainment area for PM<sub>2.5</sub> (EPA, 2006).

<sup>e</sup> Annual emissions based on 365 days per year, assuming average daily emissions.

Source: Title 40, Part 93 of the Code of Federal Regulations; BAAQMD, 2008

followed. Total net emissions include direct and indirect emissions from all stationary point and area sources, construction sources, and/or mobile sources caused by the Federal action that are not covered by another permitting program.

To determine if the VA’s Proposed Action’s total net emissions are below the *de minimis* threshold, total construction and operational emissions were projected for each EA Alternative (excluding the No Action Alternative) and compared against the *de minimis* threshold and area’s total emissions. A discussion of the applicability of the General Conformity Rule is included under each alternative section below. Data supporting the air quality analysis, including modeling assumptions and projections are included in Appendix F (Air Quality and Greenhouse Gas Supporting Information).

The Navy’s Proposed Action, the transfer of surplus Federal property, is exempt from the General Conformity Rule, under the provisions of 40 CFR 93.153(c)(2)(xix), which identifies the conformity rule does not apply to Federal actions that involve the transfer of ownership, interests, and titles of land, facilities, and real and personal properties, regardless of the form or method of transfer.

## Alternative 1

### Construction

#### Criteria Air Pollutants

Air quality impacts from proposed construction activities would occur from combustive emissions due to the use of fossil fuel-fired construction equipment and on-road trucks and fugitive dust (PM<sub>10</sub>/PM<sub>2.5</sub>) emissions from earth-moving activities, and the use of vehicles on bare soils. Construction related emissions would be short-term and primarily occur within the boundaries of the VA Development Area. The average annual emissions projected from construction under Alternative 1 are shown in Table 3.7-3.

**Table 3.7-3: Summary of Modeled Annual Emissions of Criteria Air Pollutants and Precursors Associated with Construction Activities (Alternative 1 and 2)**

	Average Annual Emissions (tons/year) <sup>a</sup>				
	CO	NO <sub>x</sub>	VOC/ROG	PM <sub>10</sub>	PM <sub>2.5</sub>
Construction Activities	16.5	73.0	4.7	21.2	5.4
<b><i>de minimis</i> Threshold</b>	100	100	50	–	100

Notes:

CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less; PM<sub>10</sub> = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; ROG = reactive organic gases; VOC = volatile organic carbon

<sup>a</sup> Details of annual construction emissions, input parameters used in the modeling, and detailed modeling output, may be found in Appendix F.

<sup>b</sup> Average annual emissions were calculated by dividing the total construction emissions by 1.5 years, which is the total construction period.

<sup>c</sup> Facility operational emissions presented are representative of full site operational emissions in year 2017, which provides a conservative estimate of operational emissions that would occur during subsequent cemetery phase construction activities.

The largest amount of construction under Alternative 1 would occur during initial construction, at which point all of the buildings would be constructed and the first phase of the cemetery development. Therefore, during each of the subsequent phases of cemetery expansion, the impact of emissions of criteria pollutants related to cemetery construction would be similar to or less than the impact identified for Alternative 1 in 2017.

All construction activities would meet applicable State and Federal air quality regulations and pollution control requirements to prevent exceedance of air quality standards during construction. In addition, to minimize any potential air quality effects during construction, VA would implement best management practices and agency environmental controls, including VA's *Section 01 57 19: Temporary Environmental Controls*. These may include, but are not limited, to dust control measures and limiting idling of vehicles and equipment.

Construction-related emissions of criteria air pollutants from Alternative 1 construction would be less than *de minimis* thresholds. Therefore, there would be no significant construction-related impact on criteria air pollutants.

### **Hazardous Air Pollutants**

Initial construction of Alternative 1 would include mass site grading, trenching, building construction, asphalt paving, and application of architectural coatings. Most construction phases would involve the use of diesel-fueled construction equipment, except during the application of architectural coatings. Diesel particulate matter (diesel PM) has been classified as a TAC by ARB. Therefore, construction-related emissions of diesel PM have the potential to affect nearby sensitive receptors.

The BAAQMD has developed the *Screening Tables for Air Toxics Evaluation during Construction* (BAAQMD, 2010c). If sensitive receptors are located within applicable screening distances, additional evaluation of potential health risks is warranted to determine the level of impact that would occur. For a commercial project with 100,000–300,000 square feet of construction (Alternative 1 and 2 propose approximately 160,500 square feet of building construction), the offset distance required for combined risk with age-sensitivity factor (to account for early life exposures) is 656 feet from the project fence line to ensure that the impact on a sensitive receptor would be minor TAC.

The closest sensitive receptors to the VA Development Area are residences located at the corner of 1st Street and West Midway Avenue, approximately 5,500 feet east of the proposed development area, outside of the BAAQMD screening distance of 656 feet. In addition, VA would implement applicable best management practices to control dust and emissions from construction (e.g. watering exposed surfaces, covering haul trucks, transporting soil and loose materials, limiting vehicle speeds on unpaved surfaces). Therefore, construction-related impacts of localized TAC and PM emissions on sensitive receptors would not be significant and additional evaluation (i.e., BAAQMD screening criteria) of potential health risks is not needed.

### **Odors**

Construction of the facilities and cemetery expansions under Alternative 1 could result in odors (e.g., from diesel exhaust emitted by equipment); however, these odors would be temporary and intermittent. Emissions would occur only during business hours during the construction period, and would disperse quickly given the area's meteorological conditions (i.e., high-wind area with annual average winds of approximately 7 mph) (BAAQMD, 2010d). In addition, the nearest sensitive receptors are located 3,700 feet from the fence line of the VA Transfer Parcel and approximately 5,500 feet from where the bulk of construction activities (construction of the OPC and the first 18 acres of cemetery uses) would occur. Thus, even during intensive construction activities (i.e., soil import activities), because of the distance between the nearest receptor and the VA Transfer Parcel and the area's high winds, there would be no significant construction-related impact from odors.

### **Operation**

#### **Criteria Air Pollutants**

Proposed operations would generate criteria pollutant emissions from onsite area sources (such as combustion of natural gas for space and water heating and other fuels for building and grounds maintenance equipment) and vehicles that access the project site. As discussed previously under "Assessment Methods," URBEMIS estimates area-source emissions associated with land use projects based on the amount (e.g., square feet or acres) and type

of land use. For mobile-source emissions, the project’s traffic study (Appendix D) was used to evaluate the trip generation of each proposed land use.

The annual emissions associated with Alternative 1 operational area-source and mobile-source activities in the year 2017 are presented in Table 3.7-4. As discussed above, operational emissions in the year 2017 would represent the highest level of operational emissions of criteria air pollutants and ozone precursors. Table 3.7-4 also presents the Alternative 1 operational emissions added with subsequent phase cemetery construction emissions to demonstrate that future emissions also would not exceed the General Conformity Rule *de minimis* thresholds.

**Table 3.7-4: Summary of Modeled Maximum Annual Emissions of Criteria Air Pollutants and Precursors Associated with Operational Activities (Alternative 1 and 2)**

Source	Average Annual Emissions (tons/year) <sup>a</sup>				
	CO	NO <sub>x</sub>	VOC/ROG	PM <sub>10</sub>	PM <sub>2.5</sub>
Operational Activities	27.0	3.3	2.4	7.0	1.3
Subsequent Cemetery Expansion (Construction)	16.5	73.0	4.7	21.2	5.4
Total	43.5	76.3	7.1	28.2	6.7
<b><i>de minimis</i> Threshold</b>	100	100	50	–	100

Notes:

CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less; PM<sub>10</sub> = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; ROG = reactive organic gases; VOC = volatile organic carbon

<sup>a</sup> Details of annual construction and operational emissions, including input parameters used in the modeling and detailed modeling output, may be found in Appendix F.

<sup>b</sup> The operational emissions for Alternative 1 would also occur simultaneously with construction-related emissions for subsequent cemetery phases under Alternative 1.

Source: Modeling performed by AECOM in 2011

Annual operational emissions in year 2017 under Alternative 1 would not exceed any of the *de minimis* thresholds (Table 3.7-2). In addition, following the occupation and operation of the initial phase of development, subsequent expansion of the cemetery would occur. During this time construction emissions would be occurring from the cemetery expansion in addition to the ongoing operational emissions. When combined, the operational and constructions emissions (see Figure 3.7-4) would also not exceed any of the *de minimis* thresholds. It should be noted that the construction emissions presented in Table 3.7-4 are the annual emissions during initial construction activities (Table 3.7-3), which represent the highest level of construction emissions. Subsequent cemetery expansions would be a fraction of the initial construction, which involves large quantities of cut/fill operations and building construction, and, therefore, the annual emissions in Table 3.7-4 represent a conservative estimate of operational plus future subsequent construction emissions. Nevertheless, the annual operational GHG emissions plus subsequent annual cemetery expansion emissions would not exceed any of the *de minimis* thresholds and thus there would be no significant operational-related impact on criteria air pollutants.

In addition, the proposed project’s full buildout operating scenario was modeled assuming full buildout by year 2035. As discussed above, is anticipated that future emissions would tend to be less due to turnover in vehicle fleets and new emissions technology. It should be noted that full project buildout is anticipated to occur in year

2116. Therefore, the emissions shown in Table 3.7-5 represent the maximum emissions that could occur with full buildout of Alternative 1.

**Table 3.7-5: Summary of Modeled Maximum Annual Emissions of Criteria Air Pollutants and Precursors Associated with Operational Activities (Alternative 1 and 2), Full Buildout**

Source	Average Annual Emissions (tons/year) <sup>a</sup>				
	CO	NO <sub>x</sub>	VOC/ROG	PM <sub>10</sub>	PM <sub>2.5</sub>
Full Buildout <sup>b</sup> Operation	42.0	3.8	3.8	22.2	4.2
<i>de minimis</i> Threshold	100	100	50	–	100

Notes:

CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less; PM<sub>10</sub> = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; ROG = reactive organic gases; VOC = volatile organic carbon

<sup>a</sup> Details of annual construction and operational emissions, including input parameters used in the modeling and detailed modeling output, may be found in Appendix F.

<sup>b</sup> Full buildout is anticipated to occur in 2116; however, emissions presented have been modeled for 2035 for a conservative estimate. It is anticipated that emissions presented are the maximum emissions that could occur at any point in project operations.

Source: Modeling performed by AECOM in 2011

As shown in Table 3.7-5, year 2035 full build-out emissions would also be below the *de minimis* thresholds. The operational impact on regional air quality of criteria air pollutant emissions during full buildout of Alternative 1 would not be significant.

**Localized Carbon Monoxide Emissions**

The construction and operation of Alternative 1 would add vehicle traffic to local roadways that would contribute to vehicle volumes at local intersections. Congestion at local intersections is the main cause of CO hotspots, which are associated with a localized exceedance of the CAAQS or NAAQS. Although the operational analysis evaluated the EA Alternatives for 2016 conditions because of the higher emission factors in 2016, it is more conservative to evaluate 2035 operational conditions, which results in the highest contribution of vehicles to local intersections. Therefore, if Year 2035 cumulative conditions plus operations under Alternative 1 would not result in a potential CO hotspot, it is highly unlikely that Alternative 1, year 2016 or year 2026 conditions would result in a CO hotspot.

A BAAQMD developed screening threshold allows project proponents to evaluate whether the contribution of their projects to local roadways could potentially cause CO hotspots. The hotspot screening level recommended by BAAQMD is 44,000 vehicles per hour at any given intersection. This screening threshold has been developed using conservative assumptions such as stable meteorological conditions and older emission factors.

Projected traffic volumes resulting from implementation of Alternative 1 identified that the maximum number of vehicles traveling through a study intersection under 2035 Cumulative Plus Project conditions would be 4,574 vehicles at 5th Street and Broadway under P.M. peak-hour conditions (see Section 3.3 [Transportation, Traffic, Circulation, and Parking]). Because this volume is substantially less than the screening level of 44,000 vehicles per hour, operational activities associated with Alternative 1 would not be expected to contribute or cause CO concentrations that would exceed the CAAQS or NAAQS. Accordingly, the direct operational impact of Alternative 1 related to localized CO emissions would not be significant.

As discussed above, the 2035 operational conditions under Alternative 1 would result in the maximum number of vehicle trips and highest volume on local roads. Traffic from operational activities under subsequent cemetery construction phases would be included in this intersection and vehicle volume modeling. Therefore, the subsequent cemetery buildout in combination with operational activities would not contribute or cause CO concentrations that would exceed the CAAQS or NAAQS. The direct operational impact of subsequent cemetery buildout related to localized CO emissions would not be significant.

Through 2116, for each of the subsequent phases of cemetery construction under Alternative 1, vehicle volumes in the project region and associated with the VA Development Area are projected to increase. However, it is not likely that vehicle volumes would increase to a point where the potential for a CO hotspot would occur (i.e., nine times the intersection volume of 2035 Plus Project volumes). In addition, it is anticipated that CO emissions from motor vehicles would continue to decrease with time because of turnover in the vehicle fleet and the availability of new emissions technology. Therefore, subsequent cemetery phase construction is not anticipated to contribute or cause CO concentrations that would exceed the CAAQS or NAAQS. The operational impact of subsequent cemetery phase construction related to localized CO emissions would not be significant.

#### **Hazardous Air Pollutants**

Operation of Alternative 1 would not include TAC sources that would expose nearby receptors to substantial TAC concentrations. Therefore, impacts of localized TAC and PM emissions on sensitive receptors would not be significant

#### **Odors**

The land uses proposed for the VA Transfer Parcel under Alternative 1 are not land uses that would typically generate substantial concentrations of odors. Therefore, it is unlikely that the operation of Alternative 1 would expose sensitive receptors to substantial odor concentrations. The operational impact of Alternative 1 related to odor exposure would not be significant.

#### **General Conformity Review**

As shown in Tables 3.7-3, 3.7-4, 3.7-5, and 3.7-6 construction- and operation-related emission increases for O<sub>3</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> (i.e., project area nonattainment or maintenance area criteria air pollutants) would be less than the General Conformity Rule *de minimis* thresholds and are less than 10% of the projected regional emissions, and therefore not regionally significant and a full conformity determination is not required. Table 3.7-6 presents the Alternative 1 and Alternative 2 construction, operational plus subsequent cemetery expansion, and full buildout operation emissions compared with 10% of the region's projected annual emissions. It should be noted that the emissions shown in Table 3.7-6 should be compared to the thresholds separately and are not additive, because they would all occur in different years. All possible levels of annual emissions are presented in Table 3.7-6 as a summary of annual emission levels that could occur throughout the lifetime of the project. Both a VA Record of Non-Applicability (RONA) and a Navy RONA have been prepared for this action and are included in Appendix F (Air Quality and Greenhouse Gas Supporting Information).

**Table 3.7-6: Summary of Modeled Maximum Annual Emissions of Criteria Air Pollutants and Precursors Associated with Construction, Operational Plus Subsequent Cemetery Expansion, and Full Buildout Operational (Alternative 1 and 2)**

Source	Average Annual Emissions (tons/year) <sup>a</sup>				
	CO	NO <sub>x</sub>	VOC/ROG	PM <sub>10</sub>	PM <sub>2.5</sub>
Construction	16.5	73.0	4.7	21.2	5.4
Operational Plus Subsequent Cemetery Expansion	43.5	76.3	7.1	28.2	6.7
Full Buildout Operation <sup>b</sup>	42.0	3.8	3.8	22.2	4.2
<b>10% of Bay Area Regional Emissions<sup>c</sup></b>	54,750	14,600	10,914	5,402	2,592
<b><i>de minimis</i> Threshold</b>	100	100	50	–	100

Notes:

CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>2.5</sub> = fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less; PM<sub>10</sub> = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; ROG = reactive organic gases; VOC = volatile organic carbon

<sup>a</sup> Details of annual construction, operational and construction, and full buildout emissions, including input parameters used in the modeling and detailed modeling output, may be found in Appendix F.

<sup>b</sup> Full buildout is anticipated to occur in 2116; however, emissions presented have been modeled for 2035 for a conservative estimate. It is anticipated that emissions presented are the maximum emissions that could occur at any point in project operations.

<sup>c</sup> Daily emissions projected by BAAQMD were multiplied by 365 days to estimate annual emissions, which were multiplied by 10% to calculate the 10% criteria for conformity evaluation. As discussed above, USEPA has removed this criterion from their General Conformity Rule. However, the analysis for regional significance has been included for a conservative analysis.

Source: Modeling performed by AECOM in 2011; BAAQMD, 2011

As shown in Table 3.7-6, the project’s construction, operational plus subsequent cemetery expansion, and full buildout emissions would not exceed any *de minimis* thresholds or 10% of the region’s projected emissions. Thus, Alternative 1 and 2 would not be considered regionally significant and a full conformity determination is not required.

**Alternative 2 (Preferred Alternative)**

***Construction***

Alternative 2 would involve similar development as planned for Alternative 1 (i.e., VHA OPC, VBA Outreach Office, Conservation Management Office, NCA Cemetery, and associated infrastructure. As discussed above under “Assessment Methodology,” both Alternative 1 and Alternative 2 propose construction of the same amount of developed land uses on the project site, but in different locations. Therefore, similar amounts of construction equipment and numbers of material delivery trucks and construction workers would be required for Alternative 2 construction.

Soil import required for Alternative 2 would be the same as that required for Alternative 1. Therefore, construction parameters (e.g., amount of soil hauling) for Alternative 2 were used to model construction emissions for both Alternative 1 and Alternative 2 (Tables 3.7-3). Although the site configuration for Alternative 2 would differ from that for Alternative 1, the emissions of criteria air pollutants, ozone precursors, TACs, and odors would be comparable to those of Alternative 1.

### **Criteria Air Pollutants**

Alternative 2 would generate emissions that are comparable to those of Alternative 1, as shown in Table 3.7-4 and 3.7-5. Construction-related emissions of criteria air pollutants from Alternative 2 construction would be less than *de minimis* thresholds. Therefore, there would be no significant construction-related impact on criteria air pollutants.

### **Hazardous Air Pollutants**

The construction of VA facilities under Alternative 2 would be similar to that under Alternative 1. Therefore, construction-related impacts of localized TAC and PM emissions on sensitive receptors would not be significant and additional evaluation (i.e., BAAQMD screening criteria) of potential health risks is not needed.

### **Exposure to Odors**

The odor impact associated with Alternative 2 would be similar to that of Alternative 1. The two alternatives would involve construction of the same type of facilities with the similar land use; therefore, construction activities, equipment, and timing for Alternative 2 would be similar to that for Alternative 1. Accordingly, Alternative 2 would not involve additional odor-generating construction activities (e.g., diesel exhaust emissions). Therefore, the construction-related odor impact of Alternative 2 would not be significant.

### **Operation**

The activities that would occur during operation of the proposed VA facilities under Alternative 2 would be identical to those occurring under Alternative 1. The proposed site layout in the VA Development Area under Alternative 2 would differ from that under Alternative 1; however, the vehicle trips and area-source intensities, which most contribute to air pollutant emissions, are anticipated to be similar to those of Alternative 1.

### **Criteria Air Pollutants**

The annual operational emissions associated with Alternative 2 would be lower than the *de minimis* thresholds (see Table 3.7-4 and 3.7-5). Therefore, there would be no significant operational-related impact on criteria air pollutants.

### **Localized Carbon Monoxide Emissions**

The analysis and impact of Alternative 2's contribution to potential CO hotspots would be similar to those for Alternative 1. Therefore, no significant operational impact to localized CO emissions would occur.

### **Hazardous Air Pollutants**

The analysis and impact of Alternative 2 associated with localized TAC and PM emissions would be similar to those for Alternative 1. Therefore, the direct impact of Alternative 2 related to localized TAC and PM emissions would not be significant.

### **Odors**

The analysis and impact of Alternative 2 in terms of odor would be similar to those for Alternative 1. Therefore, the impact of Alternative 2 related to odor emissions would not be significant.

### **General Conformity Review**

As shown in Tables 3.7-3, 3.7-4, 3.7-5, and 3.7-6, construction- and operation-related emission increases for O<sub>3</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> (i.e., project area nonattainment or maintenance area criteria air pollutants) would be less than the General Conformity Rule *de minimis* thresholds and are less than 10% of the projected regional emissions, and therefore not regionally significant and a full conformity determination is not required. Both a VA RONA and a Navy RONA have been prepared for this action and are included in Appendix F (Air Quality and Greenhouse Gas Supporting Information).

### **No Action Alternative**

#### ***Construction***

Under the No Action Alternative, no construction activities would take place; thus, there would be no emissions of criteria pollutants, TACs, PM, or odors. Therefore, no significant construction-related impact on air quality would occur.

#### ***Operation***

Under the No Action Alternative, no operational emissions from VA facilities would be generated. Therefore, there would be no significant operational impact on air quality.

### **3.7.4 References**

- AECOM. 2012. *Alameda Point Transfer, Clinic, and Cemetery Environmental Assessment Transportation Impact Study*.
- Bay Area Air Quality Management District (BAAQMD). 2008 (December). *Emissions Inventory Summary Report Base Year 2005*. San Francisco, CA.
- . 2010a (May). *California Environmental Quality Act Air Quality Guidelines*. San Francisco, CA.
- . 2010b. Air Quality Standards and Attainment Status. Available: <[http://hank.baaqmd.gov/pln/air\\_quality/ambient\\_air\\_quality.htm](http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm)>. Accessed February 23, 2011.
- . 2010c. (May). *Screening Tables for Air Toxics Evaluation During Construction*. Version 1.0. San Francisco, CA.
- . 2010d. Southwestern Alameda County. Available: <<http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Bay-Area-Climatology/Subregions/Southwestern-Alameda-County.aspx>>. Last updated October 4, 2010. Accessed April 12, 2012.

- . 2011 (May). Base Year 2008 Bay Area Emissions Inventory Summary Report. Available: <<http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Emission%20Inventory/BY08SummaryReportFinal.ashx>>. Accessed January 4, 2013.
- . 2012. Stationary Source Screening Analysis Tool. Available: <<http://baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx>>. Accessed April 10, 2012.
- California Air Resources Board (ARB). 2009a. *The California Almanac of Emissions and Air Quality*. 2009 Edition. Planning and Technical Support Division. Sacramento, CA.
- . 2009b. Ambient Air Quality Standards. Available: <<http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm>>. Last updated November 24, 2009. Accessed April 20, 2012.
- . 2009c. Emissions Inventory Data. Available: <<http://www.arb.ca.gov/ei/emissiondata.htm>>. Last updated April 21, 2009. Accessed April 20, 2012.
- . 2011. Facility Search Engine. Sacramento, CA. Available: <<http://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php?dd=>>>. Accessed March 2, 2011.
- . 2012. Mobile Source Emission Inventory—Current Methods and Data: EMFAC2011. Available: <<http://www.arb.ca.gov/msei/modeling.htm>>. Last updated February 9, 2012. Accessed April 1, 2012.
- Rimpo and Associates (Rimpo). 2011. Urbemis 2007 for Windows, Version 9.2.4. Available: <<http://www.urbemis.com>>. Accessed March 22, 2011.
- U.S. Environmental Protection Agency (EPA). 2006 (April 3). *Interim Policy for General Conformity Applicability in PM<sub>2.5</sub> Nonattainment Areas*. Memorandum to EPA Regional Air Division Directors from William T. Harnett, Director, Air Quality Division, Office of Air Quality Planning and Standards, Research Triangle Park, NC. Available: <[http://www.epa.gov/oar/genconform/documents/Mar06/04-03-06\\_Harnett\\_Reg\\_Air\\_Div.pdf](http://www.epa.gov/oar/genconform/documents/Mar06/04-03-06_Harnett_Reg_Air_Div.pdf)>. Accessed March 16, 2011.
- . 2010 (March). Environmental Protection Agency 40 CFR Parts 51 and 93 [EPA-HW-OAR-2006-0669; FRL-9131-7] RIN 2060 AH-93 Revisions to General Conformity Regulations. Available: <<http://www.epa.gov/oar/genconform/documents/20100324rule.pdf>>. Accessed January 4, 2013.
- . 2011. *National Ambient Air Quality Standards (NAAQS)*. Available: <<http://www.epa.gov/air/criteria.html>>. Accessed February 22, 2011.
- . 2012. Carbon Monoxide Maintenance State/Area/County Report. Available: <<http://www.epa.gov/air/oaqps/greenbk/cmcs.html#CALIFORNIA>>. Accessed January 4, 2013.

## **3.8 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE**

This section describes the existing physical and regulatory setting related to climate change and greenhouse gas (GHG) emissions and discusses the potential effects of the EA Alternatives related to GHG emissions.

### **3.8.1 Regulatory Framework**

#### **Council on Environmental Quality (CEQ) Draft NEPA Guidance on Consideration of Effects of GHG Emissions and Climate Change**

On February 18, 2010 the CEQ proposed for the first time draft guidance on how Federal agencies could evaluate the effects of climate change and GHG emissions for NEPA documentation (CEQ, 2010). Specifically, if a proposed action emits 25,000 MT of CO<sub>2</sub>e or more on an annual basis, agencies could consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. CEQ does not propose this reference point as an indicator of a level of GHG emissions that may significantly affect the quality of the human environment, but notes that it serves as a minimum standard for reporting emissions under the CAA.

In the analysis of the direct effects of a proposed action, the CEQ proposes that it would be appropriate to: 1) quantify cumulative emissions over the life of the project; 2) discuss measures to reduce GHG emissions, including consideration of reasonable alternatives; and 3) qualitatively discuss the link between such GHG emissions and climate change. However, the CEQ states that it is not currently useful for the NEPA analysis to attempt to link specific climatological changes or environmental impacts to proposed GHG emissions, as such direct linkage is difficult to isolate and to understand.

#### **Executive Order 13514, “Federal Leadership in Environmental, Energy, and Economic Performance”**

EO 13514 requires GHG management and each Federal agency must comply with the regulations including reporting to the CEQ Chair and Office of Management and Budget (OMB) Director and establishing the target, considering reductions associated with reducing agency building energy intensity, increasing agency renewable energy use and on-site projects, and reducing agency use of fossil fuels. VA has completed the aforementioned EO 13514 requirements in the form of the VA Strategic Sustainability Performance Plan (SSPP), described in detail below. The VA SSPP would be adhered to with implementation of the chosen EA Alternative.

#### **VA Strategic Sustainability Performance Plan**

The VA SSPP responds to Section 8 of EO 13514, which requires Federal agencies to “develop, implement, and annually update an integrated Strategic Sustainability Performance Plan that will prioritize agency actions” for meeting sustainability goals identified in statutes, regulations, and executive orders. The VA SSPP identifies VA’s sustainability goals and defines VA’s policy and strategy for achieving these goals (VA, 2010).

By FY 2020, VA is targeting a 29% reduction in GHG emissions below the FY 2008 baseline. A 26% reduction in emissions is projected to come from meeting the FY 2015 alternative fuel use, petroleum reduction, energy intensity reduction, and on-site renewable electricity targets as set forth in the Energy Policy Act of 2005.

Facility-level and regional strategies include energy conservation measures, retro-commissioning, installation of alternative fueling stations, and on-site renewable electricity generation. Projects funded at the department level include additional alternative fueling stations as well as additional on-site renewable electricity generation through technologies such as solar and renewably fueled combined heat and power.

For FY 2020, VA has set a GHG emissions reduction target of 10% below the FY 2008 baseline. VA is relying on a combination of strategies and technology advances that include meeting existing targets (such as energy intensity and pollution prevention); improving fuel economy based on Corporate Average Fuel Economy standards; implementing innovative commuting strategies; and developing an action plan that will address non-commuting emissions, such as telework and alternate work schedules.

### **3.8.2 Greenhouse Effect, Global Warming, and Climate Change**

As Earth absorbs high-frequency solar radiation, its surface gains heat and then re-radiates lower frequency infrared radiation back into the atmosphere.<sup>1</sup> Some solar radiation is also reflected by the atmosphere back toward space. Most solar radiation passes through the atmosphere; however, infrared radiation is selectively absorbed by GHGs. Specifically, GHGs affect the radiative forcing of the atmosphere,<sup>2</sup> which in turn affects Earth's average surface temperature. This phenomenon, the greenhouse effect, keeps the earth's atmosphere near the surface warmer than it would be otherwise and allows successful habitation by humans and other forms of life.

Increases in GHGs lead to increased absorption of infrared radiation by Earth's atmosphere and thus increased temperatures and evaporation rates near the surface. Variations in natural phenomena such as volcanoes and solar activity produced most of the global temperature increase during preindustrial times; however, increasing atmospheric GHG concentrations resulting from human activity have been responsible for most of the observed global temperature increase.<sup>3</sup> With the accelerated increase of fossil fuel combustion and deforestation since the Industrial Revolution of the 19th century, concentrations of GHGs have increased exponentially in the atmosphere. This enhanced greenhouse effect has contributed to global warming, an increased rate of warming of Earth's average surface temperature.<sup>4</sup> Global warming affects global atmospheric circulations and temperatures; oceanic circulations and temperatures; wind and weather patterns; average sea level; ocean acidification; chemical reaction rates; precipitation rates, timing, and form; snowmelt timing and runoff flow; water supply; wildfire risks; and other phenomena. The manner in which it affects all these phenomena is commonly referred to as climate change.

#### **Intergovernmental Panel on Climate Change Temperature Prediction**

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic

---

<sup>1</sup> Frequencies at which bodies emit radiation are proportional to temperature. Earth has a much lower temperature than the sun and emits lower frequency (longer wavelength) radiation than the high-frequency (short wavelength) solar radiation emitted by the sun.

<sup>2</sup> This is the change in net irradiance at the tropopause after allowing for stratospheric temperatures to re-adjust to radiative equilibrium, but with surface and tropospheric temperatures and state held fixed at the unperturbed values.

<sup>3</sup> These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

<sup>4</sup> This is the result of Earth having to work harder to maintain its radiation budget, because (under the condition of more GHGs in the atmosphere) Earth must force emission of additional infrared radiation out into the atmosphere.

information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. Warming of the climate system is now considered to be unequivocal (IPCC, 2007a), with global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. The IPCC predicts increases in global average temperature of between 2° and 11°F over the next 100 years (depending on scenario) (IPCC, 2007b).

### **Greenhouse Gases and Global Emission Sources**

Prominent naturally occurring GHGs in Earth's atmosphere are water vapor, CO<sub>2</sub>, methane, nitrous oxide, and ozone (O<sub>3</sub>). Anthropogenic (i.e., human-caused) emissions include additional releases of these GHGs plus releases of human-made, high global warming potential gases (high GWP gases) (sulfur hexafluoride [SF<sub>6</sub>], PFCs, HFCs, and ozone-depleting substances [ODSs]) into Earth's atmosphere. Water vapor, although the most abundant GHG, is not discussed below because natural concentrations and fluctuations far outweigh anthropogenic influences. Ozone is not included because it does not directly affect radiative forcing. ODSs, which include chlorofluorocarbons, halons, carbon tetrachloride, methyl chloroform, and hydrochlorofluorocarbons, are not included, because they have been primarily replaced by HFCs and PFCs. The other GHGs are discussed below.

Each GHG has a different potential for contributing to global warming. The most commonly accepted method to compare GHG emissions is the global warming potential (GWP) (IPCC, 2001). The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalents (CO<sub>2</sub>e), which compares the gas in question to that of the same mass of CO<sub>2</sub> (CO<sub>2</sub> has a GWP of 1 by definition). As such, a high GWP represents high infrared radiation absorption and long atmospheric lifetime compared to CO<sub>2</sub>. One must also select a time horizon to convert GHG emissions to equivalent CO<sub>2</sub> emissions to account for chemical reactivity and lifetime differences among various GHG species. The standard time horizon for climate change analysis is 100 years. Generally, GHG emissions are quantified in terms of metric tons (MT) of CO<sub>2</sub>e emitted per year. By far the largest component of worldwide CO<sub>2</sub>e is CO<sub>2</sub> emissions, followed by methane, nitrous oxide, and high GWP gases in order of decreasing contribution to CO<sub>2</sub>e.

#### ***Carbon Dioxide***

The most important anthropogenic GHG is CO<sub>2</sub>, accounting for more than 75% of all anthropogenic GHG emissions. Its long atmospheric lifetime (on the order of decades to centuries) ensures that atmospheric concentrations of CO<sub>2</sub> will remain elevated for decades after GHG mitigation efforts to reduce GHG concentrations are promulgated (Olivier et al., 2005, 2006 in IPCC 2007c). Increasing concentrations of CO<sub>2</sub> in the atmosphere are largely attributable to emissions from the burning of fossil fuels, gas flaring, cement production, and land use changes. Three quarters of the current radiative forcing is likely caused by anthropogenic CO<sub>2</sub> emissions that are the result of fossil fuel burning (and to a very small extent, cement production), and approximately one quarter of the current radiative forcing is the result of land use change (IPCC, 2007d). The concentration of CO<sub>2</sub> has increased from about 280 ppm to 379 ppm over the last 250 years, an increase of more than 35% (IPCC, 2007d). The IPCC estimates that the present atmospheric concentration of CO<sub>2</sub> has not been exceeded in the last 650,000 years and is likely to be the highest ambient concentration in the last 20 million years (IPCC, 2007b). The other GHGs of concern in order of their contribution to CO<sub>2</sub>e are included in Table 3.8-1.

**Table 3.8-1: Characteristics of GHGs in Order of Contribution to CO<sub>2</sub>e**

Greenhouse Gas	GWP	Source	Preindustrial Concentration	Recent Concentration
Methane	21	growing rice, raising cattle, combusting natural gas, and mining coal (NOAA, 2008)	715 ppb	1,775 ppb (2005)
Nitrous Oxide	310	agricultural processes (fertilizer use and microbial processes in soil and water), nylon production, fuel-fired power plants, nitric acid production, vehicle emissions, rocket engines, racecars, and as an aerosol spray propellant	270 ppb	319 ppb (2005)
HFCs	140 to 11,700	human-made chemicals used in commercial, industrial, and consumer products, and as substitutes for ODSs in automobile air conditioners and refrigerants	0 ppT	0.5 -14 ppT (2000)
PFCs	7,390 to 17,700	human-made chemicals are emitted largely from aluminum production and semiconductor manufacturing processes	0 ppT	70 ppT (2000)
Sulfur Hexafluoride	23,900	human-made chemical used as an electrical insulating fluid for power distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a trace chemical for study of oceanic and atmospheric processes (EPA, 2006)	0 ppT	4.2 ppT (1998)

Note:

CO<sub>2</sub>e = carbon dioxide equivalent; GWP = global warming potential; ppb = parts per billion; ppT = parts per trillion; HFCs = hydrofluorocarbons; PFCs = perfluorocarbons

Source: Data compiled by AECOM in 2012

### Global Climate Change Issue

Climate change is a global problem because GHGs are global pollutants with long atmospheric lifetimes (several years to several thousand years). Whereas criteria air pollutants and hazardous air pollutants are pollutants of regional and local concern with relatively short atmospheric lifetimes (about one day). The GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule depends on multiple variables and cannot be pinpointed, more CO<sub>2</sub> is currently emitted into the atmosphere than is sequestered (CO<sub>2</sub> sinks, or reservoirs, include vegetation and the ocean, which absorb CO<sub>2</sub> through photosynthesis and dissolution, respectively). Of the total annual human-caused CO<sub>2</sub> emissions, approximately 54% is sequestered through ocean uptake, Northern Hemisphere forest regrowth, and other terrestrial sinks within a year, whereas the remaining 46% of human-caused CO<sub>2</sub> emissions remain stored in the atmosphere (Seinfeld and Pandis, 1998).

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say that the quantity is enormous, and no single project would be expected to measurably contribute to a noticeable incremental change in the global average temperature, or to global, local, or microclimate. Emissions of GHGs have the potential to adversely affect the environment, because such emissions contribute, on a cumulative basis, to global climate change.

Global climate change has the potential to result in sea level rise (resulting in flooding of low-lying areas), to affect rainfall and snowfall (leading to changes in water supply), to affect temperatures and habitats (affecting biological resources and public health), and to result in many other adverse environmental consequences. Although the international, national, State, and regional communities are beginning to address GHGs and the potential effects of climate change, it is expected that worldwide GHG emissions will continue to rise over the next several years.

### **Climate and Topography**

Climate is the accumulation of daily and seasonal weather events over a long period of time, whereas weather is defined as the condition of the atmosphere at any particular time and place (Ahrens, 2003). For a detailed discussion of climate and topography, see Section 3.2 (Air Quality).

### **3.8.3 Affected Environment**

#### **Existing Greenhouse Gas Emissions**

The effects of GHG emissions are by nature global and cumulative impacts, as individual sources of GHG emissions are not large enough to have an appreciable effect on global atmospheric GHG concentrations or climate change. Therefore, the impact of proposed GHG emissions to climate change is also discussed in the context of cumulative impacts in Chapter 4 of this EA.

#### ***U.S. Greenhouse Gas Inventory***

Total U.S. GHG emissions in 2007 were 1.4% above the 2006 total (DOE, 2008). Figure 3.8-1 presents 2007 U.S. GHG emissions, including percentages, by type of gas.

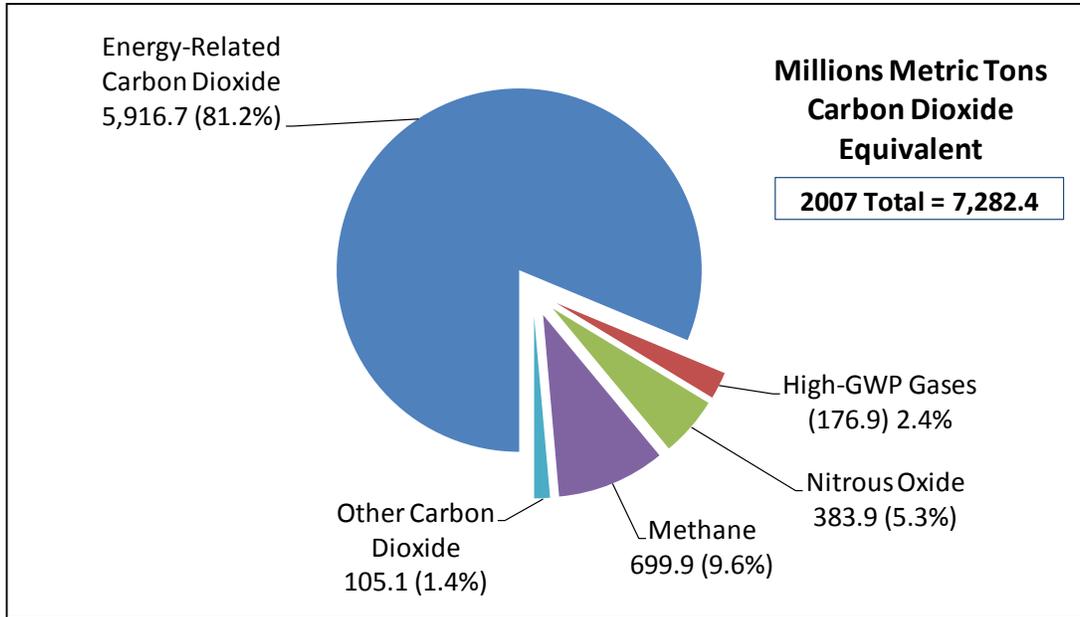
Total emissions growth—from 7,179.7 million metric tons carbon dioxide equivalent (MMT $\text{CO}_2\text{e}$ ) in 2006 to 7,282.4 MMT $\text{CO}_2\text{e}$  in 2007—was largely the result of an increase in  $\text{CO}_2$  emissions of 75.9 MMT $\text{CO}_2\text{e}$ . There were larger percentage increases in emissions of other GHGs, but their absolute contributions to total emissions growth were relatively small: 13.0 MMT $\text{CO}_2\text{e}$  for methane, 8.2 MMT $\text{CO}_2\text{e}$  for nitrous oxide, and 5.6 MMT $\text{CO}_2\text{e}$  for high-GWP gases (DOE, 2008).

#### ***California Greenhouse Gas Inventory***

As the second largest emitter of GHG emissions in the U.S. and 12th to 16th largest in the world, California contributes a significant quantity of GHGs to the atmosphere (CEC, 2006). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (ARB, 2010) (Figure 3.8-2). Emissions of methane and nitrous oxide are generally associated with anaerobic microbial activity resulting from agricultural practices, flooded soils, and landfills.

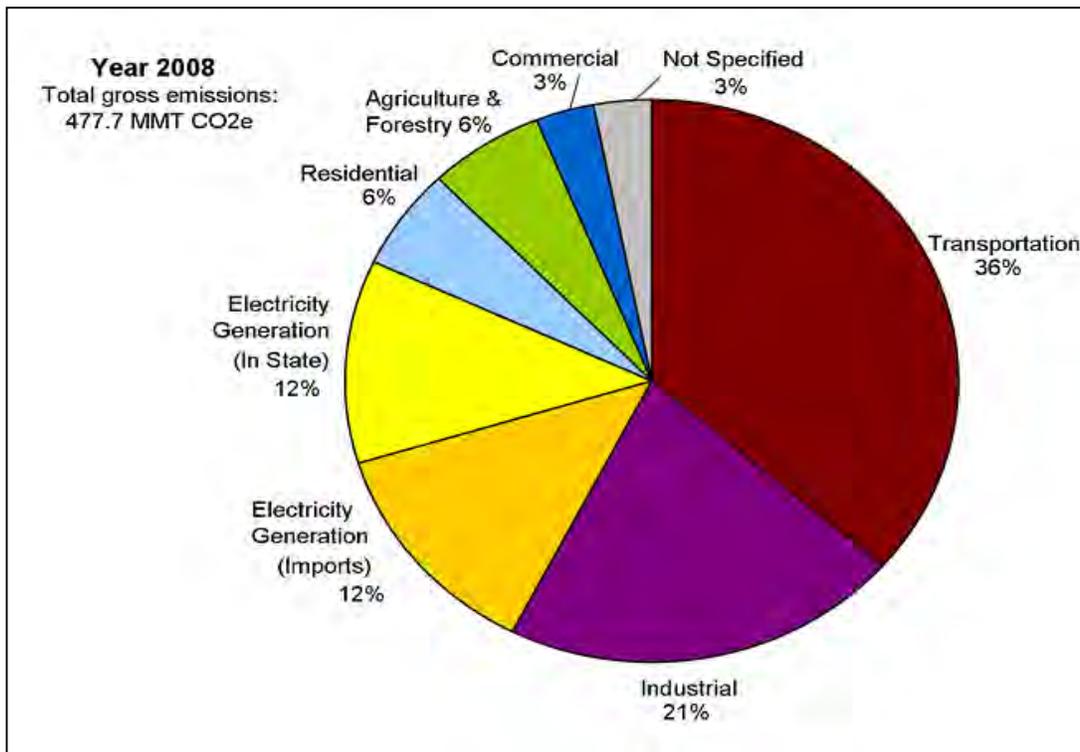
#### ***BAAQMD Greenhouse Gas Inventory***

The BAAQMD published a GHG inventory for the Bay Area, which provides an estimate of GHG emissions in the base year 2007 for all seven counties located in BAAQMD's jurisdiction: Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Napa, and the southern portions of Solano and Sonoma Counties (BAAQMD,



Source: DOE, 2008.  
Note: High global warming potential gases include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride .

**Figure 3.8-1: 2007 U.S. Greenhouse Gas Emissions by Gas**



Source: ARB, 2010

**Figure 3.8-2: 2008 California Greenhouse Gas Emissions by Sector (2000–2008 Emissions Inventory)**

2010). This GHG inventory is based on the standards for criteria pollutant inventories and is intended to support BAAQMD’s climate protection activities. The regional

Bay Area and local (county, project location) 2007 GHG emissions from existing direct and indirect sources are shown in Table 3.8-2. The estimated GHG emissions are presented in CO<sub>2</sub>e, which weights each GHG by its GWP. The GWPs used in the BAAQMD inventory are from the Second Assessment Report of the IPCC.

**Table 3.8-2: 2007 Estimated Regional and Local Greenhouse Gas Emissions**

Emissions Source	Emissions in Metric Tons of CO <sub>2</sub> e per Year (2007)	
	Bay Area	Alameda County
Transportation	34,870,000 (36.41%)	8,400,000
Industrial/Commercial	34,860,000 (36.40%)	3,300,000
Electricity/Cogeneration <sup>1</sup>	15,200,000 (15.87%)	2,000,000
Residential Fuel Usage	6,820,000 (7.12%)	1,300,000
Off-Road Equipment	2,920,000 (3.05%)	600,000
Agricultural/Farming	1,110,000 (1.16%)	100,000
<b>Total Emissions</b>	<b>95,780,000 (100%)</b>	<b>15,700,000</b>

Note:

CO<sub>2</sub>e = carbon dioxide equivalent

<sup>1</sup> Includes imported electricity emissions of 7,100,000 metric tons of carbon dioxide equivalent.

Source: BAAQMD, 2010

In 2007, Alameda County GHG emissions accounted for about 16.3 % of the total Bay Area GHG emissions (BAAQMD, 2010). Transportation is the largest GHG emissions sector in the Bay Area and in Alameda County proper, followed by industrial/commercial, electricity generation and cogeneration, and residential fuel usage.

### Sea Level Rise

With respect to the VA Transfer Parcel, the most critical climate change problem is the potential for a substantial increase in mean sea level (msl). Such a rise may result from a combination of (a) the volumetric expansion of existing seawater as water temperatures rise substantially and (b) the increase in total (liquid) seawater as large ice deposits on land (e.g., in Antarctica, in Greenland, and worldwide in large glaciers) melt into the sea. Sea level rise refers to an increase in msl with respect to a land benchmark. Local sea level rise is affected by global sea level rise plus geotectonic land mass movements and subsidence.

Atmospheric pressure, ocean currents, and local ocean temperatures also affect local rates of sea level rise. Sea level has risen approximately 400 feet since the peak of the last Ice Age about 18,000 years ago, but the bulk of that occurred before 6,000 years ago (Axelrod, 1981). From 3,000 years ago to the start of the 19th century, the rate of sea level rise was held almost constant; however, rates of sea level rise appeared to increase worldwide in the 20th century (e.g., 8.4 inches per century or 4.2 inches every 50 years near San Francisco). In the last century, the measured rate of sea level rise near San Francisco is 8.4 inches per century or 4.2 inches every 50 years.

Most climate scientists agree that global warming will cause the sea level rise to increase. In 2001, the IPCC released a report with projections of global sea level rise over the next century. More recent studies project

different rates of sea level rise for specific regions of the globe. These regional projections are considered more reliable on a region-by-region basis than the IPCC projections. The IPCC model range of estimates for global sea level average rise by 2060 is predicted to be between 2.4 and 15.6 inches. However, the models used by the IPCC do not predict uniform global sea level rise, and there are substantial regional variations. The IPCC model predictions for the eastern Pacific indicate a range of sea level rise of 3.6 to 19.2 inches by 2100, which is on the lower end of the global range noted above. Assuming net rise between 1990 and 2060 to be half of the net rise between 1990 and 2100, the geographic prediction for 2060 from the IPCC models for the eastern Pacific would be 1.8 to 9.6 inches.

The Delta Vision Blue Ribbon Task Force established by Governor Schwarzenegger to develop a management plan for the Sacramento–San Joaquin Delta employed an independent science board to review literature and provide recommendations on sea level rise. Based on their findings, the Independent Science Board recommended adopting an estimated rise in sea level of 55 inches by 2100. California Climate Action Team–funded research for the 2009 California Climate Adaptation Strategy Report estimates that sea level rise will increase in California between 12 and 16 inches by 2050 and between 20 and 55 inches by 2099 (BCDC, 2009). In addition, the California Department of Water Resources supports a range in sea level rise of 7 to 55 inches along California’s coast by 2100 (DWR, 2008). Furthermore, the most recent climate science report, the 2009 Copenhagen Diagnosis, estimates that global sea level rise will increase up to approximately 78.7 inches by 2100 (Allison et al., 2009).

### ***VA Transfer Parcel and VA Development Area***

The topography of the VA Transfer Parcel and the VA Development Area is primarily flat and rises from 0 msl to approximately 10 feet above msl (CH2M Hill, 2011).

## **3.8.4 Environmental Consequences**

### **Assessment Methods**

To estimate GHG emissions associated with construction of individual development components, URBEMIS 2007, Version 9.2.4 (URBEMIS), a land use emissions model approved by the California Air Resources Board, was used. The BAAQMD Greenhouse Gas Model (BGM) model was used to estimate operational GHG emissions. URBEMIS is designed to model construction emissions for individual development components based on building size, land use and type, and disturbed acreage and allows for the input of project-specific information. BGM was developed for use with URBEMIS, and calculates operational GHG emissions associated with a project at buildout. Operational emissions calculated include those resulting from transportation (trip generation), electricity use, natural gas use, solid waste generation, water and wastewater use, and other area sources (hearth and landscaping).

Construction-generated GHG emissions were modeled based on the Alternatives and default BAAQMD-recommended settings and parameters attributable to the proposed land use type and site location. URBEMIS only provides estimates of emissions of CO<sub>2</sub>. Although emissions of other GHGs, such as methane and nitrous oxide, are important with respect to global climate change, the emission levels of these other GHGs from on- and

off-road vehicles used during construction are about two to three orders of magnitude smaller than CO<sub>2</sub> emissions, even when factoring in the relatively larger GWPs of methane and nitrous oxide (CCAR, 2009).

The GHG emissions associated with the operation of the EA Alternatives were modeled using BGM Version 1.1.9 beta, with default Bay Area values for temperature, humidity, and vehicle fleet characteristics as well as rates of energy consumption, waste generation, water use, and wastewater generation for various land uses. All modeling assumptions and output summaries are contained in Appendix F (Air Quality and Greenhouse Gas Emissions Data).

The potential effects of proposed GHG emissions are by nature global and cumulative in their impacts, since individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when proposed GHG emissions combine with GHG emissions from other human-made activities on a global scale.

### ***Global Climate Change***

The impacts of global climate change on the EA Alternatives are described in terms of sea level rise, because local/regional projections of specific climate change effects (such as regionally downscaled versions of global climate models) that have been developed for the Bay Area are limited to sea level rise and corresponding inundation areas. Scientific findings related to sea level rise for the EA Alternatives are summarized and discussed below. Thus, this section includes an overview of the potential impacts of the EA Alternatives in the context of global climate change related to sea level rise, and the potential impact associated with the effect of an alternative in the context of sea level rise is determined based on proposed land development elevations in comparison to BCDC's findings on sea level rise inundation for San Francisco Bay.

## **Alternative 1**

### ***Construction***

GHG emissions resulting from the initial phase of construction (i.e., VHA OPC, VBA Outreach Office, Conservation Management Office, first phase of NCA National Cemetery, and associated infrastructure) would total 16,720 MT of CO<sub>2</sub>e. Emissions related to construction of subsequent phases of the NCA Cemetery would total 11,147 MT of CO<sub>2</sub>e per occurrence through 2116 (see Table 3.8-3). Daily GHG emissions would vary over this time depending on the intensity of construction activities each day.

Construction-related GHG emissions would cease following construction of Alternative 1, and therefore would not be a continuous source over the lifetime of the project. Furthermore, as discussed in Chapter 2 (Alternatives), and discussed further below, the proposed outpatient clinic would be built to meet Leadership in Energy and Environmental Design (LEED) Silver certification. As part of the minimum requirements of LEED Silver, Alternative 1 would implement measures associated with "material and resources," which typically includes the use of recycled or local materials, or materials with low-volatile organic compound off-gassing potential. Thus, the selected building materials would have less GHG emissions embedded in their manufacturing life cycle and/or would come from local providers to reduce transportation emissions. Therefore, Alternative 1 would also implement best construction management practices to reduce GHG emissions embedded within materials or required to deliver materials to the project site.

**Table 3.8-3: Construction Greenhouse Gas Emissions (Metric Tons of Carbon Dioxide Equivalent) (Alternative 1 and 2)**

	Grading	Trenching	Building Construction	Asphalt Paving	Arch. Coating	Truck Emissions	SOV Emissions	TOTAL
Initial Phase of Construction	724	71	340	132	2	15,097	355	16,7220
Subsequent Phases of Cemetery Expansion	482	47	226	88	1	10,065	237	11,147

Notes:  
Arch. = Architectural; SOV = Single Occupancy Vehicle  
Emissions may not appear to add exactly due to rounding.

**Operation**

Under full buildout, Alternative 1 total GHG operational emissions would total 13,907 MT of CO<sub>2</sub>e per year. Mobile-source emissions related to the operation of the VA facilities would total 10,976 MT of CO<sub>2</sub>e per year. Area-source and indirect emissions (e.g., electricity, natural gas, area sources, water, wastewater, and solid waste) associated with operation of the VA facilities would total 2,931 MT of CO<sub>2</sub>e per year (see Table 3.8-4).

**Table 3.8-4: Operational Greenhouse Gas Emissions (Metric Tons of Carbon Dioxide Equivalent) per Year after Full Buildout (Alternative 1 and 2)<sup>1</sup>**

Transportation	Area	Electricity <sup>2</sup>	Natural Gas <sup>2</sup>	Water and Wastewater	Solid Waste	TOTAL
10,976	231	808	667	19	1,206	13,907

Notes:  
<sup>1</sup> Annual operational presented include GHG emissions from the conservation management office, outpatient clinic, and cemetery.  
<sup>2</sup> Electricity and natural gas emissions include emission reductions associated with VA’s Strategic Sustainability Performance Plan. Totals may not appear to add exactly due to rounding.  
Source: Data calculations by AECOM in 2012 (Appendix F)

In addition, it should be noted that there would be periods when operational emissions associated with Alternative 1 facility operations and subsequent cemetery phase construction would occur simultaneously. In these situations, annual emissions associated with Alternative 1 could total up to 25,054 MT CO<sub>2</sub>e. It should be noted that this emissions estimate (25,054 MT CO<sub>2</sub>e) is the combination of the full buildout of the proposed outpatient clinic, conservation management office, and first phase of the cemetery with subsequent cemetery expansions, which represents a worst-case scenario. In reality, the operational emissions occurring simultaneously with subsequent cemetery expansion emissions would be less than those shown in Table 3.8-4. In other words, before full buildout of Alternative 1 when subsequent cemetery expansions are still occurring, operational emissions would not reach the level shown in Table 3.8-4. Alternative 1 would also include several features that would reduce long-term operational GHG emissions. As stated in Chapter 2.0 (Alternatives), the proposed outpatient clinic would achieve LEED Silver certification. As part of the LEED certification, the proposed outpatient clinic would need to fulfill minimum requirements in a variety of categories including sustainable sites, water efficiency, energy and atmosphere, material and resources, and indoor environmental quality. Fulfilling the requirements in each of these categories would reduce Alternative 1’s long-term operational emissions and potentially the life-cycle emissions associated with construction materials. Thus, Alternative 1 would comply with and surpass the minimum

requirements of LEED (i.e., LEED Silver rather than just LEED Certified) to reduce long-term operational GHG emissions associated with new buildings. LEED designation is a nationally and internationally accepted and recognized program for achieving sustainable design in projects, which helps reduce and/or more efficiently utilize natural resources (e.g., energy, water, wastewater, solid waste, building materials) and reduce long-term GHG emissions. Therefore, Alternative 1 would comply with best management and operation practices for new buildings to reduce GHG emissions.

Furthermore, as stated earlier, VA's SSPP target is to reduce GHG emissions by 29.6% from baseline 2008 emissions by the year 2020. A majority of these emissions reductions (26.2%) are anticipated to come from meeting the Energy Policy Act of 2005's targets for energy and fuel use. Therefore, a reduction gap of 3.4% would be required to achieve VA's SSPP goal. The outpatient clinic's LEED Silver certification would also contribute to long-term GHG reductions from transportation-, energy-, water-, wastewater-, and solid waste-related emissions. In addition, because the project site is located in California, several Statewide initiatives as part of the Assembly Bill (AB) 32 Scoping Plan would reduce Alternative 1's future GHG emissions. For example, the Low Carbon Fuel Standard (LCFS) is anticipated to reduce GHG emissions associated with the life cycle of all fuels by 10% by 2020 (ARB, 2011). The Pavley I and Pavley II fuel standards would also reduce the GHG emissions associated with Alternative 1's vehicle fleet (i.e., outpatient clinic) as well as all vehicles that would be visiting the project site. In addition to Alternative 1's VA SSPP actions, project design features, and Statewide AB 32 Scoping Plan measures, the overall vehicle fleet turnover and increases in emissions technology from year 2008 to 2020 would also contribute to the overall reduction in GHG emissions. Thus, considering that the LEED Silver certification would reduce some portion of GHG emissions from all of Alternative 1's operational GHG emission sources (Table 3.8-4), that California Statewide measures associated with the AB 32 Scoping Plan (e.g., Pavley I, Pavley II, and LCFS) would reduce transportation emissions, and natural turnover in the vehicle fleet and increases in emissions technology would further reduce transportation emissions, which are the largest contributor to Alternative 1's annual operational emissions (79%), it is reasonable to expect that the 3.4% reduction gap would be achieved to reach a 29.6% reduction from baseline 2008 emissions by the year 2020.

The potential effects of proposed GHG emissions are by nature global and cumulative in their impacts, since individual sources (i.e., the Proposed Action) of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when proposed GHG emissions from an action combine with GHG emissions from other human-made activities on a global scale. Since GHG emissions from the Proposed Action would equate to such a minimal amount of the U.S. inventory, they would not substantially contribute to global climate change.

### ***Impact of Climate Change***

Based on sea level rise predictions of 16 inches by 2050 and 55 inches by 2099 (BCDC, 2009), sea level rise could cause flooding in some of the coastal areas of Alameda Island, including the VA Transfer Parcel and the VA Development Area. Specifically, under Alternative 1, the VA Development Area would be located in an area identified as potentially exposed to up to 11.2 feet above msl of inundation due to a combination of approximately

55 inches of sea level rise by 2099 plus the 100-year stillwater elevation<sup>5</sup> (BCDC, 2011) (see Figure 3.8-3). However, as part of construction of VA facilities, the ground elevation would be raised to 12.5 feet above msl for the proposed Conservation Management Office and roadways and to 13.5 feet above msl for the proposed VHA OPC and NCA Cemetery. Thus, the proposed development location would be at a higher elevation (12.5 to 13.5 feet above msl) than both the Pacific Ocean (0 feet above msl) and the high-end sea level rise prediction in 2099 (55 inches or 4.6 feet above msl). As a result, there would be no climate change–related sea level rise impacts at the proposed facilities (including infrastructure) in the VA Development Area under Alternative 1 through the year 2099. Therefore, the Proposed Action would be prepared for inevitable environmental changes that are anticipated to occur from climate change, and climate change thus is not anticipated to result in harm to persons or property or degradation of natural resources or ecosystems at the VA Transfer Parcel. No impact is expected to occur on the proposed development related to the potential effects of projected sea level rise.

## **Alternative 2 (Preferred Alternative)**

### ***Construction***

Under Alternative 2, emissions related to construction would be similar to Alternative 1 (Table 3.8-3). Thus, construction activities would not exceed the CEQ reference point of 25,000 MT of CO<sub>2</sub>e, which serves as a minimum standard for reporting emissions under the CAA.

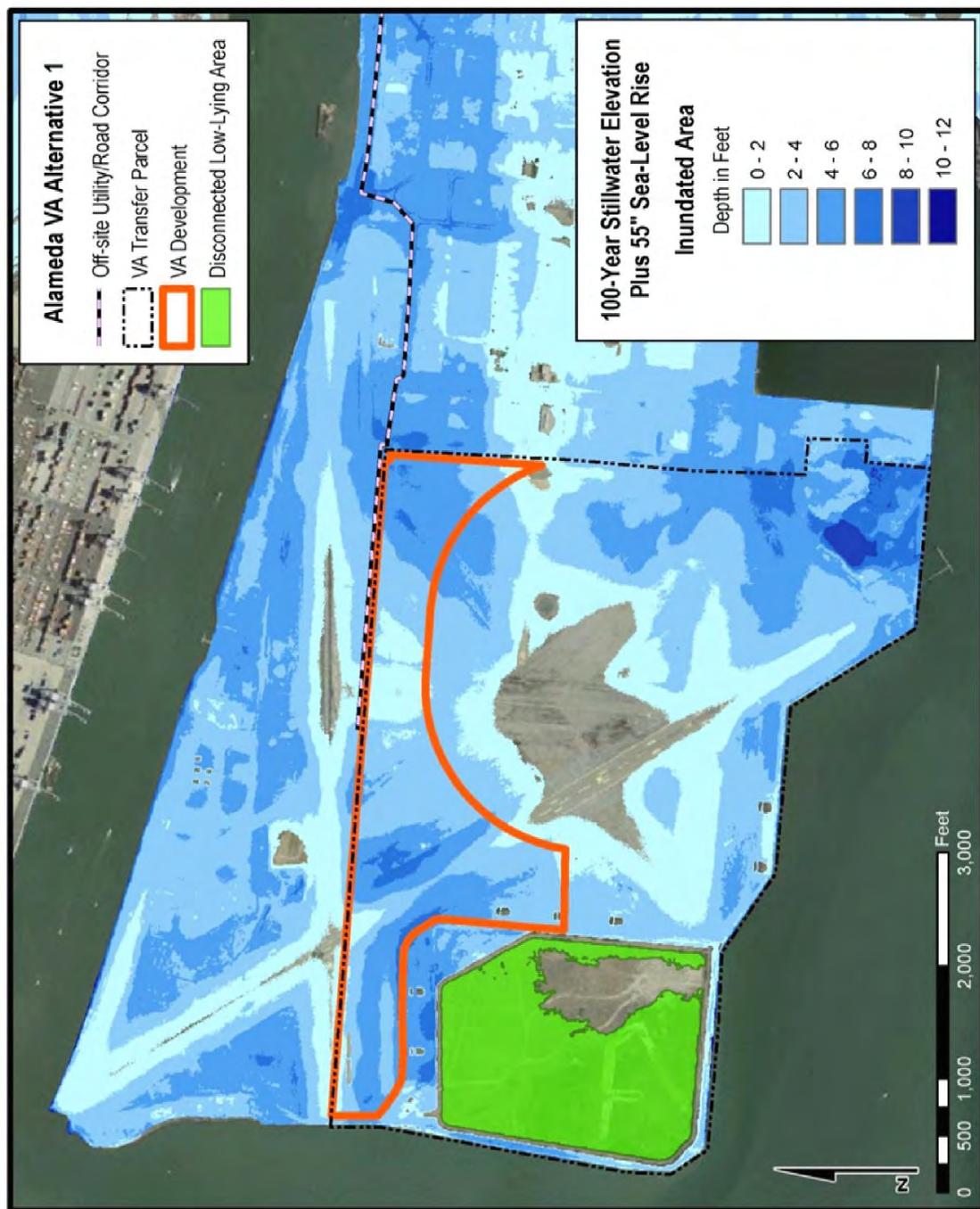
### ***Operation***

Operational GHG emissions under Alternative 2 would be similar to those under Alternative 1. Therefore, all operational emissions would be the same as those shown in Table 3.8-5. In addition to the GHG reduction programs identified in Chapter 2.0 (Alternatives) and in Alternative 1 above (e.g., LEED Silver certification, VA’s SSPP, etc.), the design of the OPC, under Alternative 2, would include the following design features to reduce GHG emissions and energy use:

1. Load-Reducing Passive architectural strategies:
  - Building orientation to respond to climate conditions, views, and desired solar access.
  - High performance envelope (appropriate window to wall ratio, high performance glazing, good insulation).
  - Shading and glare control strategies combined with day-lighting.
2. Load Reducing Active Building systems:
  - HVAC systems: Air Handling Units that expand the time spent in “free cooling” by being able to reset the supply air temperature up to 65 degrees Fahrenheit. Efficient Cooling & Heating Systems (90+% efficiency condensing boilers).

---

<sup>5</sup> The determination of the 100-year stillwater elevation is accomplished through the statistical analysis of historical tide and water level data or by the use of a numerical storm surge model. Several factors can contribute to the 100-year stillwater elevation in a coastal area. The most important factors include offshore bathymetry, astronomical tide, wind setup (rise in water surface as strong winds blow water toward the shore), pressure setup (rise in water surface from low atmospheric pressure), wave setup (rise in water surface inside the surf zone from the presence of breaking waves), and seiches.



Source: Data compiled by AECOM in 2013

**Figure 3.8-3: Projected Sea Level Rise Inundation Areas at Former NAS Alameda (Alternative 1)**

- Efficient indoor and outdoor lighting systems (lower lighting power density, occupancy sensors, & LED fixtures where applicable) combined with daylight harvesting sensors.
3. Renewables:
- Shading structure in the parking lot with a photovoltaic system that supplies on-site energy generation to offset 10.5% of the annual electrical energy use.
  - Solar Hot Water system that supplies 30% of the domestic hot water use demand.
4. Metering & Verification: The project is planned to have appropriate metering in place to monitor and refine actual energy use after occupied.

Through the implementation of these measures, the Proposed Action meets applicable guidance and follows best practices for reducing energy use and GHG emissions. Further, the potential effects of proposed GHG emissions are by nature global and cumulative in their impacts, since individual sources (i.e., the Proposed Action) of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when proposed GHG emissions from an action combine with GHG emissions from other human-made activities on a global scale. Since GHG emissions from the Proposed Action would equate to such a minimal amount of the U.S. inventory, they would not substantially contribute to global climate change.

### ***Impact of Climate Change***

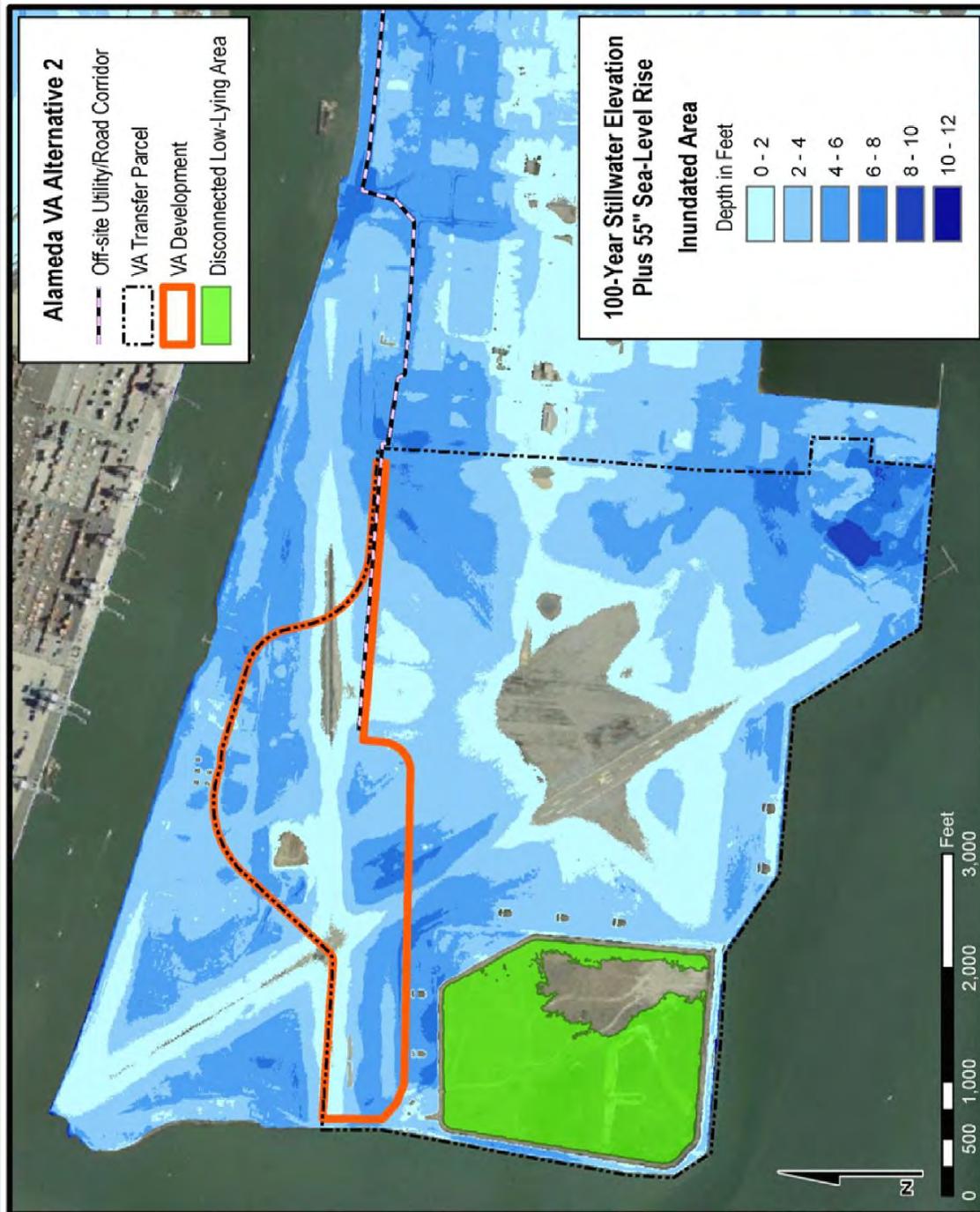
Based on sea level rise predictions of 16 inches by 2050 and 55 inches by 2099 (BCDC, 2011), sea level rise could cause flooding in some of the coastal areas of Alameda Island, including the VA Transfer Parcel and the VA Development Area. Specifically, under Alternative 2, the VA Development Area would be located in an area identified as potentially exposed to up to 11.2 feet above msl of inundation due to a combination of approximately 55 inches of sea level rise by 2099 plus the 100-year stillwater elevation (BCDC, 2011) (see Figure 3.8-4).

However, as part of construction of VA facilities, the ground elevation would be raised to 12.5 feet above msl for the proposed Conservation Management Office and roadways and to 13.5 feet above msl for the proposed VHA OPC and NCA Cemetery. Thus, the proposed development location would be at a higher elevation (12.5 to 13.5 feet above msl) than both the Pacific Ocean (0 feet above msl) and the high-end sea level rise prediction in 2099 (55 inches or 4.6 feet above msl). As a result, there would be no climate change–related sea level rise impacts at the proposed VA facilities (including infrastructure) under Alternative 2 through 2099. Therefore, the proposed VA development under Alternative 2 would be prepared for inevitable environmental changes that are anticipated to occur from climate change, and thus, climate change is not anticipated to result in harm to persons or property or degradation of natural resources or ecosystems at the VA Transfer Parcel. No impact is expected to occur on the proposed development related to the potential effects of projected sea level rise.

### **No Action Alternative**

#### ***Construction***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place, and no VA facilities would be constructed. Therefore, no impacts would occur.



Source: Data compiled by AECOM in 2013

**Figure 3.8-4: Projected Sea Level Rise Inundation Areas at Former NAS Alameda (Alternative 2)**

## ***Operation***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place, and no VA facilities would be operated on the property. The property would be retained by Navy in caretaker status until another action on the property is taken. Therefore, no operational-related impacts would occur.

## ***Impact of Climate Change***

Because there would be no VA development at Alameda Point that could be adversely affected by climate change under the No Action Alternative, no impact of climate change would occur.

### **3.8.5 References**

- Ahrens, B. 2003. Rainfall Downscaling in an Alpine Watershed Applying a Multiresolution Approach. *Journal of Geophysical Research*, 108(D8), 8388, doi:10.1029/2001JD001485.
- Allison, I., N. L. Bindoff, R. A. Bindenschadler, P. M. Cox, N. de Noblet, M. H. England, J. E. Francis, N. Gruber, A. M. Haywood, D. J. Karoly, G. Kaser, C. Le Quéré, T. M. Lenton, M. E. Mann, B. I. McNeil, A. J. Pitman, S. Rahmstorf, E. Rignot, H. J. Schellnhuber, S. H. Schneider, S. C. Sherwood, R. C. J. Somerville, K. Steffen, E. J. Steig, M. Visbeck, and A. J. Weaver. 2009. *The Copenhagen Diagnosis, 2009. Updating the World on the Latest Climate Science*. The University of New South Wales Climate Change Research Centre (CCRC), Sydney, Australia. Available: <<http://www.copenhagendiagnosis.org/download/default.html>>. Accessed September 8, 2010.
- Axelrod, D. I. 1981. Holocene Climatic Changes in Relation to Vegetation Disjunction and Speciation. *American Naturalist* 117: 847–870.
- Bay Area Air Quality Management District (BAAQMD). 2010. Source Inventory of Bay Area Greenhouse Gas Emissions. Available: <[http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Emission%20Inventory/regionalinventory2007\\_2\\_10.ashx](http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Emission%20Inventory/regionalinventory2007_2_10.ashx)>. Accessed June 2, 2011.
- California Air Resources Board (ARB). 2010. Greenhouse Gas Inventory Data—Graphs. Available: <<http://www.arb.ca.gov/cc/inventory/data/graph/graph.htm>>. Accessed June 2, 2011.
- . 2011. Low Carbon Fuel Standard Propose Amendments. Available: <[http://www.arb.ca.gov/fuels/lcfs/regamend/20111014\\_prsn.pdf](http://www.arb.ca.gov/fuels/lcfs/regamend/20111014_prsn.pdf)>. Accessed June 12, 2013.
- California Climate Action Registry (CCAR). 2009. General Reporting Protocol, Version 3.1.
- California Department of Water Resources (DWR). 2008. *Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water*. Available: <<http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf>>. Accessed December 7, 2009.

- California Energy Commission (CEC). 2006. *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004*. Staff Final Report. Available: <<http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF>>. Accessed June 2, 2011.
- CH2M Hill. 2011 (January). *Final Site Inspection Report Transfer Parcels FED-1A, FED-2B, and FED-2C Alameda Point Alameda, California*. Prepared for U.S. Department of the Navy.
- Intergovernmental Panel on Climate Change (IPCC). 2001. Atmospheric Chemistry and Greenhouse Gases. In: *Climate Change 2001: Working Group I: The Scientific Basis*. Available: <<http://www.ipcc.ch/ipccreports/tar/wg1/pdf/TAR-04.PDF>>. Accessed January 4, 2008.
- . 2007a. Observed Changes in Climate and Their Effects. In: *Climate Change 2007: Synthesis Report* (Working Group III Fourth Assessment Report). Available: <[http://www.ipcc.ch/publications\\_and\\_data/ar4/syr/en/mains1.html](http://www.ipcc.ch/publications_and_data/ar4/syr/en/mains1.html)>. Accessed March 28, 2011.
- . 2007b. Summary for Policymakers. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, United Kingdom: Cambridge University Press.
- . 2007c. Introduction. In: *Climate Change 2007: Mitigation* (Working Group III Fourth Assessment Report). Available: <<http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter1.pdf>>. Accessed January 21, 2008.
- . 2007d (February). Changes in Atmospheric Constituents and in Radiative Forcing. In: *Climate Change 2007: The Physical Science Basis* (Working Group I Fourth Assessment Report). Available: <<http://www.ipcc.ch/SPM2feb07.pdf>>. Accessed January 4, 2008.
- National Oceanic and Atmospheric Administration (NOAA). 2008. Greenhouse Gases: Frequently Asked Questions. Available: <<http://lwf.ncdc.noaa.gov/oa/climate/gases.html>>. Accessed August 1, 2008.
- San Francisco Bay Conservation and Development Commission (BCDC). 2009 (April 7). *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on the Shoreline*. Draft Staff Report.
- Seinfeld, J. H., and S. N. Pandis. 1998. *Atmospheric Chemistry and Physics*. New York: John Wiley & Sons.
- U.S. Department of Energy, Energy Information Administration, Office of Integrated Analysis and Forecasting (DOE). 2008. *Emissions of Greenhouse Gases in the United States 2007*. Washington, DC.
- U.S. Environmental Protection Agency (EPA). 2006. High Global Warming Potential (GWP) Gases. Available: <<http://www.epa.gov/highgwp/index.html>>. Accessed January 4, 2008.
- U.S. Department of Veterans Affairs (VA). 2010 (June). *Strategic Sustainability Performance Plan*.

This page intentionally left blank.

## 3.9 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

This section describes the existing setting related to population, employment, income, and ethnicity, and discusses the potential effects of the EA Alternatives related to socioeconomics. In addition to general socioeconomic information, this section discusses environmental justice and risks to children's health and safety.

### 3.9.1 Regulatory Framework

#### **Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations**

EO 12898 requires each Federal agency to make achieving environmental justice part of its mission. Specifically, the agency must identify and address, as appropriate, the disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. These provisions also apply fully to programs involving Native Americans. The EO also requires each Federal agency to conduct its programs, policies, and activities so that they do not exclude, deny benefits to, or discriminate against persons (including populations) because of race, color, or national origin.

#### **Executive Order 12898: Protection of Children from Environmental Health Risks and Safety Risks**

EO 13045 requires that "each Federal agency (a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children, and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risk or safety risks."

### 3.9.2 Affected Environment

This section presents regional and local demographic and economic information as it relates to the VA Transfer Parcel and the surrounding area. For the purposes of this resource section, the socioeconomic study area includes the Census Tracts that encompass the VA Transfer Parcel and its immediate surrounding area (i.e., U.S. Census Bureau Census Tracts 4287, 4276, and 4277; which encompass the VA Transfer Parcel and the western portion of the City of Alameda), the City of Alameda, and Alameda County. Information about population, housing, employment, income, and ethnicity is derived primarily from the 2010 U.S. and projections by the California Department of Finance and Association of Bay Area Governments. Because the Proposed Action does not propose the addition or removal of housing, the analysis in this EA does not address impacts related to the availability of housing.

#### **Population**

The VA Transfer Parcel is located within the City of Alameda, which had a total estimated population of 73,812 in 2010 (an approximate 2% increase from 2000). No population resides and no residential housing exists within the VA Transfer Parcel. Study area population estimates are summarized in Table 3.9-1.

**Table 3.9-1: Study Area Population Estimates (2000–2010)**

	<b>Population 2000</b>	<b>Population 2010</b>	<b>Percent Change 2000 to 2010</b>
Census Tracts <sup>1</sup>	12,006	13,707	+ 14.2%
City of Alameda	72,259	73,812	+ 2.2%
Alameda County	1,443,744	1,510,271	+ 4.6%

Notes:

NA = not applicable; VA = U.S. Department of Veterans Affairs

<sup>1</sup> For purposes of this analysis and to allow comparison between 2010 and 2000 data, information for Census Tracts 4275 and 4274 have been combined. In 2010, Census Tracts 4274 and 4275 were combined, resulting in Census Tract 4287.

Source: U.S. Census 2000a, 2000b, 2010a

### Income and Unemployment

Study area income and unemployment characteristics are summarized in Table 3.9-2. No employment or income generating businesses are currently located within the VA Transfer Parcel. However, the site does contain active conservation and management efforts for the CLT.

**Table 3.9-2: Study Area Income and Unemployment (2010)<sup>1</sup>**

	<b>Per Capita Income (\$)</b>	<b>Median Household Income 2010 (\$)</b>	<b>Unemployed (% of Civilian Labor Force)</b>
Census Tracts	30,441 <sup>2</sup>	61,158 <sup>2</sup>	6.4 <sup>2</sup>
City of Alameda	38,434	74,221	5.4
Alameda County	33,961	69,384	5.6

Notes:

<sup>1</sup> Employment and income data from the 2006–2010 American Community Survey 5-Year Estimates were used because 2010 U.S. Census data were not available at the time this document was prepared.

<sup>2</sup> Average of the three Census Tracts.

Source: U.S. Census, 2010a

### Environmental Justice

Consistent with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994), the policy is to identify and address any disproportionately high and adverse human health or environmental effects of its actions on minority or low-income populations.

The CEQ (1997) has issued guidance to Federal agencies on the terms used in Executive Order 12898, as follows:

- **Low-income Population.** Low-income populations in an affected area should be identified using the annual statistical poverty thresholds from the U.S. Bureau of Census’s Current Population Reports, Series P-60, on Income and Poverty.
- **Minority.** Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not Hispanic origin; or Hispanic.

- **Minority Population.** Minority populations should be identified where: (a) the minority population of the affected area exceeds 50%, or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.
- **Disproportionately High and Adverse Human Health Effects.** When determining whether human health effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:
  1. Whether the health effects, which may be measured in risks and rates, are significant (as employed by NEPA), or above generally accepted norms;
  2. Whether the risk or rate of hazard exposure to a minority population, low income population, or Indian tribe to an environmental hazard is significant (as employed by NEPA) and appreciably exceeds or is likely to appreciably exceed the risk or rate to the general population or other appropriate comparison group; and
  3. Whether health effects occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposure to environmental hazards.
- **Disproportionately High and Adverse Environmental Effects.** When determining whether environmental effects are disproportionately high and adverse, agencies are to consider the following three factors to the extent practicable:
  1. Whether there is or will be an impact on the natural or physical environment that significantly (as employed by NEPA) and adversely affects a minority population, low-income population, or Indian tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on natural or physical environment;
  2. Whether environmental effects are significant (as employed by NEPA) and are or may be having an adverse impact on minority populations, low income populations, or Indian tribes that appreciably exceed or are likely to appreciably exceed those on the general population or other appropriate comparison group; and
  3. Whether the environmental effects occur or would occur in a minority population, low-income population, or Indian tribe affected by cumulative or multiple adverse exposures from environmental hazards.

Environmental justice impacts refer to disproportionately high and adverse human health or environmental effects of a Proposed Action on low-income populations, minority populations, or Indian tribes. In order to identify if any potential disproportionate adverse environmental justice effects would be associated with the implementation of the Proposed Action, existing environmental justice characteristics (i.e., minority and low-income population) in the community directly affected (i.e., Census Tracts 4287, 4276, and 4277) were identified. This data is presented for descriptive purposes and do not indicate the probable location of disproportionate impacts. A minority population concentration is identified as follows:

- The minority population in the community is equal to or greater than 50%; or

- The minority population in the community is 10 or more basis points higher than that of the “base” community (city or county, depending on location).

Minority groups include African American, Hispanic, Asian, American Indian and Alaska Native, and Native Hawaiian or Other Pacific Islander. A “low-income” person is defined as a person whose household income is at or below the income level stated in the U.S. Department of Health and Human Services’ poverty guidelines, which in the 2010 guidelines was \$22,050 for a family of four.

The communities in the immediate project area (i.e., 4287, 4276, and 4277) have a combined minority population of 65.4% and a combined percentage of individuals below the poverty level of 14.9%. Table 3.9-3 presents statistics on low-income and minority population characteristics for the study area, including Census Tracts (i.e., 4287, 4276, and 4277), City of Alameda, and Alameda County.

**Table 3.9-3: Environmental Justice Population Characteristics (2010)**

	<b>Total Population</b>	<b>Percent Minority</b>	<b>Percent Below Poverty Level</b>
Census Tracts <sup>1</sup>	13,707	65.4	14.9
City of Alameda	73,812	49.2	10.1
Alameda County	1,510,271	47.2	11.4

Notes:

<sup>1</sup> Includes Census Tracts 4287, 4276, and 4277.

Source: U.S. Census, 2010b, 2010c

### 3.9.3 Environmental Consequences

#### Assessment Methods

Socioeconomic impacts refer to the basic attributes and resources associated with the human environment, with particular emphasis on population and employment. Potential impacts can be related to the displacement of populations, residences, and/or businesses; impacts on the availability of housing or accommodation; and the inducement of unplanned growth. Socioeconomic impacts can also stem from the nature and duration of construction and operational activities that, in turn, may lead to displacement or modification of existing activities, and any diversion or temporary suspension of access associated with a Proposed Action. Because the EA Alternatives do not propose the addition or removal of housing, the analysis in this EA does not address impacts related to the availability of housing. Daily population and employment totals for the EA Alternatives were estimated using patient/visitor/employment information from similar VA facilities.

#### Alternative 1

##### *Construction*

##### Population

Alternative 1 would have no effect on existing population in study area. Therefore, there would be no significant construction-related impact.

### **Employment and Income**

Initial construction under Alternative 1 (July 2015 to December 2016) is anticipated to require a temporary crew of 20–56 persons derived from the local labor pool. Construction of subsequent cemetery phases under Alternative 1 (from 2026 through 2116) is anticipated to require a temporary crew of approximately 15 persons for a period of approximately 12 months per phase derived from the local labor pool. Because both the Bay Area as a whole and the city of Alameda have experienced a reduction in employment (including construction jobs) over the last decade (between 2000 and 2010), the additional construction jobs provided by the Proposed Action would have a positive short-term beneficial effect on the local and regional economies. The construction-related impact of Alternative 1 related to employment growth would not have a significant adverse impact.

Construction under Alternative 1 would not impede residential or business activity within the community surrounding the VA Transfer Parcel because all construction activities would be limited to the currently unoccupied area within the VA Development Area. As discussed in Section 3.3 (Transportation, Traffic, Circulation, and Parking), construction-related trucks would flow into and out of the VA Transfer Parcel using I-880 and designated truck routes in Oakland and Alameda. Construction activities would be limited to the VA Development Area, and construction-related traffic would use existing roadways. Therefore, no residents or businesses would be displaced. No construction-related significant adverse impact related to displacement of persons, residences, and/or businesses would occur.

### **Operation**

#### **Population**

Because no housing is proposed under Alternative 1, there would be no direct change in permanent population or housing with implementation of this alternative. In general, a project would be considered growth inducing if its implementation would substantially increase the population or result in the need for additional development, which might not occur if the project were not implemented. Employees are anticipated to be already living in the San Francisco Bay Area and would not require new housing. Thus, no significant impact related to induced population or housing growth would occur under Alternative 1.

### **Employment and Income**

Under Alternative 1 the new daily employment population is estimated to be 250 VA employees in the OPC building and the Conservation Management Office and seven employees at the NCA Cemetery. Because both the Bay Area as a whole and the city of Alameda have experienced a reduction in employment over the last decade (between 2000 and 2010), adding an estimated 257 jobs that could be filled by Bay Area and/or Alameda residents would have a beneficial effect on the regional and local economies. The operational impact of Alternative 1, related to employment growth would not be significant.

### **Environmental Justice**

As identified in Table 3.9-3, the communities surrounding the VA Transfer Parcel do not have a disproportionately high minority or low-income population. In addition, there are no specific impacts on general health or quality of life that would adversely or disproportionately impact the surrounding population. Therefore, it was determined

that no disproportionate adverse environmental justice effects would be associated with the implementation of Alternative 1. There would be no significant impact to environmental justice.

### **Alternative 2 (Preferred Alternative)**

#### ***Construction***

The construction of VA facilities under Alternative 2 would be similar to that under Alternative 1. Therefore, impacts of construction under Alternative 2 on population, housing, employment, income, and environmental justice would be the same as those described for Alternative 1. Construction-related impacts of Alternative 2 would not be significant.

#### ***Operation***

The operation of VA facilities under Alternative 2 would be similar to that under Alternative 1. Therefore, impacts of facility operation under Alternative 2 on population, housing, employment, income, and environmental justice would be the same as those described for Alternative 1. Operation-related impacts of Alternative 2 would not be significant.

#### **Environmental Justice**

As identified in Table 3.9-3, the communities surrounding the VA Transfer Parcel do not have a disproportionately high minority or low-income population. In addition, there are no specific impacts on general health or quality of life that would adversely or disproportionately impact the surrounding population. Therefore, it was determined that no disproportionate adverse environmental justice effects would be associated with the implementation of Alternative 2. There would be no significant impact to environmental justice.

### **No Action Alternative**

#### ***Construction***

Because the proposed VA facilities would not be constructed under the No Action Alternative, no construction impacts related to socioeconomics or environmental justice would result. No construction-related significant impact would occur.

#### ***Operation***

Under the No Action Alternative, no operational impacts related to socioeconomic or environmental justice would result. No significant operational impact would occur.

### **3.9.4 References**

U.S. Census Bureau (U.S. Census). 2000a. American FactFinder: Profile of General Demographic Characteristics: California, 2000. Available: <[http://factfinder.census.gov/servlet/DatasetMainPageServlet?\\_lang=en&\\_ts=329663591260&\\_ds\\_name=DEC\\_2000\\_SF1\\_U&\\_program=](http://factfinder.census.gov/servlet/DatasetMainPageServlet?_lang=en&_ts=329663591260&_ds_name=DEC_2000_SF1_U&_program=)>. Accessed July 25, 2011.

- 
- . 2000b. American FactFinder: Profile of Selected Economic Characteristics: California, 2000. Available: <[http://factfinder.census.gov/servlet/DatasetMainPageServlet?\\_program=DEC&\\_tabId=DEC2&\\_submen uId=datasets\\_1&\\_lang=en&\\_ts=329663615292](http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_tabId=DEC2&_submen uId=datasets_1&_lang=en&_ts=329663615292)>. Accessed July 25, 2011.
- . 2010a. State and County Quick Facts: Alameda, California. Available: <<http://quickfacts.census.gov/qfd/states/06/06001.html>>. Accessed July 25, 2011.
- . 2010b. FactFinder: Profile of General Population and Housing Characteristics: 2010, 2010 Census Summary File 1: Census Tracts 4267, 4277 and 4287, California. Available: <[http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC\\_10\\_SF1\\_SF1DP1&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_SF1_SF1DP1&prodType=table)>. Accessed January 9, 2013.
- . 2010c. American FactFinder: Selected Economic Characteristics, 2006-2010 American Community Survey 5-Year Estimates. Available: <[http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_10\\_5YR\\_DP03&prodType=table](http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_10_5YR_DP03&prodType=table)>. Accessed January 9, 2013.

This page intentionally left blank.

## **3.10 HAZARDS AND HAZARDOUS SUBSTANCES**

This section describes the existing regulatory and physical setting related to hazards and hazardous substances, including a summary of the ongoing environmental management programs taking place within the VA Transfer Parcel. This section also discusses the potential effects of the EA Alternatives related to hazards and hazardous substances. Exposure to hazardous air emissions from toxic air contaminants<sup>1</sup> is addressed in Section 3.7 (Air Quality). Other safety hazards, such as earthquakes, are addressed in Section 3.14 (Geology and Soils). Flooding hazards are addressed in Section 3.2 (Water Resources), and flooding associated with sea level rise is addressed in Section 3.8 (Greenhouse Gas Emissions and Climate Change). Other public safety services, including law enforcement and fire protection are discussed in Section 3.13 (Public Services).

### **3.10.1 Regulatory Framework**

#### **The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**

CERCLA created a legal mechanism for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA requires Federal agencies to respond where necessary to protect human health and the environment when there is a release or threat of release of a hazardous substance into the environment or when there is a release of any pollutant or contaminant which may present an imminent and substantial danger to public health or welfare. Under CERCLA, the EPA developed the National Priorities List (NPL) of sites that present the greatest risk to public health and the environment.

The Navy is implementing CERCLA response actions at the former NAS Alameda to address the releases of hazardous substances in accordance with CERCLA and other related regulations that will ensure adequate protection of human health and the environment. The transfer and development of the VA Transfer Parcel are not CERCLA response actions.

#### **Superfund Amendments and Reauthorization Act (SARA)**

In 1986, Congress passed SARA, which mandated that the DoD follow the same cleanup regulations that apply to private entities. SARA also established the Defense Environmental Restoration Program (DERP). Through DERP, the DoD conducts environmental restoration activities at sites on active installations undergoing BRAC, and formerly utilized defense sites.

#### **Resource Conservation and Recovery Act (RCRA)**

RCRA regulates the treatment, storage, transportation, handling, labeling, and disposal of hazardous waste. The Hazardous and Solid Waste Amendments of 1984 added the requirement for treatment, storage, and disposal facilities with permits issued after November 8, 1984, to include corrective actions.

---

<sup>1</sup> Among the sources of hazardous or toxic air emissions are processes (e.g., emissions of laboratory fume hood exhaust); vehicle use (diesel particulate emissions from exhaust); and proximity to existing or relocated sources of diesel or other toxic air emissions.

### **The Defense Environmental Restoration Program (DERP)**

DERP addresses the cleanup of DoD hazardous waste sites consistent with the requirements of CERCLA. DERP requires the Secretary of Defense to carry out a program of environmental restoration for hazardous substances, pollutant, and contaminant releases at facilities under the Secretary's jurisdiction consistent with Section 120 of CERCLA.

### **Navy Environmental Restoration Program (ERP)**

To comply with the requirements of CERCLA, SARA, and DERP, the Navy established the ERP to reduce the risk to human health and the environment from past waste disposal operations and hazardous substance spills at Navy activities, including certain oil spills that are not addressed in the CERCLA framework. The ERP has been organized into three program categories, one of which is the Installation Restoration (IR) Program. The DoD established the Navy's IR Program in 1986 to identify, assess, characterize, and clean up or control contamination from past hazardous waste disposal operations and hazardous materials spills at Navy and Marine Corps installations. The program was developed to comply with Federal requirements regarding cleanup of hazardous waste sites, including CERCLA and SARA.

The Navy's IR Program is structured in accordance with CERCLA guidelines. The CERCLA process and the IR Program specify a number of sequential procedures for initiating and carrying out the remedial process under the IR Program. Interested agencies and the public have opportunities to review and comment on assessments/studies and proposals for removal/remedial actions throughout the remedial process. More information on the environmental investigation and cleanup process is included in Section 3.10.2 (Affected Environment), below.

### **U.S. Department of Transportation Hazardous Materials Regulations**

Under CFR Title 49, the U.S. Department of Transportation has the regulatory responsibility for the safe transportation of hazardous materials. Departmental regulations govern all means of packaging, handling, and transportation of hazardous materials, except for packages shipped by mail.

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

Enacted in 1986, EPCRA, also known as SARA Title III, provides State- and local-level infrastructure to plan for chemical emergencies. Under EPCRA, facilities that store, use, or release certain chemicals may be subject to several reporting requirements. Facility-reported information is then made publicly available to ensure that interested parties have access to this information and may become more informed about potentially harmful chemicals that may be present in their communities.

### **Toxic Substances Control Act (TSCA)**

The Toxic Substances Control Act provides EPA with the regulatory authority to implement requirements for reporting, recordkeeping, testing, and restrictions associated with chemical substances and/or mixtures. Specifically, under the TSCA, EPA regulates the production, importation, use, and disposal of specific chemicals, such as polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.

### **Medical Waste Management Act of 2007**

The Medical Waste Management Act authorizes a local agency to implement and enforce a medical waste management program by adopting an ordinance or resolution. A medical waste management program is characterized by the processing and review of medical waste management plans, the inspection of on-site treatment facilities, and the completion of an evaluation or records review for all facilities issued a large-quantity medical waste registration or permit. The transportation and disposal of medical wastes at the proposed VA facilities would be closely regulated under the California Medical Waste Management Act (California Health and Safety Code, Sections 117600–118360).

### **California Hazardous Materials Release Response Plans and Inventory Law of 1985**

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Chapter 6.95 of the California Health and Safety Code), also known as the Business Plan Act, requires that any business that handles hazardous materials prepare a Hazardous Materials Business Plan.

### **Radioactive Waste Management**

In addition to the requirements described above, the Federal Atomic Energy Act requires states to assume responsibility for using, transporting, and disposing of low-level radioactive material and for protecting the public from radiation hazards. The Radiological Health Branch (RHB) of the California Department of Public Health (DPH) administers the Radiation Control Law under Title 17 of the California Code of Regulations (CCR), which governs the use, transportation, and disposal of radioactive material and radiation-producing equipment. The VA would comply with this regulation through its Master Materials License, which administers and manages permits for VA medical facilities

### **Occupational Safety and Health Administration (OSHA)**

Occupational safety standards have been established in Federal and State laws to minimize risks to worker safety from both physical and chemical workplace hazards. The Federal Occupational Safety and Health Administration (OSHA) is the agency responsible for assuring worker safety in the workplace.

Federal OSHA regulations regarding the use of hazardous materials in the workplace require employee safety training, use of safety equipment, accident and illness prevention programs, warnings about exposure to hazardous substances, and preparation of emergency action and fire prevention plans. A site health and safety plan would be prepared in compliance with Federal OSHA, as applicable.

### **Alameda County Environmental Health Hazardous Materials/Waste Program**

The California Environmental Protection Agency has adopted regulations implementing a Unified Program. The six program elements of the Unified Program are hazardous waste generators and hazardous waste on-site treatment, underground storage tanks (USTs), aboveground storage tanks (ASTs), hazardous-material release response plans and inventories, risk management and prevention programs, and Uniform Fire Code hazardous-substances management plans and inventories.

### 3.10.2 Affected Environment

Much of the VA Transfer Parcel, and the larger former NAS Alameda property, is constructed on fill material that was placed in the late 19th century and the first half of the 20th century. The Navy acquired the property in 1936 and operated the former NAS Alameda as an active naval facility from 1940 to 1997. The VA Transfer Parcel encompasses the former airfield area of the installation and is comprised of the former aircraft runways, taxiways, and support-service facilities. The following buildings and structures currently exist on the property:

- Alternative 1: Building or Structure 50, 51, 56, 57, 58, 100, 259, 272 (with metal shed), 353, 354, 407, 441, 442, 480, 488, 489, and 499.
- Alternative 2 (In addition to those buildings and structures listed for Alternative 1): Building or Structure 26, 52, 53, 120, 121, 122, 359, 420, 439, and 440.

The VA Transfer Parcel is currently unused, aside from the active management of the California Least Tern colony. There are no existing hazardous materials uses or hazardous waste generation occurring within the VA Transfer Parcel.

#### Overview: CERCLA Environmental Investigation and Cleanup Process

The former NAS Alameda property, including the VA Transfer Parcel, was added to the CERCLA NPL in July 1999, and subsequent CERCLA investigations and remedial actions have been conducted and continue under the Navy's ERP. The Navy and EPA negotiated and signed a Federal Facility Agreement (FFA) in 2001, and the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board (RWQCB) signed it in 2005. The FFA requires that the Navy investigate and remediate actual or threatened releases of hazardous substances, pollutants, and contaminants at the former NAS Alameda in accordance with Sections 104 and 120 of CERCLA, 42 U.S.C. 9604 and 9620, as delegated under Executive Order 12580; the DERP, 10 U.S.C. 2701, *et seq.*; and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300). The Navy addresses these requirements through its IR Program which is itself a component of the Navy's ERP.

The Navy is implementing CERCLA response actions (both remedial and removal) to address the releases of hazardous substances at the VA Transfer Parcel in accordance with CERCLA, SARA, DERP, NCP, and other applicable laws and regulations that will ensure adequate protection of human health and the environment. Potential environmental effects of the remedial activities (i.e., of soil excavation, soil transport, and operation of treatment systems) have been, and will continue to be, evaluated by the Navy and regulatory agencies in conjunction with the approval process for specific response actions selected and implemented by the Navy under CERCLA. Appropriate controls to protect human health and the environment have been, and will continue to be, incorporated into the design and implementation of those remedial actions.

The CERCLA response actions being carried out by the Navy within the VA Transfer Parcel, involve completing site-specific investigations, feasibility studies, and remedial activities at each cleanup site. Installation Restoration (IR) Sites located within the VA Transfer Parcel include:

- Alternative 1: IR Site 2 and 33; and

- Alternative 2: IR Site 2, 33, and a portion of each IR Site 14 and 34.

More information on the IR Sites, including the current environmental investigation and cleanup status is described below. Figure 3.10-1 and Figure 3.10-2 illustrate the location of the IR Sites within both Alternative 1 and 2.

Under the proposed action, for both Alternative 1 and 2, the Navy would transfer the VA Transfer Parcel to VA before the Navy completes the CERCLA environmental investigation and cleanup process. However, the Navy would continue to perform its ongoing CERCLA obligations, including managing the investigation, remedy selection and remedial action phases. For IR Site 2 the Navy would continue to perform CERCLA obligations following the property transfer until the remedy is complete as documented in a final Remedial Action Completion Report (RACR) (or similar document). In addition, following transfer of the property, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer for IR Sites 14, 33, and 34.

As Federal property owner and land manager, at IR Site 2 VA would be responsible for the long term management phase to maintain the completed remedy in accordance with the Post-Closure Operation, Maintenance, and Monitoring Plan after the Navy completes the remedy. Such VA responsibilities include but are not limited to long-term monitoring, long-term operations, CERCLA institutional control<sup>2</sup> (IC) reporting and maintenance, engineering control maintenance (e.g., landfill cap/cover monitoring, maintenance and repair), regulatory agreement maintenance, CERCLA five year reviews, and responding to any failures of the remedy, all of which may be required in accordance with future Navy IR Site 2 decision documents for the property. VA would not use the VA Transfer Parcel for any use or activity that is prohibited by CERCLA ICs. In addition, VA would be responsible for any and all additional necessary remedial or corrective actions that are required for a change in land use set forth in VA land use plans revised following the date of property transfer.

### **Status: CERCLA Environmental Investigation and Cleanup Process**

The CERCLA response actions being carried out within the VA Transfer Parcel are ongoing; therefore, this section presents the latest data available at the time of this EA's preparation. The most current data regarding the cleanup activities at the VA Transfer Parcel are published as part of the environmental restoration processes and are available for public review at the following locations:

Alameda Point  
950 West Mall Square, Building 1, Room 240  
Alameda, CA 94501

---

<sup>2</sup> Institutional Controls (ICs) consist of a set of legal and administrative mechanisms to implement land use restrictions to limit the exposure of future landowner(s) and/or user(s) of the property to hazardous substances present on the property, and to ensure the integrity of remedial action. ICs will be selected as a component of remedial action in areas where residual levels of hazardous substances will remain at concentrations that are not suitable for unrestricted use and ICs are necessary to provide adequate protection of human health and the environment. Implementation of ICs will allow the property to be developed for its intended use, subject to land use restrictions designed to prevent exposure to residual levels of hazardous materials. ICs include requirements for monitoring, inspecting, and reporting to ensure compliance with land use or activity restrictions.



Sources: CH2M Hill, 2011; data compiled by AECOM in 2012

**Figure 3.10-1: Installation Restoration Sites and Areas of Concern on the VA Transfer Parcel (Alternative 1)**



Sources: CH2M Hill, 2011; data compiled by AECOM in 2012

**Figure 3.10-2: Installation Restoration Sites and Areas of Concern on the VA Transfer Parcel (Alternative 2)**

Alameda Free Library  
1550 Oak Street  
Alameda, CA 94501  
Phone: (510) 747-7777

Naval Facilities Engineering Command, Southwest  
Attention: Diane Silva  
NARA Certified Command Records Manager  
1220 Pacific Highway  
Code EV33, NBSD Bldg. 3519  
San Diego, CA 92132  
Phone: (619) 556-1280

Information is also available on the Navy's BRAC PMO website at [www.bracpmo.navy.mil](http://www.bracpmo.navy.mil).

In addition to the sites listed below, IR Site 32 is located immediately northwest of the VA Transfer Parcel. At this time, IR Site 32 is located outside the boundary of the VA Transfer Parcel (under both Alternative 1 and 2). However, the boundary for IR Site 32 is currently under investigation for Radium-226 (Ra-226) and may change. The CERCLA Record of Decision (ROD) for IR Site 32 is expected to be finalized in 2015 and will show the final site boundary. The remedial design/ remedial action work plan is anticipated to be finalized in 2017, with field construction in 2017 and 2018.

### ***IR Site 2 (Alternative 1 and Alternative 2)***

***Site Description and Historic Uses:*** IR Site 2 is located within the VA Transfer Parcel for both Alternative 1 and 2. The area of present day IR Site 2 was originally open water until 1956 when a sea wall was constructed along the southern and western shorelines to confine and protect the area. Dredged fill was hydraulically placed within the seawall creating the area to be used as landfill, now IR Site 2. The IR Site 2 landfill, also called the West Beach Landfill, was used as the main disposal area for the former NAS Alameda from approximately 1956 through 1978. An estimated 1.6 million tons of waste was deposited. The landfill encompasses about 60 acres of the 110-acre IR Site 2. The remaining area is made up of tidal and seasonal wetlands, and open space between the landfill and site boundaries known as the coastal and interior margins.

***Results of Environmental Investigations:*** Contamination at IR Site 2 is defined by the CERCLA ROD as metals, pesticides, Benzo(a)pyrene, total DDx and Total PCBs in soil, and pesticides, a phthalate, and metals in groundwater (Battelle, 2010). Additional information on the results of previous environmental investigations conducted by the Navy at IR Site 2 can be found in the *Final Record of Decision for IR Site 2, Alameda Point, Alameda, California, August 2010* (Battelle, 2010).

***Cleanup Status:*** Cleanup activities have been implemented at IR Site 2, including: Time Critical Removal Actions of radiological materials in 2002 and 2008. A chronology of the CERCLA actions completed at IR Site 2 is identified in Table 3.10-1.

**Table 3.10-1: IR Site 2 CERCLA Chronology**

Process Step	Year Completed
Preliminary Assessment/Site Inspection	1998
Remedial Investigation	2006
Feasibility Study	2008
Proposed Plan	2010
CERCLA Record of Decision	2010
Remedial Design	2013
Remedial Action	In Progress

Source: Battelle, 2010

The Navy published a Final CERCLA ROD for IR Site 2 in 2010 (*Final Record of Decision for IR Site 2, Alameda Point, Alameda, California, 2010*), which documents the selected remedy for soil and groundwater. The Navy’s remedial alternative for soil is a multi-layer soil cover, engineering and institutional controls, and monitoring. The remedial alternative for groundwater is monitored natural attenuation, engineering controls, and ICs.

The Navy would continue to manage the investigation, remedy selection and remedial action phases of IR Site 2 following the property transfer. The Navy’s responsibility for compliance with CERCLA obligations for IR Site 2 will cease upon completion of a RACR (or similar document) anticipated in 2014. VA would be responsible for implementation of CERCLA response actions in the Navy decision documents at IR Site 2 after the Navy completes its responsibility. Such VA responsibilities include but are not limited to long-term monitoring, long-term operations, IC reporting and maintenance, engineering control maintenance (e.g., landfill cap/cover monitoring, maintenance and repair), regulatory agreement maintenance, CERCLA five year reviews, and responding to any failures of the remedy, all of which may be required in accordance with Navy IR Site 2 decision documents for the property.

***IR Site 14 (Alternative 2 only)***

***Site Description and Historic Uses:*** IR Site 14, the former Fire Training Center, is partially located within the VA Transfer Parcel, along the north-central boundary under Alternative 2. The IR Site is not located within the VA Transfer Parcel under Alternative 1. The site was historically used for training firefighters, parking equipment and storing miscellaneous items, defueling planes, cleaning machinery, storing ordnance, storing fuel, and storing and using solvents. The site is partially paved with a generally flat topography.

***Results of Environmental Investigations:*** Results of investigations at IR Site 14 have verified that inhalation of VOCs in indoor air by hypothetical future residents is a potential health risk due to the presence of vinyl chloride in groundwater at the site. However, for current and reasonably foreseeable anticipated future land uses the soil at the site poses no unacceptable risk to human health or the environment.

***Cleanup Status:*** A chronology of the CERCLA actions completed at IR Site 14 is identified in Table 3.10-2.

**Table 3.10-2: IR Site 14 CERCLA Chronology**

Process Step	Year Completed
Preliminary Assessment/Site Inspection	2001
Remedial Investigation	2003
Feasibility Study	2005
Record of Decision	2007
Remedial Design	2008
Operating Properly and Successfully Determination	2012
Remedial Action	In progress

Source: Battelle, 2010

The final CERCLA ROD was signed in January 2007 (*Final Record of Decision for IR Site 14, Former Firefighting Training Area, Alameda Point, Alameda, California, January 31, 2007*). Data gaps were identified and further sampling investigations were conducted in March and April 2007. The chosen remedial alternative for groundwater in the CERCLA ROD was in situ chemical oxidation (ISCO), installation of monitoring wells and additional groundwater sampling, and temporary ICs. Remedial action for IR Site 14 groundwater commenced in September 2008 with agency approval. Groundwater monitoring of the remedy is on-going and will continue until remedial action objectives are met.

IR Site 14 is currently protective for recreational/open space land uses and industrial (office) worker scenarios, with anticipated closure with unrestricted use in late 2014.

Following the property transfer, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer.

### ***IR Site 33 (Alternative 1 and Alternative 2)***

***Site Description and Historic Uses:*** IR Site 33 is located in the southeastern portion of the VA Transfer Parcel (Alternative 1 and 2). The Navy formerly used the land at IR Site 33 as aircraft runways, taxiways, and support service facilities (e.g., aircraft-arresting devices, compass pads, and lighting vaults).

***Results of Environmental Investigations:*** Results of investigations at IR Site 33 have determined that polynuclear aromatic hydrocarbons (PAH) levels in soil are above the Alameda screening level. The Expanded Site Investigation Report recommended further evaluation of elevated PAH concentrations in limited areas in the central and southern portion of IR Site 33.

***Cleanup Status:*** A Time Critical Removal Action (TCRA) was completed in November 2012 to address elevated PAHs concentrations in soil. The TCRA field work included excavation and disposal of impacted soil. The Navy anticipates No Further Action documented in a Site Investigation Addendum in fall 2013. A chronology of the CERCLA actions completed at IR Site 33 is identified in Table 3.10-3.

Following the property transfer, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer. No Further Action (unrestricted use) determination is anticipated to be documented in the Site Investigations (SI) Addendum in late 2013.

**Table 3.10-3: IR Site 33 CERCLA Chronology**

Process Step	Year Completed
Draft Site Investigation	2008
Expanded Site Investigation	2011
Time Critical Removal Action	2012
Site Investigation Addendum	In progress

Source: Navy, 2011b

**IR Site 34 (Alternative 2 only)**

**Site Description and Historic Uses:** IR Site 34 is partially located near the north central boundary of the VA Transfer Parcel (Alternative 2 only). The IR Site is not located within the VA Transfer Parcel under Alternative 1. IR Site 34 was a Naval Air Rework Facility used primarily for painting services, storage, wood and metal shops, sandblasting, and to maintain base equipment such as scaffolding and other apparatus. Except for their concrete pads, all buildings, ASTs, generator accumulation points (GAPs), transformers, and fuel lines were removed between 1996 and 2000.

**Results of Environmental Investigations:** Results of investigations at IR Site 34 have determined that soil at the site poses a potential risk to human health due to the presence of arsenic, lead, 1, 4-DCB, dieldrin, heptachlor epoxide, Aroclor-1248, Aroclor-1254, and Arcolor-1260. The Navy is undertaking the CERCLA remedial action at IR Site 34 because of the potential risk to human receptors from exposure to chemical of concern (COC) in soil. Additional information on the results of previous environmental investigations conducted by the Navy at IR Site 34 can be found in the *Final Record of Decision for IR Site 34, Alameda Point, Alameda, California, April 28, 2011*, (Navy, 2011a).

**Cleanup Status:** A chronology of the CERCLA actions completed at IR Site 34 is identified in Table 3.10-4.

**Table 3.10-4: IR Site 34 CERCLA Chronology**

Process Step	Year Completed
Preliminary Assessment/Site Inspection	1994 to 2003
Remedial Investigation	2006 to 2007
Feasibility Study	2010
Proposed Plan	2010
Record of Decision	2011
Remedial Design	2013
Remedial Action	2013
Remedial Action Completion Report	In Progress

Source: Navy, 2011a

The Navy published a Final CERCLA ROD for IR Site 34 in 2011 (*Final Record of Decision for IR Site 34, Alameda Point, Alameda, California, April 28, 2011*), which documents the selected remedy for soil. The selected remedy for IR Site 34 is excavation and disposal of soil. No Further Action (unrestricted use) determination is anticipated in 2013.

Following the property transfer, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer.

### **Other Environmental Investigations and Cleanup Activities**

In addition to the CERCLA environmental investigations and cleanup activities, other Navy efforts include investigation and remediation for petroleum products, asbestos-containing materials (ACMs), PCBs, USTs, ASTs. Additional cleanup activities are ongoing in ‘compliance programs’ such as the petroleum corrective action program overseen by the RWQCB pursuant to Subtitle I of the Federal RCRA and the *California Porter-Cologne Water Quality Control Act*. This section discusses the other environmental investigations and cleanup activities within the VA Transfer Parcel. These activities and programs are separate from the CERCLA requirements.

#### ***Petroleum Program***

The Petroleum Program was created to address potential and actual soil and groundwater contamination related to petroleum products, which are excluded from CERCLA regulations. The Navy identified a variety of Corrective Action Areas (CAAs), and individual features (e.g. USTs and ASTs) as part of the Petroleum Program. For any petroleum sites identified prior to transfer of the property, the Navy would continue to manage the investigation, corrective action plan, and corrective action implementation phases. The Navy’s responsibility for managing petroleum sites will cease upon the RWQCB’s approval of completion of corrective action.

***Corrective Action Areas (CAAs):*** Four CAAs are located partially or entirely on the VA Transfer Parcel (both Alternative 1 and 2).

- CAA-A: The site consists of the area around two parallel fuel lines used to transport jet fuel. The Navy determined that no further action was necessary for fuel line CAA-A, which passes through the northeast corner of the property, and the RWQCB concurred with site closure in 2007 (TTEMI 2004, RWQCB 2007).
- CAA-12: The site consists of the area around Building 29 that was an aircraft weapons overhaul and testing facility; Building 38, which served as an acoustical enclosure for aircraft engines; and aircraft run-up areas. The Navy has determined that no further action is necessary and has recommended regulatory closure for CAA-12 (TTEMI 2003b).
- CAA-1: The third corrective action area located on the property is CAA-1/UST-442, and regulatory closure for that site was obtained following a Navy recommendation of no further action (TTEMI 2001, RWQCB 2003). UST 442-1 was removed October 20, 1994 (IT 2001) and was closed under the Petroleum Program with CAA-1 (TTEMI 2001, RWQCB 2003).
- CAA-C: Is an aviation fuel spill area that was cleaned up using a combination of dual-phase extraction and biosparging. Most of CAA-C lies within IR Site 26, but a portion extends onto the VA Transfer Parcel. Operation and maintenance of the CAA-C treatment system is complete and decommissioning of the wells is pending submission of a site closure package and concurrence from the RWQCB.

***Underground Storage Tanks (USTs):*** UST 442-1 was removed October 20, 1994 and was closed under the Petroleum Program as CAA-1 (TTEMI 2001, RWQCB 2003). In March 2005, an unnumbered 500-gallon UST was removed from an area near the California Least Tern colony.

***Above Storage Tanks (ASTs):*** There are currently no ASTs within the VA Transfer Parcel. Twelve ASTs were previously removed (Bechtel, 2008). There are eleven open AST cases in the Petroleum Program within the VA Transfer Parcel (AST 467B, AST 483A, AST 483B, AST 485A, 485B, AST 488, AST 495A, AST 495B, AST 496, AST 599A, and AST 599B). ASTs 467B, 483A & B, 485A & B, 495A & B, and 599A & B were 30-gallon diesel tanks associated with aircraft arresting devices. ASTs 495A & B, and 599A & B are within or adjacent to IR Site 33. AST 488 was a 5,000-gallon aviation gasoline tank with secondary containment adjacent to helicopter parking pads used for aircraft refueling. AST 496 was a 200-gallon diesel tank for a generator associated with structure 496, a Ground Control Approach Turntable (IT Corporation, 2001).

### **Pesticides**

The VA Transfer Parcel may contain pesticide residue from pesticides that have been applied during the former management of the property. The Navy knows of no use of any registered pesticide in a manner inconsistent with its labeling and believes that all applications were made in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Title 7 USC § 136, et seq., its implementing regulations, and according to the labeling provided with such substances.

### **Asbestos-Containing Material (ACM)**

Until the 1970s, asbestos was commonly used in building materials, including insulation materials, shingles and siding, roofing felt, floor tiles, brake linings, and acoustical ceiling material. Asbestos is a carcinogen and known to present a public health hazard if it is present in friable (easily crumbled) form. IR Site 2 operated as a Class II landfill accepting solid and liquid wastes generated at the former NAS Alameda between 1956 and 1978 (Navy 2009). Solid wastes disposed in the landfill included asbestos. ACM is either suspected or confirmed present in Buildings 407, 441, 442, and 499 (Navy 2009). The following buildings were inspected for ACM and found to have no ACM (Navy 2009): 50, 51, 56, 57, 58, 272, 353, and 354.

VA would have sole responsibility for management of asbestos and ACM on the property, including but not limited to, maintenance, renovation, or demolition of buildings and structures; and asbestos related surveys or sampling, whether of action or corrective action, or other environmental action. VA would be responsible for managing asbestos and ACM in accordance with all applicable Federal, State, and local laws, regulations, or other requirements.

### **Lead-Based Paint**

Lead-based paint was commonly used prior to 1960 and is likely present in buildings constructed prior to 1960. It is assumed that any military building constructed or rehabilitated prior to 1978 contains lead-based paint. Lead is toxic to humans, particularly young children, and can cause a range of human health effects depending on the level of exposure. The Navy complies with the United States Code, which requires lead-based paint inspections only for target housing built prior to 1979, and further defines target housing to exclude zero-bedroom dwellings. The property does not contain target housing, and as a result, no lead-based paint surveys were conducted. However, based on the age of the following buildings, lead-based paint is likely present in buildings: 26, 50, 51, 52, 53, 56, 57, 58, 120, 121, 122, 272, 353, 354, 359, 407, 420, 439, 440, 441, 442, 499, and 576 (Navy, 2009).

VA would have sole responsibility for management of lead-based paint in soil on the property, including but not limited to, maintenance, renovation, or demolition of buildings and structures; and lead related surveys or sampling, whether of action or corrective action, or other environmental action. VA would be responsible for managing lead-based paint and lead in soil in accordance with all applicable Federal, State, and local laws, regulations, or other requirements.

### **Polychlorinated Biphenyls (PCB)**

PCBs were commonly manufactured and used in the United States between 1929 and 1977 for use in devices such as electrical transformers and capacitors and fluorescent light ballasts. The transformer in Building 442 has been removed. It is not known when this transformer was removed. Building 100 served as a former transformer vault. All equipment was removed from the building during the Phase I EBS, which was completed in October 1994. Final SI Report 2011, sampled concrete in Building 100 in April 2010, nothing was found.

As of August 2001, all equipment containing oil contaminated with PCBs at a concentration of greater than 40 ppm was removed from service and disposed of (Navy, 2009). No remaining equipment containing oil in excess of 40 ppm remains on the VA Transfer Parcel.

Fluorescent light fixtures were not included in any of the PCB equipment inventories (Navy 2009). However, based on the age of most of the buildings within the VA Transfer Parcel, it is assumed that some light ballasts in the buildings may contain PCBs. Fluorescent light ballasts manufactured before 1979 often include PCB containing small capacitors that may be disposed of as municipal solid waste. No action is required at the buildings, unless large quantities of PCB containing fluorescent light ballasts are removed (Navy, 2009).

### **Munitions Storage Areas**

Soil and groundwater samples were collected at the former munitions storage areas (MSAs) to assess whether the former presence of munitions resulted in a CERCLA-related release of hazardous substances. Soil samples were collected from boreholes at specific depth intervals near the front doors of the MSAs. Soil and groundwater samples were analyzed for explosives (CH2M Hill, 2011). Explosives were not reported at levels above their screening levels at any of the sample locations within the VA Transfer Parcel (CH2M Hill, 2011). A closeout survey for Munitions and Explosives of Concern was conducted by Naval Ordnance Safety and Support Activity in July 2012.

## **3.10.3 Environmental Consequences**

### **Assessment Methodology**

The evaluation of potential impacts associated with hazardous materials was based on review of existing information and various site investigation reports prepared for the VA Transfer Parcel. The most current data regarding the cleanup activities at the VA Transfer Parcel are published as part of the environmental restoration processes and are available for public review at Alameda Point (950 West Mall Square, Building 1, Room 240, Alameda, CA 94501). Information is also available on the Navy's BRAC PMO website at [www.bracpmo.navy.mil](http://www.bracpmo.navy.mil).

## **Alternative 1**

### ***Construction***

Implementing Alternative 1 would involve construction to accommodate new development. Construction would include demolition, excavation, trenching, grading and compaction, and other earth-disturbing activities.

CERCLA, DERP, and NCP provisions require that all necessary remedial actions be taken to adequately protect human health and the environment from risks associated with the actual or potential release of hazardous substances, pollutants, or contaminants into the environment. As discussed in Section 3.10.2.1 (Overview: CERCLA Environmental Investigation and Cleanup Process) above, the Navy would continue to perform its ongoing CERCLA obligations, including managing the investigation, remedy selection and remedial action phases of IR Site 2, following the property transfer until completion of such obligations and approval by the regulatory agencies of a RACR (or similar document). In addition, following transfer of the property, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer for IR Site 33 located on the VA Transfer Parcel. These requirements can be satisfied by different types and combinations of remedial actions (including excavation and disposal, treatment, and containment of hazardous substances, pollutants, or contaminants and ICs) that are evaluated and ultimately selected in a CERCLA ROD (remedial action) or CERCLA Action Memorandum (removal action).

Implementation of ICs will allow the property to be developed for its intended use, subject to land use restrictions designed to prevent exposure to residual levels of hazardous materials. VA will comply with the CERCLA ICs and would not use the property for any use or activity that is prohibited by the ICs. Such compliance will ensure that the property after transfer will be used in a manner that is adequately protective of the environment and human health as required by CERCLA. Further, VA would be required to manage hazardous materials and wastes in accordance with applicable Federal, State, and local regulations.

VA would be responsible for completion of CERCLA response actions at IR Site 2 after the Navy completes its responsibility. Such VA responsibilities include but are not limited to long-term monitoring, long-term operations, institutional control reporting and maintenance, engineering control maintenance (e.g., landfill cap/cover monitoring, maintenance and repair), regulatory agreement maintenance, CERCLA five year reviews, and responding to any failures of response actions.

VA would, as the Federal land manager and lead Federal agency after transfer, be responsible for the release of environmental contaminants on the property identified after the date of transfer and for future and/or newly identified releases of environmental contaminants at, or from, the property that occur after the transfer. VA would not use the VA Transfer Parcel for any use or activity that is prohibited by CERCLA ICs. In addition, VA would be responsible for any and all additional necessary remedial or corrective actions resulting from a change in land use set forth in VA land use plans revised following the date of property transfer.

For any petroleum sites identified prior to transfer of the property, the Navy would continue to manage the investigation, corrective action plan, and corrective action implementation phases. The Navy's responsibility for managing petroleum sites will cease upon the completion of corrective action or a no further action determination. VA would have responsibility for management, if applicable, of lead-based paint in soil, and asbestos and ACM

on the property, including but not limited to, maintenance, renovation, or demolition of buildings and structures; and lead or asbestos related surveys or sampling, whether of action or corrective action, or other environmental action. VA would be responsible for managing lead-based paint, lead in soil, asbestos, and ACM in accordance with all applicable Federal, State, and local laws, regulations, or other requirements.

For these reasons, including the completed and ongoing CERCLA remedial actions and other ongoing non-CERCLA remediation efforts and compliance programs (e.g., Petroleum Program) there would be no hazard to the public or the environment, no reasonably foreseeable environmental impacts, and no significant environmental impacts as a result of releases of hazardous substances, pollutants, or contaminants during development or operation at the VA Transfer Parcel that are addressed under CERCLA.

VA would be required to manage construction related hazardous materials and wastes in accordance with applicable regulations identified in section 3.10.1 "Regulatory Framework", above. In addition, VA would adhere to all applicable laws and regulations related to construction, environmental protection, and health and safety before and during the development of the VA Transfer Parcel after transfer of the property by the Navy.

Safety standards have been established in Federal law to minimize risks to worker safety from both physical and chemical workplace hazards. Federal OSHA is responsible for developing and overseeing standards for safe workplaces and practices in accordance with CFR Title 29. The VA would prepare a site Health and Safety Plan in compliance with Federal OSHA as applicable to protect workers from exposure to potential hazards. VA's construction contractor would be required to transport hazardous materials (e.g., fuels, lubricants, paints, adhesives, contaminated soil) to and from the VA Transfer Parcel and to use such materials during construction. In addition, construction vehicles require the use of hazardous materials such as oils, grease, and fuels. The contractor is likely to store these hazardous materials and vehicles on-site at the staging sites. However, as described above in section 3.10.1 "Regulatory Framework" transporters of hazardous materials must comply with applicable laws and regulations, which include proper labeling and packaging, transfer, and documentation requirements. Because VA and its construction contractor will comply with the applicable laws and regulations, construction-related impacts of Alternative 1 related to hazardous materials exposure from material transport would not be significant.

To minimize construction risks associated with exposure to hazardous materials/waste, all hazardous materials/waste would be stored, used, transported, and disposed of in strict accordance with applicable hazardous-waste regulations. Further, the construction contractor would be required to submit an Environmental Protection Plan in accordance with VHA Environmental Protection Specifications Sections 01 57 19. This plan would describe the best management practices (BMPs) that would be implemented to minimize the risks associated with the use, storage, handling, and transport of hazardous materials/waste and the contingency protocols to be implemented in the event of an accidental release or exposure during construction. Because VA and its construction contractor would comply with the Environmental Protection Plan and Health and Safety Plan, construction related impacts of Alternative 1 related to hazardous materials/waste exposure from potential accidental releases would not be significant.

## *Operation*

### **Routine Use, Storage, Transport, or Disposal of Hazardous Materials**

Operation of the proposed action under Alternative 1 would involve the routine handling, use, and storage of hazardous materials. Nearly all uses within the proposed VA facilities would involve the presence of hazardous materials (or products containing hazardous materials) at varying levels. Occupation and operation of the facilities would also increase the number of people who could be exposed to potential health and safety risks associated with routine use. The following summarizes the general types of hazardous materials that would be expected in association with the proposed action.

- Office, clerical, and administration type functions would use relatively small quantities of hazardous materials. Typical products containing hazardous materials would consist mostly of household-type cleaning products.
- Proposed medical-related uses (i.e., medical clinic, laboratories, or pharmacies) would be expected to include small amounts of laboratory-type chemicals, compressed gases, pharmaceuticals, and radiological materials. Medical, bio-hazardous, and low-level radioactive wastes would also be produced from these activities.
- Operation and maintenance of the facilities would include the use of maintenance products (e.g., paints, solvents, cleaning products); fuels and other petroleum products; refrigerants associated with building mechanical and heating, ventilation and air conditioning systems.
- Grounds and landscape maintenance within the development area could also use a wide variety of commercial products formulated with hazardous materials, including fuels, cleaners and degreasers, solvents, paints, lubricants, adhesives, sealers, and pesticides/herbicides.

No storage or use of large quantities of hazardous materials or products are proposed as part of the proposed action. However, there would be numerous locations where smaller quantities of hazardous materials, as described above, would be present. The potential risks associated with hazardous materials handling and storage would generally be limited to the immediate area where the materials would be located, because this is where exposure would be most likely. For this reason, the individuals most at risk would be employees or others in the immediate vicinity of the hazardous materials, rather than site visitors. For the most part, the health and safety procedures that protect workers and other individuals in the immediate vicinity of hazardous materials would also protect the adjacent community and environment. The pathways through which the community or the environment (e.g., local air quality and biota) could be exposed to hazardous materials include air emissions, transport of hazardous materials to or from the site, waste disposal, human contact, and accidents.

Facilities where hazardous materials would be used or hazardous wastes stored during proposed operation would be constructed in accordance with current laws and regulations, which require storage that minimizes exposure to people or the environment, including the potential for inadvertent releases. Transportation would be in compliance with the existing hazardous materials/waste regulations.

Routine maintenance operations would be expected to be conducted in accordance with the applicable, and legally enforceable CERCLA ICs, and to adhere to local, State, and Federal regulations and laws. For these reasons, hazardous materials uses and waste generation from proposed action operations and routine maintenance operations would not pose a substantial public health or safety hazard to the project vicinity. Impacts from the

routine transport, use, or disposal of hazardous materials/waste (including radiological, hazardous, and medical wastes) from operation of Alternative 1 would not be significant.

### **Exposure to Hazardous Materials via Upset and Accident Conditions**

Potential hazards from routine use, storage, transport, or disposal of hazardous materials/waste are addressed above. Therefore, the following discussion focuses on risks to the public from exposure to accidental releases of hazardous materials through reasonably foreseeable upset and accident conditions during operation of the Proposed Action.

In general, the types and amounts of hazardous materials proposed would not pose any greater risk of upset or accident compared to other similar development elsewhere in the city or region. No uses of large amounts of hazardous materials or acutely hazardous materials, which typically pose a greater accident or upset risk, are proposed. Moreover, releases, if any, present a greater, although manageable, risk to immediately exposed individuals rather than the population at large. The Alameda Fire Department (AFD) responds to hazardous materials incidents within the city and additional emergency response capabilities are not anticipated to be necessary to respond to the potential incremental increase in the number of incidents that could result from operation of the proposed action.

Potential impacts from upset and accident conditions involving the release of hazardous materials and wastes would also be minimized, because the proposed action would comply with applicable local, State, and Federal requirements for hazardous materials and waste management, which are described in section 3.10.1 “Regulatory Framework“ above. The transportation of hazardous materials/waste is required to comply with applicable Federal and State laws and regulations. These regulations identify proper labeling and packaging, transfer, and documentation requirements. State law prescribes requirements for through-transport of hazardous materials/waste on roadways under State control.

Compliance with applicable city, State, and Federal laws would minimize potential exposure to hazardous materials/waste, via upset and accident conditions and there would be no significant impact.

## **Alternative 2 (Preferred Alternative)**

### ***Construction***

Implementation of Alternative 2 would have similar impacts from hazards and hazardous substances for construction activities as Alternative 1. As discussed above, CERCLA, DERP, and NCP provisions require that the Navy implement all remedial actions necessary to adequately protect human health and the environment from risks associated with the actual or potential release of hazardous substances, pollutants, or contaminants into the environment. The Navy would continue to perform its ongoing CERCLA obligations of IR Site 2 following the property transfer until completion of a RACR (or similar document). In addition, following transfer of the property, the Navy would continue to manage the investigation and remaining CERCLA phases to address environmental contamination identified prior to the property transfer for IR Site 33 and the portion of IR Sites 14 and 34.

VA would be responsible for completion of CERCLA response actions at IR Site 2 after the Navy completes its responsibility. VA would, as the Federal land manager and lead Federal agency after transfer, be responsible for the release of environmental contaminants on the property identified after the date of transfer and for future and/or newly identified releases of environmental contaminants at, or from, the property that occur after the transfer. VA would not use the VA Transfer Parcel for any use or activity that is prohibited by CERCLA ICs. In addition, VA would be responsible for any and all additional necessary remedial or corrective actions that are required for a change in land use set forth in VA land use plans revised following the date of property transfer.

For any petroleum sites identified prior to transfer of the property, the Navy would continue to manage the investigation, corrective action plan, and corrective action implementation phases. The Navy's responsibility for managing petroleum sites will cease upon the completion of corrective action. VA would have responsibility for management, if applicable, of lead based paint in soil, and asbestos and ACM on the property, including but not limited to, maintenance, renovation, or demolition of buildings and structures; and lead or asbestos related surveys or sampling, whether of action or corrective action, or other environmental action. VA would be responsible for managing lead based paint, lead in soil, asbestos, and ACM in accordance with all applicable Federal, State, and local laws, regulations, or other requirements.

For these reasons, including the completed and ongoing CERCLA remedial actions and other ongoing non-CERCLA remediation efforts and compliance programs (e.g., petroleum program) there would be no hazard to the public or the environment, no reasonably foreseeable environmental impacts, and no significant environmental impacts as a result of releases of hazardous substances, pollutants, or contaminants during development or operation at the VA Development Parcel that are addressed under CERCLA.

VA would be required to manage construction-related hazardous materials and wastes in accordance with applicable regulations identified in section 3.10.1 "Regulatory Framework", above. In addition, VA would adhere to all applicable laws and regulations related to construction, environmental protection, and health and safety before and during the development of the VA Transfer Parcel after transfer of the property by the Navy.

Safety standards have been established in Federal law to minimize risks to worker safety from both physical and chemical workplace hazards. Because VA and its construction contractor will comply with the applicable laws and regulations, there would be no significant construction related impacts related to hazardous materials/waste exposure from material transport.

To minimize construction risks associated with exposure to hazardous materials, all hazardous materials/waste would be stored, used, transported, and disposed of in strict accordance with applicable hazardous-waste regulations. Because VA and its construction contractor would comply with the Environmental Protection Plan and Health and Safety Plan, there would be no significant construction related impact related to hazardous materials/waste exposure from potential accidental releases.

## ***Operation***

### ***Routine Use, Storage, Transport, or Disposal of Hazardous Materials***

Implementation of Alternative 2 would have similar impacts from hazards and hazardous substances for operational activities as Alternative 1. Operation of the proposed VA facilities under Alternative 1 would involve

the routine handling, use, and storage of hazardous materials. Nearly all uses within the proposed VA facilities would involve the presence of hazardous materials (or products containing hazardous materials) at varying levels. Occupation and operation of the facilities would also increase the number of people who could be exposed to potential health and safety risks associated with routine use.

Facilities where hazardous materials would be used or hazardous waste stored during proposed operation would be constructed in accordance with current laws and regulations, which require storage that minimizes exposure to people or the environment, including the potential for inadvertent releases. Transportation would be in compliance with the existing hazardous materials/waste regulations.

Routine maintenance operations would be expected to be conducted in accordance with the applicable, and legally enforceable, CERCLA ICs, and adhere to local, State, and Federal regulations and laws. For these reasons, hazardous materials uses and waste generation for proposed action operations and routine maintenance operations would not pose a substantial public health or safety hazard to the project vicinity. There would be no significant impacts from the routine transport, use, or disposal of hazardous materials/waste (including radiological, hazardous, and medical wastes) from operation of Alternative 2.

#### **Exposure to Hazardous Materials via Upset and Accident Conditions**

Implementation of Alternative 2 would have similar impacts from hazards and hazardous substances for operational activities as Alternative 1. Increased routine use of hazardous materials compared to existing conditions, exposure of future occupants, visitors, and employees to hazardous materials could occur by improper handling or use of hazardous materials or hazardous wastes during operation, particularly by untrained personnel, environmentally unsound disposal methods, or fire, explosion, or other emergencies, all of which could result in adverse health effects. Accidents involving the transportation of hazardous materials to, from, or within the project site could also occur. As identified under Alternative 1, compliance with applicable city, State, and Federal laws would minimize potential exposure to hazardous materials/waste, via upset and accident conditions. There would be no significant impact.

### **No Action Alternative**

#### ***Construction***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place. The environmental cleanup by the Navy would continue until completion, but no construction of VA facilities would occur. No construction related hazardous materials/waste exposure or public safety impacts would occur.

#### ***Operation***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place, and no VA facilities would be constructed. The environmental cleanup by the Navy would continue until completion, but no VA facilities would be operated. No operational impacts related to hazardous waste generation or public safety would occur.

### 3.10.4 References

- Bechtel Environmental, Inc. 2008 (May). *Draft Site Inspection Report for Transfer Parcels FED1A, FED-2B, and FED-2C, Alameda Point, Alameda, California.*
- Battelle. 2010 (August). *Final Record of Decision for IR Site 2, Former Naval Air Station Alameda, California.* Prepared for U.S. Department of the Navy.
- CH2M Hill. 2011 (January). *Final Site Inspection Report Transfer Parcels FED-1A, FED-2B, and FED-2C Alameda Point Alameda, California.* Prepared for U.S. Department of the Navy.
- IT Corporation, Inc. 2001 (January). *Environmental Baseline Survey Data Evaluations - Final, Alameda Point, Alameda, California.*
- U.S. Department of the Navy (Navy). 2009 (September). *Final Environmental Summary Document, VA FED Transfer Parcel, Alameda Point, Alameda, California.*
- . 2011a (April 28). *Final Record of Decision for IR Site 34, Alameda, California.*
- . 2011b (January 11). *Final Site Inspection Report Transfer Parcels FED-1A, FED-2B, and FED-2C, Alameda Point, Alameda, California.*

This page intentionally left blank.

## **3.11 UTILITIES**

This section describes the existing utilities and service systems serving the VA Transfer Parcel, including water supply, wastewater, energy (including electricity and natural gas), and solid waste collection and disposal and discusses the potential effects of the EA Alternatives related to these utilities. For a discussion of stormwater as it relates to flooding and water quality, see Section 3.2 (Water Resources).

### **3.11.1 Regulatory Framework**

#### **Clean Water Act**

In 1972 the Federal Clean Water Act (CWA) was enacted to regulate the discharge of pollutants to receiving waters such as oceans, bays, rivers, and lakes. The objective of the act is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” by regulating discharges of pollutants into the Waters of the United States. As the major Federal legislation governing stormwater quality, CWA regulates runoff of polluted stormwater under the National Pollutant Discharge Elimination System (NPDES). The U.S. Environmental Protection Agency (EPA) is the lead Federal agency responsible for water quality management. EPA is authorized to implement pollution control programs setting wastewater standards for industry, as well as water quality standards for all contaminants in surface waters.

#### **Safe Drinking Water Act**

Originally enacted in 1974, the Safe Drinking Water Act protects public health by regulating the nation’s public drinking water supply. The law was amended in 1986 and 1996 and requires actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and groundwater wells. The Safe Drinking Water Act authorizes EPA to set national health-based standards for drinking water to protect the public from naturally occurring and human-made contaminants.

#### **Energy Policy Act of 2005**

The Energy Policy Act of 2005 was enacted on August 8, 2005. This law seeks to reduce reliance on nonrenewable energy resources and provide incentives in the form of tax credits to reduce energy demand.

#### **Executive Order (EO) 13423, "Strengthening Federal Environmental, Energy, and Transportation Management"**

EO 13423, "Strengthening Federal Environmental, Energy, and Transportation Management," was signed on January 24, 2007 and requires Federal agencies to reduce energy and water intensity to achieve sustainability goals, including:

- Energy Efficiency: Reduce energy intensity 30 % by 2015, compared to an FY 2003 baseline.
- Renewable Power: At least 50 % of current renewable energy purchases must come from new renewable sources (in service after January 1, 1999).

- **Building Performance:** Construct or renovate buildings in accordance with sustainability strategies, including resource conservation, reduction, and use; siting; and indoor environmental quality.
- **Water Conservation:** Reduce water consumption intensity 16 % by 2015, compared to FY 2007 baseline.
- **Electronics Management:** Annually, 95 % of electronic products purchased must meet Electronic Product Environmental Assessment Tool standards where applicable; enable Energy Star® features on 100 % of computers and monitors; and reuse, donate, sell, or recycle 100 % of electronic products using environmentally sound management practices.

### **Executive Order 13514, “Federal Leadership in Environmental, Energy, and Economic Performance”**

EO 13514, “Federal Leadership in Environmental, Energy, and Economic Performance,” was signed on October 5, 2009 and introduces new Green House Gas (GHG) emissions management requirements. EO 13514 expands the requirements of EO 13423 by setting greater energy reduction and environmental performance requirements.

Under EO 13514, each Federal agency must meet GHG specific requirements. Please see Section 3.8 (Greenhouse Gas Emissions and Climate Change) for a detailed description of those target requirements. VA has completed the EO 13514 requirements in the form of the Department of Veterans Affairs Strategic Sustainability Performance Plan (VA SSPP). The VA SSPP identifies sustainability goals and defines policy and strategy for achieving these goals (VA, 2011a).

### **East Bay Municipal Utility District (EBMUD) Urban Water Management Plan**

Urban water management plans (UWMPs) are prepared by California’s urban water suppliers to support their long-term resource planning and ensure that adequate water supplies are available to meet existing and future water demands. EBMUD’s UWMP assesses current and projected water usage, water supply planning, conservation, and recycling efforts, helping to ensure a reliable water supply for the next generation (EBMUD, 2011). The EBMUD’s Water Supply Management Program (WSMP) projects water supply needs to the year 2040 (EBMUD, 2012). The 2040WSMP identifies conservation efforts and supplemental water supplies that would be needed to satisfy demand from EBMUD’s service area during drought years.

## **3.11.2 Affected Environment**

### **Water Supply**

#### ***VA Transfer Parcel***

There is no existing demand for potable water and no functional existing potable water supply infrastructure within the VA Transfer Parcel. The use of non-potable water within the existing VA Transfer Parcel is limited to the existing work space (temporary trailer) utilized for California Least Tern management. The non-potable water used (i.e., toilet and sink) is provided via an above ground pipe that taps into a non-potable water supply at Building 494. There is no other use of or functional existing non-potable water supply infrastructure (e.g., grey water, fire suppression, landscaping) within the VA Transfer Parcel.

### ***Surrounding Area***

EBMUD is responsible for operating and maintaining the existing water system on Alameda Point (i.e., potable and non-potable) under a Joint Powers Agreement with the City of Alameda. EBMUD supplies water to 1.34 million customers in Alameda and Contra Costa Counties (EBMUD, 2011). EBMUD's water supply system consists of a network of raw water reservoirs, aqueducts, water treatment plants, pumping plants, and distribution pipelines (EBMUD, 2011). EBMUD currently produces an average of 220 million gallons of potable water per day (MGD). In 2010, EBMUD customers used 216 MGD (EBMUD, 2011). Even assuming implementation of system-wide conservation measures, system-wide demand is projected to rise to 230 MGD by 2040. EBMUD projects that it can meet future demands through the year 2040 during normal year conditions; therefore, available supply is considered equal to or greater than demand (EBMUD, 2012).

### **Wastewater Systems**

#### ***VA Transfer Parcel***

No functioning sanitary sewer infrastructure is currently located on the VA Transfer Parcel (Anderson Engineering, 2012). The generation of wastewater is limited to the existing California Least Tern management work space (temporary trailer). There are no other sources of wastewater located within the VA Transfer Parcel.

### ***Surrounding Area***

The City of Alameda is responsible for operating and maintaining the existing waste water system within the City of Alameda. EBMUD is responsible for maintaining the large transmission facilities (i.e., interceptor trunk mains and siphon) and providing wastewater treatment. The off-site EBMUD infrastructure conveys wastewater from the former NAS Alameda to EBMUD's Main Wastewater Treatment Plant (EBMUD Special District No. 1), located near the San Francisco-Oakland Bay Bridge. The plant provides secondary treatment for a maximum flow of 168 MGD. Primary treatment can be provided for up to a peak flow of 320 MGD. The average annual daily flow is approximately 65 MGD. EBMUD Special District No. 1 wastewater flows are projected to be 74 MGD in 2040 (EBMUD, 2011). EBMUD projects that it can meet future demands through the year 2040; therefore, available capacity is considered equal to or greater than project flows (EBMUD, 2012).

### ***Stormwater Drainage Systems***

#### ***VA Transfer Parcel***

Surface water runoff from the VA Transfer Parcel is collected in a stormwater drainage system that conveys surface water from the site directly to receiving waters. The storm drainage collection system at the VA Transfer Parcel was constructed in the 1940s and consists of drains, catch basins, and 11 discharge outfalls to the Oakland Inner Harbor and San Francisco Bay (ARRA, 2005). Four of the 11 outfalls are in fair to good condition; the remaining outfalls are paved-over corrugated metal pipes that lead to flap gate outfalls and need substantial improvement. The storm drainage collection system is currently operated and maintained by the City of Alameda under a cooperative agreement with the Navy. The City of Alameda Department of Public Works' Maintenance Service Division is responsible for preventive and corrective maintenance on the storm drainage system.

Seasonal flooding problems are common because of the deterioration of the storm drains. In addition, the generally flat topography of the VA Transfer Parcel (including some areas of subsidence) causes inefficient conveyance of rainfall runoff. Some locations on the VA Transfer Parcel are subject to flooding during heavy rainstorms (ARRA, 2005). For more information on stormwater see Section 3.2 (Water Resources).

### ***Surrounding Area***

Stormwater drainage from Alameda Point is generally collected in a stormwater drainage system consisting of drains and catch basins and is discharged via outfalls to the Oakland Inner Harbor and San Francisco Bay. No creeks or natural watercourses cross Alameda Point to convey floodwater. Some locations on Alameda Point contain new drainage infrastructure that has been constructed to address the flooding that can occur in low-lying areas. See Section 3.2 (Water Resources) for additional discussion of regional hydrologic features.

## **Energy (Electricity, Natural Gas, and Fuel)**

### ***VA Transfer Parcel***

Electricity is provided to the VA Transfer Parcel by facilities located adjacent to Main Street and Atlantic Avenue. A large existing overhead electric transmission line on the east side of Main Street connects to the existing substation at the former NAS Alameda east gate. The electrical facilities within the former NAS Alameda do not meet current standards or codes (Alameda, n.d.). Current activities, including the California Least Tern management work space, on the VA Transfer Parcel demand only minimal electricity. Current activities on the VA Transfer Parcel do not demand any natural gas and no functional infrastructure exists.

### ***Surrounding Area***

Alameda Municipal Power serves the residents and the businesses within the City of Alameda (AMP, 2012a). For Fiscal Year 2011, Alameda Municipal Power had a peak demand of approximately 70.8 megawatts (MW). Alameda Municipal Power does not independently own any generation assets; rather, it procures power through long-term agreements. The power purchased by Alameda Municipal Power is typically more than 60% renewable, including geothermal, small hydroelectric, wind, and landfill gas power (AMP, 2012b). It also has an additional 22% of large hydroelectric power.

Natural gas is provided to the City of Alameda by Pacific Gas and Electric Company (PG&E). Serving 4.3 million natural gas customers, PG&E has approximately 42,141 miles of distribution pipeline, and 6,438 miles of transportation pipelines from three major sources: California, the southwestern U.S., and Canada (PG&E, 2012).

## **Solid Waste Disposal**

### ***VA Transfer Parcel***

Current activities on the VA Transfer Parcel do not generate solid waste.

### ***Surrounding Area***

In 2000, the City of Alameda disposed of slightly less than 50,000 tons of solid waste at several different landfills. Most nonhazardous solid waste was transported to the Davis Street Transfer Station in San Leandro, CA and disposed of at the Altamont Landfill in Alameda County (ARRA, 2005). The landfill has a permitted throughput of 11,150 tons per day (CalRecycle, 2005); however, typical daily intake is more often approximately 3,500 tons per day (Nourot, pers. comm., 2012). The remaining capacity of the Altamont Landfill, as of August 2009, is 45.7 million cubic yards. At current disposal rates, the Altamont Landfill would be expected to reach capacity in January 2032 (CIWMB, 2009a). Waste Management Inc. handles solid waste collection services, including recycling, for Alameda Point.

### **Environmental Consequences**

#### ***Assessment Methodology***

To evaluate the impacts of a particular alternative, projections were generated for these utilities based on the square footage of the proposed development. Specifically, water use, electricity, and natural gas demands for the VHA OPC were based on existing usage data for similar VA OPC facilities and were indexed based on the difference in facility square footage. Water use demands for the NCA Cemetery and Conservation Management Office were projected by the irrigation consultant (Dickson & Associates, Inc.). Electricity demands for the cemetery were provided by Anderson Engineering of MN LLC. Electricity and natural gas demands for the Conservation Management Office were provided by the project engineers (HDR).

The evaluation of potential impacts related to solid waste was based on a review of existing information for solid waste landfills serving the VA Transfer Parcel, such as capacity and daily intake volumes, to determine whether existing facilities could accommodate the projected waste generated under the Proposed Action. Waste generation projections were based upon estimated solid waste generation rates of “Medical Offices/Hospital” and “Office” from CalRecycle. A solid waste generation rate was not provided by CalRecycle for cemetery-related uses, so the solid waste generation rate for the service establishment “golf course” land use category was applied based on the number of people anticipated to attend services per year.

### **Alternative 1**

#### ***Construction***

Several non-functioning utility lines within the VA Transfer Parcel, many of which are more than 50 years old and are not to current standards and codes, are located within the footprint of the facilities proposed under Alternative 1. These lines would be removed or abandoned as necessary before construction of the new facilities. Site utilities, potable water, and storm drains for the VA facilities would be constructed within an off-site utility corridor along West Red Line Avenue and Main Street, and would tie into the existing infrastructure lines to the east of the VA Transfer Parcel. As part of the Proposed Action, new wastewater pipelines would be constructed all the way to the estuary/Pump Station 1. The City of Alameda owns the storm drain, wastewater collection systems, and electrical and telephone systems into which the proposed VA facilities would be tied, and EBMUD owns and operates the potable water system into which the proposed VA facilities would be tied.

### **Water Supply and Wastewater**

The water (potable and non-potable) required and wastewater generated by construction activities would be supplied by portable sources (e.g., water trucks, portable toilets, etc.) and/or existing sources until such time as installation of the new services are complete. These sources would be adequate to meet demands during construction activities, and new or expanded entitlements and resources would not be required. Therefore, Alternative 1 would have no significant impact to regional potable and non-potable water supplies or wastewater systems.

### **Stormwater**

As described in Section 3.2 (Water Resources) stormwater runoff during construction under Alternative 1 would be handled in accordance with the requirements set forth in the Construction General Permit (Order 2009-0009-DWQ). The permit requires the development and implementation of a storm water pollution prevention plan to reduce pollution of surface water throughout the construction period of the project. Measures include protecting existing storm drain and catch basin inlets, establishing perimeter controls, covering construction materials and mounds, maintaining washout areas for wet construction materials, inspections, and regular maintenance. Should dewatering be necessary during construction, dewatering effluent may require on-site treatment before being discharged to San Francisco Bay. If dewatering effluent is contaminated, the RWQCB may require an individual NPDES permit for dewatering effluent discharges.

Implementation of the requirements for protection of land resources outlined in the VA Specification Section 015719 "Temporary Environmental Controls," would also minimize impacts on stormwater systems (VA, 2011b). These requirements include such measures as setting work area limits, protecting the landscape, reducing exposure of unprotected soils, protecting disturbed areas, installing erosion and sediment control devices, implementing hazardous-material spill prevention measures, managing spoil areas, and following good housekeeping procedures. Construction activities in and of themselves would not require the construction of new stormwater drainage systems or the expansion of existing stormwater systems; therefore, no significant construction-related impacts related to stormwater infrastructure would occur under Alternative 1.

### **Energy (Electricity, Natural Gas, and Fuel)**

Construction of Alternative 1 would involve the use of construction equipment and vehicles, which would result in a temporary increase in energy consumption and fuel use for the duration of construction. The use of construction equipment would not affect existing regional energy infrastructure, such as electricity or natural gas systems, because construction activities would be temporary and involve using vehicles and mobile equipment that would be fueled from sources off site. Construction activities would likely use utility-provided electricity as the buildings are nearing completion and electrical distribution systems become active. It is unlikely any temporary natural gas usage would occur during construction. Therefore, construction-related energy use associated with Alternative 1 would not have a significant impact on regional energy systems.

### **Solid Waste Disposal**

Alternative 1 construction activities would result in a short-term increase in generation of construction waste, which would require disposal. Alternative 1 is projected to generate approximately 116,787 cubic yards of

construction and demolition waste (see Table 3.11-1). The majority of the wastes generated would consist of debris from the removal of the existing runways and paved surfaces within the VA Development Area. The majority of construction and demolition waste would be reused onsite (e.g., existing runways and asphalt in parking areas would be removed, crushed, reconditioned, and reused as base material for new roadways and parking lots). If applicable, some construction and demolition debris would also be recycled. It is assumed that 60% (approximately 70,072 cubic yards) of the total volume of construction and demolition waste would be reused or recycled. Materials that cannot be reused or recycled (approximately 46,715 cubic yards) would be disposed of at a local landfill.

**Table 3.11-1: Estimated Solid Waste Generation during Construction (Alternatives 1 and 2)**

<b>Alternative</b>	<b>Estimated Volume of Construction and Demolition Waste<sup>1</sup> (Cubic Yards)</b>	<b>Estimated Volume of Construction and Demolition Waste to be Reused or Recycled – 60 % (Cubic Yards)</b>	<b>Estimated Volume of Construction and Demolition Waste to be sent to Landfill (Cubic Yards)</b>
Alternative 1	116,787	70,072	46,715
Alternative 2	111,410	66,846	44,564

Notes:

<sup>1</sup> The majority of the wastes generated during the proposed construction would consist of debris from the removal of the existing runways and paved surfaces within the VA Development Area.

The anticipated volume of construction waste would be expected to be accommodated by landfills located in the region, including the Altamont Landfill (Livermore, CA), the primary current disposal location for the City of Alameda’s solid waste. The remaining capacity of the Altamont Landfill, as of August 2009, is 45.7 million cubic yards. The estimated 46,715 cubic yards of construction waste, represents less than 0.2% of this remaining capacity. Therefore, construction-related wastes associated with Alternative 1 would not have a significant impact on regional landfills or waste disposal facilities.

***Operation***

**Water Supply**

Potable water infrastructure for the proposed VA facilities would be constructed on site and within an off-site utility corridor along West Red Line Avenue and Main Street, and would tie into the existing EBMUD water main to the east of the VA Transfer Parcel on Main Street by the Alameda Ferry Terminal. Water system improvements would involve installing new water mains to provide potable water and fire suppression water to new buildings and irrigated areas (i.e., landscaping). Pipes for the fire-suppression water system would be installed to meet NFPA Fire Code requirements.

Based on the density of development at full build-out, Alternative 1 would require water at a rate of approximately 0.190 MGD (69.2 million gallons per year), including OPC operations, office uses, and landscape irrigation (see Table 3.11-2). Site water usage would be reduced through implementation of appropriate conservation strategies, including meeting the sustainability goals identified in the VA’s Strategic Sustainability Performance Plan which include implementing water conservation measures and best water management practices to reduce non-healthcare

**Table 3.11-2: Estimated Operational Water Demands (Both Alternative 1 and 2)**

OPC (facility and irrigation) <sup>1</sup>	Water Demand (million gallons per day)		Total Projected Water Demand
	Conservation Management Office	Cemetery Irrigation <sup>2</sup>	
0.016	0.001	0.173	0.190

Notes:

OPC = Outpatient Clinic

<sup>1</sup> Alameda Point OPC water demands are based on actual water use from the existing Mare Island OPC. Demands were indexed by 2.2 to account for the size difference between the OPCs (Mare Island OPC = 68,000 square feet).

<sup>2</sup> In most years, irrigation is typically required from March through November; conservatively estimating water usage, it has been assumed that irrigation would occur year round and that it would be required during wet years. The volume of water required for landscape irrigation would also increase and decrease with seasonal changes in weather and hours of daylight; however, a constant year-round irrigation rate was assumed for water projection purposes.

Sources: Data calculated by AECOM in 2012; Janbakhsh, pers. comm., 2012a; Morrissey, pers. comm., 2012; Dicksion, pers. comm., 2012

water use; installing water efficient sterilization systems; implementing water reduction strategies in laundry and other non-medical areas; increasing xeriscaping<sup>1</sup>; and using “smart” irrigation controllers (VA, 2011a). VA is aware that EBMUD plans to provide recycled water in the vicinity, including Alameda Point, as part of the future phase (Phase 1B) of the East Bayshore Recycled Water Project. The impacts of using recycled water at Alameda Point are analyzed and disclosed in the Final EIR for the East Bayshore Recycled Water Project. VA is prepared to use that water when and where it becomes available to further reduce demands for potable water.

The existing EBMUD system would be expected to have sufficient capacity to meet any future water supply demands resulting from implementation of Alternative 1. EBMUD projects that there is sufficient future capacity to meet system-wide, normal condition, demands until 2040. EBMUD’s 2040 demand projection study did not include the specific development components of the Proposed Action and did not assume any water usage for much of the VA Transfer Parcel (assumed to be future open space). However, it did include the assumption that approximately 250 acres of the former NAS Alameda property (Northwest Territories) would be irrigated as a potential golf course or VA cemetery, as well as accommodate future regional growth and development within the City of Alameda (EBMUD, 2012). Given that the proposed VA facilities were not precisely included in EBMUD’s 2040 demand projection study, EBMUD was contacted regarding the water demands for the proposed facilities, EBMUD responded that the proposed facilities would be served with existing water facilities. VA is aware of EBMUD’s proposed non-potable water supply system extension into the area of the VA Transfer Parcel. The proposed facility designs incorporate the ability to shift the ground watering irrigation demand from the potable to the non-potable water supply system to further minimize future potable water use. Implementation of Alternative 1 would not be expected to have a significant impact on the future capacity and infrastructure of the regional water system.

**Wastewater**

Wastewater infrastructure for the proposed VA facilities would be constructed on site and within an off-site utility corridor. Assuming that approximately 90% of total water supplied to the VHA OPC and Conservation Management Office would end up as wastewater, Alternative 1 would generate an average of 0.015 MGD (5.6

<sup>1</sup> Xeriscape landscapes are defined as “quality landscaping that conserves water and protects the environment.”

million gallons per year) of wastewater. Wastewater from the VA Development Area would be transported via a new conveyance system along the proposed utility corridor to where the system crosses the estuary and connects to EBMUD's trunk lines and interceptor system for conveyance to the Main Wastewater Treatment Plant (WWTP). As part of the Proposed Action, existing sanitary sewer lines along West Red Line Avenue would be replaced, and some lines would be upsized to accommodate both the proposed VA facilities and future development wastewater conveyance needs, including the line into Pump Station 1.

EBMUD's Main WWTP and interceptor system are anticipated to have adequate dry-weather capacity to treat the wastewater flows from the proposed project facilities; however, the San Francisco Bay Regional Water Quality Control Board (RWQCB) issued an order on January 14, 2009, prohibiting further discharges from EBMUD's wet-weather facilities. As part of the Stipulated Order for Preliminary Relief issued by EPA, the State Water Resources Control Board (SWRCB), and San Francisco Bay RWQCB (effective July 22, 2009), EBMUD must identify problem infiltration/inflow areas, begin to reduce infiltration/inflow through improvements to the private sewer lateral, and lay the groundwork for future efforts to eliminate discharges from the wet-weather facilities. Currently, there is insufficient information to forecast how these changes will affect allowable wet-weather flows in the individual collection system subbasins that contribute to the EBMUD wastewater system, including the subbasin in which the VA Transfer Parcel is located. It is reasonable to assume that a new regional wet-weather-flow allocation process may occur in the East Bay, but the schedule for implementation of any new flow allocations has not yet been determined.

Constructing new wastewater conveyance infrastructure for the project and along West Red Line Avenue to the pump station would also serve to reduce infiltration and inflow into the sanitary sewer's collection system, thereby preventing leakage flow into the system to the maximum extent feasible. Construction of new wastewater infrastructure would adhere to the Alameda County Public Works Agency's *Engineering Design Guidelines for Unincorporated Alameda County*, thus minimizing the potential for infiltration/inflow to the maximum extent feasible. Stormwater would flow into the stormwater drainage system for conveyance to receiving waters and would not be directed to the sewer system. Therefore, implementation of Alternative 1 would not have a significant impact on the future capacity and infrastructure of the regional wastewater system.

### **Stormwater**

The current stormwater discharge system would generally continue with implementation of Alternative 1; however, the quantity, duration, and contaminant loading would be reduced.

The new stormwater drainage systems would incorporate bioswales and/or other stormwater quality measures. Further, there would be an approximate decrease of 9.5 acres of impervious area through conversion of pavement and runway surfaces to cemetery and landscaped areas around the OPC as part of Alternative 1. These permeable features would provide improved ground/soil absorption of runoff and control erosion and pollution, as well as improve storm water runoff quality. The change in land use, however, could potentially introduce additional pollutants into the water that could adversely impact receiving waters.

Implementation of Alternative 1 would include installation of new stormwater drainage systems both on-site and off-site, crossing City of Alameda land before reaching the outfalls. The stormwater system constructed by VA to drain the VA development area would be operated and maintained by VA. Stormwater systems upgraded by VA, located off-site, would be maintained by the City of Alameda. Alternative 1 would involve implementing the VA

SSPP, which provides guidelines and practices regarding stormwater improvements. Implementing these guidelines would reduce the impact of potentially increasing stormwater loads on the existing infrastructure and its limited capacity. As described in Section 3.2 (Water Resources), implementing the requirements of Section 438 of the EISA would ensure that infrastructure would be sized properly to handle stormwater flows; also, using LID or other techniques to infiltrate, evaporate, and detain stormwater would ensure preservation of predevelopment<sup>2</sup> stormwater-runoff conditions. Thus, with implementation of the VA SSPP and Section 438 of the EISA, stormwater infrastructure that would be constructed as part of the project would be appropriately sized. As a result, operational impacts of Alternative 1 related to stormwater would not be significant.

### **Energy (Electric, Natural Gas, and Fuel)**

Implementation of Alternative 1 would involve installation of utility infrastructure on site and within an off-site utility corridor. Electricity demand for Alternative 1 was projected using several different methods. Projected electricity and natural gas demand for the proposed VHA OPC was determined based on actual electricity use from the existing Martinez OPC, as indexed by 1.7 to account for the size difference between the OPCs (the Martinez OPC is approximately 90,000 square feet) (Janbakhsh, pers. comm., 2012b). Electricity and natural gas demand for the NCA Cemetery and the Conservation Management Office was determined by the project engineers based on their professional experience (Walters, pers. comm., 2012; Brandvold, pers. comm., 2012).

The existing Alameda Municipal Power electric and PG&E natural gas system would be expected to have sufficient capacity to meet any future energy demands resulting from implementation of Alternative 1. Implementation of Alternative 1 would not be expected to have a significant impact on the future capacity and infrastructure of the electrical and natural gas systems.

### **Solid Waste**

Operation under Alternative 1 would generate an estimated 1,718 tons of solid waste per year (see Table 3.11-3). In addition, it is assumed that a portion of the wastes generated would be recycled reducing the volume of solid wastes. Proposed operational activities would not generate solid waste that would exceed the capacity of regional landfills. The anticipated volume of construction waste would be expected to be accommodated by landfills located in the region, including the Altamont Landfill (Livermore, CA), the primary current disposal location for the City of Alameda's solid waste. Therefore, solid wastes generated under the operation of Alternative 1 would not have a significant impact on regional landfills and disposal facilities.

## **Alternative 2 (Preferred Alternative)**

### **Construction**

The construction of the facilities proposed under Alternative 2 would be similar to that for Alternative 1 (Table 3.11-1). Therefore, the construction-related impacts of Alternative 2 would be the same as those described for Alternative 1. Alternative 2 construction activities would not result in a significant impact to regional utility (i.e., water, wastewater, stormwater, and energy) infrastructure or utility and landfill/disposal facility capacity.

---

<sup>2</sup> Before any "development" (i.e., greenfields site).

**Table 3.11-3: Estimated Operational Solid Waste Generation (Alternatives 1 and 2)**

Solid Waste Generation by Location <sup>1</sup> (Tons per Year)			Total Solid Waste Generation
OPC	CMO	Cemetery	
1,706	2.7	9	1,718

Notes:

CMO = Conservation Management Office; OPC = Outpatient Clinic; VA SSPP = Department of Veterans Affairs Strategic Sustainability Performance Plan

<sup>1</sup> The California Department of Resources Recycling and Recovery (CalRecycle) estimates that medical office building/hospital land uses and office uses have solid waste generation rates of approximately 0.0108 ton per square foot per year and 0.001095 ton per square foot per year, respectively. CalRecycle did not provide a solid waste generation rate for cemetery uses, so the solid waste generation rate for a golf course of 0.5 pound per person per day was used.

Source: Data calculated by AECOM in 2012; generation rates from CalRecycle, 2009, 2011a, and 2011b

### **Operation**

The operation of the facilities proposed under Alternative 2 would be similar to that for Alternative 1 (Tables 3.11-2 through 3.11-6). Therefore, the operational impacts of Alternative 2 would be the same as those described for Alternative 1. Alternative 2 operational activities would not result in a significant impact to regional utility (i.e., water, wastewater, stormwater, and energy) infrastructure or utility and landfill/disposal facility capacity.

### **No Action Alternative**

#### **Construction**

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development (e.g., VHA OPC, VBA Outreach Office, NCA Cemetery, etc.) would not be built. Therefore, no significant construction impacts on utilities would occur.

#### **Operation**

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development would not be built. Therefore, no significant operational impacts on utilities would occur.

### **3.11.3 References**

Alameda, City of (Alameda). N.d. *Alameda Point Specific Plan*. Alameda, CA. Available: <[http://homesalameda.org/newsletter/ap\\_specific\\_plan.pdf](http://homesalameda.org/newsletter/ap_specific_plan.pdf)>. Accessed March 27, 2012.

Alameda Municipal Power (AMP). 2012a. 125 Years and Still Counting, The Story of Alameda Municipal Power. Available: <<http://www.alamedamp.com/about-us/history>>. Accessed April 15, 2012.

———. 2012b. Our Power Mix—Getting Greener All the Time. Available: <<http://www.alamedamp.com/power/energy-sources>>. Accessed April 15, 2012.

- Alameda Reuse and Redevelopment Authority (ARRA). 2005 (March). *Alameda Point Golf Course Environmental Impact Report (State Clearinghouse # 2001062107)*. Alameda, CA. Prepared by EDAW, Inc. San Francisco, CA.
- Anderson Engineering. 2012 (January 10). Utility Survey for VA Alameda Point OPC/National Cemetery Site.
- Brandvold, Mike. Engineer, Anderson Engineering of MN LLC, Plymouth, MN. April 12, 2012—e-mail to Jayni Allsep of AECOM regarding estimated electricity and natural gas usage at the cemetery.
- California Department of Resources Recycling and Recovery (CalRecycle). 2005. Facility/Site Summary Details: Altamont Landfill & Resource Recovery (01-AA-0009). Available: <<http://www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail/>>. Last updated August 22, 2005. Accessed April 15, 2012.
- . 2009. Estimated Solid Waste Generation Rates for Institutions. Available: <<http://www.calrecycle.ca.gov/wastechar/wastegenrates/Institution.htm>>. Last updated December 30, 2009. Accessed April 11, 2012.
- . 2011a. Estimated Solid Waste Generation Rates for Commercial Establishments. Available: <<http://www.calrecycle.ca.gov/wastechar/wastegenrates/Commercial.htm>>. Last updated June 14, 2011. Accessed April 11, 2012.
- . 2011b. Estimated Solid Waste Generation Rates for Service Establishments. Available: <<http://www.calrecycle.ca.gov/wastechar/wastegenrates/Service>>. Last updated June 14, 2011. Accessed April 15, 2012.
- East Bay Municipal Utility District (EBMUD). 2011. *Urban Water Management Plan 2010*. Water Resources Planning Division. Oakland, CA.
- . 2012. *Revised Water Supply Management Program 2040 Plan (WSMP 2040)*. Oakland, CA. Available: <<http://www.ebmud.com/our-water/water-supply/long-term-planning/water-supply-management-program-2040>>. Accessed August 22, 2012.
- Janbakhsh, Hadi. Energy Manager. U.S. Department of Veterans Affairs, Martinez, CA. March 27, 2012a—e-mail to Jayni Allsep of AECOM regarding water use estimates for the OPC.
- . April 4, 2012b—e-mail to Kara Baker of AECOM regarding electricity and natural gas use estimates for the OPC.
- Morrissey, Orion. Mechanical Section Manager. HDR Architecture, Inc., San Francisco, CA. April 20, 2012b—e-mail to Kara Baker of AECOM regarding estimated average water usage for the Conservation Management Office.
- Nourot, Tianna. Environmental Protection Manager, Cal Bay Market Area. Waste Management, Inc., Livermore, CA. March 26, 2012—telephone call with Kara Baker of AECOM regarding capacity of Altamont Landfill.

Pacific Gas & Electric Company (PG&E). 2012. Pacific Gas and Electric Company Profile. Available: <<http://www.pge.com/about/company/profile/>>. Accessed April 15, 2012.

U.S. Department of Veterans Affairs (VA). 2011a (June 3). Strategic Sustainability Performance Plan. Washington, DC.

———. 2011b (January). Section 015719 Temporary Environmental Controls. Available: <[www.wbdg.org/ccb/VA/VAASC/VA%2001%2057%2019.doc](http://www.wbdg.org/ccb/VA/VAASC/VA%2001%2057%2019.doc)>. Accessed December 31, 2012.

Walters, Bill. HDR Architecture, Inc. April 20, 2012—e-mail to Kara Baker of AECOM regarding estimated average electricity usage for the Conservation Management Office.

This page intentionally left blank.

## 3.12 NOISE

This section describes the existing physical and regulatory setting related to noise and vibration and discusses the potential effects of the EA Alternatives related to noise and vibration.

### 3.12.1 Acoustic Terminology and Definitions

Noise is generally defined as unwanted or objectionable sound. Many factors influence how a sound is perceived and whether it is considered harmful or disruptive to an individual or a community. These factors include primary physical characteristics of a sound (e.g., amplitude, frequency, duration, etc.), but also secondary acoustic and non-acoustic factors that can influence perception regarding the degree to which noise is intrusive and disruptive. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in the extreme, hearing impairment. Noise effects can be caused by its pitch or loudness. Pitch is the height of a tone; higher pitched sounds are louder to humans than lower pitched sounds. Loudness is intensity or amplitude of sound.

Noise levels are measured as decibels (dB) on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3-dB decrease. The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, sound can be characterized by several methods. The most common method is the “A-weighted” sound level (dBA), which gives greater weight to the frequencies audible to the human ear by filtering out noise frequencies not audible to the human ear. Human judgments of the relative loudness or annoyance of a sound correlate well with the dBA levels of those sounds. Therefore, the dBA scale is used for measurements and standards involving the human perception of noise.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or acoustical energy. Two noise sources do not sound twice as loud as one source. It is widely accepted that the average healthy person can barely perceive an increase or decrease of 3 dBA; that a change of 5 dBA is readily perceptible; and that an increase of 10 dBA sounds twice as loud (Caltrans, 2009). Table 3.12-1 lists common indoor and outdoor activities and the corresponding sound levels to demonstrate human perception of the correlation of noise with acoustical energy.

In addition to instantaneous noise levels, the duration or magnitude of noise over time is important to the assessment of potential noise disturbance. Average noise levels over a period of time are usually expressed as dBA energy-equivalent noise level ( $L_{eq}$ ), or the equivalent noise level for that period. For example,  $L_{eq(3)}$  would be a 3-hour average; when no period is specified, a 1-hour average is assumed. The time of day is also an important factor for noise assessment, because noise levels that may be acceptable during the day may interfere with the ability to sleep during evening or nighttime hours. Therefore, there are 24-hour noise-level descriptors that incorporate noise penalties (in decibels) for evening and night periods. The community noise equivalent level (CNEL) is the cumulative noise exposure in a community during a 24-hour period, with a 5-dBA penalty added to evening sound levels (between 7 P.M. and 10 P.M.), and a 10-dBA penalty added to the night sound levels (between 10 P.M. and 7 A.M.). The day/night average sound level ( $L_{dn}$ ) is similar to CNEL, except that the 3-hour evening period is considered with the daytime period and does not include the penalty that is applied with the CNEL.

**Table 3.12-1: Representative Environmental Noise Levels**

Common Outdoor Noise Sources	Noise Level (dBA)	Common Indoor Noise Sources
Power Saw	—110—	Rock Band
Jet Fly-over at 100 feet		Crying Baby
Subway	—100—	
Gas Lawn Mower at 3 feet		
Tractor	—90—	
		Food Blender at 3 feet
Diesel Truck Moving at 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime		
Gas Lawn Mower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area		Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	Sewing Machine
Air Conditioner		Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room
		Refrigerator
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime		
	—30—	Library
Quiet Rural Area during Nighttime		Bedroom at Night, Concert Hall (background)
	—20—	
		Broadcast/Recording Studio
	—10—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

Notes: dBA = A-weighted decibels

Source: American Association of State Highway and Transportation Officials. *Guide on Evaluation and Attenuation of Traffic Noise*. 1974

Noise levels from a source decline as distance to the receptor increases. Other factors, such as the weather and reflecting or shielding structures, also may intensify or reduce the noise level at a location. Sound waves reflect off of hard surfaces, but are partially absorbed by softer or irregular surfaces. A commonly used rule of thumb for roadway noise is that for every doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically “hard” locations (i.e., where the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically “soft” locations (i.e., where the area between the source and receptor is unpacked earth or has vegetation, including grass). Noise from stationary or point sources (such as construction equipment) is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Generally, if a noise source is completely enclosed or completely shielded with a solid barrier located close to the source, an 8 dBA noise reduction can be

expected; if the enclosure or barrier is interrupted, noise would be reduced by only 5 dBA. The exterior-to-interior reduction of newer residential units and office buildings is generally 30 dBA or more.

**3.12.2 Fundamentals of Environmental Ground-borne Vibration**

Vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. Both natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment) can result in groundborne vibration. Some vibration sources, such as factory machinery, are continuous; others, such as explosions, are transient. Vibration amplitude is typically expressed in peak particle velocity (PPV) or root mean square (RMS), as in RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is the metric often used to describe blasting vibration and other vibration sources that result in structural stresses in buildings (FTA, 2006).

Although PPV is appropriate for evaluating the potential for building damage, it is not always suitable for evaluating human response. It takes some time for the human body to respond to vibration signals. In a sense, the human body responds to average vibration amplitude. The RMS of a signal is the average of the squared amplitude of the signal, typically calculated over a period of 1 second. As with airborne sound, the RMS velocity is often expressed in decibel notation as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration (FTA, 2006). This vibration decibel scale is based on a reference value of 1 microinch per second (µin/sec). The background vibration-velocity level typical of residential areas is approximately 50 VdB.

Groundborne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Table 3.12-2 summarizes the general human response to different levels of groundborne vibration.

**Table 3.12-2: Human Response to Different Levels of Groundborne Vibration**

Vibration-Velocity Level (VdB)	Human Reaction
65	Approximate threshold of perception.
75	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85	Vibration acceptable only if there is an infrequent number of events per day.

Note:  
 VdB = vibration decibels referenced to 1 microinch per second and based on the root mean square vibration velocity.  
 Source: FTA, 2006

***Sensitive Receptors***

People typically experience annoyance when they are exposed to vibration that exceeds certain thresholds. These thresholds are generally lower than threshold levels for vibration-related building damage. Buildings that are normally occupied by people are considered sensitive to groundborne vibration. Historical or lightweight buildings

are considered most vulnerable to vibration damage; thus, more stringent vibration-damage thresholds are recommended for these building types. Buildings used for research, manufacturing, or healthcare operations that are sensitive to very low thresholds of vibration to function effectively (e.g., magnetic resonance imaging [MRI] or microelectronics manufacturing facilities) are also considered vibration sensitive; groundborne vibration can result in structural damage and/or interfere with the intended functions of such buildings (FTA, 2006).

### 3.12.3 Regulatory Framework

#### Noise Control Act

The USEPA Office of Noise Abatement and Control was established to coordinate Federal noise control activities. After its inception, the Office of Noise Abatement and Control established programs and guidelines under the Federal Noise Control Act of 1972 to identify and address the effects of noise on public health and welfare and the environment. A summary of recommended guidelines for noise levels considered safe for community exposure without the risk of adverse effects on health or welfare are presented in Table 3.12-3 (EPA, 1974). To prevent hearing loss over the lifetime of a receptor, the yearly average  $L_{eq}$  should not exceed 70 dBA; to prevent activity interference and annoyance, the  $L_{dn}$  should not exceed 55 dBA in outdoor activity areas or 45 dBA indoors.

**Table 3.12-3: Summary of Noise-Level Standards Recommended by the U.S. Environmental Protection Agency**

Effect	Level	Area
Hearing loss	$L_{eq(24)} \leq 70$ dB	All areas
Outdoor activity interference and annoyance	$L_{dn} \leq 55$ dB	Outdoor in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use
	$L_{eq(24)} \leq 55$ dB	Outdoor areas where people spend limited amounts of time, such as school yards and playgrounds
Indoor activity interference and annoyance	$L_{dn} \leq 45$ dB	Indoor residential areas
	$L_{eq(24)} \leq 45$ dB	Other indoor areas with human activities, such as schools

Notes:

dB = decibels; EPA = U.S. Environmental Protection Agency;  $L_{dn}$  = day-night noise level ( $L_{eq}$  with a 10-dB nighttime weighting);

$L_{eq(24)}$  = equivalent noise level (the sound energy averaged over a 24-hour period)

Source: EPA, 1974

The Noise Control Act is applicable to the EA Alternatives insofar as it establishes general guidelines related to what would be considered acceptable noise levels generated by a project alternative and perceived by adjacent or on-site receptors.

#### Federal Transit Administration Groundborne Vibration Guidelines

To address the human response to groundborne vibration, the Federal Transit Administration (FTA) has guidelines for maximum-acceptable vibration criteria for different types of land uses. Maximum-acceptable vibration criteria based on the frequency of an event are applied to different types of land uses to address the human response to groundborne vibration (FTA, 2006). These guidelines recommend 65 VdB, referenced to 1

microinch per second ( $\mu\text{in}/\text{sec}$ ) and based on the velocity amplitude for land uses where low ambient vibration is essential for interior operations (e.g., hospitals, high-tech manufacturing, laboratory facilities); 80 VdB for residential uses and buildings where people normally sleep; and 83 VdB for institutional land uses with primarily daytime operations (e.g., schools, churches, clinics, offices) (FTA, 2006). Table 3.12-4 shows the allowable project-generated noise level increases determined to be acceptable.

**Table 3.12-4: Summary of Groundborne-Vibration Impact Criteria Recommended by the Federal Transit Administration**

Land Use Category	Impact Levels (VdB; relative to 1 $\mu\text{in}/\text{sec}$ )		
	Frequent Events <sup>1</sup>	Occasional Events <sup>2</sup>	Infrequent Events <sup>3</sup>
Category 1: Buildings where vibration would interfere with interior operations	65 <sup>4</sup>	65 <sup>4</sup>	65 <sup>4</sup>
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime uses	75	78	83

Notes:

FTA = Federal Transit Administration; VdB = vibration decibels;  $\mu\text{in}/\text{sec}$  = microinch per second

<sup>1</sup> Defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.

<sup>2</sup> Defined as 30–70 vibration events of the same source per day. Most commuter trunk lines have this many operations.

<sup>3</sup> Defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

<sup>4</sup> This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the heating, ventilation, and air conditioning systems and stiffened floors.

Source: FTA, 2006

Standards also have been established to address the potential for construction-caused vibration annoyance or interference. The primary concern related to construction vibration is the potential for the operation of heavy-duty construction equipment to cause structural damage to buildings. Varying criteria have been developed to address the appropriate level of vibration considered acceptable before it may result in damage to structures or varying building types (FTA, 2006). Table 3.12-5 shows the allowable project-generated vibration-level thresholds determined to be acceptable for different building types.

**Table 3.12-5: Summary of Vibration-Damage Criteria Recommended by the Federal Transit Administration**

Building Category	PPV (in/sec)	Approximate VdB
Reinforced concrete, steel, or timber (no plaster)	0.5	102
Engineered concrete and masonry (no plaster)	0.3	98
Nonengineered timber and masonry buildings	0.2	94
Buildings extremely susceptible to vibration damage	0.12	90

Notes:

FTA = Federal Transit Administration; in/sec = inches per second; PPV = peak particle velocity; VdB = vibration decibels

Source: FTA, 2006

The criteria established by FTA and noted above are applicable to the Proposed Action because they are widely used and provide a sound basis for determining how the vibration levels generated by the EA Alternatives would be perceived by adjacent or on-site receptors.

### 3.12.4 Affected Environment

#### Existing Noise and Vibration Sources

##### *VA Transfer Parcel*

Very few noise sources currently exist within the VA Transfer Parcel. No public roadways currently traverse this area and public access is restricted. Noise sources that contribute to the overall ambient noise level in the area include occasional maintenance vehicles and marine activities along the Oakland Estuary and San Francisco Bay. Management activities for the CLT colony that occur before and during nesting/breeding season also contribute to the noise sources during those times.

##### *Surrounding Area*

The predominant noise sources in the surrounding area are mobile sources, such as personal-occupancy and delivery vehicles, and stationary equipment, such as heating, ventilation, and air conditioning (HVAC) systems. Vehicle traffic consists primarily of personal-occupancy vehicles, because there is limited public-transit traffic in the Alameda Point area. Most of the perceivable noise from stationary-source equipment is located in the eastern portion of Alameda Point, where there are existing structures. Other stationary-source noise in the area is generated largely on the rooftops of existing structures and shielded from view by the existing structures.

#### Noise Measurements

To identify representative noise levels in the Alameda Point area, existing daytime noise levels were monitored on March 11, 2009, from 7 A.M. to 7 P.M. at one location on the VA Transfer Parcel (i.e., northwest corner of the California Least Tern colony). Noise levels were measured using a Larson-Davis Model 820 precision sound level meter, which satisfies the requirements of the American National Standards Institute for general environmental noise measurement instrumentation. The maximum, minimum, and average noise levels measured at the VA Transfer Parcel are identified in Table 3.12-6.

**Table 3.12-6: Existing Ambient Noise Levels in the Study Area**

Location	Average Noise Level	Maximum Noise Level	Minimum Noise Level
Northwest Corner of CLT colony	52 dBA $L_{eq}$	100 dBA $L_{max}$	38 dBA $L_{min}$

Notes: dBA = A-weighted decibels;  $L_{eq}$  = energy-equivalent noise level;  $L_{max}$  = maximum noise level (the maximum instantaneous noise level during a specific period);  $L_{min}$  = minimum noise level (the minimum instantaneous noise level during a specific period)

Source: Data compiled by AECOM in 2009

## **Noise-sensitive Receptors**

### ***VA Transfer Parcel***

There are no sensitive human noise-sensitive receptors within the existing VA Transfer Parcel. However, the VA Transfer Parcel does include wildlife noise-sensitive receptors, the CLT colony. See Section 3.1 (Biological Resources) for a discussion of noise as it relates to the existing CLT colony.

### ***Surrounding Area***

The nearest sensitive human receptors to the VA Transfer Parcel are located in the surrounding area. These receptors include residential homes located near the northeast corner of Alameda Point, south of Main Street, approximately 3,700 feet east of the eastern edge of the VA Transfer Parcel. Receptors near roadways that would be used by project traffic include residential areas and schools adjacent to Atlantic Avenue (Ralph Appezato Memorial Parkway) east of Main Street. It should also be noted that existing noise levels at the project site are considered acceptable for sensitive receptors. As noted above, EPA generally establishes a noise standard of 55 dBA  $L_{eq}$  for outdoor areas where people spend limited amounts of time. Existing ambient noise levels do not exceed these standards, and, as a result, are considered acceptable.

## **3.12.5 Environmental Consequences**

### **Assessment Methods**

To assess potential noise impacts from implementation of the EA Alternatives, the effects of construction-related and operational activities on sensitive receptors were identified and assessed. The noise (and vibration) levels of equipment expected to be used in various construction and operational projects were determined and resultant noise levels at sensitive receptors were calculated, assuming documented rates of noise (vibration) attenuation.

### **Alternative 1**

#### ***Construction***

##### **Noise**

Initial construction under Alternative 1 would take approximately 18 months to complete and would entail development of the VHA OPC, VBA Outreach Office, Conservation Management Office, NCA Cemetery, and associated infrastructure within the VA Development Area and an off-site access utility/road corridor. It is anticipated that approximately 441,000 cubic yards of fill would be trucked to the VA Development Area for the initial construction. All construction staging areas would be located within the VA Development Area.

Equipment required for all construction activities under Alternative 1 would include scrapers, graders, loaders, backhoes, vibratory rollers, on-site dump trucks, welders, rollers, pavers, Cone Penetration Technology (CPT) rigs, cement/mortar mixers, and water trucks. Additional equipment required only during the initial construction would include tracked dozers and cranes. In addition to general construction equipment, pile driving or deep-compaction techniques would be required for structural foundations.

Construction noise is generated by the operation of construction equipment and vehicles and by the transport of material and workers to and from the site. Construction noise levels are a function of the type of equipment used and the timing and duration of the noise-generating activities. Noise levels vary for individual pieces of equipment, because equipment comes in different sizes and with different engines. Construction equipment noise levels also vary as a function of the activity level or duty cycle. Typical construction projects, with equipment moving from one point to another, work breaks, and idle time, have lower long-term average noise levels than louder short-term noise events. Additionally, noise levels are calculated from the center of the activity because of the dynamic nature of a construction site. Table 3.12-7 lists noise generation levels for various types of equipment that could be used to construct site facilities.

**Table 3.12-7: Noise Levels of Typical Construction Equipment**

Equipment Type	Typical Noise Level (dBA) @ 50 feet	Usage Factor (%)
Air compressor	80	40
Backhoe	80	40
Concrete pump truck	82	20
Crane, mobile	85	16
Dozer	85	40
Excavator	85	40
Front-end loader	80	40
Generator	82	50
Pneumatic tools	85	50
Pumps	77	50
Roller	85	20
Welder	73	40
Trucks	74–81	

Notes:

dBA = A-weighted decibels; usage factor = the percent per hour equipment is in use.

All equipment is fitted with a properly maintained and operational noise control device, per manufacturer specifications. Noise levels listed are manufacturer-specified noise levels for each piece of heavy construction equipment.

Source: FTA, 2006

Maximum noise levels from construction equipment typically range from approximately 70 dBA to 90 dBA at 50 feet from the equipment (Table 3.12-7). In a typical construction project, the generators of the loudest short-term noise tend to be earth-moving equipment under full load at approximately 85–90 dBA at a distance of 50 feet from the source. In addition to these maximum instantaneous noise levels, the magnitude of construction noise can be defined by the type of construction activity, the various pieces of equipment operating, and the duration of the activity. Typically, construction noise is averaged over time and expressed as dBA  $L_{eq}$ .

Noise levels from construction activities are typically considered “point” sources and attenuate with distance at a rate of 6 dBA per doubling of distance over hard site surfaces, such as streets and parking lots, and a rate of 7.5 dBA per doubling of distance for soft site surfaces, such as grass fields and open terrain with vegetation (FTA, 2006). Operational noise from constructed facilities includes equipment operation (e.g., pumps, generators, fans), vehicle trips to and from the facilities for operation and maintenance, and facility worker trips.

During initial construction under Alternative 1 a maximum noise level of 85 dBA  $L_{max}$  and hourly noise level of 77 dBA  $L_{eq}$  is projected to occur at a distance of 50 feet from the center of typical construction activity. Pile-driving activities are projected to generate maximum noise levels of 95 dBA  $L_{max}$  at 50 feet each time the hammer head strikes the pile. It is estimated that the actual strike of an impact pile driver accounts for 20% of each hour that the equipment is operating on site, thus resulting in an average hourly noise level of 88 dBA  $L_{eq}$  at 50 feet from the pile being driven. See Appendix G (Noise Assessment Worksheets) for complete construction noise modeling results.

The nearest human noise-sensitive receptor (residential area located east of the VA Transfer Parcel on Pan Am Way) is located approximately 3,700 feet (approximately 0.7 mile) from the edge of the VA Development Area. The intervening ground is a mix of developed buildings, green space, and concrete and would be considered acoustically soft because of surface variability and intervening structures. For the purposes of this impact analysis, construction activities are conservatively considered to potentially occur anywhere within the VA Development Area identified for improvements (e.g., the VHA OPC, parking lot, NCA Cemetery improvements).

Construction noise attributable to Alternative 1 was estimated using the FTA's noise methodology for predicting noise from heavy equipment (FTA, 2006). Construction noise levels at the nearest off-site receptor were modeled based on these parameters. The modeling generated a maximum noise level of 36 dBA  $L_{max}$  and 28 dBA  $L_{eq}$  at the nearest off-site receptor during the initial construction which would be the most intense phase of construction. Pile-driving noise levels at the nearest off-site receptor were also modeled; the modeling generated a maximum noise level of 46 dBA  $L_{max}$  and 38 dBA  $L_{eq}$ . These modeled noise levels at the nearest off-site receptor would be considered inaudible relative to existing background noise levels. No new receptors would be affected during the subsequent phases of cemetery construction.

Construction during Alternative 1 would require haul trips on area roads as trucks transport fill materials from local commercial quarries to the VA Development Area. Estimates of noise levels are based on the amount of material to be hauled, the number of days of construction, and the hours per day when hauling would occur. Construction-related traffic would be distributed over the roadway network identified in the traffic impact study prepared for this EA (AECOM, 2012). Based on estimates of fill needed for Alternative 1, a maximum of 372 haul trucks per day would be needed at the peak of construction activities. Noticeable increases of 3 dBA ( $L_{dn}$ ) typically do not occur without a doubling in roadway traffic volumes (Caltrans, 2009:N-96). Existing intersection peak-hour traffic volumes range from 191 to 232 trips per hour; Alternative 1-related haul trucks would generate approximately 16 additional trips per hour at the two main intersections accessing the VA Development Area (Willie Stargell Avenue and Atlantic Avenue). Because Alternative 1 would add less than double the traffic volume to the existing roadways, noise increases from construction traffic under this alternative is projected to be less than 3 dBA.

In summary, noise levels during initial construction under Alternative 1 is projected to be less than 55 dBA at the nearest sensitive human receptors, and off-site construction traffic would not result in a substantial increase in area traffic; thus, temporary noise generated by Alternative 1 construction activities would not result in a substantial increase in the ambient noise environment. As a result, construction-related noise impacts of Alternative 1 would be short term and would not be significant. A discussion of potential effects to biological resources is included in Section 3.1 (Biological Resources).

It is assumed subsequent phased expansion of the cemetery as part of construction under Alternative 1 would include periodic development of 6 acres of land over a period of approximately 12 months beginning in 2026. In addition, it is anticipated that approximately 62,400 cubic yards of fill would be delivered by truck to the VA Development Area for the cemetery under the subsequent phases of cemetery construction under Alternative 1. Noise levels during the first phase of construction is projected to be less than 55 dBA at the nearest sensitive receptor and construction would be substantially less during subsequent phases of cemetery construction. Under subsequent phases of cemetery construction under Alternative 1, noise impacts would be similar to or less than the impact identified for initial construction, because construction during these later phases generally would involve activities that would occur farther from existing off-site receptors and would be less intense. Because future phases of development (i.e., NCA National Cemetery) under Alternative 1 would result in noise less than 55 dBA at the nearest sensitive receptors, temporary noise generated by construction activities during these future phases would not result in a substantial increase in the ambient noise environment. As a result, construction-related noise impacts associated with subsequent cemetery construction under Alternative 1 would be short term and would not be significant.

### **Vibration**

Construction activities would result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the activities involved. Vibration generated by construction equipment that would be used during initial construction of Alternative 1 spreads through the ground and diminishes in magnitude with increases in distance. Using FTA's recommended procedure (FTA, 2006) to apply a propagation adjustment to these reference levels, construction activities would need to occur within 40 feet of vibration-sensitive receptors to exceed 80 VdB, FTA's maximum-acceptable vibration standard with respect to human annoyance for sensitive uses. Activities would need to occur within 15 feet to exceed 0.2 PPV in/sec, FTA's maximum-acceptable vibration standard with respect to structural damage. See Appendix G (Noise Assessment Worksheets) for complete construction vibration modeling results.

Because there are no existing on-site human sensitive receptors (i.e., residences and inpatient facilities), and because off-site human sensitive receptors would be a minimum of 3,700 feet from the proposed development, construction of Alternative 1 would occur well beyond the threshold distances identified above and would not expose any sensitive human receptors to excessive levels of vibration. As a result, construction-related vibration impacts of Alternative 1 would be short-term and would not be significant.

On-site vibration levels during subsequent construction of the NCA Cemetery (approximately 6 acres over a period of 12 months as needed from 2026 through 2116) would be less than the aforementioned FTA standards at the nearest sensitive receptors. Construction of the subsequent cemetery phases would be substantially less than under the initial facility construction. Therefore, temporary vibration generated by Alternative 1 subsequent cemetery construction activities would not result in a substantial increase in vibration. Construction-related vibration impacts of Alternative 1 subsequent cemetery construction would be short term and would not be significant.

**Operation**

**Mobile-Source Noise**

Operation of the proposed VA facilities under Alternative 1 would result in an increase in traffic volumes on the local roadway network, and consequently, in an increase in noise levels from traffic sources along affected roadway segments. Traffic noise levels associated with Alternative 1 were calculated for roadway segments that would receive the greatest contribution of project-generated traffic in the vicinity of the VA Development Area, using the FHA’s Highway Noise Prediction Model (FHWA-RD-77-108).

Traffic noise levels were modeled under existing conditions. Traffic volumes were derived from 2017 P.M. peak-hour intersection volumes as presented in the traffic impact study prepared for this project (AECOM, 2013).

Table 3.12-8 summarizes the modeled traffic noise levels of Alternative 1 (year 2017) at 100 feet from the centerline

**Table 3.12-8: Predicted Traffic Noise Levels at Full Buildout of Alternative 1 (Year 2017)**

Roadway	Segment		L <sub>dn</sub> at 100 Feet, dB				
	From	To	Existing	Existing Plus Project	Net Change	Significance Threshold	Significant Impact?
Atlantic Avenue	Webster Street	Main Street	64.8	65.0	0.2	1.5	No
Willie Stargell Avenue	Webster Street	Main Street	63.8	64.4	0.6	3	No
Main Street	Atlantic Avenue	Willie Stargell Avenue	61.9	63.1	1.2	3	No
Webster Street	Atlantic Avenue	Willie Stargell Avenue	68.6	68.7	0.1	1.5	No
Webster Street	Willie Stargell Avenue	North	69.9	70.1	0.2	1.5	No

Notes: dB = (A-weighted) decibels; L<sub>dn</sub> = day-night average noise level  
 Traffic noise levels are predicted at a standard distance of 100 feet from the roadway centerline and do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Source: Data compiled by AECOM in 2012

of affected roadway segments in the project area. Additional input data included day/night percentages of automobiles, medium and heavy trucks, vehicle speeds, ground attenuation factors, and roadway widths. See Appendix G (Noise Assessment Worksheets) for complete traffic noise modeling results.

The modeling conducted shows that implementation of Alternative 1 in 2017 in addition to then-existing conditions would result in traffic noise-level increases up to 1.2 dB  $L_{dn}$  compared to existing noise levels. Therefore, noise levels from traffic generated by Alternative 1 would not result in a substantial permanent increase in ambient noise levels. Accordingly, the operational noise impacts of Alternative 1 from mobile sources would not be significant.

### **Stationary-Source Noise**

Implementing Alternative 1 would result in an increase in on-site stationary-source noise associated with operation of HVAC units as part of the use of proposed buildings, loading docks, landscaping, maintenance, and parking areas. The VHA OPC and NCA Cemetery would be day-use-only facilities, and no overnight sensitive receptors (i.e., residences or inpatient facilities) would be located on site. Because of the distance (3,700 feet) and intervening structures between Alternative 1 development and the nearest human sensitive receptors, noise levels from stationary sources located on site would have to exceed 102 dBA—equivalent to a jet flyover (Table 3.12-1)—to exceed 55 dBA at the nearest sensitive receptor. No stationary noise sources proposed by Alternative 1 would generate noise exceeding 102 dBA. (Typical HVAC noise ranges from 45 dBA to 70 dBA  $L_{eq}$  at a distance of 50 feet [EPA, 1971].) In addition to this stationary-source noise, periodic firearm salutes would take place during ceremonies and events on cemetery property. These salutes would be short in duration (less than 10 minutes) and would occur infrequently. As a result, operation of stationary noise sources under Alternative 1 would not cause ambient noise levels at nearby sensitive receptors to increase substantially. Thus, the operational noise impacts of Alternative 1 from stationary sources would not be significant. See Section 3.1 (Biological Resources) for a discussion of potential effects to biological resources.

### **Vibration**

Long-term project operation under Alternative 1 would not include any major sources of vibration. In addition, there are no on-site human sensitive receptors, and off-site human receptors would be a minimum of 3,700 feet from the proposed development. Therefore, operations under Alternative 1 would not expose any sensitive human receptors to excessive levels of vibration and would have no permanent effect on groundborne vibration. Thus, vibration impacts of Alternative 1 would not be significant.

## **Alternative 2 (Preferred Alternative)**

### **Construction**

#### **Noise**

Alternative 2 would involve construction activities similar to those of Alternative 1. Alternative 2 construction activities would occur in different locations on the VA Transfer Parcel than activities for Alternative 1; however, as under Alternative 1, the nearest sensitive human receptors are 3,700 feet from the construction activities proposed for Alternative 2. Therefore, modeling of construction noise levels for Alternative 2 generated a maximum noise level of 36 dBA  $L_{max}$  and 28 dBA  $L_{eq}$  at the nearest off-site receptor during the most intense phase of construction (Phase 1). Pile-driving noise levels at the nearest off-site human receptor would generate a maximum noise level of 46 dBA  $L_{max}$  and 38 dBA  $L_{eq}$  at the nearest off-site receptor. These maximum construction noise levels are identical to the maximum noise levels modeled for Alternative 1. As noted above

(Table 3.12-6), ambient noise levels in the area average approximately 52 dBA  $L_{eq}$ . Thus, on-site construction equipment would be considered inaudible relative to existing background noise levels.

Construction traffic associated with Alternative 2 also would be similar to construction traffic for Alternative 1, with approximately 16 trips per hour per intersection. As noted above, noticeable increases of 3 dBA ( $L_{dn}$ ) typically do not occur without a substantial (i.e., doubling) increase in roadway traffic volumes (Caltrans, 2009:N-96). As under Alternative 1, construction trips associated with Alternative 2 would not double existing traffic volumes, and therefore would not substantially increase the area's traffic noise levels. Construction under Alternative 2 would not result in a substantial temporary increase in ambient noise levels, nor would it generate noise exceeding applicable standards. As a result, Alternative 2 construction activities would not result in a substantial increase in the ambient noise environment. Construction-related noise impacts of Alternative 2 would be short-term and would not be significant.

### **Vibration**

Alternative 2 would involve construction activities similar to those of Alternative 1. Alternative 2 construction activities would occur in different locations on the VA Transfer Parcel than activities for Alternative 1; however, as under Alternative 1, the nearest sensitive human receptors to any initial construction activity are 3,700 feet away (i.e., residential development located near northeast corner of Alameda Point). Using FTA's recommended procedure (FTA, 2006) to apply a propagation adjustment to these reference levels, construction activities would need to occur within 40 feet of vibration-sensitive human receptors to exceed 80 VdB, FTA's maximum-acceptable vibration standard with respect to human annoyance for sensitive uses. Activities would need to occur within 15 feet to exceed 0.2 PPV in/sec, FTA's maximum-acceptable vibration standard with respect to structural damage.

Because there are no on-site human sensitive receptors (i.e., residences and in-patient facilities), and because off-site receptors would be a minimum of 3,700 feet from the proposed development, construction of Alternative 2 facilities would not expose any sensitive human receptors to excessive levels of vibration. As a result, construction-related vibration impacts of Alternative 2 initial construction would be short-term and would not be significant.

It is assumed that as part of subsequent cemetery phase construction under Alternative 2 additional areas of the proposed NCA Cemetery would be developed over a period of approximately 12 months beginning in 2026. On-site vibration levels during initial construction would be less than FTA standards at the nearest sensitive human receptors and construction would be substantially less under subsequent cemetery phase construction than under initial construction. Therefore, temporary vibration generated by Alternative 2, subsequent cemetery phase construction activities would not result in a substantial increase in vibration. Construction-related impacts of Alternative 2 subsequent cemetery phases would be short-term and would not be significant.

### **Operation**

#### **Mobile-Source Noise**

Alternative 2 would generate the same levels of traffic as Alternative 1. Like Alternative 1, Alternative 2 would result in a maximum increase of 1.2 dBA  $L_{dn}$  over existing conditions (Table 3.12-8). Therefore, implementing this alternative would not result in a substantial permanent increase in ambient noise levels, nor would it cause

existing noise to exceed applicable standards. Noise levels from traffic generated by Alternative 2 would not result in a substantial increase in the ambient traffic noise environment. Accordingly, the operational noise impacts of Alternative 2 from mobile sources would not be significant.

### **Stationary-Source Noise**

Implementing Alternative 2 would involve the operation of stationary sources of the same type and on the same scale as implementing Alternative 1. Alternative 2 sources would be located in different locations on the VA Transfer Parcel; however, as under Alternative 1, the nearest sensitive human receptors are 3,700 feet away. Therefore, like Alternative 1, Alternative 2 would not include stationary sources that could generate noise levels sufficient to cause annoyance to these receptors or cause existing noise to exceed applicable standards. Alternative 2 would not result in a substantial increase in the ambient noise environment. The operational noise impacts of Alternative 2 from stationary sources would not be significant.

### **Vibration**

As under Alternative 1, long-term project operation under Alternative 2 would not include any major sources of vibration. In addition, there are no on-site sensitive human receptors, and off-site human receptors would be a minimum of 3,700 feet from the proposed development. Therefore, operations under Alternative 2 would not expose any sensitive receptors to excessive levels of vibration and would have no permanent effect on groundborne vibration and noise. Thus, vibration impacts of Alternative 2 would not be significant.

## **No Action Alternative**

### ***Construction***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development (e.g., VHA OPC, VBA Outreach Office, NCA Cemetery, etc.) would not be built. Therefore, no significant construction impacts on noise or vibration would occur.

### ***Operation***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place and the proposed development and operations (e.g., VHA OPC, VBA Outreach Office, NCA Cemetery, etc.) would not occur. Therefore, no significant operational impacts on noise or vibration would occur.

## **3.12.6 References**

AECOM. 2012. *Alameda Point Transfer, Clinic, and Cemetery Environmental Assessment Transportation Impact Study*.

American Association of State Highway and Transportation Officials. 1974. *Guide on Evaluation and Attenuation of Traffic Noise*. Washington, DC.

California Department of Transportation (Caltrans). 2009. *Technical Noise Supplement*. Sacramento, CA.

Federal Transit Administration (FTA). 2006 (May). *Transit Noise and Vibration Impact Assessment*. Washington, DC. Pages 8-2, 8-3, 12-13, 5-1 through 5-29, 10-1 through 10-12, and 12-11.

U.S. Environmental Protection Agency (EPA). 1971 (December). *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. Washington, DC.

———. 1974 (March). *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. Washington, DC. Page 3.

This page intentionally left blank.

### **3.13 PUBLIC SERVICES**

This section describes the existing physical and regulatory setting related to fire protection/emergency medical services, law enforcement services, and parks and recreation and discusses the potential effects of the EA Alternatives related to these resources.

#### **3.13.1 Regulatory Framework**

##### **National Fire Protection Association Fire Code**

The National Fire Protection Association (NFPA) Fire Code provides the requirements to establish a reasonable level of fire safety and property protection in new and existing buildings. Any new development would meet the requirements of the NFPA Fire Code.

##### **Alameda Fire Code**

The Alameda Fire Code is based on the 2010 California Fire Code and includes portions of the 2009 International Fire Code, together with Alameda amendments. The Alameda Fire Code is enforced by the Alameda Fire Department's (AFD's) Fire Marshal, who operates under the supervision of the Chief of the Fire Department.

The AFD currently serves the VA Transfer Parcel. Because the VA Transfer Parcel is a Federal property that receives fire and Emergency Medical Service (EMS) protection services from the AFD, any new development would meet the requirements of the of the Alameda Fire Code to satisfy the AFD's needs to service the site.

#### **3.13.2 Affected Environment**

This section describes conditions related to fire protection, law enforcement, and parks and recreation in the immediate vicinity of the VA Transfer Parcel. Other public services, including solid waste disposal, are discussed in Section 3.11 (Utilities).

##### **Fire and Emergency Medical Services**

The AFD provides emergency fire and medical response, emergency planning, and preventive services for the City of Alameda, including Alameda Point and the VA Transfer Parcel. The AFD is an all-risk public safety agency, meaning that it responds to all emergencies and hazards (not including law enforcement) that occur within the City of Alameda. The AFD operates four fire stations<sup>1</sup> situated throughout Alameda, staffed with a total of approximately 25 personnel each day (AFD, 2011). The fire station closest to the VA Transfer Parcel is Alameda Fire Station 2, located at 635 Pacific Avenue, approximately 2.5 miles from the VA Transfer Parcel. The VA Transfer Parcel is located within Fire District 5. Services provided by AFD include fire suppression on land and water; advanced life support (ALS), including ambulance transport services; fire prevention, consulting, and investigative services; community disaster preparedness, including Community Emergency Response Teams; hazardous materials response and mitigation; confined-space rescue services; and water rescue (AFD, 2011).

---

<sup>1</sup> AFD's Station 5, located on 950 W. Ranger Road, is closed until further notice (Alameda, 2011).

In 2011, AFD responded to a total of 335 calls for service in District 5; of these calls, eight were fire-related, 242 were EMS-related, and 85 were considered “other” calls for service. In the event of an emergency, Alameda Fire Station 2 would provide the primary response to the VA Transfer Parcel (Olson, pers. comm., 2012). Table 3.13-1 displays the average response times per vehicle deployed out of Fire Station 2 in 2011.

**Table 3.13-1: Alameda Fire Department Station 2: Average Response Times for All Emergency Calls, per Emergency Vehicle**

Emergency Vehicle	Destination	Average Response Time (minutes)
Engine 2	Citywide	5:02
Truck 2	Citywide	5:54
Ambulance 2	Citywide	5:35

Source: Olson, pers. comm., 2012

The AFD indicates that since the closure of Fire Station 5 in 2009, located on West Ranger Road 0.5 mile from the VA Transfer Parcel, the average response times of Fire Station 2 and other stations have increased (Olson, pers. comm., 2012). At this time there is no plan to reopen Station 5 and the facility is being used for vehicle storage (Ott, pers. comm., 2012).

The primary entrance for fire and emergency medical vehicles is on the north side of Alameda Point at the Main Street Gate. Public access to the VA Transfer Parcel is restricted by an existing chain-link fence. However, in the event of a fire or other emergency, AFD can access the property through the locked gate, which is secured with a key box (Alameda, 2012).

Water for fire suppression is provided by East Bay Municipal Utility District (EBMUD), which operates and maintains the existing water systems at Alameda Point through an agreement with the City of Alameda. Two distinct water systems serve Alameda Point; one provides potable and non-potable water to fire hydrants, while the other serves fire protection sprinkler systems inside industrial buildings (ARRA, 2005). Alameda Point historically received water from EBMUD via three existing metering stations located on Main Street. The existing potable-water system remains functional; however, there are service concerns in some places, and most of the existing system is not built to City of Alameda or EBMUD standards (Alameda, n.d.), see Section 3.11 (Utilities).

**Police Services**

The Alameda Police Department (APD) provides law enforcement services within the City of Alameda, including the VA Transfer Parcel. The majority of the VA Transfer Parcel is located in Alameda County and a smaller portion of the parcel (southwest corner) is located within San Francisco County. Concurrent jurisdiction has been established between the San Francisco Police Department and APD to provide a legal basis for law enforcement (Alameda, 1998). The APD divides Alameda into a five-sector system that is patrolled by one to four officers 24 hours a day. The sectors are further divided into 25 beats, each assigned to individual officers (Alameda, 2011). The APD currently serves Federal property at Alameda Point. Alameda Point is patrolled exclusively by one uniformed APD rotating officer, 24 hours a day, 7 days a week (APD, 2011).

**Parks and Recreation**

The Alameda Recreation and Park Department administers an extensive system of local parks, athletic fields, dog parks, skate parks, historical museums, gymnasiums, a model airplane field, a community center, and a senior center. The city has 150 acres of municipal parkland and an overall park acreage ratio of about 2 acres of parkland per 1,000 residents. Given the distribution of Alameda’s parks and flat topography, most of the city’s population is within easy walking distance of a park or open space facility (Gates and Associates, 2011). Recreational resources within 0.5 mile of the VA Transfer Parcel are shown in Table 3.13-2.

**Table 3.13-2 Existing Alameda Recreation and Park Department Facilities within 0.5 Mile of the VA Transfer Parcel**

Facility	Acres
Alameda Point Gym	0.20
City View Skatepark	0.55
Alameda Point Multi-Purpose Field	4.80
Main Street Dog Park	1.30
Albert H. DeWitt Officers Club	3.40

Sources: ARPD, 2010; ARPD, 2012

**3.13.3 Environmental Consequences**

**Assessment Methods**

Evaluation of potential public service impacts was based on a review of documents pertaining to the Proposed Action; coordination with appropriate agencies and City of Alameda staff members; and review of the VA Development Area and surroundings. The Proposed Action does not involve proposals for new residential structures. As it would not directly generate new residents in Alameda, the Proposed Action would not substantially increase citywide demand on public services. However, localized impacts resulting from increases in daily population (staff, patients, visitors) may occur and are analyzed below.

**Alternative 1**

***Construction***

***Fire and Emergency Medical Services***

During construction, access by fire trucks and emergency vehicles to the VA Transfer Parcel would be maintained at the current level. Given that construction-related traffic would not substantially affect the traffic flows in the area, it is unlikely that emergency vehicles traveling through the area would be delayed as a result. Construction-related traffic impacts would be temporary and any temporary traffic lane closures would be coordinated with the City of Alameda to minimize potential impacts on traffic and would be subject to NFPA and Alameda Fire Code emergency-access standards and requirements. Construction activities would not be expected to generate demand for additional AFD fire and emergency services that would exceed the capacity of existing services or result in an

adverse impact to current service levels. Construction activities, including construction related traffic, would not have a significant adverse impact on fire and EMS services, including response times and site access. See Section 3.3 (Transportation, Traffic, Circulation, and Parking) for more information traffic.

### **Police Services**

The APD currently serves Federal property at Alameda Point, including the VA Transfer Parcel. Upon transfer of the VA Transfer Parcel from the Navy to VA, VA would augment the local police coverage of the site with VA Police and other law enforcement entities. During construction, staffing for police services would be provided by VA to properly secure the site. Although the VA Transfer Parcel is considered Federal property, it is anticipated that there would be a mutual-aid agreement with APD, in which each party helps one another when needed. This arrangement is standard procedure at other VA campus locations. Construction activities would not be expected to generate demand for additional APD police services that would exceed the capacity of existing services or result in an adverse impact to current service levels. Therefore, construction activities would not have a significant impact on police services.

### **Parks and Recreation**

There are approximately five City of Alameda–owned parks and recreational facilities within 0.5 mile of the VA Transfer Parcel. Access to these facilities would not be disrupted during construction because construction activities would occur entirely within the VA Development Area. Construction under Alternative 1 would be performed by a temporary workforce consisting of approximately 20 to 56 persons derived from the local labor pool. As stated in Section 3.9 (Socioeconomics and Environmental Justice) the addition of 20 to 56 construction jobs that could be filled by Bay Area and/or Alameda residents is not anticipated to result in an adverse growth-inducement impact. Although construction workers would be within walking distance (0.5 mile) of nearby park and recreational facilities the increase in park usage would be minimal. For these reasons, construction-related impacts on parks and recreational amenities would not be significant.

### **Operation**

#### **Fire and Emergency Medical Services**

Operation of Alternative 1 would result in approximately 250 employees, 540 patients, and numerous visitors utilizing the proposed facilities within the VA Development Area on an average weekday (smaller number expected during weekends). However, based on similar VA facilities, the development and use of the property would not be expected to generate demand for additional AFD fire and emergency services that would exceed the capacity of existing services or result in an adverse impact to current service levels or require the need for an expansion of services.

Access to the VA Transfer Parcel, including emergency access, would be improved with the construction of a new primary access point (i.e., on- and off-site improvements) and a secondary emergency access point. As identified by AFD, the current emergency route to the VA Transfer Parcel is not the most direct route to the site. A shorter route that accesses the VA Transfer Parcel from the east would improve response times. As part of Alternative 1, secondary emergency access (from West Redline Avenue) would be provided along the east boundary of the VA

Transfer Parcel (Figure 2-2 in Chapter 2.0 [Alternatives]). Adding a secondary emergency entrance would alleviate AFD's concerns about current access to the VA Transfer Parcel.

Water system improvements would involve installing new water mains that provide potable water and fire suppression water to new buildings and irrigated areas. Because the Proposed Action would be required to meet standard fire code requirements for fire hydrant systems administered in accordance with the NFPA, water capacity and service that may be needed for fire suppression actions would be improved.

Operational activities, including daily occupation of the property by employees, patients, and visitors would not have a significant impact on fire and EMS services, including response times, site access, water supplies for fire suppression, or require an expansion of existing services.

### **Police Services**

As mentioned above, operation of Alternative 1 would result in approximately 250 employees, 540 patients, and numerous visitors utilizing the proposed facilities within the VA Development Area on an average weekday (smaller number expected during weekends). The VA Transfer Parcel would continue being served by the local APD together with augmented law enforcement support from VA. Although property owned by VA is considered Federal property, it is anticipated that there would be a mutual-aid agreement with APD, in which each party helps one another when needed. Because primary police and security services will be provided by VA, the development and use of the property would not be expected to generate demand for additional APD police services that would exceed the capacity of existing services or result in an adverse impact to current service levels or require the need for an expansion of services. Therefore, operational activities would not have a significant impact on police services.

### **Parks and Recreation**

Although the Proposed Action would not contribute to the City of Alameda's designated public parklands, at the request of BCDC, Alternative 1 includes an access roadway with a bicycle lane in both directions and a Americans with Disabilities Act (ADA) -compliant pedestrian pathway along the northern VA Development Area allowing bicyclists, pedestrians, and drivers to travel to a location approximately 100 feet from the western shoreline of the VA Development Area at the street-level. The on-site pedestrian pathway and roadway with bicycle lanes would provide public access and would be located within VA property. The pathway would be constructed using existing paving to the extent possible, in combination with filling in non-paved areas using decomposed granite. The roadway would terminate in a turnaround area that would restripe an existing paved area to allow for eight vehicle parking spaces. An ADA-compliant viewing area with benches will be located adjacent to the parking area, just before the 100-foot-wide shoreline band, which is under BCDC jurisdiction. No development is proposed within the 100 foot band by VA and would remain as open space.

The publically accessible road and pathway would allow limited access to open space and the shoreline. These publically accessible areas would be separated from the entire VA Development Area by a security fence that would be controlled with gate access and patrolled by security personnel. Public entry/exit points will not be provided between the VA Development Area and 100-foot setback area or other adjacent lands. The remaining 438 acres of the VA Transfer Parcel, including the existing California least tern (CLT) colony, would remain undeveloped. The undeveloped portion of the VA Transfer Parcel would be managed for the long-term persistence and

sustainability of the CLT colony and access would be restricted during the CLT breeding/nesting season (April 1 through August 15). The undeveloped area would add to the cumulative open space within the City of Alameda, a beneficial impact.

Some of the employees, patients, and visitors who would utilize the proposed facilities within the VA Development Area may also use the pedestrian pathway and bicycle lanes and the City of Alameda park and recreational facilities (e.g., personnel visiting a local park on their lunch break), but this additional usage is not expected to result in a substantial increase in demand for nearby park and recreational facilities. The on-site pedestrian pathway and roadway with bicycle lanes would provide public access to the shoreline at the west end of the site is anticipated to have approximately 30 daily users on an average day. The additional usage of this pathway and nearby park and recreational facilities would not be such that substantial physical deterioration of the facility would occur or be accelerated, nor would the construction or expansion of park and recreational facilities be required. For the reasons stated above, operational impacts of Alternative 1 on park and recreational usage would not be significant.

## **Alternative 2 (Preferred Alternative)**

### ***Construction***

The construction of VA facilities under Alternative 2 would be similar to that under Alternative 1. Therefore, impacts of construction under Alternative 2 on fire protection/emergency medical services, law enforcement services, and parks and recreation would be the same as those described for Alternative 1. Construction-related impacts of Alternative 2 would not be significant.

### ***Operation***

The operation of VA facilities under Alternative 2 would be similar to that under Alternative 1. Therefore, impacts of facility operation under Alternative 2 on fire protection/emergency medical services, law enforcement services, and parks and recreation would be the same as those described for Alternative 1. Operation-related impacts of Alternative 2 would not be significant.

## **No Action Alternative**

### ***Construction***

Under the No Action Alternative, construction of new buildings and the cemetery would not take place. Therefore, no significant construction-related impacts on fire protection/emergency medical services, law enforcement services, or parks and recreation would occur.

### ***Operation***

Under the No Action Alternative, no VA facilities would be implemented on the VA Transfer Parcel. The property would be retained by the Navy in caretaker status until another action on the property is taken. Therefore, no significant impacts on fire protection/emergency medical services, law enforcement, or parks and recreation would occur.

### 3.13.4 References

- Alameda, City of (Alameda). 1998. *Alameda National Wildlife Refuge Draft Comprehensive Conservation Plan*. Portland, OR: U.S. Fish and Wildlife Service.
- . 2011 (May). *North Park Street Code Draft EIR*. Chapter IV.C, Municipal Services and Open Space. Available: <<http://www.cityofalamedaca.gov/getdoc.cfm?id=6799>>. Accessed August 25, 2012.
- . 2012. Alameda Fire Department - What is a Knox Box?. <<http://www.cityofalamedaca.gov/City-Hall/Knox-Box>>. Accessed August 25, 2012.
- . n.d. *Alameda Point Specific Plan*. Alameda, CA. Available: <[http://homesalameda.org/newsletter/ap\\_specific\\_plan.pdf](http://homesalameda.org/newsletter/ap_specific_plan.pdf)>. Accessed March 27, 2012.
- Alameda Fire Department (AFD). 2011. About AFD. Available: <<http://www.cityofalamedaca.gov/City-Hall/About-Fire>>. Accessed July 26, 2011.
- Alameda Police Department (APD). 2011. Alameda Police Department - Alameda Patrol Layout. Available: <<http://www.cityofalamedaca.gov/City-Hall/Patrol-Layout>>. Accessed July 26, 2011.
- Alameda Recreation and Park Department (ARPD). 2010. Alameda Parks, Facilities, and Amenities. Available: <<http://www.cityofalamedaca.gov/getdoc.cfm?id=439>>. Last revised May 2010. Accessed August 24, 2012.
- . 2012. Facility Map. Available: <<http://www.cityofalamedaca.gov/getdoc.cfm?id=7910>>. Accessed August 24, 2012.
- Alameda Reuse and Redevelopment Authority (ARRA). 2005 (March). *Alameda Point Golf Course Environmental Impact Report. State Clearinghouse # 2001062107*. Alameda, CA. Prepared by EDAW, Inc. San Francisco, CA.
- Gates and Associates. 2011. *Draft Urban Greening and Parks Master Plan*. Alameda, CA. Prepared for the City of Alameda, CA. November 2011. Available: <<http://www.cityofalamedaca.gov/getdoc.cfm?id=6322>>. Accessed March 27, 2012.
- Olson, Daren. Administrative Division Chief/Fire Marshal. Alameda Fire Department, Alameda, CA. April 12 and April 18, 2012—e-mail and telephone call with Stephanie Klock of AECOM regarding fire services, response time standards, daily staffing levels, fire access, and fire water supply.
- Ott, Jennifer. Chief Operating Officer. Alameda Fire Department, Alameda, CA. April 18, 2012—e-mail with Stephanie Klock of AECOM regarding closure of Fire Station 5.

This page intentionally left blank.

## **3.14 GEOLOGY AND SOILS**

This section describes the geology and soils setting and regulatory setting and discusses the potential effects of the EA Alternatives on geology and soils.

### **3.14.1 Regulatory Framework**

#### **Clean Water Act**

The Clean Water Act (CWA) (33 U.S. Code [USC] 1251 et seq.) includes provisions for reducing soil erosion for the protection of water quality. The CWA prohibits the discharge of pollutants from a point source to navigable waters, unless a permit was obtained under the CWA's provisions. Regulation of discharges under the CWA also pertains to construction sites where soil erosion and stormwater runoff and other pollutant discharges could affect downstream water quality. The CWA is described in greater detail in Section 3.2 (Water Resources).

#### **Executive Order 12699**

Executive Order 12699, "Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction," was signed by President George H. W. Bush on January 5, 1990, to further the goals of Public Law 95-124, the Earthquake Hazards Reduction Act of 1977, as amended. The executive order applies to new construction of buildings owned, leased, constructed, assisted, or regulated by the Federal government. Guidelines and procedures for implementing the order were prepared in 1992 by the Federal Interagency Committee on Seismic Safety in Construction. The guidelines establish minimum acceptable seismic safety standards, provide evaluation procedures for determining the adequacy of local building codes, and recommend implementation procedures. Each Federal agency is independently responsible for ensuring that appropriate seismic design and construction standards are applied to new construction under its jurisdiction.

Under Executive Order 12699, the original model code for the West Coast was the Uniform Building Code, developed by the International Conference of Building Officials. In 1994, the International Conference of Building Officials joined with other similar organizations in the Southeast and on the East Coast to form the International Code Council (ICC). In 2000, the ICC published the first International Building Code (IBC) based on the reassessment of earlier codes and the combined updated experience of ICC member organizations. The current (2006) IBC is the result of nearly 100 years of building code improvement.

#### **International Building Code**

The IBC, which encompasses the former Uniform Building Code, is published by the ICC to provide standard specifications for engineering and construction activities, including measures to address geologic and soil concerns (ICC, 2009). Specifically, these measures encompass issues such as seismic loading (e.g., classifying seismic zones and faults), ground motion, and engineered fill specifications (e.g., compaction and moisture content). The referenced guidelines, though not formal regulatory requirements per se, are widely accepted by regulatory authorities and are routinely included in related standards such as grading codes. The IBC guidelines are updated regularly to reflect current industry standards and practices, including criteria from sources such as

the American Society of Civil Engineers and ASTM International (ASTM, formerly known as the American Society for Testing and Materials).

### **Earthquake Hazards Reduction Act**

In October 1977, the U.S. Congress passed the Earthquake Hazards Reduction Act (42 USC 7701 et seq.) to “reduce the risks to life and property from future earthquakes in the United States [U.S.] through the establishment and maintenance of an effective earthquake hazards and reduction program” (42 USC 7702). To accomplish this, the act established the National Earthquake Hazards Reduction Program. The National Earthquake Hazards Reduction Program Act (NEHRPA) substantially amended this program in November 1990 by refining the description of agency responsibilities, program goals, and objectives. The NEHRPA designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns FEMA several planning, coordinating, and reporting responsibilities. Other NEHRPA agencies include the National Institute of Standards and Technology, the National Science Foundation, and U.S. Geological Survey (USGS).

### **Veterans Health Administration Directive 2005-019**

The purpose of Veterans Health Administration (VHA) Directive 2005-019 is to establish a policy regarding the seismic safety of VHA buildings. Because facilities identified as essential must remain in operation after a seismic event, VHA Directive 2005-019 assists VA in providing adequate life-safety protection to veterans, employees, and other building occupants. Under VHA Directive 2005-019, all new buildings must be structurally designed and constructed in compliance with VA Seismic Design Requirements H-18-8 and the IBC. A major update of the VA Seismic Design Requirements H-18-8 (formerly known as H-08-8) was implemented in 1995. The current VA Seismic Design Requirements H-18-8 closely aligns with the IBC, and the VA Seismic Design Requirements are applicable to the Proposed Action.

### **Alquist-Priolo Earthquake Fault Zoning Act**

The California Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) was passed in December 1972 to mitigate the hazard of surface faulting to structures for human occupancy. Surface rupture is the most easily avoided seismic hazard. The main purpose of the Alquist-Priolo Act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults.

The Alquist-Priolo Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. The California Seismic Hazards Mapping Act, passed in 1990, addresses earthquake hazards caused by non-surface fault rupture, including liquefaction and seismically induced landslides. The law requires the State Geologist to establish regulatory zones, known as earthquake fault zones, around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling new or renewed construction. Local agencies regulate most development projects within the zones. Projects include all land divisions and most structures for human occupancy. Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed buildings will not be constructed across active faults. An evaluation and written report of a specific site must be prepared by a licensed geologist. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back 50 feet from the fault trace.

Because no active fault zones are known to exist in the City of Alameda, no earthquake fault zones are mapped on the VA Transfer Parcel under the Alquist-Priolo Act.

### **Seismic Hazards Mapping Act**

The Seismic Hazards Mapping Act of 1990 addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides, and its purpose is to protect public safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. This law requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects with these zones. Before a development permit is granted for a site within a seismic hazard zone, a geotechnical investigation of the site has to be conducted and appropriate mitigation measures incorporated into the project design. Seismic Hazard maps have been completed for much of the San Francisco Bay Area.

#### **3.14.2 Affected Environment**

##### **Regional Geologic Setting**

The VA Transfer Parcel is located in the City of Alameda on the east side of San Francisco Bay in the Coast Ranges geomorphic province, a relatively young geologically and seismically active region on the western margin of the North American Plate. The Coast Ranges are characterized by discontinuous northwest to southeast-trending mountains and valleys, and is dominated by northwest-trending faults, folds, and geologic structures (California Geological Survey [CGS], 2002). The VA Development Area is bordered on the west by San Francisco Bay, a northwest-trending structural depression. The Bay and much of its margins are underlain by the Late Mesozoic Age rocks of the Franciscan Complex. The Franciscan Complex rocks commonly consist of sheared shale and interbedded sandstone, with serpentinite and other metamorphic rocks. Tertiary and Quaternary formations occur locally in unconformity on the Franciscan Complex, while other Mesozoic formations occur in fault contact with the Franciscan Complex (CGS, 2002).

Beneath San Francisco Bay and its margins, the Franciscan bedrock is overlain by a young, geologically unconsolidated sedimentary sequence, which in places exceeds 400 feet in thickness. The sequence is divided into three units, older Bay sediments of the Yerba Buena Formation, Merritt sands of the San Antonio Formation, and younger Bay Mud. Artificial fill of variable thickness, quality, and density has been placed along the margins of San Francisco Bay to reclaim marshland and land once covered by shallow water.

##### **Faulting and Seismicity**

###### ***VA Transfer Parcel***

The major regional active faults considered likely to produce damaging earthquakes at the VA Transfer Parcel are the San Andreas, San Gregorio, Hayward, and Calaveras Faults (Figure 3.14-1). Table 3.14-1 lists the proximity of the closest of the active faults to the VA Transfer Parcel and the estimated maximum moment magnitude<sup>1</sup> for

---

<sup>1</sup> Seismologists now use a moment magnitude (MN) scale, since it provides a more accurate measurement of the size of major and great earthquakes given that earthquake magnitudes readings greater than MN 7.0 on the moment magnitude scale are slightly greater than a corresponding Richter magnitude. Maximum moment magnitude is the most severe earthquake that could occur on a particular fault.



Source: Data compiled by AECOM in 2012

**Figure 3.14-1: Major Faults and Earthquake Epicenters in the San Francisco Bay Area**

**Table 3.14-1: Regional Faults and Seismicity**

<b>Fault Name</b>	<b>Distance (km) from VA Transfer Parcel</b>	<b>Direction from Site</b>	<b>Maximum Moment Magnitude</b>
Hayward—Total	10	Northeast	7.1
San Andreas—1906 Rupture	19.5	Southwest	7.9
San Andreas—Peninsula	19.5	Southwest	7.2
San Andreas—North Coast South	24	West	7.5
San Gregorio North	25	West	7.3
Mount Diablo Thrust	26	East	6.7
Northern Calaveras	27.5	East	7.0
Concord	32	Northeast	6.5
Rodgers Creek	33	North	7.1
Southern Green Valley	36	Northeast	6.5
Northern Greenville	39	Northeast	6.6
Monte Vista	40	South	6.8
West Napa	42	North	6.5
Great Valley—6	45	Northeast	6.7
Central Greenville	45.5	East	6.7
Point Reyes	47.5	West	6.8
Great Valley—5	50	Northeast	6.5

Notes: km = kilometers; VA = U.S. Department of Veterans Affairs  
 Source: WGCEP, 1999

each fault. Alameda Point is not located within an “earthquake fault zone” as delineated by the CGS, and as shown in Figure 3.14-1, no active faults exist on the VA Transfer Parcel (see “Alquist-Priolo Earthquake Fault Zoning Act,” above).

***Surrounding Area***

The Bay Area is located in a seismically active region near the boundary between two major tectonic plates, the Pacific Plate to the southwest and the North American Plate to the northeast. These two plates move relative to each other in a predominantly lateral manner, with the San Andreas Fault Zone at the junction. The Pacific Plate, on the west side of the fault zone, is moving north relative to the North American Plate on the east. Since approximately 23 million years ago, about 200 miles of right-lateral slip has occurred along the San Andreas Fault Zone to accommodate the relative movement between these two plates (USGS, 2002). The relative movement between the Pacific and North American Plates generally occurs across a 50-mile zone extending from the San Gregorio Fault in the southwest to the Great Valley Thrust Belt to the northeast. In addition to the right-lateral slip movement between tectonic plates, a compressional component of relative movement has developed between the Pacific Plate and a smaller segment of the North American Plate at the latitude of San Francisco Bay during the last 3.5 million years. Strain produced by the relative motions of these plates is relieved by right-lateral

strike-slip faulting on the San Andreas Fault and related faults, and by vertical reverse-slip displacement on the Great Valley Fault and other thrust faults in the central California area.

The region's seismic faults can be classified as historically active, active, sufficiently active and well-defined, or inactive, as defined below (CGS, 2007):

- *Historically active* faults are faults that have generated earthquakes accompanied by surface rupture during historic time (approximately the last 200 years) or that exhibit a seismic fault creep (slow incremental movement along a fault that does not entail earthquake activity).
- *Active* faults show geologic evidence of movement within Holocene time (approximately the last 11,000 years).
- *Sufficiently active and well-defined* faults show geologic evidence of movement during the Holocene along one or more of their segments or branches, and their trace may be identified by direct or indirect methods.
- *Inactive* faults show direct geologic evidence of inactivity (that is, no displacement) during all of Quaternary time or longer.

Although it is difficult to quantify the probability that an earthquake will occur on a specific fault, the preceding classification is based on the assumption that if a fault has moved during the last 11,000 years, it is likely to produce earthquakes in the future.

## **Ground Shaking**

### ***VA Transfer Parcel***

Earthquakes occurring on faults closest to the VA Transfer Parcel would have the potential to generate the largest ground motions at the site.

### ***Surrounding Area***

The USGS has predicted that there is a 63% chance of a moment magnitude 6.7 earthquake or greater occurring in the Bay Area over a period of 30 years, between 2003 and 2032 (USGS, 2007). The intensity of the seismic shaking during an earthquake depends on the distance and direction to the earthquake's epicenter, the magnitude of the earthquake, and the area's geologic conditions.

## **Topography and Soils**

### ***VA Transfer Parcel***

The VA Transfer Parcel is located on Alameda Point, which is located on the western portion of Alameda Island. The existing VA Transfer Parcel ranges from 0 msl to approximately 10 feet above msl (CH2M Hill, 2011).

The VA Transfer Parcel is underlain by approximately 15–30 feet of artificial fill consisting of loose to medium dense sands, overlying a range of 30–65 feet of very soft, compressible younger Bay Mud deposits. The younger Bay Mud is underlain by about 30 feet of dense to very dense sands of the San Antonio Formation, including Merritt and Posey sands. These sands are overly stiff to very stiff, older Bay Mud (clay) deposits with a similar

origin as the younger Bay Mud (AECOM, 2009). The VA Development Area for both Alternative 1 and Alternative 2 is located within an area that is mapped as a liquefaction hazard zone (CGS, 2003).

### ***Surrounding Area***

Alameda Island is characterized by a low topographic profile with surface elevations from mean sea level (msl) to approximately 30 feet above msl.

Like other areas around San Francisco Bay, Alameda Point was created with artificial fill to create developable land (Figure 3.14-2). Historical records indicate that Alameda Point was formerly a shallow mudflat consisting of young Bay Mud with depths generally ranging from 20-feet to more than 100-feet thick. Over an extended period of time, from 1906 to about 1956, the area was filled to create land. The artificial fill sequence consisted of periodic placement of sandy fills in several phases, using hydraulic dredging methods.

The westerly fill at Alameda Point consists of heterogeneous landfill materials consisting of a wide variety of waste materials and construction debris. In the eastern portion of Alameda Point, a Marsh Crust Horizon, approximately 2–6 inches thick, exists just under the artificial fill. The Marsh Crust was not encountered during soil borings near the VA Transfer Parcel (CH2M Hill, 2011).

### **3.14.3 Environmental Consequences**

#### **Assessment Methods**

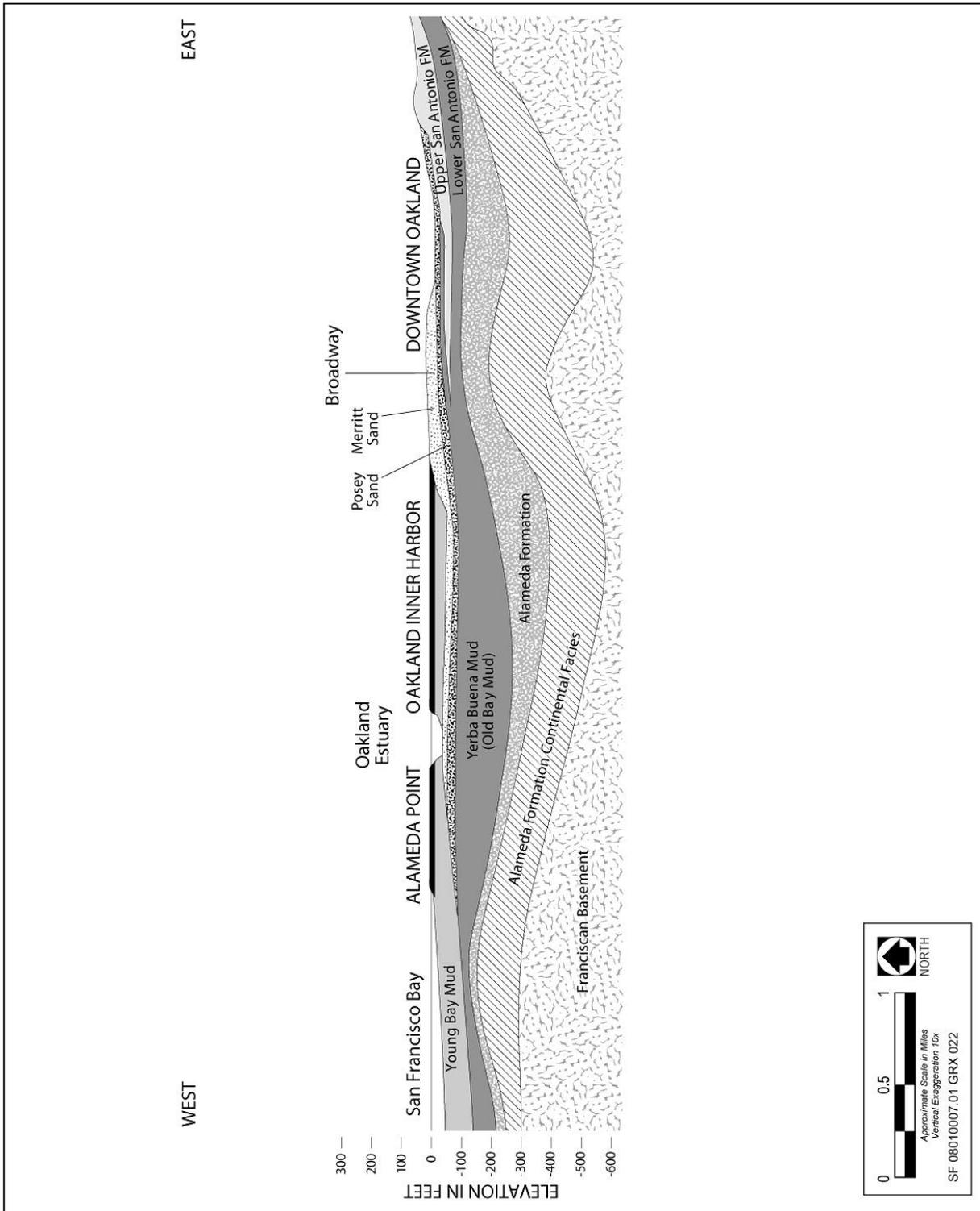
The significance of impacts associated with faulting, ground acceleration, and ground shaking was evaluated based on distance to known fault zones and the seismic characteristics of fault zones. Adverse impacts could occur on soils possessing moderate to severe potential for erosion and liquefaction. Soil erosion impacts are also discussed in Section 3.2 (Water Resources). As noted above, the City of Alameda is not located within an earthquake fault zone, as delineated by CGS, and no active faults exist on Alameda Point; thus, exposure of people or structures to surface fault rupture is not evaluated below. The analysis below is based on site-specific geotechnical reports that are provided in Appendix H (Geotechnical Assessment Report).

#### **Alternative 1**

##### ***Construction***

##### **Erosion and Loss of Topsoil**

Construction of the proposed VHA OPC, the Conservation Management Office, and the first phase of the NCA Cemetery during initial construction of Alternative 1 would involve site grading and preparation that would disturb exposed artificial fill. Despite previous development on the former NAS Alameda, erosion and loss of topsoil could occur as a result of construction activities. Excavation, grading, import of fill, and facility construction in the VA Development Area would require temporary disturbance of surface soils and removal of existing on-site pavements, five existing bunkers, and existing subsurface infrastructure. Exposed fill materials would be susceptible to erosion during construction-related excavation. Stormwater runoff could cause erosion during project construction, although most loosened and eroded soil would remain within the excavation pits.



Source: Rogers and Figuers, 1991

Figure 3.14-2:

Geologic Cross Section

VA would be required to obtain a National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharges associated with construction activities (Construction General Permit; State Water Resources Control Board Order No. 99-08-DWQ) before construction could proceed. To complete construction activities that would disturb 1 acre or more where drainage would flow to the separate sewer system, VA must comply with the Construction General Permit and must prepare and implement a storm water pollution prevention plan (SWPPP) that meets the permit's conditions. See the discussion of a SWPPP in Section 3.2 (Water Resources) which evaluates erosion in further detail. With implementation of a SWPPP, the construction-related impact of initial construction related to erosion and loss of topsoil would not be significant.

Under subsequent construction of the cemetery phases of Alternative 1 through the year 2116, potential erosion impacts would be similar to those identified for initial construction. Therefore, the construction-related impact of Alternative 1, for the subsequent cemetery phase construction related to erosion and loss of topsoil would not be significant.

### **Alteration of Topography**

Construction of Alternative 1 would not involve any below-grade development or substantial change in the current topography of the VA Development Area. However, as part of the construction of proposed VA facilities and through the import of 440,000 cubic yards of fill, the ground elevation would be raised to 12.5 feet above msl for the proposed roadways and to 13.5 feet above msl for the proposed VHA OPC, Conservation Management Office, and NCA National Cemetery. As noted previously, the VA Transfer Parcel is primarily flat. The topography in the VA Development Area would be altered to include areas raised above the current topography to 12.5 to 13.5 feet above msl, but these changes in topography would be contoured gradually over the approximately 111-acre, on-site development area. Thus, the construction-related impact of Alternative 1 related to alteration of topography would not be significant.

### **Operation**

#### **Seismically Induced Ground Shaking and Associated Ground Failure**

Liquefaction typically occurs when saturated, clean, fine-grained loose sands near the surface (usually in the upper 50 feet) are subject to intense ground shaking and the groundwater table is shallow. One of the major types of liquefaction-induced ground failures is lateral spreading of mildly sloping ground. Lateral spreading is a failure within a nearly horizontal soil zone (possibly from liquefaction) that causes the overlying soil mass to move toward a free face or down a gentle slope.

As noted above, the VA Development Area is located within an area that is mapped as a liquefaction hazard zone (CGS, 2003). As required by VA, a report to identify engineering geologic hazards (geotechnical investigation) and site-specific ground responses was prepared by the Allegiance Group, LLC in April 2012 for the project area (Allegiance Group, 2012). The liquefaction analysis performed by the Allegiance Group indicated high liquefaction potential in the VA Development Area from the surface to 40 feet below ground surface. Borings during the geotechnical site investigation encountered groundwater between 1.0 and 4.5 feet below ground surface (Allegiance Group, 2012). Because the VA Development Area is located between two major active faults (the Hayward and San Andreas Faults) and the top 25–40 feet of soil consists of loose to very loose saturated sand, the potential for liquefaction and lateral spreading during a seismic event is high (Allegiance Group, 2012).

Two options for engineering and design of the proposed facilities—stone columns and deep dynamic compaction—were recommended to address the potential for seismically induced ground shaking and associated ground failure at the VA Development Area. The VA would design and construct the facilities proposed by Alternative 1 utilizing the engineering and design specifications identified in either option, as well as VA Seismic Design Requirements H-18-8 and the IBC. Current design plans include the installation of approximately 800 stone columns, 3.5 feet in diameter, to a depth of 40 feet below ground surface (bgs). These columns would be installed along the main access road located along the northern portion of the VA Development Area (Figure 3.14-3). The stone columns would be installed using a direct push methodology where a probe is “pushed” into the ground using vibration techniques and then the resulting hole is filled with crushed stone. The columns then would work as vertical drainage to prevent the buildup of excess pressure. Stone columns would only prevent lateral spreading; thus, piles for protection from liquefaction also would be required.

Subsidence, the sinking or settling of land, is caused by compaction of unconsolidated soils during a seismic event, soil compaction by heavy structures, erosion of peat soils, or groundwater depletion. Subsidence usually occurs over a broad area, and therefore is not detectable at the ground surface. Placing additional fill or constructing buildings with shallow foundations in the VA Development Area would place additional weight on the Bay Mud. This additional weight would cause consolidation of the Bay Mud layer, resulting in settlement at the ground surface. Consolidation would occur relatively slowly as excess pore pressures dissipate. The amount of consolidation settlement would depend on the thickness of the existing fill, thickness of the soft Bay Mud, and the imposed loads from the new fill and buildings (AECOM, 2009). The estimated 444,000 cubic yards of import was calculated based on the geologic constraints of Bay Mud consolidation, and no additional fill would be required to raise ground elevation for the proposed VHA, OPC, and first cemetery phase.

The VA Development Area is not mapped in a subsidence zone (Allegiance Group, 2012). However, with the addition of approximately 440,000 cubic yards of fill for Alternative 1, Phase 1, which would include construction of the VHA OPC, the Conservation Management Office, the access road, and the initial phase of the cemetery, potential settlement effects may occur.

As described above, the project design would be required to include seismic safety-related features to mitigate the potential for seismically induced ground failure. Therefore, operational impacts of Alternative 1 related to seismically induced ground shaking and ground failure would not be significant.

#### **Seismically Induced Landslides or Slope Failures**

Landslides and other slope failures are common occurrences during or soon after earthquakes. The VA Development Area is not located within a designated landslide hazard zone (CGS, 2003), and no potential exists for landslides because the area is flat. No operational impact related to seismically induced landslides or slope failures would occur under Alternative 1.

#### **Expansive or Corrosive Soils**

Expansive soils generally result when specific clay minerals in the soil expand when saturated and shrink in volume when dry. Expansive soils can occur in any climate; however, arid and semiarid regions are subject to more extreme cycles of expansion and contraction than more consistently moist areas. As noted previously and shown in Figure 3.14-2, the VA Development Area is underlain by both young and old Bay Mud. The site-



Source: Allegiance Group, 2013

**Figure 3.14-3:**

**Location of Proposed Stone Columns**

specific geotechnical investigation states that using one of the two options for seismic mitigation (stone columns or deep dynamic compaction) and subsurface engineering, and following standard VA seismic design recommendations for the proposed facilities, would help accommodate any potential expansion of Bay Mud (clay). Therefore, the operational impact of Alternative 1 related to expansive or corrosive soils would not be significant.

## **Alternative 2 (Preferred Alternative)**

### ***Construction***

Alternative 2 would involve the same project components as Alternative 1; however, under Alternative 2, the VA Development Area would be located farther north and would extend into an area referred to as the Northwest Territories (Figure 2-3 in Chapter 2.0 [Alternatives]). Under VHA Directive 2005-019, all new buildings would be structurally designed and constructed in compliance with VA Seismic Design Requirements H-18-8 and the IBC.

### **Erosion and Loss of Topsoil**

The effects of constructing buildings, parking lots, and a cemetery as proposed under Alternative 2 would be similar to those of Alternative 1. As under Alternative 1, VA would be required to obtain a NPDES general permit for stormwater discharges associated with construction activities (Construction General Permit; State Water Resources Control Board Order No. 99-08-DWQ) and to implement a SWPPP that meets the conditions of the Construction General Permit. With implementation of a SWPPP, the construction-related impact of Alternative 2 related to erosion and loss of topsoil would not be significant.

### **Alteration of Topography**

Like Alternative 1, Alternative 2 would not result in any below-grade development or any substantial change in the current topography of the VA Development Area. The area's topography would not be substantially altered, and the proposed buildings would be constructed following applicable VA Seismic Design Requirements H-18-8 and the IBC. Therefore, the construction-related impact of Alternative 2 related to alteration of topography would not be significant.

### ***Operation***

### **Seismically Induced Ground Shaking and Ground Failure**

Alternative 2 would involve the same project components as Alternative 1; however, under Alternative 2, the VA Development Area would be located farther north. Thus, the effects related to seismically induced ground failure discussed above for Alternative 1 also would apply to Alternative 2. The two options for seismic mitigation (stone columns and deep dynamic compaction) would apply to Alternative 2, and VA would design and construct facilities under this alternative utilizing the engineering and design specifications for either option, the VA Seismic Design Requirements H-18-8, and the IBC. Therefore, the operational impact of Alternative 2 related to seismically induced ground shaking and ground failure would not be significant.

### **Seismically Induced Landslides or Slope Failures**

Alternative 2 would involve the same project components as Alternative 1; however, under Alternative 2, the VA Development Area would be located farther north, which is also flat, like the rest of Alameda Point. Therefore, no operational impact related to seismically induced landslides or slope failures would occur under any phase of Alternative 2.

### **Expansive or Corrosive Soils**

Alternative 2 would involve the same project components as Alternative 1; however, under Alternative 2, the VA Development Area would be located farther north. The site-specific geotechnical investigation states that using one of the two options for seismic mitigation (stone columns or deep dynamic compaction) and subsurface engineering, and following standard VA seismic design recommendations for the proposed facilities, would help accommodate any potential expansion of Bay Mud (clay). Therefore, the operational impact of Alternative 2 related to expansive or corrosive soils would not be significant.

## **No Action Alternative**

### ***Construction***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place, and no VA facilities would be constructed. Therefore, no significant construction-related geology and soil impacts would occur.

### ***Operation***

Under the No Action Alternative, the Fed-to-Fed transfer would not take place, and no VA facilities would be operated on the property. The property would be retained by Navy in caretaker status until another action on the property is taken. Therefore, no significant operational-related geology and soil impacts would occur.

## **3.14.4 References**

- AECOM. 2009 (May 13). Geotechnical Assessment Report, Proposed VA Facilities NAS, California.
- Allegiance Group, LLC. 2012 (April 5). Interim Geotechnical Investigation Report, Alameda Point Veterans Administration Project Alameda, California. Prepared for HDR Architecture, Inc.
- . 2013 (June 10). Geotechnical Investigation Report, Alameda Point Veterans Administration Project Alameda, CA.
- California Geological Survey (CGS). 2002. *California Geomorphic Provinces*. Note 36. Sacramento, CA.
- . 2003 (February 14). State of California Seismic Hazard Zones, Oakland West Quadrangle. Sacramento, CA.
- . 2007. *Fault-Rupture Hazard Zones in California*, Interim Revision 2007. Special Publication No. 42. Sacramento, CA.

- CH2M Hill. 2011 (January). Final Site Inspection Report Transfer Parcels FED-1A, FED-2B, and FED-2C Alameda Point Alameda, California. Prepared for U.S. Department of the Navy.
- Graymer, R. W., B. C. Moring, G. J. Saucedo, C. M. Wentworth, E. E. Brabb, and K. L. Knudsen. 2006. Geologic Map of the San Francisco Bay Region. Available: <[http://pubs.usgs.gov/sim/2006/2918/sim2918\\_geolposter-stdres.pdf](http://pubs.usgs.gov/sim/2006/2918/sim2918_geolposter-stdres.pdf)>. Accessed March 27, 2012.
- International Code Council (ICC). 2009. International Building Code.
- Rogers, J. D., and S. H. Figuers. 1991 (December). Engineering Geologic Site Characterization of the Greater Oakland-Alameda Area, Alameda and San Francisco Counties, California.
- U.S. Geological Survey (USGS). 2002. *Rocks and Geology in the San Francisco Bay Region*. Bulletin 2195.
- . 2007. Working Group on California Earthquake Probabilities, 2008, The *Uniform California Earthquake Rupture Forecast, Version 2* (UCERF 2). U.S. Geological Survey Open-File Report 2007-1437 and California Geological Survey Special Report 203.
- Working Group on California Earthquake Probabilities (WGCEP). 1999. *Earthquake Probabilities in the San Francisco Bay Region: 2000 to 2030—A Summary of Findings*. Open-File Report 99-517.

## 4.0 CUMULATIVE IMPACTS

This cumulative impact analysis was developed to be consistent with guidance published by the CEQ (January 1997) and the USEPA (May 1999). In addition, the CEQ issued further guidance to Federal agencies in June 2005 regarding the consideration of past actions in cumulative effects analysis. The guidance directs the agency preparing a NEPA document to determine what relevant information pertaining to past actions could be useful in illuminating or predicting the reasonably foreseeable direct and indirect effects of a proposed action (CEQ, 2005).

A cumulative impact is the effect on the environment that could result from the incremental impact of the proposed action when added to other past, present, or reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions that take place over time. Accordingly, a cumulative impact analysis identifies and defines the scope of other actions and their interrelationship with the proposed action or its alternatives if there is an overlap in space and time.

### 4.1 ASSESSMENT METHODOLOGY

The process of analyzing cumulative impacts involves the traditional components of an environmental impact assessment: scoping, describing the affected environment, and determining the environmental consequences (CEQ, 1997). Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial impacts taking place over a period of time. The approach utilized in this chapter to assess potential impacts included:

- Establishment of geographic scope (i.e., cumulative study area) and time frame for the cumulative impact analysis.
- Identification of significant cumulative effects issues associated with the Proposed Action, which focused on the direct and indirect effects of the Proposed Action. If the incremental impacts were deemed to be inconsequential or unimportant in the region, no analysis of cumulative effects is needed.
- Characterization of the existing resources and definition of baseline condition, including past actions that have affected resource in the cumulative study area.
- Identification of other reasonably foreseeable present and future actions affecting the resources in the cumulative study area.
- Identification of the important cause-and-effect relationships between human activities and resources in the geographic, or study area and identification of potential significant cumulative effects. If necessary, implement measures to avoid, minimize, or mitigation any potential significant cumulative effect.

This approach is further described below and summarized in Table 4-1.

In accordance with CEQ guidance, if a Proposed Action would not cause a direct or indirect impact on a resource, it would not contribute to a cumulative impact on that resource and would not need to be further evaluated. Therefore, if there was no impact on the resource resulting from the Proposed Action, then there would be no cumulative impact on that resource resulting from the Proposed Action.

Implementing the Navy's Proposed Action (i.e., Fed-to-Fed transfer of surplus property) would not contribute to any direct cumulative impacts to any resource analyzed in this document. Therefore, the discussion of cumulative impacts for each resource does not include further analysis of the Navy's Proposed Action. In addition, no analysis of cumulative impacts is necessary for the No Action Alternative, because no project would contribute toward potential cumulative impacts.

## **4.2 GEOGRAPHIC SCOPE AND TIME FRAME**

Cumulative impacts are most likely to occur when a proposed action is related to actions that could occur in the same or an overlapping geographic location and at the same or similar time. Therefore, cumulative effects are considered within a geographic scope and time frame. The geographic scope (i.e., cumulative study area) utilized in this cumulative impacts analysis varies by the scale and interrelationships of each resource area. Generally, the cumulative study area includes the study area identified in the resource area sections analyzed in this EA, including the VA Transfer Parcel and its surrounding area. In addition, the cumulative study area would expand based on the individual characteristics and location of affected resources, ecosystems, and human communities.

The time frame utilized in this cumulative impacts analysis considers the past, present, and reasonably foreseeable future conditions within the cumulative study area. In addition, the time frame reflects the resource concerns, the cumulative study area, the Proposed Action, and how other important resources fit in. Present conditions reflect the year 2012 (the year this EA was initiated) and future conditions extend include reasonably foreseeable projects that are anticipated to be completed within the next 20 years.<sup>1</sup>

Identification of potential past, present, and future conditions within the cumulative study area and time frame, as they related to potential cumulative impacts is included in Table 4-1.

## **4.3 DIRECT AND INDIRECT EFFECTS OF THE PROPOSED ACTION**

To identify the resources to consider in the cumulative impact analysis, the direct and indirect impacts of the Proposed Action are identified. In accordance with CEQ guidance, if a Proposed Action would not cause a direct or indirect impact on a resource, it would not contribute to a cumulative impact on that resource and would not need to be further evaluated. Therefore, if there was no impact on the resource resulting from the Proposed Action, then there would be no cumulative impact on that resource resulting from the Proposed Action.

The resource areas impacted by the proposed action (i.e., those with direct and indirect impacts) are then assessed for potential cumulative impacts that could result from the incremental impact of the proposed action when added to other past, present, or reasonably foreseeable future actions within the cumulative study area and time frame. The resource area impacts resulting from the Proposed Action are identified in Table 4-1.

## **4.4 EXISTING RESOURCE CONDITION**

To determine if past actions and existing resource conditions, in combination with the impacts of the Proposed Action, results in a cumulative impact, the analysis considers the existing condition of the resource area, including

---

<sup>1</sup> Note that CEQ regulations do not require agencies to catalog or exhaustively list and analyze all individual cumulative projects but to summarize the most pertinent cumulative projects.

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
<b>Biological Resources</b> (see Section 3.1 for more information)				
Vegetation and Wildlife Habitat	<p>Both Alternative 1 and 2 would result in the modification or loss of the existing vegetation and wildlife habitat area in an area limited to the VA Development Area. The majority of this area is comprised of marginal habitat (i.e., ruderal disturbed and nonnative annual grassland). To reduce adverse impacts to northern coastal salt marsh and seasonal wetlands located within the VA Development Area, the VA would implement mitigation (i.e., <b>Mitigation Measure BIO-1</b>).</p> <p>There is the potential for indirect adverse effects from construction-related activities including sources of noise (e.g., construction traffic and the operation of construction equipment) and increased human presence during construction to spill over into the remaining VA Transfer Parcel, including the CLT colony. To minimize and avoid adverse effects on the CLT, the VA, would implement avoidance and minimizations measures to control noise and other potential adverse effects that would be expected during construction. In addition, habitat within the VA Development Area would be improved with the introduction of managed</p>	<p>The entire parcel, which is comprised of human-made lands, has been developed or disturbed and is mostly comprised of former airfield infrastructure, paved aircraft parking areas, vacant structures and buildings, seven former military bunkers, and other airfield support infrastructure. Historically, the VA Transfer Parcel was utilized for active military flight operations, including the use of jet aircraft on the runways, taxiways, and parking areas. The area was also used for aircraft maintenance and other military training. Since closure of the former NAS Alameda in 1996, the Parcel has sat vacant and underutilized.</p> <p>Conservation and management activities for the CLT colony are currently ongoing and the Navy is conducting Environmental Restoration Program activities within the parcel. The VA Transfer Parcel is</p>	<p>Other non-project actions in the cumulative study area include the Navy’s disposal of the remaining portions of the former NAS Alameda (i.e., Alameda Point). This area would be reused and redeveloped in a manner consistent with the City of Alameda’s 1996 Reuse Plan.</p> <p>The Alameda Point planning areas in the vicinity of the VA Transfer Parcel include the Northwest Territories (to the north) and the Civic Core, Marina, and Inner Harbor to the east. Cumulatively, the Proposed Action in combination with other projects in the immediate vicinity would likely increase direct predation and perceived predation on the CLT by increasing the carrying capacity of potential predators, increasing their success rate, and reducing the ability to conduct effective predator management at the VA Transfer Parcel. Other actions, including Alameda Landing Mixed-use</p>	<p>Yes - retained for further, or more detailed, analysis of potential cumulative impacts. See Section 4.4.2.1 “Cumulative Impact Analysis – Biological Resources (Alternative 1 and 2)”.</p>

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
Federally Listed Threatened and Endangered Species	<p>landscaping and the majority of the VA Transfer Parcel, including the CLT colony and other existing wetlands (e.g., Runway and West Wetlands) would be left undeveloped open space.</p> <p>California Least Tern</p> <p>Direct effects to the CLT from construction activities would primarily consist of increased noise and vibration, construction traffic, and operation of construction equipment, which could have an effect on the CLT colony. In addition, increased human activities associated with construction may increase habitat for predators of the CLT. There is the potential for indirect adverse effects from construction-related activities including sources of noise (e.g., construction traffic and the operation of construction equipment) and increased human presence during construction. To minimize and avoid adverse effects, the VA, as described above, would implement conservation measures and best management practices to control noise and other potential effects that would be expected during construction. Operations would have no direct effects on CLT nesting or foraging habitat. Operational activities would occur year-round, but are removed</p>	<p>bordered by the San Francisco Bay to the west and south, and the remainder of the former NAS Alameda property (Alameda Point) to the north and east. The Alameda Point area to the north of the VA Transfer Parcel is comprised of vegetated open space, former airfield infrastructure, and vacant buildings and structures. Further north is the Oakland Inner Harbor and the Port of Oakland, an industrial shipping container terminal. The Alameda Point area to the east of the VA Transfer Parcel is comprised of the former air stations aircraft hangars, office and industrial buildings, and recreational space. This area is currently being utilized by tenants for non-military light-industrial/manufacturing, public administration, office, commercial, and recreational uses. Further east is the City of Alameda, including residential land uses.</p>	<p>Development and Boatworks Development, Alameda Beach Renovation, and Oakland Army Base Port Redevelopment Program Phase 1 are located at a sufficient distance from the VA Transfer Parcel and that effects on CLT and western snowy plover are not expected. In addition, potential climate change and sea level rise could have an effect on the CLT.</p>	

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
<p>from foraging and nesting habitats at a sufficient distance to avoid direct effects to the CLT. There is the potential for indirect adverse effects from operational activities including sources of noise (e.g., traffic and occupation and use of proposed facilities), increased human presence, and lighting. In addition, occupation and activities within the VA Development Area would have the potential to have an effect on the CLT, including predation, perceived predation and human disturbance, and reduce the ability to conduct effective predator management at the site.</p> <p>Western Snowy Plover</p> <p>Current evidence suggests that western snowy plover visits the surrounding area sporadically as a foraging migrant. The increased presence of humans and equipment during construction would increase the likelihood of disturbances (e.g., noise, light, etc.) to foraging and resting birds. These impacts would be intermittent, and are unlikely to affect the use of the site by snowy plover. Potential indirect effects of the project action on western snowy plover are generally shared and similar to those identified for CLT. Potential indirect</p>			

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
effects would arise from increased human activity near foraging and potential nesting areas (CLT colony) and the daily use of new structures in the vicinity of the of these areas. Should the western snowy plover reestablish itself as a nesting species in the action area, effects on the species are likely to be identical to those identified for the CLT and thus the proposed avoidance and minimization measures for the CLT are also adequately protective.			
Common Wildlife and Special Status Species	Common species would be affected through the removal of marginal habitat (non-native grasslands), and removal of existing vegetated areas within the VA Development Area. In addition, common wildlife in the VA Development Area would be subjected to increases in noise and dust associated with construction. As a result, some habitats would be reduced in extent during construction and some common species would temporarily decline in local abundance. However, potential impacts to common species and habitats would not be substantial due to the current low abundance of wildlife on the site. Consequently, any impacts of the project on common species and habitats would have a negligible effect on regional populations. In addition, habitat within		

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
	the VA Development Area would be improved with the introduction of managed landscaping and the majority of the VA Transfer Parcel would be left undeveloped open space, which could be utilized by common wildlife.			
Habitat Linkages and Corridors	Because activities would be confined to the VA Development Area, impacts to migratory corridors are not expected to occur. Further, because the CLT colony would be preserved, and potential future public access would be limited to the perimeter of this area these areas are anticipated to be utilized by wildlife through the operational period of the VA facilities.			
<b>Water Resources</b> (see Section 3.2 for more information)				
Water Quality	During the construction period, excavation and grading activities would expose soil to water runoff and entrain sediment in the runoff. Sediment in discharge water as well as soil and debris could cause increased sediment to be carried off site into the storm drain/sewer, potentially clogging inlets and reducing the functional capacity of the pipes to convey flows. The delivery, handling, and storage of construction materials and waste, as well as the use of construction equipment, might introduce stormwater contamination. The on-site construction staging area	The entire parcel, which is comprised of human-made lands, has been developed or disturbed and is mostly comprised of former airfield infrastructure, paved aircraft parking areas, vacant structures and buildings, seven former military bunkers, and other airfield support infrastructure. Historically, the VA Transfer Parcel was utilized for active military flight operations, including the use of jet aircraft on the runways,	Other non-project actions in the cumulative study area include the Navy’s disposal of the remaining portions of the former NAS Alameda (i.e., Alameda Point). This area would be reused and redeveloped in a manner consistent with the City of Alameda’s 1996 Reuse Plan. The Alameda Point planning areas in the vicinity of the VA Transfer Parcel include the Northwest Territories (to the north) and the Civic Core,	No – The Proposed Action when combined with other non-project actions would not be expected to significantly impact water resources in the study area. This expectation is based on the assumption that all other non-project actions would need to comply with all applicable Federal, State, and local laws, regulations, and obtain and needed environmental reviews and approvals. It is assumed that

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact	
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area		
	could also be a source of pollution because paints, solvents, concrete, cleaning agents, and metals would be used during construction. Through compliance with these requirements and regulations, construction-related impacts on water quality would not be significant.	taxiways, and parking areas. The area was also used for aircraft maintenance and other military training. Since closure of the former NAS Alameda in 1996, the Parcel has sat vacant and underutilized.	Marina, and Inner Harbor to the east.	the other actions would implement all applicable measures and restrictions protective of human health and the environment that are required by existing laws and regulations to lessen the potential environmental impact of the action.
Groundwater Resources	Should groundwater be encountered during construction, temporary dewatering would be necessary to keep the work area dry. Dewatering could lower local groundwater levels, but any changes in groundwater levels would be temporary and minimal. Therefore, construction-related impacts on groundwater would not be significant.			
Floodplains	Parts of the former NAS Alameda are located below the FEMA base 100-year flood elevation of 7 feet above msl (Navy, 1999). FEMA mapping completed for areas adjacent to the site indicates that portions of Alameda Point may be susceptible to inundation during the 100-year flood. In addition, if sea level rises as predicted, flood magnitude and frequency at the site could increase with time, exposing people and property to unacceptable flood-related hazards in the future.			

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
	<p>The proposed final elevation for the developed areas would be 13.6 feet above msl. Thus, the finished elevation of the project facilities would be located above the FEMA base 100-year flood elevation of 7 feet above msl. Therefore, the operational impact associated with flooding would not be significant.</p>		
Coastal Consistency	<p>Under the CZMA, Federal projects for activities must be consistent to the maximum extent practicable with the provisions of the Federally approved state coastal management program, which includes the San Francisco Bay Plan (Bay Plan) and related San Francisco Bay Area Seaport Plan (Seaport Plan). The Proposed Action is consistent with the provisions of the Bay Plan and Seaport Plan. The VA is coordinating with BCDC and the Final EA will include a description of the outcome of this coordination. No significant adverse impact would be expected.</p>		

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
<b>Transportation, Traffic, Circulation, and Parking</b> (see Section 3.3 for more information)			
<p>Transportation, Traffic, Circulation, and Parking</p> <p>Construction-related transportation impacts would be temporary and would not have an adverse effect on weekday peak-hour traffic conditions. Accordingly, construction-related traffic impacts of would not be significant.</p> <p>Operationally, the Proposed Action (year 2017) would not adversely affect any of the 11 study intersections during the weekday a.m. peak hour, weekday p.m. peak hour, and Saturday peak hour. All study intersections would operate at LOS D or better. Therefore, operational impacts of the Proposed Action on traffic operations at intersections would not be significant. The Proposed Action (year 2017) would also not adversely affect any of the 10 study roadway segments during the weekday a.m. peak hour, weekday p.m. peak hour, and Saturday peak hour. All study roadway segments would operate at LOS D or better. Therefore, operational traffic impacts of the Proposed Action on traffic operations on roadway segments would not be significant. In addition, the Proposed Action would add additional passengers to the municipal transit system, provide new pedestrian and bicycle amenities, add pedestrian</p>	<p>Roadways within the VA Transfer Parcel and the VA Development Area are not publicly accessible, and are old and deteriorating given the closure of NAS Alameda 15 years ago. Regional access to and from the VA Transfer Parcel is provided by Interstate 880 (I-880), Interstate 980 (I-980), and the Webster Street Tube/Posey Tube. Because the public does not have site access, the only traffic on the VA Transfer Parcel is generated by Navy-authorized vehicles providing conservation management services for the existing CLT colony or assisting ongoing remediation activities.</p> <p>No transit service currently accesses the VA Transfer Parcel. The primary transit service in the surrounding area is provided by Alameda-Contra Costa Transit District, which provides local and regional bus service. Access to the VA Transfer Parcel is currently restricted, and no</p>	<p>Past, present, and probable future cumulative projects within this geographic context that were considered for cumulative impacts on transportation, traffic, circulation, and parking include all the projects from Table 4-2. Several projects such as the Oakland International Airport Runway Safety Area Program (Cumulative Project 18 listed in Table 4-2), Caltrans District 4 I-880 Operational and Safety Improvements at 23rd and 29th Avenue Overcrossings (Cumulative Project 11), and City of Alameda Landing Mixed-Use Project (Cumulative Project 2) could be under construction at the same time as the Proposed Action. The construction trips from these projects and the Proposed Action would cumulatively contribute to roadway volumes to I-880.</p>	<p>Yes - retained for further, or more detailed, analysis of potential cumulative impacts. See Section 4.6 “Cumulative Impact Analysis – Transportation, Traffic, Circulation, and Parking (Alternative 1 and 2)”.</p>

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
users and bicyclist, provide on-site user specific surface parking, and improve site access and on-site circulation. None of these components would result in a significant adverse impact.	<p>formal pedestrian facilities (i.e., improved sidewalks) exist on the property. All major streets in the surrounding area have sidewalks, and all major intersections have marked crosswalks. Generally, little pedestrian activity was observed in the area immediately adjacent to the VA Transfer Parcel (i.e., Alameda Point area) during the weekday and weekend peak periods.</p> <p>Access to the VA Transfer Parcel is currently limited, and no formal bicycle facilities or lanes exist on the property. Several bicycle facilities are provided or planned for implementation in the area immediately adjacent to the VA Transfer Parcel. There are no designated parking or loading facilities on the VA Transfer Parcel. In general, on-street parking in the surrounding area consists of time-limited parallel parking.</p>		

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact	
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area		
	Historically, the former NAS Alameda was a major Naval facility and would have generated substantial traffic on the local and regional transportation network.			
<b>Cultural Resources</b> (see Section 3.4 for more information)				
Archaeological Resources	No known archaeological resources would be directly or indirectly affected by construction, because no such resources are located within the boundary of the VA Transfer Parcel. The Proposed Action would have no adverse effect on known archaeological resources.	<p>No archaeological resources have been identified within in the VA Transfer Parcel, including the VA Development Area. No archaeological resources have been identified within the proposed off-site road/utility corridor.</p> <p>No historic resources have been identified within the VA Transfer Parcel, including the VA Development Area. Under each alternative, the VA Transfer Parcel is located on a portion of the former NAS Alameda airfield and contains former ammunition storage bunkers, former runways, and other infrastructure built to support airfield operations. The Navy previously evaluated the airfield and related structures and SHPO has concurred that</p>	<p>The NAS Alameda Historic District is located immediately adjacent to and east of the VA Transfer Parcel. This historic district is eligible under NRHP for its association with the strategic development of naval air stations in the 1930s, development of naval facilities in the Bay Area during World War II and the Navy’s role in Pacific theater naval operations during World War II. The NAS Alameda Historic District is also eligible for its distinctive characteristics of type, period, and method of construction (Moderne style) in its design and planning.</p> <p>The NAS Alameda Historic District was identified as eligible for listing in the NRHP in 1992. In 2011, the</p>	No - In accordance with CEQ guidance, if a Proposed Action would not cause a direct or indirect impact on a resource, it would not contribute to a cumulative impact on that resource and would not need to be further evaluated.

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
		they are not eligible for the National Register. Therefore, the VA Transfer Parcel, including the VA Development Area does not contain historic resources.	historic district was reassessed, and its boundary was expanded. In 2012, a historic designed landscape was also identified as a contributing element of the NAS Alameda Historic District.	
Historic Resources	<p>No known historic resources would be directly affected by construction within the VA Development Area because no such resources are present in that area. No development would occur within the remaining VA Transfer Parcel.</p> <p>The proposed development would not detract from location, design, character, setting, materials, workmanship, and feeling of the NAS Alameda Historic District, and the historic district would still be able to convey its significance as a naval station dating to the 1930s and World War II designed in the Moderne style.</p> <p>Therefore, there would be no adverse effect on historic resources.</p>			

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact	
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area		
<b>Visual Resources and Aesthetics</b> (see Section 3.5 for more information)				
Views and Visual Character	<p>Because the VA Development Area would still be restricted from public access during construction, the construction staging areas would not need to be screened. The construction contractor would implement management measures to screen construction staging areas during construction of the subsequent cemetery expansion phases, thus limiting the frequency and prominence of views of construction equipment, vehicles, and materials. Therefore, this construction-related impact related to visual character would not be significant.</p> <p>Implementing landscaping, landform, and perimeter barrier measures would not add any substantial vertical elements, but they would serve to reduce the amount of new development visible from surrounding areas. In addition, the landscaping, landform, and perimeter barriers would blend the development into the surrounding open field characterized by the former NAS Alameda airfield which is interspersed with grassy areas.</p> <p>The VHA OPC, Conservation Management Office, and committal</p>	<p>The VA Transfer Parcel is located at the west end of Alameda Island and is bordered by the Oakland Inner Harbor and the Port of Oakland to the north, San Francisco Bay to the west and south, and the City of Alameda to the east. The topography is flat, and bordered by urban and industrial land uses and open water of the San Francisco Bay.</p> <p>The VA Transfer Parcel consists primarily of former Naval (now abandoned) runways and taxiways that do not include any substantial vertical elements. Throughout the site there are views of the surrounding Bay Area and the San Francisco skyline. Heavy-industrial uses associated with the Port of Oakland including large shipping cranes are visible across the Oakland Inner Harbor north of Alameda Point. Other industrial and urban development is also immediately visible. The</p>	<p>No other non-project actions are known to exist within the immediate project area that would cumulatively impact the visual resources within the VA Transfer Parcel.</p> <p>However, other non-project actions, including the Alameda Point redevelopment would be expected to contribute light and glare effects.</p>	<p>No – Due to the distance of the VA Transfer Area from other cumulative sources of light and the avoidance and minimization measures that the City of Alameda will implement to reduce light population within the Alameda Point area, it is unlikely that other non-project actions, when combined with the Proposed Action, would result in a significant cumulative impact.</p> <p>In addition, all other non-project actions would need to comply with all applicable Federal, State, and local laws, regulations, and obtain and needed environmental reviews and approvals. It is assumed that the other actions would implement all applicable measures and restrictions protective of human health and the environment that are required by existing laws and regulations to lessen the potential environmental impact of the action.</p>

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
shelter structures proposed would be located in the central and/or inner portions of the VA Development Area that are less visible from outside the boundary than locations along the perimeter. For the most part, the buildings proposed for central and inner portions of the VA Development Area would not be visually dominant relative to the flat foreground portions of the site, given the distance to the proposed VA facilities from publicly accessible viewing locations at the end of Main Street and Middle Harbor Shoreline Park. In addition, views of these new buildings from outside the VA Development Area would be set back sufficiently from the boundaries to render them visually subordinate to other visible features. Therefore, buildings proposed for the central and inner portions of the VA Development Area would have a small effect on views and would minimally affect the visual character of the VA Transfer Parcel. In addition, the visual character of the VA Development Area would be improved compared to the former NAS Alameda airfield, which contains abandoned runways and taxiways that are no longer in use. In addition, the cemetery portion of the development is lower in height and allows for views through the site in any direction.	downtown Oakland skyline is noticeable farther to the northeast. The East Bay Hills are seen to the northeast and east.		See the See Section 4.4.2.1 “Cumulative Impact Analysis – Biological Resources (Alternative 1 and 2)” for more information about potential effects to sensitive species.

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
	Finally, accessible views toward the VA Development site from several locations is distant and due to shifting weather conditions prevalent in the Bay Area, including heavy fog and air quality, it is hard to distinguish new development within the proposed project setting. Therefore, the operational impacts related to visual character under Alternative 1 would not be significant.			
Light and Glare	<p>Construction activity under all phases would take place during daytime hours; therefore, no construction equipment lighting would be needed. Some low-level security lighting would be required in construction staging areas, which would have a small effect on the area’s ambient light levels. However, the construction contractor would use lighting features that would be shielded and directed downward, as required by management practices to minimize light spillover to neighboring undeveloped land on the VA Transfer Parcel. Therefore, this construction-related impact related to light would not be significant.</p> <p>Most proposed operations would take place during daytime hours. Nighttime lighting would consist primarily of shielded and downward-directed low-</p>	<p>The VA Transfer Parcel consists of large expanses of abandoned runways and few small support buildings that were used when the site functioned as the airfield for NAS Alameda. No nighttime lighting or daytime glare emits from these sources. The VA Transfer Parcel is located within viewing distance of surrounding urban areas such as the more developed eastern portion of Alameda Island, industrialized areas of West Oakland, the San Francisco waterfront and hills, and the San Francisco Bay Bridge. Limited nighttime light spillage from these sources does reach the VA Transfer Parcel.</p>		

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
<p>level security lights used around the VHA OPC and CMO buildings and parking facilities. Because the proposed VA facilities would generally be set back from the eastern and southern boundaries of the VA Transfer Parcel, low-level night lighting would not be substantially noticeable to distant residents to the east or to the CLT colony to the south. The operational impact related to nighttime lighting would not be significant.</p> <p>No substantial increase in glare would result from operation of the VHA OPC, NCA Cemetery, and CMO under Alternative 1. The windows of the OPC and CMO buildings in the VA Development Area may reflect the sun's rays at times, but these occurrences would be intermittent. Therefore, the operational impact related to daytime glare would not be significant.</p>	<p>Light-sensitive receptors also may include wildlife. An existing colony of the CLT, a bird species that is Federally and State listed as endangered, is located on the VA Transfer Parcel 1,430–1,766 feet south of the VA Development Area. The VA Transfer Parcel does not contain buildings with reflective materials or windows, and is therefore not a substantial source of glare.</p> <p>No glare-sensitive receptors are located near the VA Transfer Parcel.</p>		

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact	
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area		
<b>Land Use</b> (see Section 3.6 for more information)				
Existing and Surrounding Land Uses	Implementation of the Proposed Action would not physically divide an established community; conflict with substantive requirements of local land use plans or policies (as Federally owned property, the VA Transfer Parcel would be outside the jurisdiction of local and State planning and zoning laws and regulations); and the Proposed Action is compatible with and would not have a substantial adverse impact on the existing character and planned uses of the surrounding community. Therefore, there would be no adverse effect on land use resources.	There are no known persistent influences from past external actions adversely affecting this resource. The parcel and sat vacant and unoccupied since active military and airfield operations ended in 1996. Previous uses included aircraft operations and associated land uses, which resulted in noise, light, air quality impacts to the site and surrounding land uses.	The Alameda Point area is the focus of redevelopment by the City of Alameda. The City of Alameda adopted the <i>NAS Alameda Community Reuse Plan</i> in 1996, which was prepared to guide future development of Alameda Point following disposal from Federal ownership. The Reuse Plan is a long-term plan that envisions redeveloping the former NAS Alameda into a mixed-use, transit-oriented land use community. The redevelopment would be phased and would consist of residential, commercial mixed use, town center retail, neighborhood center mixed-use, employment center, and community/civic uses (ARRA, 2006). The Reuse Plan does not apply to the VA Transfer Parcel (as Federally owned property, the VA Transfer Parcel would be outside the jurisdiction of local and State planning and zoning laws and regulations) and only applies to the larger Alameda Point area.	No - In accordance with CEQ guidance, if a Proposed Action would not cause a direct or indirect impact on a resource, it would not contribute to a cumulative impact on that resource and would not need to be further evaluated.

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
<b>Air Quality</b> (see Section 3.7 for more information)				
Criteria Air Pollutants	<p>Air quality impacts from proposed construction activities would occur from combustive emissions due to the use of fossil fuel-fired construction equipment and on-road trucks and fugitive dust emissions from earth-moving activities, and the use of vehicles on bare soils. Construction related emissions would be short-term and primarily occur within the boundaries of the VA Development Area. All construction activities would meet applicable State and Federal air quality regulations and pollution control requirements to prevent exceedance of air quality standards during construction. Construction-related emissions of criteria air pollutants would be less than <i>de minimis</i> thresholds. Therefore, there would be no significant construction-related impact on criteria air pollutants.</p> <p>Proposed operations would generate criteria pollutant emissions from onsite area sources and vehicles that access the project site. Annual operational emissions in year 2017 would not exceed any of the <i>de minimis</i> thresholds. Therefore, there would be no significant operational-related impact on criteria air pollutants.</p>	<p>Existing sources of criteria pollutant emissions on the VA Transfer Parcel are limited to vehicles and equipment associated with maintenance, security, and short-term activities, such as activities associated with the management of the CLT colony. No permitted stationary sources of criteria pollutants, TACs, or odor sources are associated with the VA Transfer Parcel.</p> <p>Existing sources of emissions adjacent to or near the VA Transfer Parcel include industrial equipment, space heating equipment, and vehicles associated with interim reuse activities at Alameda Point; remediation activities undertaken by the Navy; ships and industrial activities at the Port of Oakland; and marine vessels in San Francisco Bay and the Oakland Estuary. The closest permitted stationary off-site source is Delphi Productions Inc., located approximately 1,500 feet from the southeastern most portion</p>	<p>Other non-project actions, including the redevelopment of Alameda Point, could contribute criteria air pollutants, hazardous air pollutants, carbon monoxide hotspots, and odors.</p>	<p>No – The Proposed Action when combined with other non-project actions would not be expected to significantly impact air quality resources. This expectation is based on the assumption that all other non-project actions would need to comply with all applicable Federal, State, and local laws, regulations, and obtain and needed environmental reviews and approvals. It is assumed that the other actions would implement all applicable measures and restrictions protective of human health and the environment that are required by existing laws and regulations to lessen the potential environmental impact of the action.</p>

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
	of the VA Transfer Parcel. Historically, the parcel was previously used as an active Navy airfield. Since closure, environmental effects from such uses (e.g., pollution from aircraft) have ended.		
Hazardous Air Pollutants	Initial construction would include mass site grading, trenching, building construction, asphalt paving, and application of architectural coatings. Most construction phases would involve the use of diesel-fueled construction equipment, except during the application of architectural coatings. Therefore, construction-related emissions of diesel PM have the potential to affect nearby sensitive receptors. In addition, VA would implement applicable best management practices to control dust and emissions from construction. Therefore, construction-related impacts of localized TAC and PM emissions on sensitive receptors would not be significant and additional evaluation (i.e., BAAQMD screening criteria) of potential health risks is not needed.  Operation would not include TAC sources that would expose nearby receptors to substantial TAC concentrations. Therefore, impacts of		No – initial construction emissions would generate the largest source of construction-related emissions, which would be located at a distance (5,500 feet) substantially farther from the nearest existing sensitive receptor than the BAAQMD screening distance (656 feet). Subsequent construction associated with expanding the cemetery would be a fraction of the initial construction and would also be located substantially farther than the screening distance from any existing or planned sensitive receptors.  Operational activities would not involve the use or generation of TAC emissions that would affect sensitive receptors.

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
localized TAC and PM emissions on sensitive receptors would not be significant.			
Carbon Monoxide Hotspots	During the proposed construction and subsequent scenarios where both construction and operations would occur simultaneously, project-related vehicle trips combined with traffic volumes from existing and future cumulative projects have the potential to cause congestion at local intersections that could lead to a CO hotspot (i.e., exceedance of the CO ambient air quality standard). However, the peak hourly project-related trips during the construction only and construction plus operational scenarios combined with cumulative traffic would not exceed the BAAQMD CO hotspot screening level of 44,000 vehicles per hour. Therefore, the project's construction and construction plus operations scenarios would not contribute vehicle volumes to local intersections that, when combined with cumulative traffic, would cause a CO hotspot. Thus, the project would not have a significant impact with respect to generating or substantially contributing to CO hotspots.		No – even when project traffic volumes during construction and construction plus operations are combined with cumulative traffic volumes, peak hourly vehicle volumes at local intersections would continue to be substantially less than BAAQMD's screening threshold.

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
Odors	<p>Construction of the facilities and cemetery expansions could result in odors (e.g., from diesel exhaust emitted by equipment); however, these odors would be temporary and intermittent. Emissions would occur only during business hours during the construction period, and would disperse quickly given the area’s meteorological conditions. In addition, the nearest sensitive receptors are located 3,700 feet from the fence line of the VA Transfer Parcel and approximately 5,500 feet from where the bulk of construction activities (construction of the OPC and the first 18 acres of cemetery uses) would occur. Thus, even during intensive construction activities (i.e., soil import activities), because of the distance between the nearest receptor and the VA Transfer Parcel and the area’s high winds, there would be no significant construction-related impact from odors.</p> <p>The land uses proposed for the VA Transfer Parcel are not land uses that would typically generate substantial concentrations of odors. Therefore, it is unlikely that operation would expose sensitive receptors to substantial odor concentrations. The operational impact of Alternative 1 related to odor exposure would not be significant.</p>			

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
<b>Greenhouse Gas Emissions and Climate Change</b> (see Section 3.8 for more information)				
Greenhouse Gas Emissions and Climate Change	<p>GHG emissions resulting from the initial phase of construction would total 4,422 MT of CO<sub>2</sub>e. Emissions related to construction of subsequent phases of the NCA Cemetery would total 2,948 MT of CO<sub>2</sub>e per occurrence through 2116. Daily GHG emissions would vary over this time depending on the intensity of construction activities each day. Thus, construction activities would not exceed the CEQ reference point of 25,000 MT of CO<sub>2</sub>e, which serves as a minimum standard for reporting emissions under the CAA.</p> <p>In addition, operational activities would not exceed the CEQ reference point of 25,000 MT of CO<sub>2</sub>e, which serves as a minimum standard for reporting emissions under the CAA.</p> <p>Based on sea level rise predictions, sea level rise could cause flooding in some of the coastal areas of Alameda Island, including the VA Transfer Parcel and the VA Development Area. Specifically, the VA Development Area would be located in an area identified as potentially exposed to sea level rise. However, as part of construction of VA facilities, the</p>	<p>Existing sources of GHG emissions on the VA Transfer Parcel are limited to vehicles and equipment associated with maintenance, security, and short-term activities, such as activities associated with the management of the CLT colony.</p> <p>Existing sources of GHG emissions adjacent to or near the VA Transfer Parcel include industrial equipment and vehicles associated with interim reuse activities at Alameda Point; remediation activities undertaken by the Navy; ships and industrial activities at the Port of Oakland; and marine vessels in San Francisco Bay and the Oakland Estuary.</p> <p>Historically, the parcel was previously used as an active Navy airfield. Since closure, environmental effects from such uses (e.g., pollution from aircraft) have ended.</p>	<p>All existing and proposed future projects have the potential result in GHG emissions.</p>	<p>No – The potential effects of proposed GHG emissions are by nature global and cumulative in their impacts, since individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when proposed GHG emissions combine with GHG emissions from other human-made activities on a global scale. Since GHG emissions from the proposed action in combination with other non-project actions in the region would equate to such a minimal amount of the U.S inventory, they would not substantially contribute to global climate change.</p> <p>In addition, all other non-project actions would need to comply with all applicable Federal, State, and local laws, regulations, and obtain and needed environmental reviews and approvals. It is</p>

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact	
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area		
ground elevation would be raised to a higher elevation than projected sea level rise. As a result, there would be no climate change-related sea level rise impacts at the proposed facilities in the VA Development Area through the year 2099.			assumed that the other actions would implement all applicable measures and restrictions protective of human health and the environment that are required by existing laws and regulations to lessen the potential environmental impact of the action.	
<b>Socioeconomics and Environmental Justice</b> (see Section 3.9 for more information)				
Population, Employment, and Income	The Proposed Action would have no effect on existing population in study area. Construction and Operation of the Proposed Action would result in a positive growth in both construction and operational employment. The Proposed Action would not impede residential or business activity within the community surrounding the VA Transfer Parcel because all construction activities would be limited to the currently unoccupied area within the VA Development Area. Therefore, no residents or businesses would be displaced. No construction-related significant adverse impact related to displacement of persons, residences, and/or businesses would occur.	Existing sources of employment on the VA Transfer Parcel are limited to maintenance, security, and short-term activities, such as activities associated with the management of the CLT colony.	Other non-project actions would be expected to generate new population and employment in the region.  Specifically, the redevelopment of Alameda Point would consist of new residential development and other employment focused land uses such as commercial mixed-use, retail, neighborhood center mixed-use, and community/civic uses.	No - In accordance with CEQ guidance, if a Proposed Action would not cause a direct or indirect impact on a resource, it would not contribute to a cumulative impact on that resource and would not need to be further evaluated.

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
Environmental Justice	The communities surrounding the VA Transfer Parcel do not have a disproportionately high minority or low-income population. In addition, there are no specific impacts on general health or quality of life that would adversely or disproportionately impact the surrounding population. Therefore, it was determined that no disproportionate adverse environmental justice effects would be associated with the Proposed Action.			
<b>Hazards and Hazardous Materials</b> (see Section 3.10 for more information)				
Releases of hazardous substances, pollutants, or contaminants	CERCLA, DERP, and NCP provisions require that all necessary remedial actions be taken to adequately protect human health and the environment from risks associated with the actual or potential release of hazardous substances, pollutants, or contaminants into the environment. The Navy would continue to perform its ongoing CERCLA obligations, including managing the investigation, remedy selection and remedial action phases, following the property transfer until completion of such obligations and approval by the regulatory agencies. Implementation of ICs will allow the property to be developed for its intended use, subject to land use restrictions designed to prevent exposure to residual levels of	Much of the VA Transfer Parcel, and the larger former NAS Alameda property, is constructed on fill material that was placed in the late 19th century and the first half of the 20th century. The VA Transfer Parcel encompasses the former airfield area of the installation and is comprised of the former aircraft runways, taxiways, and support-service facilities. The VA Transfer Parcel is currently unused, aside from the active management of the CLT colony. There are no exiting hazardous materials uses or hazardous waste generation occurring within the VA Transfer Parcel.	Except for operations and maintenance activities, Navy environmental remediation activities within the VA Transfer Parcel are anticipated to be complete prior to the initiation of construction activities for the Proposed Action. Except for monitoring activities, Navy remediation activities within the larger Alameda Point are anticipated to be complete by 2020. Some aspects of the Navy's Environmental Restoration Program activities may occur simultaneously with construction activities for the Proposed Action.	No – The Proposed Action when combined with other non-project actions would not be expected to significantly impact hazards and hazardous materials.  This expectation is based on the assumption that all other non-project actions would need to comply with all applicable Federal, State, and local laws, regulations, and obtain and needed environmental reviews and approvals. It is assumed that the other actions would implement all applicable measures and restrictions protective of human health

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
<p>hazardous materials. VA will comply with the CERCLA ICs and would not use the property for any use or activity that is prohibited by the ICs. Such compliance will ensure that the property after transfer will be used in a manner that is adequately protective of the environment and human health as required by CERCLA. Further, VA would be required to manage hazardous materials and wastes in accordance with applicable Federal, State, and local regulations.</p> <p>VA would be responsible for completion of CERCLA response actions at Installation Restoration (IR) Site 2 after the Navy completes its responsibility. Such VA responsibilities include but are not limited to long-term monitoring, long-term operations, institutional control reporting and maintenance, engineering control maintenance (e.g., landfill cap/cover monitoring, maintenance and repair), regulatory agreement maintenance, CERCLA five year reviews, and responding to any failures of response actions.</p> <p>VA, as the Federal land manager and lead Federal agency after transfer, would be responsible for the release of environmental contaminants on the</p>		<p>No other non-project actions are known to exist within the immediate project area that would cumulatively impact hazards and hazardous materials.</p>	<p>and the environment that are required by existing laws and regulations to lessen the potential environmental impact of the action.</p>

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
<p>property identified after the date of transfer and for future and/or newly-identified releases of environmental contaminants at, or from, the property that occur after the transfer. VA would not use the VA Transfer Parcel for any use or activity that is prohibited by CERCLA ICs. In addition, VA would be responsible for any and all additional necessary remedial or corrective actions resulting from a change in land use set forth in VA land use plans revised following the date of property transfer.</p> <p>For any petroleum sites identified prior to transfer of the property, the Navy would continue to manage the investigation, corrective action plan, and corrective action implementation phases. The Navy's responsibility for managing petroleum sites will cease upon the completion of corrective action or a no further action determination. VA would have responsibility for management, if applicable, of lead-based paint in soil, and asbestos and ACM on the property, including but not limited to, maintenance, renovation, or demolition of buildings and structures; and lead or asbestos related surveys or sampling, whether of action or corrective action, or other</p>			

**Table 4-1: Cumulative Impacts Analysis**

Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
	Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
<p>environmental action. VA would be responsible for managing lead-based paint, lead in soil, asbestos, and ACM in accordance with all applicable Federal, State, and local laws, regulations, or other requirements.</p> <p>For these reasons, including the completed and ongoing CERCLA remedial actions and other ongoing non-CERCLA remediation efforts and compliance programs (e.g., Petroleum Program) there would be no hazard to the public or the environment, no reasonably foreseeable environmental impacts, and no significant environmental impacts as a result of releases of hazardous substances, pollutants, or contaminants during development or operation at the VA Transfer Parcel that are addressed under CERCLA.</p>			
Routine Use, Storage, Transport, or Disposal of Hazardous Materials	Hazardous materials uses and waste generation from proposed action operations and routine maintenance operations would not pose a substantial public health or safety hazard to the project vicinity. Impacts from the routine transport, use, or disposal of hazardous materials/waste (including radiological, hazardous, and medical wastes) from operation would not be significant.		

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
Exposure to Hazardous Materials via Upset and Accident Conditions	Compliance with applicable City, State, and Federal laws would minimize potential exposure to hazardous materials/waste, via upset and accident conditions and there would be no significant impact.			
<b>Utilities</b> (see Section 3.11 for more information)				
Water Supply and Wastewater	The existing EBMUD system would be expected to have sufficient capacity to meet any future water supply demands. Implementation would not be expected to have a significant impact on the future capacity and infrastructure of the regional water and wastewater system.	There is no existing demand for potable water and no functional potable water supply or sanitary sewer infrastructure within the VA Transfer Parcel. The EBMUD projects that it can meet future regional demands through the year 2040 during normal year conditions. Historically, the former uses of the property would have generated need for water and produced wastewaters into the municipal system.	Other non-project actions would be expected to generate new demand for water supplies, generate wastewaters, produce stormwater discharge, create demand for energy, and generate solids wastes.	No – The existing and projected capacity of area utility systems have capacity for providing new services.  In addition, all other non- project actions would need to comply with all applicable Federal, State, and local laws, regulations, and obtain and needed environmental reviews and approvals. It is assumed that the other actions would implement all applicable measures and restrictions protective of human health and the environment that are required by existing laws and regulations to lessen the potential environmental impact of the action. Therefore, no significant adverse cumulative impact on municipal or regional utility systems would be expected.

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
Stormwater Drainage Systems	With implementation best management practices, stormwater infrastructure that would be constructed as part of the project would be appropriately sized. As a result, operational impacts of Alternative 1 related to stormwater would not be significant.	Surface water runoff from the VA Transfer Parcel is collected in a stormwater drainage system that conveys surface water from the site directly to receiving waters. Seasonal flooding problems are common because of the deterioration of the storm drains. Some locations on the VA Transfer Parcel are subject to flooding during heavy rainstorms. Stormwater drainage is generally collected in a stormwater drainage system consisting of drains and catch basins and is discharged via outfalls to the Oakland Inner Harbor and San Francisco Bay.		
Energy (Electricity, Natural Gas, and Fuel)	The existing electric and natural gas system would be expected to have sufficient capacity to meet any future energy demands. Implementation would not be expected to have a significant impact on the future capacity and infrastructure of the electrical and natural gas systems.	The electrical facilities within the former NAS Alameda do not meet current standards or codes. Current activities on the VA Transfer Parcel do not demand any natural gas and no functional infrastructure exists.		

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
Solid Waste Disposal	The anticipated volume of waste would be expected to be accommodated by landfills located in the region. Wastes would not have a significant impact on regional landfills or waste disposal facilities.	Current activities on the VA Transfer Parcel do not generate solid waste. Most nonhazardous solid waste generated in the City of Alameda is disposed of at the Altamont Landfill in Alameda County. At current disposal rates, the Altamont Landfill would be expected to reach capacity in January 2032.		restrictions protective of human health and the environment that are required by existing laws and regulations to lessen the potential environmental impact of the action.
<b>Noise</b> (see Section 3.12 for more information)				
Noise	Construction activities would not result in a substantial increase in the ambient noise environment. As a result, construction-related noise impacts would be short-term and would not be significant. Operation of the Proposed Action would result in a minimal increase in noise levels from traffic and stationary sources (e.g., HVAC equipment, etc.) and would not result in a significant impact.	Very few noise sources currently exist within the VA Transfer Parcel. No public roadways currently traverse this area and public access is restricted. Noise sources that contribute to the overall ambient noise level in the area include occasional maintenance vehicles and marine activities along the Oakland Estuary and San Francisco Bay. Historically, the VA Transfer Parcel was an active Navy airfield and included associated noises including jet aircraft landing/takeoffs, engine run-ups, and other maintenance and industrial uses.	Other non-project actions, including the redevelopment of Alameda Point, would be expected to generate construction and operational noise and vibration.	No – Due to the distance of the VA Transfer Area from any sensitive noise or vibration source, it is unlikely that other non-project actions, when combined with the Proposed Action, would result in a significant cumulative impact.  In addition, all other non-project (cumulative) actions would need to comply with all applicable Federal, State, and local laws, regulations, and obtain all needed environmental reviews and approvals. It is assumed that the cumulative actions would implement all

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
				applicable laws, regulations, and obtain all needed environmental reviews and approvals.
Vibration	Because there are no existing on-site human sensitive receptors (i.e., residences and inpatient facilities), and because off-site human sensitive receptors would be a minimum of 3,700 feet from the proposed development, construction would occur well beyond the threshold distances and would not expose any sensitive human receptors to excessive levels of vibration. Operation would not include any major sources of vibration. As a result, there would be no significant impact.	The predominant noise sources in the surrounding area are mobile sources, such as vehicles, and stationary equipment, such as heating, ventilation, and HVAC systems. Most of the perceivable noise from stationary-source equipment is located in the eastern portion of Alameda Point, where there are existing structures. Other stationary-source noise in the area is generated largely on the rooftops of existing structures and shielded from view by the existing structures.		
<b>Public Services</b> (see Section 3.13 for more information)				
Fire and Emergency Medical Services	Construction activities, including construction related traffic, would not have a significant adverse impact on fire and EMS services, including response times and site access. Operational activities, including daily occupation of the property by employees, patients, and visitors would not have a significant impact on fire and EMS services, including response	The AFD provides emergency fire and medical response, emergency planning, and preventive services for the City of Alameda, including Alameda Point and the VA Transfer Parcel. The fire station closest to the VA Transfer Parcel is 2.5 miles from the VA Transfer Parcel.	Other non-project actions, including the redevelopment of Alameda Point, would be expected to generate additional need for fire, EMS, and police services. In addition, new residential and commercial development would draw new populations to the area, which would be	No – The Proposed Action when combined with other non-project actions would not be expected to significantly impact fire, EMS, and police services. In addition, the VA would provide their own police to supplement local police to secure the VA Transfer Parcel.

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
	times, site access, water supplies for fire suppression, or require an expansion of existing services.		expected to use local park and recreational facilities. However, many new non-project actions would add new	Further, the undeveloped portion of the VA Transfer
Police Services	Upon transfer of the VA Transfer Parcel from the Navy to VA, VA would augment the local police coverage of the site with VA Police and other law enforcement entities. Development and use of the property would not be expected to generate demand for additional APD police services that would exceed the capacity of existing services or result in an adverse impact to current service levels or require the need for an expansion of services. There would not be a significant impact on police services.	The APD provides law enforcement services within the City of Alameda, including the VA Transfer Parcel. The APD currently serves Federal property at Alameda Point.	park space and recreational amenities to the local area.	Parcel would be left undeveloped open space and the VA Development Area would provide new public access close to coastal areas near the San Francisco Bay. This in combination with the other non-project actions, including the Northwest Territories proposed park and recreation space would result in a beneficial cumulative impact.  Therefore, no significant adverse cumulative impact on public services would be expected.
Parks and Recreation	Although the Proposed Action would not contribute to the City of Alameda’s designated public parklands, Alternative 1 includes an access road and a pathway along the northern VA Development Area allowing bicyclists and pedestrians to travel to a location approximately 100 feet from the western shoreline of the VA Development Area. The publically accessible road and pathway would	Historically, the VA Transfer Parcel was an active military installation and was not open to the public. The Alameda Recreation and Park Department administers an extensive system of local parks, athletic fields, dog parks, skate parks, historical museums, gymnasiums, a model airplane field, a		

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
	allow limited access to additional open space and the shoreline. Further, the remaining 438 acres of the VA Transfer Parcel, including the existing CLT colony, would remain undeveloped. The undeveloped area would add to the cumulative open space within the City of Alameda, a beneficial impact. The Proposed Action would not have a significant impact.	community center, and a senior center. There are approximately five City of Alameda–owned parks and recreational facilities within 0.5 mile of the VA Transfer Parcel.		
<b>Geology</b> (see Section 3.14 for more information)				
Erosion and Loss of Topsoil	Construction would involve site grading and preparation that would disturb exposed artificial fill. Excavation, grading, import of fill, and facility construction in the VA Development Area would require temporary disturbance of surface soils and removal of existing on-site pavements, five existing bunkers, and existing subsurface infrastructure. Exposed fill materials would be susceptible to erosion during construction-related excavation. Stormwater runoff could cause erosion during project construction, although most loosened and eroded soil would remain within the excavation pits. With implementation of a SWPPP, the construction-related impact of initial construction related to erosion and loss of topsoil would not be significant.	The VA Transfer Parcel is comprised of the airfield area of former NAS Alameda. The entire parcel, which is comprised of human-made lands, has been developed or disturbed and is mostly comprised of former airfield infrastructure (e.g., inactive paved runways and taxiways), paved aircraft parking areas, vacant structures and buildings, seven former military bunkers, and other airfield support infrastructure. Areas of vegetated open space are located throughout the parcel, with the largest vegetated areas located in the southern and western portions of the parcel.	Other non-project actions, including the redevelopment of Alameda Point, would be expected to disturb the study areas soils and topography and could be effected by seismically induced ground shaking and associated ground failure.	No – The Proposed Action when combined with other non-project actions would not be expected to significantly impact geology and soil resources.  In addition, all other non-project actions would need to comply with all applicable Federal, State, and local laws, regulations, and obtain and needed environmental reviews and approvals. It is assumed that the other actions would implement all applicable measures and restrictions protective of human health and the environment that are required by existing laws

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
				and regulations to lessen the potential environmental impact of the action.
Alteration of Topography	Construction would not involve any below-grade development or substantial change in the current topography of the VA Development Area. However, the topography in the VA Development Area would be altered to include areas raised above the current topography to 12.5 to 13.5 feet above msl, but these changes in topography would be contoured gradually over the development area. Thus, the construction-related impact of Alternative 1 related to alteration of topography would not be significant.	The VA Transfer Parcel is primarily flat and comprised of human-made lands.		
Seismically Induced Ground Shaking and Associated Ground Failure	The project design would be required to include seismic safety-related features to mitigate the potential for seismically induced ground failure. Therefore, operational impacts related to seismically induced ground shaking and ground failure would not be significant.	The VA Development Area is located within an area that is mapped as a liquefaction hazard zone (CGS, 2003). Because the VA Development Area is located between two major active faults (the Hayward and San Andreas Faults) and the top 25–40 feet of soil consists of loose to very loose saturated sand, the potential for liquefaction and lateral spreading during a seismic event is high (Allegiance Group, 2012).		

**Table 4-1: Cumulative Impacts Analysis**

	Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)	Other Past, Present, and Future Potential External Influences		Potential for Significant Cumulative Impact
		Past Actions in Cumulative Study Area	Other Potential Present and Future Actions in Cumulative Study Area	
Seismically Induced Landslides or Slope Failures	No operational impact related to seismically induced landslides or slope failures would occur.	The VA Development Area is not located within a designated landslide hazard zone, and no potential exists for landslides because the area is flat.		
Expansive or Corrosive Soils	The site-specific geotechnical investigation states that using one of the two options for seismic mitigation (stone columns or deep dynamic compaction) and subsurface engineering, and following standard VA seismic design recommendations for the proposed facilities, would help accommodate any potential expansion of Bay Mud (clay). Therefore, the operational impact of Alternative 1 related to expansive or corrosive soils would not be significant.	The VA Development Area is underlain by both young and old Bay Mud.		

Source: Data compiled by AECOM in 2013

past actions that have affected resource in the cumulative study area. For the purpose of this study, existing conditions are described in the applicable EA section for each resource. In addition, Table 4-1 identifies, if applicable, the conditions within the larger cumulative impact study area and any past actions that have potentially affected a resource in the cumulative study area. Once the existing and historic context of these resources is considered, the potential effects of future actions are assessed.

#### **4.5 OTHER REASONABLY FORESEEABLE PRESENT AND FUTURE NON-PROJECT ACTIONS**

Other reasonably foreseeable present and future non-project actions potentially affecting the resource area were considered with the impacts of the Proposed Action and the existing and historic context of these resources in the cumulative impact study. Potential resource area impacts from other reasonably foreseeable present and future non-project actions within the study area are identified in Table 4-1. A list of other reasonably foreseeable present and future non-project actions within the cumulative study area is included in Table 4-2 and shown in Figure 4-1.

This section identifies foreseeable non-project actions and long-term trends in or near the study area that may pose a cumulative effect on the resources, ecosystems, and human environment in the project area when considered with the effects of the Proposed Action. Using the best data available, other non-project actions include those actions that are likely or probable, rather than those that are merely possible and include those other non-project actions with a reasonable expectation of happening.

Scoping of cumulative non-project actions for this cumulative impact study entailed contacting key relevant agencies for information about past, ongoing, and reasonably foreseeable actions near the VA Transfer Parcel so they could be considered for each Alternative. The following agencies that provided information included: Navy, VA, Cities of Alameda, Oakland, San Francisco, Port of Oakland, EBRPD, EBMUD, California Department of Transportation (Caltrans) District 4, and Alameda County Transportation Commission (ACTC).

#### **4.6 CUMULATIVE IMPACT ANALYSIS**

The initial step in the cumulative impact analysis is the identification of the resources to be considered in the analysis. The resources to be considered would include those that would be adversely impacted, despite mitigation, by the Proposed Action and resources currently in poor or declining health, if project impacts are relatively minor. An initial assessment of the potential cumulative impacts per environmental resource area is summarized in Table 4-1.

Effects of a particular action or group of actions must meet the following criteria to be considered a cumulative impact:

- The effects of several similar actions that would occur in the same geographic area;
- The effects would not be localized (i.e., they could contribute to effects of an action in a different location);
- Effects on a particular resource would be similar (i.e., the same specific element of a resource would be affected); and
- Cumulative effects identified by other analyses in the area as cumulative.

**Table 4-2: Cumulative Projects Identified Near the VA Transfer Parcel**

<b>Project No.</b>	<b>Agency Jurisdiction</b>	<b>Project Name and Location</b>	<b>Approved or Proposed Uses</b>	<b>Anticipated Construction Time Frame</b>
1	Navy/City of Alameda	NAS Alameda Community Reuse Plan 1996	Development of the following neighborhood areas after transfer of NAS Alameda parcels to the City of Alameda: <i>Northwest Territories (regional park/sport complex, Civic Core, Main Street Neighborhoods, Inner Harbor, North Waterfront, and Marina.</i>	2015–2035
2	City of Alameda	Alameda Landing Mixed-use Development (just off Webster Street Tube in Alameda at Mitchell and 5th Streets)	72 acres total with up to 300 housing units; 15,000 square foot (sf) waterfront, visitor-serving retail; another 285,000 sf retail; 400,000 sf office space; up to 9 acres of green open space; and Pilot Estuary Water Taxi linking Alameda Landing and Oakland	2012–2017
3	City of Alameda	Alameda Towne Centre Expansion (523 S. Shore Center)	Renovation and expansion of existing retail center with a net change of 100,000 new sf of retail	2018–2020
4	City of Alameda	Boatworks Development (2235 Clement Street)	9.48 acres total with 156 single-family housing units, 26 multifamily units, and 2 acres of pedestrian pathways and waterfront open space	2016–2018
5	City of Alameda	Harbor Bay Business Park at Bay Farm Island (1141 Harbor Bay Parkway)	210,000-sf business park containing office and design studio uses	2010–2012
6	EBMUD	East Bayshore Recycled Water Project Phase 1B in Alameda	Recycled-water pipeline extending from the Webster Street Tube/Posey Tube out through the Northwest Territories at Alameda Point	2015–2020
7	EBRPD	Regional Park and Trail at Alameda Point	150-acre regional park incorporating the following elements: <ul style="list-style-type: none"> <li>• 20 acres of seasonal wetlands</li> <li>• Non-irrigated perennial and annual grasses over 45% of the park area</li> <li>• Group and family picnic areas and observation areas with signage, benches, restrooms</li> <li>• Veterans’ memorial plaza 3 miles of asphalt-paved Bay Trail, 12 feet wide</li> <li>• 2.8 miles of asphalt-paved internal trails, 10 feet wide</li> <li>• 1.5 miles of asphalt-paved access roadway, 28 feet wide</li> <li>• Parking for approximately 800 cars on 5 acres</li> <li>• 8,000 linear feet of raised and bayside levees</li> <li>• Placement of approximately 400,000 cubic yards of fill material to create topography that will not exceed 25 feet in height</li> </ul>	2017–2022

**Table 4-2: Cumulative Projects Identified Near the VA Transfer Parcel**

<b>Project No.</b>	<b>Agency Jurisdiction</b>	<b>Project Name and Location</b>	<b>Approved or Proposed Uses</b>	<b>Anticipated Construction Time Frame</b>
8	EBRPD	Alameda Beach Renovation	Placement of 80,000 cubic yards of sand at Alameda Beach	2013
9	EBRPD	Brickyard Cove Improvements *	Improvements to Brickyard Cove in Eastshore State Park	2015
10	EBRPD/MTC/ BATA/CTC/ Caltrans District 4	Gateway Park (foot of new eastern span of San Francisco–Oakland Bay Bridge)	Development of 108-acre Gateway Park with three parcels: “Central Gateway” (60 acres), “East Gateway” (14 acres), and “West Gateway” (34 acres, are for mixed uses and public open space)	2016
11	Caltrans District 4	I-880 Operational and Safety Improvements at 23rd and 29th Avenue Overcrossings	Improvement of vehicle height clearances of the overcrossings, interchange spacing, and ramp configurations on I-880, at 29 <sup>th</sup> and 23rd Avenues	2013–2016
12	Caltrans District 4	San Francisco–Oakland Bay Bridge Seismic Safety Improvements	Construction of a new eastern span of the San Francisco–Oakland Bay Bridge	2009–2013
13	Caltrans District 4/SFCTA	Yerba Buena Island Bay Bridge Ramp Improvements	Construction and reconfiguration of ramps connecting to San Francisco–Oakland Bay Bridge	2012–2016
14	CCSF	San Francisco Bicycle Plan	Construction of bicycle path along new eastern span of San Francisco Oakland Bay Bridge	2013–2014
15	CCSF	Yerba Buena Island Bicycle Landing Facility	Construction of a bicycle landing facility with new bicycle path along new eastern span of San Francisco–Oakland Bay Bridge	2013–2015
16	CCSF	Treasure Island Redevelopment Plan	260-acre development housing, hotel, commercial office and retail 300 acres parks and open space and a 400-slip marina	2013–2028
17	Port of Oakland/City of Oakland	Oakland Army Base Port Redevelopment Program Phase 1	Improvement to backbone infrastructure of the former military site and construction of a new rail terminal	2013–2015
18	Port of Oakland	Oakland Airport Runway Safety Area Program*	Improvement of runway safety areas for two runways in North Field and one runway in South Field, including placement of fill; adding pavement, relocating lighting fixtures and the glide slope antennas; relocating taxiways and roadways; installing Engineered Material Arresting System	2013–2015
19	City of Oakland	116 E. 15th Street	92 affordable senior units	pending
20	City of Oakland	1396 5th Street	119 affordable senior units and 3,300-sf commercial space	2011–2013
21	City of Oakland	2501 Chestnut Street	50 live/work units	pending
22	City of Oakland	14th and Harrison Streets	98 condominium units, 9,000-sf commercial, and structured parking	pending
23	City of Oakland	176 11th Street, 198 11th Street, and 1110 Jackson Street	287 residential units and 3,660-sf retail	pending

**Table 4-2: Cumulative Projects Identified Near the VA Transfer Parcel**

<b>Project No.</b>	<b>Agency Jurisdiction</b>	<b>Project Name and Location</b>	<b>Approved or Proposed Uses</b>	<b>Anticipated Construction Time Frame</b>
24	City of Oakland	116 6th Street	70 affordable senior apartment units	pending
25	City of Oakland	1538 Broadway	60 residential units	pending
26	City of Oakland	721–741 Broadway	48 residential units, five live/work units, and 2,300-sf retail	pending
27	City of Oakland	1401–1405 Wood Street	301 apartments	pending
28	City of Oakland	2101–2116 Brush Street	146 residential units	pending
29	City of Oakland	459 23rd Street	60 residential units	pending
30	City of Oakland	1614 Campbell Street	92 live/work conversion units	pending
31	City of Oakland	377 2nd Street	96 units and 4,000-sf retail	pending
32	City of Oakland	1309 Madison Street	72 condominium units	pending
33	City of Oakland	1443 Alice Street/ 1434 Harrison Street	245 residential units	2013–2015
34	City of Oakland	222 19th Street	370 residential units and 933-sf café	pending
35	City of Oakland	325 7th Street	382 residential units and 9,000-sf commercial	pending
36	City of Oakland	Lake Merritt Station Area Plan (I-880 on south, 14th Street on north, Broadway on west, and 5th Avenue on east)	3,700–5,600 new housing units, up to 5,755 new jobs, 412,000 sf of additional retail space, and 2.1 million sf of additional office space	2035
37	City of Oakland	Broadway/Valdez District Specific Plan (I-580 on north, Grand Avenue on south, Webster and Valley Streets on west, and Harrison Street, Bay Place, 27th Street, Richmond Avenue, and Brook Street on east)	900–1,800 new housing units, 500,000–900,000 sf of commercial office, 800,000–1,400,000 sf of retail, and 50,000–120,000 sf of hotel	2035
38	City of Oakland	West Oakland Specific Plan	Development of vacant and/or underutilized commercial and industrial properties within West Oakland’s Opportunity Areas.	pending
39	Navy	Environmental Restoration Program	Except for operations and maintenance activities, Navy environmental remediation activities within the VA Transfer Parcel are anticipated to be complete prior to the initiation of construction activities for the Proposed Action. Except for monitoring activities, Navy remediation activities within the larger Alameda Point are anticipated to be complete by 2020. Some aspects of the Navy’s Environmental Restoration Program activities may occur simultaneously with construction activities for the Proposed Action.	2013 - 2020

**Table 4-2: Cumulative Projects Identified Near the VA Transfer Parcel**

<b>Project No.</b>	<b>Agency Jurisdiction</b>	<b>Project Name and Location</b>	<b>Approved or Proposed Uses</b>	<b>Anticipated Construction Time Frame</b>
--------------------	----------------------------	----------------------------------	----------------------------------	--

## Notes:

BATA = Bay Area Toll Authority; Caltrans = California Department of Transportation; CCSF = City and County of San Francisco; CTC = California Transportation Commission; EBMUD = East Bay Municipal Utility District; EBRPD = East Bay Recreation and Park District; I-580 = Interstate 580;

I-880 = Interstate 880; MTC = Metropolitan Transportation Commission; NAS = Naval Air Station; Navy = U.S. Department of the Navy; RV = recreational vehicle; sf = square feet; SFCTA = San Francisco County Transportation Authority

\* Project not included in Figure 4-1

Sources: Navy, 1996; Oakland, 2011; Ott, pers. comm., 2012; Heinz, pers. comm., 2012; Manasse, pers. comm., 2012; Pretzer, pers. comm., 2012; Abudayeh, pers. comm., 2012; Anderson, pers. comm., 2012; Murphy pers. comm., 2012; Walukas, pers. comm., 2012; data compiled by AECOM in 2012

The purpose of the cumulative impact analysis is to determine if the direct, indirect, and contributed impacts of the Proposed Action on nearby resources, ecosystems, and human communities would:

- Result in an adverse cumulative impact would occur (if not, the cumulative impact would be minor).
- For any adverse cumulative impacts, determine whether the alternative's contribution to the cumulative impact would be significant (if not, the cumulative impact would be minor). To determine whether an alternative's contribution would be cumulatively significant, several factors were considered: the absolute size of the contribution; the relative size of the contribution; the comparative size of the other contributors; the effect of the contribution, or the effect combined with other contributors, on the environment; and whether the impact could be mitigated if this type of contribution were not mitigated.

#### 4.6.1 Resources Areas Excluded from Further Cumulative Impact Analysis

After review of the direct and indirect effects of the Proposed Action, combined with the historic and existing resource conditions within the study area and other reasonably foreseeable present and future non-project actions, it was determined that there would be no significant adverse cumulative impact to the following 12 resources resulting from implementation of the Proposed Action (see Table 4-1). Therefore, the following resource areas have not been retained for a more detailed analysis:

- Water Resources;
- Cultural Resources;
- Visual Resources and Aesthetics;
- Land Use;
- Air Quality;
- Greenhouse Gas Emissions;
- Socioeconomics and Environmental Justice;
- Hazards and Hazardous Substances;
- Utilities;
- Noise;
- Public Services; and
- Geology and Soils.

#### **4.6.2 Resources Retained for Further Cumulative Impact Analysis**

Only two resource areas, biological resources and transportation, traffic, circulation and parking, were identified to be retained for further, or more detailed, analysis of potential cumulative impacts (see Table 4-1). Further analysis of these two resource areas are described below. Cumulative impacts on these resources for both Alternative 1 and 2 would be similar and therefore the discussion below applies to both alternatives.

#### **Cumulative Impact Analysis – Biological Resources (Alternative 1 and 2)**

##### ***Geographic Context and Time Frame***

The geographic context for the analysis of cumulative biological impacts is generally comprised of the area comprising the Alameda Point Northwest Territories (vegetation and habitat areas) and the San Francisco Bay coastal areas to the south, including the Alameda Point Marina Area (i.e., Seaplane Lagoon). The parcels isolated location at the western corner of Alameda Island, the San Francisco Bay (to the west and south), and the developed and disturbed lands of the remaining portions of the former NAS Alameda, in combination with the property being comprised of man-made lands and quality of existing habitat on site in the surrounding area limits the habitat and wildlife corridors to expand the geographic context beyond this area.

##### ***Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)***

##### **Vegetation and Wildlife Habitat**

For both Alternative 1 and 2, direct impacts to existing vegetation and wildlife habitat areas would be limited to the VA Development Area and the remaining portion of the VA Transfer Parcel, including the existing CLT colony and adjacent ruderal disturbed, nonnative annual grassland, northern coastal salt marsh, and the West and Runway Wetlands would be left undeveloped open space, and be preserved for future use of wildlife. The majority of the VA Development Area is comprised of marginal habitat (i.e., ruderal disturbed and nonnative annual grassland), but development would be expected to result in the loss of some northern coastal salt marsh and seasonal wetlands. To reduce adverse impacts to northern coastal salt marsh and seasonal wetlands located within the VA Development Area, the VA would implement mitigation (i.e., **Mitigation Measure BIO-1**). For a discussion of potential cumulative impacts to the CLT colony see section “*Federally Listed Wildlife Species*” below.

In addition, existing paved surfaces (e.g., runways, taxiways, aircraft parking areas) would be removed from the VA Development Area and areas outside of building and structure footprints would be landscaped, increasing pervious surface area, adding managed vegetation, and improving habitat for common wildlife. The 438 acres of undeveloped open space and landscaped portions of the VA Development Area would be a beneficial impact.

##### **Federally Listed Threatened and Endangered Species**

The Navy and VA has determined that the effects of Alternative 2 (Preferred Alternative) “may affect, and is likely to adversely affect” the CLT and “may effect, but is not likely to adversely affect” the western snowy plover. As identified above in section “Assessment Methodology”, the Navy and VA coordinated with and consulted with the USFWS pursuant to Section 7(a)(2) of the ESA, as amended, on this determination. The Navy and VA received concurrence from USFWS, as documented in the USFWS BO, dated August 29, 2012, on the



Sources: Navy, 1996; Oakland, 2011; Ott, pers. comm., 2012; Heinz, pers. comm., 2012; Manasse, pers. comm., 2012; Pretzer, pers. comm., 2012; Abudayah, pers. comm., 2012; Anderson, pers. comm., 2012; Murphy pers. comm., 2012; Walukas, pers. comm., 2012; data compiled by AECOM in 2012

Figure 4-1:

Location of Cumulative Projects Identified Near the VA Transfer Parcel



determination that the “proposed project is likely to adversely affect the least tern” and “that the proposed project may affect, but is not likely to adversely affect the snowy plover” (USFWS, 2012). The USFWS BO states that the “proposed project will increase predation pressure, increase the perception of predation, and reduce the quantity and quality of foraging habitat, adversely affecting all life stages of the least tern at NAS Alameda, thereby resulting in take of the least tern in the form of harm, through habitat modification and disruptions in breeding success, and harassment.” The USFWS BO concludes, “that this level of anticipated take is not likely to result in jeopardy to the least tern” (USFWS, 2012).

**California Least Tern** - Alternative 2, with the implementation of specific avoidance and minimization efforts, would not result in a significant adverse impact to the CLT from construction and operational activities. No direct construction or operational activities would occur outside the VA Development Area and would not result in the modification or direct disturbance of the CLT colony or the habitat immediately surrounding it. However, implementation of Alternative 2 would result in the development of approximately 112 acres of currently vacant land (i.e., VA Development Area). The reintroduction of uses within this former military airfield area would have the potential to have an effect on the CLT, including predation, perceived predation and human disturbance, and reduce the ability to conduct effective predator management at the site.

Direct effects to the CLT from activities would primarily consist of increased noise and vibration, construction traffic, and operation of construction equipment, which could have an effect on the CLT colony. In addition, increased human activities may increase habitat for predators of the CLT. There is the potential for indirect adverse effects from activities including sources of noise (e.g., construction traffic and the operation of construction equipment) and increased human presence in the VA Development Area. To reduce the adverse effects as described above, to the CLT to less than significant, the VA will implement **Mitigation Measure BIO-2** to minimize the potential for harm and harassment of the CLT resulting from the project related activities. With implementation there would be no significant impact to the CLT.

The Navy and VA has determined that the effects of Alternative 2 (Preferred Alternative) “may affect, and is likely to adversely affect” the CLT and “may effect, but is not likely to adversely affect” the western snowy plover. As identified above in section “Assessment Methodology”, the Navy and VA coordinated with and consulted with the USFWS pursuant to Section 7(a)(2) of the ESA, as amended, on this determination. The Navy and VA received concurrence from USFWS, as documented in the USFWS BO, dated August 29, 2012, on the determination that the “proposed project is likely to adversely affect the least tern” and “that the proposed project may affect, but is not likely to adversely affect the snowy plover” (USFWS 2012). The USFWS BO states that the “proposed project will increase predation pressure, increase the perception of predation, and reduce the quantity and quality of foraging habitat, adversely affecting all life stages of the least tern at NAS Alameda, thereby resulting in take of the least tern in the form of harm, through habitat modification and disruptions in breeding success, and harassment.” The USFWS BO concludes, “that this level of anticipated take is not likely in jeopardy to the least tern” (USFWS, 2012).

The Navy and VA, in a BA submitted to the USFWS on August 30, 2011 requesting formal consultation under Section 7 of the ESA, and determined that the effects of Alternative 1 “may affect, and is likely to adversely affect” the CLT and “may effect, but is not likely to adversely affect” the western snowy plover. The Navy and VA did not receive concurrence from USFWS on their August 30, 2011 affects determination for Alternative 1. If VA were to proceed with Alternative 1, VA would complete formal consultation under Section 7 of the ESA as is

legally required. Subsequent NEPA analysis would also be required to incorporate the findings and conclusions of the Section 7 formal consultation into the biological resources analysis for Alternative 1.

**Western Snowy Plover** - Current evidence suggests that western snowy plover visits the surrounding area sporadically as a foraging migrant. As long as the species retains this status, direct effects on the species are likely to be minimal. The increased presence of humans and equipment would increase the likelihood of disturbances (e.g., noise, light, etc.) to foraging and resting birds. These impacts would be intermittent, and are unlikely to affect the use of the site by snowy plover. Potential indirect effects of the project action on western snowy plover are generally shared and similar to those identified for CLT, albeit on a smaller scale, as this species is currently only sporadically present as a migrant. Potential indirect effects would arise from increased human activity near foraging and potential nesting areas (CLT colony) and the daily use of new structures in the vicinity of these areas. Should the western snowy plover reestablish itself as a nesting species in the action area, effects on the species are likely to be identical to those identified for the CLT and thus the proposed avoidance and minimization measures (i.e., Mitigation Measure BIO-2) for the CLT are also adequately protective. Based on current habitat use by the snowy plover, the effects would be minimal. Therefore, there would be no significant adverse impact on the western snowy plover.

### **Common Wildlife**

Potential adverse impacts to common species and habitats would not be significant due to the current low abundance of wildlife on the site. This is due to the extent of developed/urban land uses on the site, the long history of site disturbance, the intensive nature of such disturbance in some areas, and the site's isolation from more extensive areas of natural habitat by the bay and by urban development in the project vicinity. In addition, habitat within the VA Development Area would be improved with the introduction of managed landscaping and the majority of the VA Transfer Parcel would be left undeveloped open space, which could be utilized by common wildlife.

### **Habitat Linkages and Corridors**

Because ongoing activities at the VA facilities would be confined to the VA Development Area, impacts to migratory habitat in the remainder of the VA Transfer Parcel are not expected to occur. Further, because the CLT colony would be preserved, and potential future public access would be limited to the perimeter of this area these areas are anticipated to be utilized by wildlife through the operational period of the VA facilities. Therefore, operational impacts would not be significant.

See Section 3.1 (Biological Resources) for more information on the existing habitat in the VA Transfer Parcel and surrounding area and the potential impacts resulting from Alternative 1 and 2.

### ***Other Past, Present, and Future Potential External Influences***

#### **Past Actions in Cumulative Study Area**

The VA Transfer Parcel is comprised of the airfield area of former NAS Alameda. The entire parcel, which is comprised of human-made lands, has been developed or disturbed and is mostly comprised of former airfield infrastructure (e.g., inactive paved runways and taxiways), paved aircraft parking areas, vacant structures and

buildings, seven former military bunkers, and other airfield support infrastructure. Historically, the VA Transfer Parcel was utilized for active military flight operations, including the use of jet aircraft on the runways, taxiways, and parking areas. The area was also used for aircraft maintenance and other military training. Since closure of the former NAS Alameda in 198, the VA Transfer Parcel is currently vacant and underutilized.

The VA Transfer Parcel is bordered by the San Francisco Bay to the west and south, and the remainder of the former NAS Alameda property (Alameda Point) to the north and east. The Alameda Point area to the north of the VA Transfer Parcel is comprised of vegetated open space, former airfield infrastructure, and vacant buildings and structures. Further north is the Oakland Inner Harbor and the Port of Oakland, an industrial shipping container terminal. The Alameda Point area to the east of the VA Transfer Parcel is comprised of the former air stations aircraft hangars, office and industrial buildings, and recreational space. This area is currently being utilized by tenants for non-military light-industrial/manufacturing, public administration, office, commercial, and recreational uses. Further east is the City of Alameda, including residential land uses.

### **Other Potential Present and Future Actions in Cumulative Study Area**

Other potential future non-action projects located within the cumulative study area and have the potential to cumulatively affect biological resources include the following, which are also considered in Table 4-1 and identified in Table 4-2 and Figure 4-1:

- NAS Alameda Community Reuse Plan 1996 (**Cumulative Project #1** – see Table 4-2 and Figure 4-1);
- Alameda Landing Mixed-use Development (**Cumulative Project #2** – see Table 4-2 and Figure 4-1);
- Boatworks Development (**Cumulative Project #4** – see Table 4-2 and Figure 4-1);
- Regional Park and Trail at Alameda Point (**Cumulative Project #7** – see Table 4-2 and Figure 4-1); and
- Alameda Beach Renovation (**Cumulative Project #8** – see Table 4-2 and Figure 4-1).

In addition to the identified development actions, the assessment of cumulative impacts to biological resources considered projected future natural changes, including projected sea-level rise.

### ***Cumulative Impact Analysis***

#### **Vegetation/Habitat Types**

Cumulative impacts on vegetation types similar to those found within the VA Transfer Parcel could occur during the various construction activities for the above-listed projects. Of particular concern would be effects on seasonal wetlands and northern coastal salt marsh habitats. Northern coastal salt marsh and seasonal wetlands are likely to be considered Waters of the United States by the USACE; therefore, effects on these vegetation communities

could be considered cumulatively adverse. As noted in Section 3.1 (Biological Resources) implementation of Mitigation Measure BIO-1 by the VA would reduce this cumulative impact to seasonal wetlands and coastal salt marsh habitats to a level less than significant. For a discussion of potential cumulative impacts to the CLT colony see section “*Federally Listed Wildlife Species*” below.

In addition, the Proposed Action would result in the removal of existing paved surfaces (e.g., runways, taxiways, aircraft parking areas) would be removed from the VA Development Area, increasing pervious surface area, and the undeveloped area of the VA Transfer Parcel would be managed for the conservation of the CLT. The managed open space in combination with the proposed regional park and recreational space within the Alameda Point Northwest Territories would add open space and managed natural areas to the region, improving habitat for common wildlife.

### **Federally Listed Wildlife Species**

**California Least Tern** - A cumulative impact analysis was included in the BA for the Alameda Landing Mixed-use Development and Boatworks Development (Cumulative Projects #2 and #4) (AECOM, 2011). The determination concluded that based on a review of available information, these proposed projects are located at a sufficient distance from the VA Transfer Parcel and that effects on CLT and western snowy plover are not expected. Therefore, no cumulative impacts are anticipated from Cumulative Projects 2 and 4.

The Alameda Beach Renovation (Cumulative Project 8) is also located some distance from VA Transfer Parcel; effects on CLT and western snowy plover are not expected to result from this project for the same reason as described for Cumulative Projects 2 and 4. Therefore, no cumulative effects are expected from Cumulative Project 8.

Cumulative Project 17 (Oakland Army Base Port Redevelopment Program Phase 1) proposes to improve the infrastructure of the former military site and construct a new rail terminal. This project would be located across the Oakland Inner Harbor and at a considerable distance from the CLT colony therefore, no cumulative impacts are expected.

Other non-project actions in the cumulative study area include the Navy's disposal of the remaining portions of the former NAS Alameda (i.e., Alameda Point). This area would be reused and redeveloped in a manner consistent with the City of Alameda's 1996 Reuse Plan. The Alameda Point planning areas in the vicinity of the VA Transfer Parcel include the Northwest Territories (to the north) and the Civic Core, Marina, and Inner Harbor to the east. The Northwest Territories would be redeveloped as a regional park and sports complex. The Civic Core would be comprised of a mixed-use development area and could include office, education and institutional, research and development, commercial, and recreational uses. The Marina would include boating uses and a mix of commercial, residential, retail and recreational uses and the Inner Harbor would include a mix of light-industrial and research and development with a potential for residential, office, retail, and recreational uses.

Cumulatively, the Proposed Action in combination with other projects in the immediate vicinity would likely increase direct predation and perceived predation on the CLT by increasing the carrying capacity of potential predators, increasing their success rate, and reducing the ability to conduct effective predator management at the VA Transfer Parcel. As identified in the 2012 USFWS BO, the Proposed Action has been located as far away from the CLT colony as the property configuration would allow for, providing an adequate buffer of the adverse effects of the development to the species, and the VA's Proposed Action and City's redevelopment include avoidance and minimization measures including height restrictions and configurations to reduce the effects of the proposed project to the CLT and maintaining a large buffer between development and the CLT colony (USFWS 2012). In addition, the Proposed Action includes predator control efforts, CLT monitoring, limiting the amount and type of vegetation, minimizing lighting, and restricting access.

The Alameda Point Marina area (i.e., Seaplane Lagoon) has been documented as being used by the CLT for foraging. Redevelopment of this area would reduce the quality of the foraging habitat as a result of the construction of boat berthing and increased boat traffic. In addition, the development of the Northwest Territories would obstruct access to documented foraging areas in the Oakland Inner Harbor (USFWS 2012). As identified in the 2012 USFWS BO, while the VA's Proposed Action and the redevelopment of Alameda Point have proposed numerous measures to minimize the short- and long-term effects of the redevelopment of NAS Alameda on the CLT, the USFWS expects the effects of the implementation of the projects to permanently decrease, by a small but measurable extent, the future reproductive potential and long-term average size of the CLT colony (USFWS 2012). The conclusion on loss of buffer zone habitat and associated additive effects considered the incremental decrease in the effectiveness of predator control; an incremental increase in actual and perceived predation and increased human disturbance for increased human presence; a reduction in the quality and quantity of foraging habitat; and the potential increase in foraging time due to the development of the Northwest Territories.

In addition, potential climate change and sea level rise could have an effect on the CLT. As identified in Section 3.8 (Greenhouse Gas Emissions and Climate Change), sea level rise is projected to occur and would potentially impact the project area. This projected rise in sea level would potentially threaten the long-term persistence of the CLT colony.

After reviewing the current status of the CLT, the environmental baseline for the species in the area, and the potential effects of the Alternative 2 (Preferred Alternative) and the cumulative effects from other non-project actions, the 2012 USFWS BO concluded that the Proposed Action (i.e., Alternative 2) is not likely to jeopardize the continued existence of the CLT. While USFWS expects that the incremental effects of the proposed development will reduce the ability of the CLT colony to achieve the high numbers of breeding pairs and fledglings, they expect it to continue to remain a productive breeding colony. The determination was based on the following: 1) the VA will continue to fund predator management and CLT colony monitoring and other management activities at current or greater levels; 2) predator management activities will adapt to predation pressures; 3) the Proposed Action (i.e., Alternative 2) maintains a buffer zone of 511 acres, which, due to size, location, and configuration of the VA Development Area, does not result in a significant decrease in the buffer zone size of 525 acres, which the USFWS determined to be the minimum area necessary to conserve the CLT colony at NAS Alameda in their 1999 BO; and 4) the Proposed Action includes design features and standards that have been specifically included to minimize the effects of the Proposed Action to the species (USFWS, 2012).

**Western Snowy Plover** - Current evidence suggests that western snowy plover visits the surrounding area sporadically as a foraging migrant. As long as the species retains this status, direct effects on the species are likely to be minimal. The increased presence of humans and equipment would increase the likelihood of disturbances (e.g., noise, light, etc.) to foraging and resting birds. These impacts would be intermittent, and are unlikely to affect the use of the site by snowy plover. Potential indirect effects of the project action on western snowy plover are generally shared and similar to those identified for CLT, but on a smaller scale, as this species is currently only sporadically present as a migrant. Should the western snowy plover reestablish itself as a nesting species in the action area, effects on the species are likely to be identical to those identified for the CLT and thus the proposed avoidance and minimization measures for the CLT are also adequately protective. Based on current habitat use by the snowy plover, the effects would be minimal. Therefore, there would be no significant cumulative adverse impact on the western snowy plover.

For more information on the 2012 USFWS BO see Section 3.1 (Biological Resources) and Appendix B (Biological Resources Supporting Information).

### **Habitat Linkages and Corridors**

Because of the developed nature of the Alameda Point area and the surrounding area, there are no habitat linkages or corridors for non-avian species. Avian species are not impeded from moving into or out of the Alameda Point area. Cumulative effects associated with construction of the projects listed above would not occur because the projects do not create barriers to avian movements.

### **Conclusion**

There would be no significant adverse cumulative impacts from implementation of Alternative 2 (Preferred Alternative). If VA were to proceed with Alternative 1, VA would complete formal consultation under Section 7 of the ESA as is legally required. Subsequent NEPA analysis would also be required to incorporate the findings and conclusions of the Section 7 formal consultation into the biological resources analysis for Alternative 1.

## **Cumulative Impact Analysis – Transportation, Traffic, Circulation, and Parking (Alternative 1 and 2)**

### ***Geographic Context and Time Frame***

The geographic context for the analysis of cumulative transportation, traffic, circulation, and parking impacts consists of the study area illustrated in Figure 3.3-1 in Section 3.3 (Transportation, Traffic, Circulation, and Parking) which includes 11 study intersections and 10 roadway segments in the City of Alameda and Downtown Oakland. The Cumulative (2035) Baseline Conditions involves planned and approved development projects, projected regional growth, and planned changes to the existing transportation network in the study area, as well as background growth throughout the region in Year 2035. For this analysis of cumulative impacts, Cumulative (2035) Baseline Conditions (without Proposed Action) were used as a future baseline to compare against Cumulative (2035) Baseline plus Proposed Action conditions. A conservative analysis was completed for Cumulative (2035) plus Proposed Action conditions.

### **Proposed Action Potential Direct/Indirect Impacts (Alternative 1 and 2)**

Construction-related transportation impacts would be temporary and would not have an adverse effect on weekday peak-hour traffic conditions. Accordingly, construction-related traffic impacts of Alternative 1 would not be significant.

Operationally, the Proposed Action (year 2017) would not adversely affect any of the 11 study intersections during the weekday a.m. peak hour, weekday p.m. peak hour, and Saturday peak hour. All study intersections would operate at LOS D or better. Therefore, operational impacts of the Proposed Action on traffic operations at intersections would not be significant. The Proposed Action (year 2017) would also not adversely affect any of the 10 study roadway segments during the weekday a.m. peak hour, weekday p.m. peak hour, and Saturday peak hour. All study roadway segments would operate at LOS D or better. Therefore, operational traffic impacts of the Proposed Action on traffic operations on roadway segments would not be significant. In addition, the Proposed Action would add additional passengers to the municipal transit system, provide new pedestrian and bicycle

amenities, add pedestrian users and bicyclist, provide on-site user specific surface parking, and improve site access and on-site circulation. None of these components would result in a significant adverse impact. See Section 3.3 (Transportation, Traffic, Circulation, and Parking) for more information on the existing resource and the potential impacts of the Proposed Action.

## **Other Past, Present, and Future Potential External Influences**

### ***Past Actions in Cumulative Study Area***

The VA Transfer Parcel is located in the western half of the former NAS Alameda. Roadways within the VA Transfer Parcel and the VA Development Area are not publicly accessible, and are old and deteriorating given the closure of NAS Alameda more than 15 years ago. Because the public does not have site access, the only traffic on the VA Transfer Parcel is generated by Navy-authorized vehicles providing conservation management services for the existing CLT colony or ongoing remediation activities. Historically, the former NAS Alameda property, a major naval airfield and ship facility, would have generated substantial volumes of traffic when the air station was operational.

For a description of the existing conditions within the cumulative study area see Section 3.3 of this EA.

### ***Other Potential Present and Future Actions in Cumulative Study Area***

Past, present, and probable future cumulative projects within this geographic context that were considered for cumulative impacts on transportation, traffic, circulation, and parking include all the projects from Table 4-2. Several projects such as the Oakland International Airport Runway Safety Area Program (Cumulative Project 18 listed in Table 4-2), Caltrans District 4 I-880 Operational and Safety Improvements at 23rd and 29th Avenue Overcrossings (Cumulative Project 11), and City of Alameda Landing Mixed-Use Project (Cumulative Project 2) could be under construction at the same time as the Proposed Action. In addition, redevelopment of the former NAS Alameda base could be ongoing; the reuse of the base includes the assumptions from the NAS Alameda Community Reuse Plan 1996 (Cumulative Project 1). The construction trips from these projects and the Proposed Action would cumulatively contribute to roadway volumes to I-880.

## **Cumulative Impact Analysis**

Alternative 1 and 2 would both be located in the same location and would include the same scale of development, trip generation, trip distribution, mode choice, and trip assignment. Therefore, the volume of traffic generated under both alternatives and the potential effects on the study areas transportation network would be identical. The following assessment of potential cumulative impacts does not distinguish the effects resulting from two separate alternatives and instead refers to them both as the Proposed Action.

### ***Cumulative Assessment Methods***

#### **Trip Generation**

The person-trips that would be generated in year 2035 by the Proposed Action include the person-trips from initial construction (year 2017) and subsequent cemetery expansion construction (year 2027) and the person-trips from

Phases 3 through 11. For 2017 cumulative it was assumed that the Navy Environmental Restoration Program activities at Alameda Point could occur simultaneously with construction activities of the Proposed Action at Alameda Point. However, VA will coordinate with the Navy in order to ensure that the peak hour and peak month trips accessing Alameda Point would not be exceeded. The Restoration Program is anticipated to be completed by 2020. As noted in Section 3.3 (Transportation, Traffic, Circulation, and Parking), the person-trips generated during each individual subsequent phase of cemetery expansion construction would be the same.

The following assumptions were used to develop the year 2035 project trip generation:

- Construction trips consisted of truck trips and personnel trips with one person per vehicle;
- Based on the City of Alameda Ordinance Number 2712, construction is allowed only Monday through Friday between the hours of 7 A.M. and 7 P.M. and on Saturday between 8 A.M. and 5 P.M.;
- A Passenger Car Equivalent factor of 2.0 was applied to the truck trips to account for the additional space occupied by these vehicles and for the difference in operating capabilities of heavy vehicles compared with passenger cars;
- The total number of daily construction truck trips for the buildout of each 10-year increment of the NCA; Cemetery is 182 based on the construction data for the Proposed Action (Appendix D);
- The number of truck trips would be evenly distributed throughout the entire workday, because each truck would need time and work crews to load or unload each truckload of material; and
- Personnel trips would occur on weekday and weekend off-peak hours, coinciding with typical work schedules for construction personnel.

Table 4-3 presents the person-trip generation for year 2035 associated with the Proposed Action. The person-trips generated in year 2035 include the person-trips initial construction and subsequent cemetery phase construction (discussed in Section 3.3 [Transportation, Traffic, Circulation, and Parking]). The Proposed Action would generate 8,700 person-trips during the weekday. Of these weekday person-trips, 451 would occur during the weekday a.m. peak hour and 450 would occur during the weekday p.m. peak hour. A total of 178 person-trips would occur during the Saturday peak-generation hour for the Proposed Action.

### **Trip Distribution**

Trip distribution patterns were applied to Cumulative (2035) Baseline Conditions, based on the trip purpose associated with the Proposed Action–related activities for the scenario. The Proposed Action–generated person-trips were assigned to travel modes to determine the number of trips by automobile, Bay Area Rapid Transit (BART), and Alameda–Contra Costa Transit District (AC Transit), as well as “other” trips (Table 4-4). “Other” trips include those by motorcycle, taxi, bicycle, and pedestrian. The same assumptions as year 2017 were also assumed for year 2035 Conditions.

### **Traffic Volumes**

The cumulative analysis was performed for a horizon year of 2035 to reflect foreseeable growth in the area. Forecasts of future-year traffic volumes were prepared using the ACTC and City of Alameda travel demand model. The ACTC and Alameda travel demand models include assumptions by the City of Alameda for NAS

**Table 4-3: Proposed Action (Year 2035) Person-Trip Generation (Alternatives 1 and 2)**

Land Use	Size	Weekday Daily <sup>1</sup>	A.M. Peak Hour			P.M. Peak Hour			Saturday Peak Hour of Generation		
			In	Out	Total	In	Out	Total	In	Out	Total
Office	12,500 gsf	149	19	2	21	4	16	20	2	2	4
Clinic	250 employees	2,093	239	93	332	136	196	332	10	10	20
<b>Cemetery</b>											
Employees	7 employees	30	8	0	8	0	8	8	0	0	0
Visitors		480	44	44	88	44	44	88	77	77	154
Corteges		5,940	0	0	0	0	0	0	0	0	0
Deliveries		8	1	1	2	1	1	2	0	0	0
<b>Total</b>		<b>8,700</b>	<b>311</b>	<b>140</b>	<b>451</b>	<b>185</b>	<b>265</b>	<b>450</b>	<b>89</b>	<b>89</b>	<b>178</b>

Notes: While the number of employees is used as the independent variable to calculate the trip generation for the clinic, the number of trips generated are from both employees and patients.

<sup>1</sup> The weekday daily person trips are the cumulative total trips generated for all phases of the project, i.e., 11 phases. For example, the total number of daily person trips associated with corteges is 540 for each phase. However, there are a total of 11 phases of the Project which results in a total of 5,940 person trips (11 phases x 540 daily person trips).

Source: AECOM, 2012

**Table 4-4: Proposed Action (Year 2035) Trip Generation by Mode (Alternatives 1 and 2)**

Direction	Person-Trips						Total	Vehicle Trips <sup>2,3</sup>
	Automobile	AC Transit	BART	Walk	Bike	Other <sup>1</sup>		
<b>Weekday A.M. Peak Hour</b>								
Inbound	288	5	13	5	0	0	311	270
Outbound	132	2	5	2	0	0	141	125
<b>Total</b>	<b>420</b>	<b>7</b>	<b>18</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>452</b>	<b>395</b>
<b>Weekday P.M. Peak Hour</b>								
Inbound	173	3	7	3	0	0	186	164
Outbound	243	4	11	4	0	0	262	228
<b>Total</b>	<b>416</b>	<b>7</b>	<b>18</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>448</b>	<b>392</b>
<b>Saturday Peak Hour of Generation</b>								
Inbound	88	0	1	0	0	0	89	87
Outbound	88	0	1	0	0	0	89	87
<b>Total</b>	<b>176</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>178</b>	<b>174</b>

Notes:

AC Transit = Alameda and Contra Costa County Transit District; BART = Bay Area Rapid Transit

<sup>1</sup> "Other" mode includes motorcycles and taxis.

<sup>2</sup> Used the average vehicle occupancy of 1.08 from the 2000 U.S. Census Summary File 3 QT-PT23 to convert back to vehicle trips.

<sup>3</sup> Includes vehicle trips from cemetery visitors, corteges, and deliveries.

Sources: U.S. Census, 2000; AECOM, 2012

Alameda base redevelopment based on the 1996 NAS Alameda Community Reuse Plan (Cumulative Project 1). Existing traffic volumes were adjusted by applying growth factors to existing counts. The traffic volumes during the weekday A.M. and P.M. peak hour and Saturday peak trip-generation hour at the study intersections are shown in Figure 4-2.

### **Transportation Network Modifications**

Under Cumulative (2035) Baseline Conditions, the following roadway network changes are planned, programmed, and assumed within the City of Alameda:

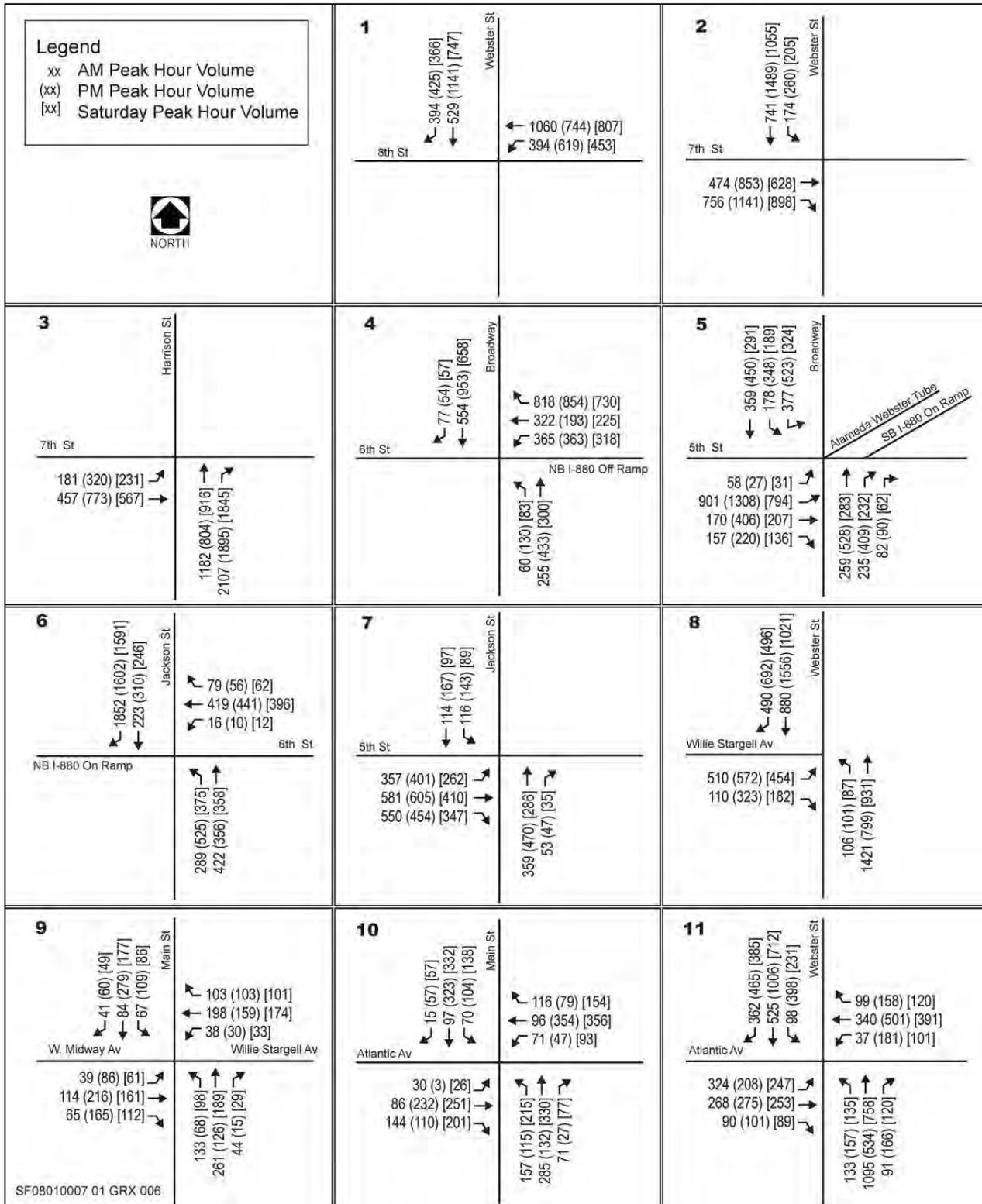
- The Clement Street Extension from the intersection of Atlantic Avenue and Sherman Street to Grand Street, as a two-lane street;
- The Mitchell Street Extension from Mariner Square Loop to a new intersection on Main Street north of Singleton Avenue, as a two-lane street; and
- The 5th Street Extension from Willie Stargell Avenue north to Mitchell Street, as a two-lane street.
- Another planned improvement is the Broadway/Jackson Interchange at Interstate-880 (I-880). This project is a partnership among the Cities of Oakland and Alameda, Caltrans, ACTC, and other stakeholders. Its main goal is to improve traffic operations and circulation in the area around the I-880 Broadway/Jackson Street Interchange. Because of the absence of finalized design plans (the project is still in the environmental phase) and lack of assurance of full funding, this improvement was not assumed in Cumulative (2035) Baseline Conditions. Because the analysis presented in this traffic study does not assume the Broadway/Jackson Interchange project, the results of this analysis are therefore considered conservative.

### ***Cumulative (2035) Baseline Conditions (without Proposed Action) - Intersection and Roadway Levels of Service***

Table 4-5 presents the summary LOS results for the study intersections under Cumulative (2035) Baseline Conditions (without Proposed Action). The baseline condition does not include the addition of the projected future traffic resulting from the Proposed Action. Even without the Proposed Action, three of the study intersections are projected to operate at unacceptable levels under Cumulative (2035) Baseline Conditions. The unacceptable performance of these three intersections is a result of other non-project cumulative actions. The three intersections include:

- 7th Street/Harrison Street during the weekday P.M. peak hour;
- Broadway/5th Street during the weekday P.M. peak hour; and
- Atlantic Avenue/Webster Street during the weekday A.M. and P.M. peak hours.

The remaining eight study intersections are projected to operate, without the addition of the Proposed Action, at acceptable levels as indicated by criteria of the Cities of Alameda and Oakland under Cumulative (2035) Baseline Conditions.



Source: AECOM, 2012

**Figure 4-2: Intersection Traffic Volumes under Cumulative (2035) Baseline Conditions**

**Table 4-5: Intersection Levels of Service—Cumulative Baseline Conditions (without Proposed Action)**

Intersection	Peak Hour <sup>1</sup>	Year 2017 (without Proposed Action)		Year 2035 (without Proposed Action)	
		LOS	Delay <sup>2</sup>	LOS	Delay <sup>2</sup>
1 8th Street/Webster Street	Weekday A.M.	C	25.7	C	29.4
	Weekday P.M.	C	27.4	C	31.1
	Saturday	C	25.5	C	27.7
2 7th Street/Webster Street	Weekday A.M.	B	11.8	B	13.5
	Weekday P.M.	B	17.7	D	51.6
	Saturday	A	9.6	B	16.9
3 7th Street/Harrison Street	Weekday A.M.	B	16.2	C	24.1
	<b>Weekday P.M.</b>	D	45.2	<b>F</b>	<b>114.0</b>
	Saturday	B	13.2	C	27.0
4 Broadway/6th Street	Weekday A.M.	B	17.7	C	21.8
	Weekday P.M.	C	21.1	D	40.2
	Saturday	B	17.7	C	21.2
5 Broadway/5th Street	Weekday A.M.	C	33.7	D	50.0
	<b>Weekday P.M.</b>	E	76.4	<b>F</b>	<b>119.2</b>
	Saturday	C	28.2	C	32.6
6 Jackson Street/6th Street	Weekday A.M.	A	8.1	C	20.1
	Weekday P.M.	B	10.1	E	56.3
	Saturday	B	13.4	E	67.4
7 Jackson Street/5th Street	Weekday A.M.	C	31.8	D	50.4
	Weekday P.M.	B	15.2	D	35.3
	Saturday	B	13.5	B	14.6
8 Willie Stargell Avenue/Webster Street	Weekday A.M.	B	16.6	C	22.4
	Weekday P.M.	B	14.9	C	31.6
	Saturday	B	12.2	B	13.3
9 Willie Stargell Avenue/Main Street	Weekday A.M.	A	5.6	A	7.9
	Weekday P.M.	A	5.9	A	9.4
	Saturday	A	5.3	A	7.2
10 Atlantic Avenue/Main Street	Weekday A.M.	B	12.8	B	14.4
	Weekday P.M.	B	14.7	B	18.2
	Saturday	B	15.8	C	22.1
11 Atlantic Avenue/Webster Street	<b>Weekday A.M.</b>	D	44.7	<b>F</b>	<b>95.8</b>
	<b>Weekday P.M.</b>	C	26.7	<b>E</b>	<b>64.6</b>
	Saturday	C	23.7	C	31.6

Notes:

LOS = level of service

**Bold** indicates intersection operating at unacceptable levels (LOS F in downtown Oakland and LOS E or F in Alameda).

<sup>1</sup> "Saturday" indicates Saturday peak trip-generation hour of the project.

<sup>2</sup> Delay presented in seconds per vehicle.

Source: AECOM, 2012

Table 4-6 presents the summary LOS results for the roadway segments under Cumulative (2035) Baseline Conditions (without Proposed Action). The table indicates that all of the roadway segments under Cumulative (2035) Baseline Conditions are forecasted to operate at acceptable levels as indicated by the City of Oakland's criteria.

**Table 4-6: Roadway Segment Levels of Service - Cumulative Baseline Conditions (without Proposed Action)**

Roadway Segment	Year 2017 (without Proposed Action)						Year 2035 (without Proposed Action)					
	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour			Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
	Volume	V/C ratio	LOS	Volume	V/C ratio	LOS	Volume	V/C ratio	LOS	Volume	V/C ratio	LOS
<b>Northbound</b>												
SR 260 Posey Tube	3,240	0.81	D	2,452	0.61	B	3,560	0.89	D	2,695	0.67	B
I-880 between 6th Street and I-980	3,766	0.38	A	4,507	0.45	A	4,472	0.45	A	5,352	0.54	A
I-880 between I-980 and 5th Street	2,015	0.25	A	2,746	0.34	A	2,288	0.29	A	3,118	0.39	A
I-880 between 5th Street and Union Street	5,063	0.84	D	4,868	0.81	D	5,681	0.95	E	5,462	0.91	E
I-880 between Union Street and 7th Street	4,004	0.50	A	3,938	0.49	A	4,529	0.57	A	4,454	0.56	A
I-880 between Embarcadero and 22nd Avenue	3,393	0.57	A	3,612	0.60	B	3,739	0.62	B	3,981	0.66	B
<b>Southbound</b>												
SR 260 Webster Street Tube	2,034	0.51	A	3,312	0.83	D	2,236	0.56	A	3,640	0.91	E
I-880 between 7th Street and Union Street	3,604	0.45	A	3,753	0.47	A	4,295	0.54	A	4,474	0.56	A
I-880 between 5th Street and 10th Avenue	3,940	0.49	A	3,602	0.45	A	4,402	0.55	A	4,025	0.50	A
I-880 between 10th Avenue and Embarcadero	3,321	0.55	A	3,233	0.54	A	3,702	0.62	B	3,603	0.60	B

Notes:

I-880 = Interstate 880; SR = State Route; V/C = volume-to-capacity

**Bold** indicates a roadway segment operating at an unacceptable level (i.e., LOS F)

Source: AECOM, 2012

### **Cumulative (2035) Baseline Conditions plus Proposed Action**

The following presents the traffic operations and potential traffic impacts under the Cumulative (2035) Baseline Conditions plus Proposed Action at the 11 study intersections and 10 roadway segments. This includes both the Cumulative (2035) Baseline Condition in addition to the traffic projected as a result of the Proposed Action.

### **Traffic**

Project-related construction activity—both construction truck traffic and additional vehicular traffic from construction workers—would not result in a significant cumulative impact to vehicular, pedestrian, and bicycle circulation. Parking demand generated by construction workers' personal vehicles is expected to be accommodated by existing parking facilities in the VA Development Area. Overall, construction-related transportation impacts under Alternative 1 would be temporary and would not result in a significant cumulatively adverse impact.

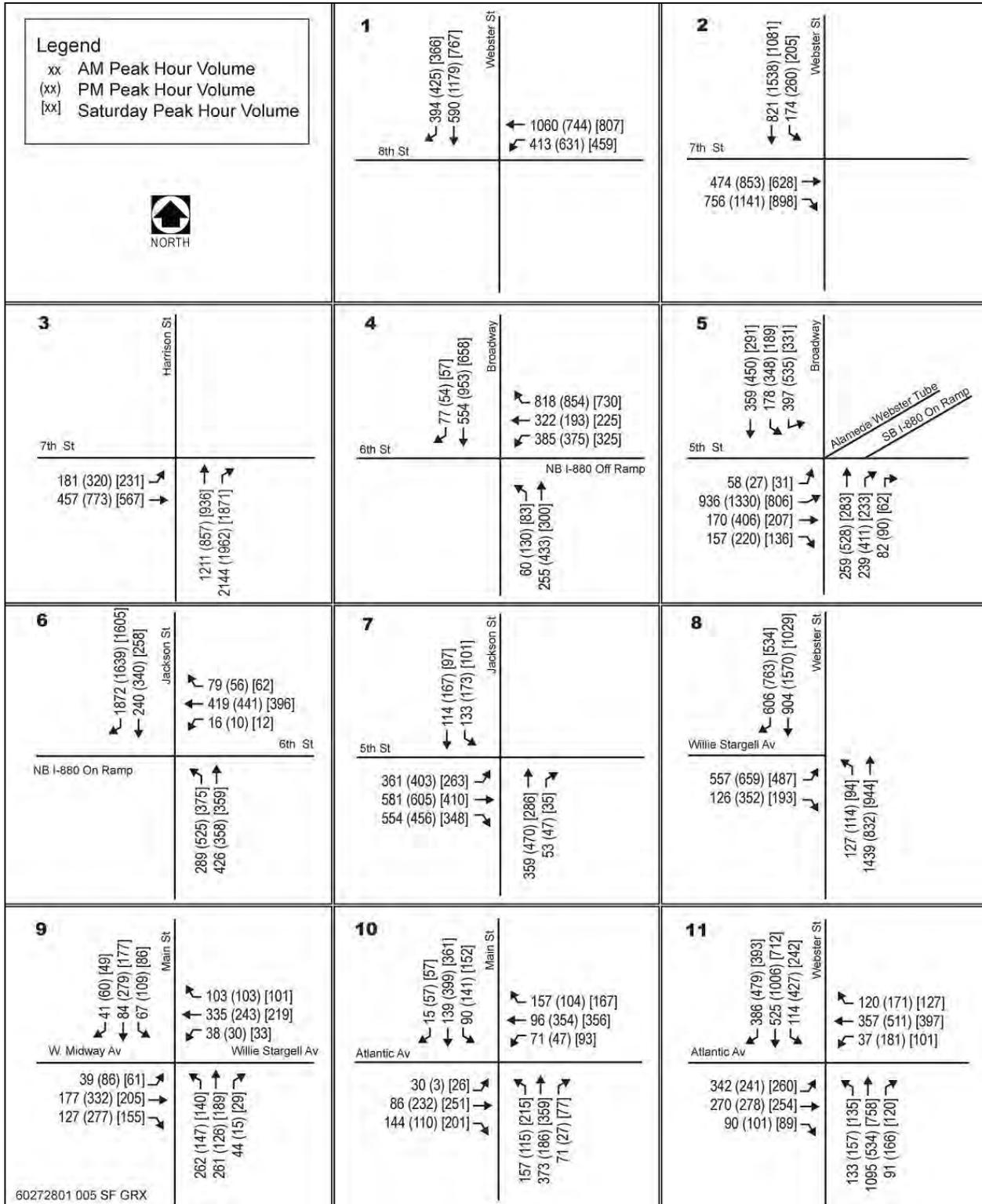
Several other projects such as the Oakland International Airport Runway Safety Area Program (Cumulative Project 18 listed in Table 4-1), Caltrans District 4 I-880 Operational and Safety Improvements at 23rd and 29th Avenue Overcrossings (Cumulative Project 11), and City of Alameda Landing Mixed-Use Project (Cumulative Project 2) could be under construction at the same time as the Proposed Action. The construction trips from these projects and the Proposed Action would cumulatively contribute to roadway volumes to I-880.

It is anticipated that construction activities for the Proposed Action initial construction would take approximately 18 months to complete; these activities would begin in July 2015 and be completed in approximately December 2016. The Proposed Action would generate 498 daily construction vehicle trips during the peak month of construction. The construction vehicles would travel between I-880 and the VA Development Area. The AADT roadway volume on I-880 for Year 2010 near the Alameda Point Area is approximately 195,000 vehicles (Caltrans, 2010). The AADT is the total volume for the year divided by 365 days. Assuming a 1% growth rate per year, the estimated AADT for Year 2015 would be 204,950.

The construction trips from the Proposed Action plus those from other foreseeable projects would add to the projected volumes on I-880. Cumulatively, the projects could increase congestion and travel times, particularly during the peak-period commute hours. However, given the magnitude of future traffic volumes on this freeway and the temporary and variable nature of construction trips, the contribution of the Proposed Action to freeway operating conditions would be minimal. The peak volume of construction-related traffic from Alternative 1 would be about 0.2% of projected I-880 AADT, so that the cumulative contribution of Alternative 1 would not be significant.

Project-generated year 2035 traffic volumes were added to Cumulative (2035) Baseline Condition traffic volumes to obtain the Cumulative (2035) Baseline plus Proposed Action traffic volumes. These traffic volumes reflect the assumptions regarding trip generation, trip distribution, mode split, and traffic assignment for the Proposed Action, described above. Cumulative (2035) Baseline Condition plus Proposed Action traffic volumes at the study intersections during the weekday a.m. and p.m. peak hours and the Saturday peak trip-generation hour for the Proposed Action are shown graphically in Figure 4-3.

Table 4-7 presents the summary LOS results for the study intersections under Cumulative (2035) Baseline Conditions plus Proposed Action. The same three intersections (i.e., 7th Street/Harrison Street [weekday P.M. peak hour]; Broadway/5th Street [weekday P.M. peak hour]; and Atlantic Avenue/Webster Street [weekday A.M. and P.M. peak hours]) that were identified as performing at unacceptable levels under Cumulative (2035) Baseline Conditions (without Proposed Action) continue to perform at an unacceptable level with the addition of the Proposed Action. Of note, these three intersections, at the specific peak hours, would operate at unacceptable levels without the implementation of the Proposed Action due the development and operation of other non-project



**Figure 4-3: Intersection Traffic Volumes under Cumulative (2035) Baseline Conditions plus Proposed Action**

**Table 4-7: Intersection Levels of Service—Cumulative (2035) Baseline Conditions (without and with Proposed Action)**

Intersection	Peak Hour <sup>1</sup>	Year 2035 (without Proposed Action)		Year 2035 (plus Proposed Action)	
		LOS	Delay <sup>2</sup>	LOS	Delay <sup>2</sup>
1 8th Street/Webster Street	Weekday A.M.	C	29.4	C	29.7
	Weekday P.M.	C	31.1	C	31.7
	Saturday	C	27.7	C	27.8
2 7th Street/Webster Street	Weekday A.M.	B	13.5	B	13.9
	Weekday P.M.	D	51.6	E	58.7
	Saturday	B	16.9	B	17.1
3 7th Street/Harrison Street	Weekday A.M.	C	24.1	C	26.4
	<b>Weekday P.M.</b>	<b>F</b>	<b>114.0</b>	<b>F</b>	<b>127.3</b>
	Saturday	C	27.0	C	29.7
4 Broadway/6th Street	Weekday A.M.	C	21.8	C	21.9
	Weekday P.M.	D	40.2	D	40.1
	Saturday	C	21.2	C	21.2
5 Broadway/5th Street	Weekday A.M.	D	50.0	E	55.8
	<b>Weekday P.M.</b>	<b>F</b>	<b>119.2</b>	<b>F</b>	<b>124.4</b>
	Saturday	C	32.6	C	33.3
6 Jackson Street/6th Street	Weekday A.M.	C	20.1	C	20.8
	Weekday P.M.	E	56.3	E	62.8
	Saturday	E	67.4	E	68.6
7 Jackson Street/5th Street	Weekday A.M.	D	50.4	D	51.2
	Weekday P.M.	D	35.3	E	55.9
	Saturday	B	14.6	B	14.7
8 Willie Stargell Avenue/Webster Street	Weekday A.M.	C	22.4	C	25.6
	Weekday P.M.	C	31.6	D	38.3
	Saturday	B	13.3	B	13.7
9 Willie Stargell Avenue/Main Street	Weekday A.M.	A	7.9	B	12.4
	Weekday P.M.	A	9.4	B	15.4
	Saturday	A	7.2	A	7.9
10 Atlantic Avenue/Main Street	Weekday A.M.	B	14.4	B	16.1
	Weekday P.M.	B	18.2	B	19.4
	Saturday	C	22.1	C	22.8
11 Atlantic Avenue/Webster Street	<b>Weekday A.M.</b>	<b>F</b>	<b>95.8</b>	<b>F</b>	<b>104.3</b>
	<b>Weekday P.M.</b>	<b>E</b>	<b>64.6</b>	<b>E</b>	<b>71.6</b>
	Saturday	C	31.6	C	32.5

Notes:

**Bold** indicates intersection operating at unacceptable levels (LOS F in Downtown Oakland, and LOS E or F in Alameda).

<sup>1</sup> “Saturday” indicates Saturday peak trip generation hour of the Project.

<sup>2</sup> Delay presented in seconds per vehicle.

Source: AECOM, 2012

actions in the study area. Cumulative conditions for years 2017 and 2035 with and without the Proposed Action at these three intersections are summarized in Table 4-8.

**Table 4-8: Projected Unacceptable Intersections - Cumulative Conditions (Year 2017 and 2035) with and without the Proposed Action**

Intersection	Peak Hour <sup>2</sup>	Year 2017 <sup>1</sup> Cumulative Conditions		Year 2035 Cumulative Conditions	
		(without Proposed Action)	(plus Proposed Action)	(without Proposed Action)	(plus Proposed Action)
		LOS (Delay) <sup>3</sup>	LOS (Delay) <sup>3</sup>	LOS (Delay) <sup>3</sup>	LOS (Delay) <sup>3</sup>
7th Street/Harrison Street	Weekday A.M.	B (16.2)	B (16.4)	C 24.1	C (26.4)
	<b>Weekday P.M.</b>	D (45.2)	D (54.7)	<b>F 114.0</b>	<b>F (127.3)</b>
	Saturday	B (13.2)	B (13.2)	C 27.0	C (29.7)
Broadway/5th Street	Weekday A.M.	C (33.7)	D (35.6)	D 50.0	E (55.8)
	<b>Weekday P.M.</b>	E (76.4)	E (80.0)	<b>F 119.2</b>	<b>F (124.4)</b>
	Saturday	C (28.2)	C (28.3)	C 32.6	C (33.3)
Atlantic Avenue/Webster Street	<b>Weekday A.M.</b>	D (44.7)	D (50.7)	<b>F 95.8</b>	<b>F (104.3)</b>
	<b>Weekday P.M.</b>	C (26.7)	C (27.5)	<b>E 64.6</b>	<b>E (71.6)</b>
	Saturday	C (23.7)	C (23.8)	C 31.6	C (32.5)

Notes:

<sup>1</sup> The majority of the Proposed Action will be constructed and operational by the year 2017, including the VHA OPC, VBA Outreach Office, Conservation Management Office, and first phase of the NCA Cemetery.

<sup>2</sup> Saturday peak trip generation hour.

<sup>3</sup> Delay presented in seconds per vehicle.

Source: AECOM, 2012

The remaining eight study intersections are projected to operate, with the addition of the Proposed Action, at acceptable levels as indicated by criteria of the Cities of Alameda and Oakland under Cumulative (2035) Baseline Conditions.

As identified in Table 4-8, during Cumulative (2017) Baseline Condition plus Proposed Action all study intersections would perform at acceptable levels, including 7th Street/Harrison Street, Broadway/5th Street, and Atlantic Avenue/Webster Street. Importantly, the initial phase of the Proposed Action (i.e., VHA OPC, VBA Outreach Office, Conservation Management Office, and first portion of the NCA Cemetery) would be completed and operational during this time period. This initial phase would contribute the largest share of traffic resulting from the Proposed Action to the study area transportation network. When added to other non-project actions during this time period, the study area intersections would operate at acceptable levels and would not have a significant adverse cumulative impact.

During year 2035, the three intersections are projected to perform at unacceptable levels without the contribution of the Proposed Actions traffic (see Table 4-8). The deterioration of the performance of these intersections is a result from other foreseeable non-project actions occurring in the study area, including the redevelopment of Alameda Point. Importantly, with the Proposed Action, the intersections would already be performing at unacceptable levels by the year 2035. Subsequent expansion of the cemetery (i.e., approximately 6 additional acres every 10 years) is only projected to contribute minimal additional traffic to the study area following the construction and operation of the initial phase of the Proposed Action in 2017, when the intersections were performing at acceptable levels with the addition of the Proposed Action and other cumulative projects. The

minimal additional traffic resulting from the Proposed Action will not, cumulatively, make the already unacceptable intersections significantly worse.

Further, the total effect on the whole resource within the study area, even with the three intersections performing at unacceptable levels, would continue to operate at acceptable levels. Unlike a direct or indirect effect, a cumulative impact is an impact on the whole and not the individual parts or components of a resource. All three intersections that would operate unacceptably would do so in the cumulative (2035) no project condition. Under the no project, the unacceptable cumulative effects would occur even without the implementation of proposed action. The proposed action would add a minimal increase in delay at these three already unacceptably performing intersections. The total resource would not be significantly impacted, and the entire transportation and traffic resource would continue to operate at acceptable levels, even with three intersections performing at unacceptable levels. Therefore, as a total cumulative impact, the Proposed Action would only minimally contribute to an adverse cumulative impact (i.e., minimal increase of projected delay at three already unacceptably performing intersections). However, the magnitude and significance of the cumulative effects, resulting from the Proposed Action, does not reach a level of magnitude to be considered a significant adverse cumulative impact on the total resource. This is because 1) after build-out of the initial and largest phase of the Proposed Action (year 2017) all study area intersections and roadway segments would operate at acceptable levels even under cumulative conditions; 2) the intersections of 7th Street/Harrison Street, Broadway/5th Street, and Atlantic Avenue/Webster Street would all be performing at unacceptable levels regardless of the introduction of the Proposed Action due to traffic generated by other non-project actions; 3) the Proposed Action would only generate and contribute minimal traffic to the study area following the initial phase (after 2017); and 4) the total resource would not be significantly impacted and the entire transportation and traffic resource would continue to operate at acceptable levels, even with three intersections performing at unacceptable levels.

Table 4-9 presents the summary LOS results for the roadway segments under Cumulative (2035) Baseline Conditions plus Proposed Action. The results show that all the roadway segments are forecasted to operate at acceptable conditions, LOS E or better, during the weekday A.M. and P.M. peak hours.

### **Pedestrian**

Pedestrian walk-ins are anticipated to be infrequent and pedestrian volumes are expected to be very low. Pedestrian trips generated by Proposed Action would include walk trips to and from the VA Development Area. A substantial change in pedestrian circulation is not expected under Cumulative (2035) plus Project Alternative 1 (Phases 1–11) at full build-out conditions. Build-out would not conflict with existing pedestrian facilities or propose design features that could be harmful to pedestrian operations. Therefore, cumulative impacts on pedestrian facilities would not be significant.

### **Bicycle**

Bicycle trips generated by the Proposed Action are expected to be infrequent (Table 4-4). With the current bicycle and traffic volumes on the adjacent streets, bicycle travel generally occurs with limited impedances or safety issues. The negligible increase in bicycle trips would not be substantial enough to affect overall bicycle circulation or the operations in the area. Alternative 1 buildout would not conflict with existing or planned bicycle facilities or propose design features that could be harmful to bicycle operations. Therefore, cumulative impacts on bicycle facilities would not be significant.

**Table 4-9: Roadway Segment Levels of Service - Cumulative (2035) Baseline Conditions (without and with Proposed Action)**

Roadway Segment	Year 2035 (without Proposed Action)						Year 2035 (plus Proposed Action)					
	Weekday A.M. Peak Hour			Weekday P.M. Peak Hour			Weekday A.M. Peak Hour			Weekday P.M. Peak Hour		
	Volume	V/C ratio	LOS	Volume	V/C ratio	LOS	Volume	V/C ratio	LOS	Volume	V/C ratio	LOS
<b>Northbound</b>												
SR 260 Posey Tube	3,560	0.89	D	2,695	0.67	B	3,626	0.91	E	2,815	0.70	C
I-880 between 6th Street and I-980	4,472	0.45	A	5,352	0.54	A	4,492	0.45	A	5,389	0.54	A
I-880 between I-980 and 5th Street	2,288	0.29	A	3,118	0.39	A	2,304	0.29	A	3,147	0.39	A
I-880 between 5th Street and Union Street	5,681	0.95	E	5,462	0.91	E	5,697	0.95	E	5,491	0.92	E
I-880 between Union Street and 7th Street	4,529	0.57	A	4,454	0.56	A	4,545	0.57	A	4,483	0.56	A
I-880 between Embarcadero and 22nd Avenue	3,739	0.62	B	3,981	0.66	B	3,774	0.63	B	4,002	0.67	B
<b>Southbound</b>												
SR 260 Webster Street Tube	2,236	0.56	A	3,640	0.91	E	2,376	0.59	A	3,726	0.93	E
I-880 between 7th Street and Union Street	4,295	0.54	A	4,474	0.56	A	4,330	0.54	A	4,496	0.56	A
I-880 between 5th Street and 10th Avenue	4,402	0.55	A	4,025	0.50	A	4,419	0.55	A	4,055	0.51	A
I-880 between 10th Avenue and Embarcadero	3,702	0.62	B	3,603	0.60	B	3,719	0.62	B	3,633	0.61	B

Source: AECOM, 2012

**Parking and Loading**

Based on the City of Alameda Municipal Code's requirements discussed in Section 3.3 (Transportation, Traffic, Circulation, and Parking), VA would be required to provide 623 parking spaces and one loading space when implementing Alternative 1. VA would provide approximately 640 parking spaces for users of the proposed facilities and two full-size truck bays to accommodate a typical semi-truck (approximately 55 feet in length), exceeding the Municipal Code's requirements. Thus, adequate parking would be provided on site, and the Proposed Action would not be expected to generate demand for parking off site. Therefore, no significant cumulative impact would be expected on parking resources in the surrounding area.

**Transit**

AC Transit Bus Line 31 is the closest bus line to the VA Development Area, with a bus stop approximately 1 mile from the eastern edge of the VA Development Area. Line 31 provides service with two buses in the northbound direction and two buses in the southbound direction with approximately 30-minute headways during the peak commute periods. A future route alignment closer to or into the VA Development Area for Bus Line 31 could be

possible after build-out of the proposed VHA OPC, VBA Outreach Office, Conservation Management Office, and the first phase of the NCA Cemetery, but that would be determined and approved by AC Transit. Assuming that the existing transit service would remain unchanged, the estimated number of new project-related transit riders using the bus stop would equate to approximately two more riders per bus during the weekday a.m. and p.m. peak hours. These new riders could be accommodated by the current available ridership capacity of the bus service in the area. The Proposed Action would not be expected to have a substantial effect on transit operations. Therefore, cumulative impacts on transit would not be significant.

### **Site Access and Circulation**

Access to the VA Transfer Parcel under Cumulative (2035) Baseline Conditions would be similar to access provided under 2017 conditions. The main access roadways to the proposed VHA OPC building would tie into the existing City of Alameda roadway system and would be located on the northern boundary of the VA Development Area. Taxis, private vehicles, and emergency vehicles would utilize the new main access and internal roadways. Additional emergency vehicle access, including an emergency access road, would be provided on the eastern perimeter of the VA Transfer Parcel. Build-out would not have a cumulative impact on site access and circulation or emergency vehicle access, because access to and from the VA Transfer Parcel, as well as internal circulation within the property, is sufficient. Cumulative impacts related to site access and circulation would not be significant.

### **Traffic Safety**

The utility corridor would be built to City of Alameda design standards because the internal main access roadway would be a public street. Also, the internal main access roadway would be built to the standards of the American Association of State Highway and Transportation Officials (AASHTO) because this would be a Federal roadway. The internal roadways that would provide circulation within the NCA Cemetery would be built in compliance with Section 12.7 of VA's *National Cemetery Administration (NCA) Facilities Design Guide* (VA, 2010). The *National Cemetery Administration (NCA) Facilities Design Guide* specifies the road widths and minimum radius for the various types of roads (i.e., entrance road, primary road, secondary road, service roads, and committal service shelter drives). The design of the NCA Cemetery's roads would accommodate anticipated traffic volume at a maximum design speed of 15 miles per hour (VA, 2010). Through compliance with the roadway design standards of the City of Alameda, AASHTO, and NCA, cumulative traffic safety impacts would be negligible and would not result in a significant cumulative impact.

### **Conclusion**

There would be no significant adverse cumulative impacts from implementation of the Proposed Action under either Alternative 1 or 2.

### **4.6.3 References**

Abudayeh, Samir. East Bay Municipal Utility District (EBMUD), Oakland, CA. April 3, 2012—e-mail to Kelsey Bennett of AECOM regarding ongoing, planned, or foreseeable projects within EBMUD's jurisdiction.

- AECOM. 2011. *Biological Assessment for the Department of the Navy's Disposal of 549 Acres and the Department of Veterans Affairs (VA) Construction and Operation of an Outpatient Clinic and National Cemetery at the Former Naval Air Station (NAS) Alameda*. San Francisco, CA. Prepared for the U.S. Department of Veterans Affairs and U.S. Department of the Navy.
- . 2012 (August 10). *Alameda Point Transfer, Clinic, and Cemetery Environmental Assessment Traffic Impact Study*. San Francisco, CA.
- Alameda, City of. 1991. *Alameda County General Plan*. Chapter 9, "Alameda Point." Alameda, CA. Available: <<http://www.cityofalamedaca.gov/City-Hall/General-Plan>>. Accessed April 19, 2012.
- Anderson, Mike. Assistant General Manager. East Bay Regional Park District (EBRPD), Oakland, CA. April 9, 2012—e-mail to Kelsey Bennett of AECOM regarding ongoing, planned, or foreseeable projects within EBRPD's jurisdiction.
- California Department of Transportation (Caltrans). 2010. *2010 Traffic Volumes on the California State Highway System*.
- Council on Environmental Quality (CEQ). 1997. Considering Cumulative Effects Under the National Environmental Policy Act. Available: <[http://ceq.hss.doe.gov/publications/cumulative\\_effects.html](http://ceq.hss.doe.gov/publications/cumulative_effects.html)>. Accessed July 6, 2011.
- . 2005 (June 24). *Guidance on the Consideration of Past Actions in Cumulative Effects Analysis Memorandum to Heads of Federal Agencies*. Memorandum from James L. Connaughton, Chairman. Washington, DC. Available: <[http://ceq.hss.doe.gov/nepa/regs/Guidance\\_on\\_CE.pdf](http://ceq.hss.doe.gov/nepa/regs/Guidance_on_CE.pdf)>. Accessed July 6, 2011.
- Heinze, Diane. Environmental Assessment Supervisor. Port of Oakland. March 29, 2012— telephone call with Kelsey Bennett and David Reel of AECOM regarding ongoing, planned, or foreseeable projects within the Port's jurisdiction.
- Manasse, Edward. Strategic Planning Manager. City of Oakland, Oakland, CA. April 23—e-mail to Kelsey Bennett of AECOM regarding ongoing, planned, or foreseeable projects within Oakland's jurisdiction.
- Murphy, Maureen. Transportation Engineer. California Department of Transportation (Caltrans) District 4, Oakland, CA. March 29, 2012—telephone call with Kelsey Bennett and David Reel of AECOM regarding ongoing, planned, or foreseeable projects within Caltrans District 4's jurisdiction.
- Oakland, City of (Oakland). 2011. City of Oakland – Active Major Development Projects, October. <<http://www2.oaklandnet.com/oakca/groups/ceda/documents/report/oak025453.pdf>>. Accessed March 27, 2012.
- Ott, Jennifer. Chief Operating Officer. City of Alameda, Alameda, CA. April 26, 2012—e-mail to Kelsey Bennett of AECOM regarding ongoing, planned, or foreseeable projects within Alameda's jurisdiction.

- Pretzer, Kelly. Project Manager. City and County of San Francisco, San Francisco, CA. March 29, 2012—telephone call with Kelsey Bennett and David Reel of AECOM regarding ongoing, planned, or foreseeable projects within San Francisco’s jurisdiction.
- U.S. Census Bureau (U.S. Census). 2000. Census 2000 Summary File 3, QT-P23. Journey to Work: 2000. Washington, DC. U.S. Department of Veterans Affairs (VA). 2010 (March). National Cemetery.
- U.S. Department of the Navy (Navy). 1999. *Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Alameda and the Fleet and Industrial Supply Center, Alameda, California*. October.
- U.S. Department of Veterans Affairs (VA). 2010. *National Cemetery Administration (NCA) Facilities Design Guide*. Published June 1999, Section 5 revised March 2010. National Cemetery Administration, Office of Facilities Management, Facilities Quality Office. Washington, DC. Section 5, “Design Criteria.”
- U.S. Fish and Wildlife Service (USFWS). 2012 (August 29). *Final Biological Opinion on the Proposed Naval Air Station Alameda Disposal and Reuse Project in the City of Alameda, Alameda County, California*. (USFWS ID #: 81420-2009-F-0952-4.)
- Walukas, Beth. Deputy Director of Planning. Alameda County Transportation Commission (ACTC), Oakland, CA. April 15, 2012—e-mail to Kelsey Bennett of AECOM regarding ongoing, planned, or foreseeable projects within ACTC’s jurisdiction.

## 5.0 OTHER CONSIDERATIONS

### 5.1 POTENTIAL FOR GENERATING SUBSTANTIAL CONTROVERSY

The proposed Navy transfer of Federal land to VA and VA construction and operation of the proposed VHA OPC, VBA Outreach Office, Conservation Management Office, and NCA Cemetery have considerable support from Veterans and the public. However, some concerns regarding the proposed VA facilities were raised during project scoping and agency consultation in relation to the Proposed Action and the environmental review process.

Category	Concern
Biological Resources	Impacts on California Least Tern Colony Impacts on brown pelican Compliance with Endangered Species Act Impacts on wetlands
Transportation/Traffic	Increased traffic on Alameda Island caused by the proposed VA Development Access to the proposed facility Lack of public transportation to the site
Public Health and Safety	Remediation still outstanding from use as a Naval Station Possible liquefaction instability of the site during earthquakes Site location under the flight path of Oakland International Airport, potentially stress inducing for veterans Upgrades and/or repairs to the levees to address sea level rise from global warming
Utilities	Stability of infrastructure such as sewers, water, communication services, and electricity to support new use on the site
Visual	Effects on open space and view corridors out to the Bay
Alternatives	Other alternatives that should be considered on the former NAS Alameda site or at another location in Oakland and elsewhere in the region Support for wildlife refuge alternative over the proposed VA Development
Miscellaneous	Maintaining the former NAS airfield for emergency use by aircraft Effects on Alameda Hospital Perceived as a non-compatible use with surrounding uses such as the Port of Oakland Costs associated with construction and infrastructure implementation Concerns raised about placement of a healthcare facility next to a burial ground (columbarium)

See Appendix A (EA Public Involvement) for detailed EA scoping comments letters received from the public and agencies.

## **5.2 RELATIONSHIP OF SHORT-TERM USES AND LONG-TERM PRODUCTIVITY**

Consideration of the “relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity” is required under NEPA (40 CFR §1502.16). For implementation of the Proposed Action, short-term uses generally are those that are expected to occur within the construction period, while long-term uses refer to the post-construction, or operational, period lasting for several decades.

Implementation of the Proposed Action would have various short- and long-term consequences. Short-term (construction related) impacts caused by the project would be similar for either Alternative 1 or Alternative 2. Under each alternative there is potential for an adverse impact. The analysis in this EA reviewed potential construction and operational impacts under each environmental resource area. Construction impacts would occur during and immediately after construction activities and would generally result in short-term temporary uses, therefore the impact would be considered minor with implementation of management measures and mitigation measures. The long-term operational impacts that would occur over the life of the project would also result mostly in minor impacts with the implementation of management measures and mitigation measures, resulting in minor impacts and a beneficial impact with regard to human health and the environment. See Table ES-1 for a summary of the impacts under each environmental topic.

Resources temporarily affected as a result of construction activities potentially include: water resources, cultural resources, visual resources and aesthetics, air quality, greenhouse gas emissions and climate change, socioeconomics and environmental justice, hazards and hazardous substances, utilities, noise, public services, and geology and soils. Most of the temporary impacts would last only the duration of the construction activities and would be maintained at a minor level through the use of management and mitigation measures, when applicable. The impact of employment growth inducement would be beneficial during construction in the short-term and would also be beneficial in the long-term operation of the facility.

Implementation of either Alternative 1 or Alternative 2 would result ultimately in some beneficial long-term impacts under socioeconomics and environmental justice. The induced employment growth would continue due to long-term job opportunities being made available at the VA facilities. In addition the development of the former airfield area would result in improved visual impacts. Patients, visitors and personnel would have views out toward the San Francisco Bay and beyond. Finally a proposed new access road and sidewalk would allow the general public enhanced access to the site. Visitors will be able to drive, bike or walk out toward the edge of the San Francisco Bay, within approximately 100 feet. All other resources would have no impacts, minor impacts, or impacts that could be managed or mitigated with the exception of one cumulative impact under transportation in the long term. However, this cumulative contribution from the Proposed Action would be minor and would not rise to the level of significance as defined by NEPA.

Either project alternative would address the need for the Navy to transfer, or dispose, excess property and for the VA to establish a single location for combined services (i.e., VHA, VBA, and NCA) consistent with the national “One VA” goal while ensuring centralized, coordinated, and efficient care for Bay Area Veterans. Implementation of either action alternative would revitalize currently unused property while also serving, caring for, honoring, and memorializing Bay Area veterans with consolidated services at a single location. The long-term productivity of the site will be increased.

### 5.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

A commitment of resources is irreversible when options are lost to future generations. An irreversible commitment of resources suggests that a permanent or long-term – over 50 years – commitment of environmental resources would result from implementing the action alternatives. Irreversible commitments of resources also generally occur from the use of nonrenewable resources, such as minerals, cultural resources, and fossil fuels, which have few or no alternative uses following completion of construction. Other factors are also considered such as resources like soils where productivity is renewable only over long time spans. Conversely, an irretrievable commitment of resources suggests that a short-term – less than 50-year – commitment of resources would result in the lost production or elimination of renewable resources such as timber, agricultural land, or wildlife habitat. Opportunities for use of these resources are foregone for the period of the action alternatives, but these decisions are reversible. The use of opportunities foregone is irretrievable.

Implementation of either Alternative 1 or 2, including the construction of the VHA OPC, VBA Outreach Office, Conservation Management Office, NCA Cemetery, and associated infrastructure, would result in an irretrievable and irreversible commitment of natural, physical, and cultural resources. Under the No Action Alternative, there would be no foreseeable changes of land use within the project area. Thus, adoption of the No Action Alternative would preclude any irreversible or irretrievable commitments of resources. The implementation of Alternative 1 or 2 would involve irreversible commitment of fuel energy and building materials.

### 5.4 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

Construction of the Proposed Action would not commence until the Proposed Action achieves environmental compliance with all applicable laws and regulations, as described below. Environmental compliance for the Proposed Action will be achieved upon coordination of this EA with appropriate agencies, organizations, and individuals for their review and comments. Permits and approvals are needed to address the following:

- USFWS - Endangered Species Act (ESA) (16 USC 1531 et seq.).
- USFWS - Migratory Bird Treaty Act (MBTA).
- SHPO - National Historic Preservation Act (NHPA) (42 USC 4332).
- BCDC - Coastal Zone Management Act, Chapter 33 (CZMA) (16 USC 1451–1464).
- USACE/RWQCB/USEPA – Clean Water Act (CWA) (33 USC 1251 et seq.).
- BAAQMD - Clean Air Act (CAA) (40 CFR 6, 51, and 93).

Under the Federal ESA, the USFWS has authority to list a species as threatened or endangered including plants, wildlife, and resident fish. Section 7 of the ESA outlines procedures for Federal interagency cooperation and participation in the conservation and recovery of Federally listed species and designated critical habitat. Section 7 consultation with USFWS has taken place and they issued a BO (see Appendix B [Biological Resources Supporting Information]). The USFWS concluded that two Federally listed species, the CLT and western snowy plover, have potential to occur within the action area and/or be affected by project activity. Conservation measures, as set forth in and legally required by the BO will be implemented throughout the preconstruction/design, construction, and operation phases of the project to avoid and minimize effects to the CLT colony. VA will also be required to implement CLT colony management and predator management programs.

Carrying out the project action may affect, and is likely to adversely affect the CLT colony throughout the life of the project. However, the BO concluded that for the reasons included in the BA, the identified conservation measures will ultimately avoid and minimize effects on the CLT arising from human disturbance, predation, noise, lighting, landscaping, and other potential effects of the project.

The Proposed Action is subject to Section 106 of the NHPA, because construction and operation of the proposed VA facilities would be a Federal action with the potential to affect NRHP-eligible properties. VA is the lead Federal agency responsible for compliance with Section 106 of the NHPA. The requirement under the NEPA to identify and assess impacts on cultural resources may be fulfilled through compliance with Section 106. VA has initiated consultation under Section 106 of the NHPA with the California SHPO and has invited parties with a demonstrated interest in historic preservation or in the NAS Alameda to participate as consulting parties.

The VA Transfer Parcel (i.e., Federally owned lands) are outside the coastal zone, but Federal activities on land outside the coastal zone that potentially affect resources of the coastal zone must be consistent to the maximum extent practicable with the provisions of the Federally approved State coastal management program, which includes the San Francisco Bay Plan (Bay Plan) and related San Francisco Bay Area Seaport Plan (Seaport Plan). The Proposed Action is consistent with the provisions of the Bay Plan and Seaport Plan. The VA is coordinating with BCDC and the Final EA will include a description of the outcome of this coordination. No significant adverse impact would be expected.

Coordination is taking place with RWQCB and USACE to discuss the proposed project and meet their requirements including the requirements under the Clean Water Act. Through Section 404 of the CWA, USACE regulates temporary and permanent fill and disturbance of wetlands and waters of the United States. USACE and the USEPA jointly define wetlands. Under Section 404, the discharge (temporary or permanent) of dredged or fill material into waters of the United States, including wetlands, typically must be authorized by USACE through either the nationwide permit (NWP) or the individual permit process. A wetland delineation has taken place and, once USACE provides verification, consultation will take place on wetlands that will be impacted and an agreed-upon mitigation ratio for replacement or enhancement opportunities on site or other options will be considered until a mutual mitigation solution is agreed upon. Methods of providing compensatory mitigation are typically achieved one of the following three ways in order of preference through mitigation banks, in-lieu fee mitigation or permittee-responsible mitigation.

The NPDES stormwater permitting program, under Section 402(d) of the Federal CWA, is administered by the RWQCB on behalf of EPA and establishes a framework for regulating nonpoint-source stormwater discharges. Compliance with the Construction General Permit and preparation and implementation of a SWPPP that meets Construction General Permit conditions is required for sites that disturb 1 acre or more and drain to the separate sewer system. The project will reduce the amount of impervious surface and will therefore not disturb more than 1 acre. However a SWPPP still be will prepared according to VA management measures.

The CAA required EPA to establish primary and secondary NAAQS which are presented in Table 3.7-1. The CAA also requires each state to prepare an air quality control plan referred to as a SIP. The Federal CAA added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The Proposed Action emissions would not exceed the General Conformity Rule *de minimis* thresholds. As such, no further Conformity Determination procedures would be required.

## 6.0 IDENTIFICATION OF MITIGATION MEASURES

In accordance with CEQ guidance, dated January 14, 2011, Table 6-1 (Summary Table of Mitigation Measures) identifies the mitigation measures, as identified in Section 3.1.3, that VA will implement to reduce potential impacts below a level of significance. The table also identifies the anticipated benefit of the mitigation measure and how VA will implement and monitor the mitigation commitments. All other design, avoidance, and best practice measures will be implemented as part of construction and operation as described in this EA. VA has considered the long-term funding impacts of the EA mitigation measures listed below. VA is committed to implementing such measures and has mechanisms in place to seek adequate funding for the implementation of the mitigation measures.

**Table 6-1: Summary Table of Mitigation Measures**

<b>Mitigation Measure BIO-1</b>	
Resource Effected	Northern Coastal Salt Marsh and Seasonal Wetlands Habitats
Description of Mitigation Measure	<p><b>To reduce the adverse impact (i.e., direct removal of, placement of fill into, or hydrological interruption of Federally protected wetlands resulting in a net loss) to the northern coastal salt marsh and seasonal wetlands habitat within the VA Development Area to less than significant, VA will implement Mitigation Measure BIO-1.</b></p> <p><b>Mitigation Measure BIO-1:</b></p> <p>The Proposed Action is within the USACE San Francisco District's San Francisco Bay Wetland Mitigation Bank (Bank). Nontidal/seasonal wetland and other waters within the service area may be eligible to use the Bank for mitigation on a case-by-case basis (i.e., for projects with impacts to nontidal/seasonal wetlands or other waters that may have been historic tidal wetlands or other waters). VA proposes a replacement ratio of 1:1 and shall consult with USACE to determine if a Bank, in-lieu fee, or permittee-responsible mitigation is the appropriate mitigation. Should mitigation credits be unavailable at the Bank to suit the needs of the project, VA shall seek out other methods to mitigate permanent impacts to nontidal/seasonal wetlands in consultation with the USACE.</p>
Anticipated Benefit	Compensating for an impact by replacing or providing substitute resources or environments
How it will be Implemented	The VA will undertake 404 permitting and 401 Certification prior to project construction phase in late 2014
Criteria for Evaluating	<p>A mitigation ratio of 1:1 has been identified in the Draft EA and will be adjusted, if necessary, based on ongoing consultation with USACE.</p> <p>Mitigation ratios are decided upon by USACE and discussions regarding suitable mitigation are currently underway. The VA and USACE will come to an agreement on mitigation in the future, before development proceeds.</p> <p>Location of replacement wetlands will also be determined in consultation with USACE. VA's preference is to replace wetlands acres in areas of the transfer parcel that are determined by the USACE as the best location to enhance and expand existing conditions (i.e., the area designated as on-site runway wetland). If the USACE determines that there are no acceptable mitigation sites on the transfer parcel, the VA will work with the USACE to address in-lieu fee or a "bank" option. Mitigation options are not required to be finalized for the EA, but rather before issuance of permits, prior to construction. The VA will coordinate with the BCDC as the location of mitigation sites and associated design requirements are further refined.</p>

Responsible Party	Prior to Navy to VA Federal-to-Federal land transfer and prior to commencement of construction activities; VA will hire a site “Program Manager” for the entire 624 acre parcel. The Program Manager is a permanent position with responsibility to ensure VA complies with all Mitigation Measures including wetland application, permitting, mitigation, and on-going wetland care taking.
-------------------	--

Estimated Completion Date	December 2013
---------------------------	---------------

**Mitigation Measure BIO-2**

Resource Effected	California Least Tern (CLT)
-------------------	-----------------------------

Description of Mitigation Measure	<b>To reduce the adverse effects as described above, to the CLT to less than significant, VA will implement Mitigation Measure BIO-2 to minimize the potential for harm and harassment of the CLT resulting from the project related activities.</b>
-----------------------------------	--

**Mitigation Measure BIO-2:**

To minimize potential adverse effects of VA’s Proposed Action, VA will implement specific avoidance and minimization measures, as identified in the 2012 USFWS BO (see Appendix B [Biological Resources Supporting Information]). The measures pertain to the Navy’s Fed-to-Fed transfer and VA’s subsequent construction and operation of the Proposed Action as described under Alternative 2 in this EA. The measures provide for the long-term conservation and management of the CLT, including implementing land use restrictions for long-term maintenance, management, and monitoring of the CLT. A summary of the avoidance and minimization measures that VA will implement include the following:

- The undeveloped portion of the VA Transfer Parcel will remain undeveloped, providing a buffer from human related activities, and will be managed in perpetuity for the long-term persistence and sustainability of the CLT colony.
- CLT management activities will continue at current levels or greater levels, as determined by an annual monitoring report. CLT colony management activities will include:
  - Vegetation control and weed removal within the undeveloped portions of the VA Transfer Parcel;
  - Maintenance of the fence surrounding the CLT colony;
  - Maintenance of the CLT colony and preparation for the breeding season by placement of appropriate substrates and other measures to enhance nesting habitat;
  - Breeding season monitoring of the CLT colony;
  - Management of feral cats and other terrestrial predators; and
  - Control of avian predators (e.g., gulls, corvids, and raptors).
- Preparation of a long-term monitoring and management plan and update as needed. The plan will be reviewed and approved by the USFWS.
- Preparation of a predator management plan to maintain protection from predator threats at current or lesser intensity. The plan will be reviewed and approved by the USFWS.
- VA will conduct an education program for all newly hired employees located at the VA Transfer Parcel.
- Lighting, including that for roads, building security, and public safety, will be designed to minimize nuisance nighttime light levels.
- VA will develop strategies to minimize erosion and introduction of pollutants into stormwater runoff according to RWQCB guidelines.
- VA will incorporate building and landscape design features to protect the CLT and its colony, including anti-perching features, limit the height of buildings,

structures, and landscape plantings and features, and installing a permanent barrier along the VA Development Area to prevent unauthorized access into of the undeveloped portion of the VA Transfer Parcel.

- During CLT breeding season, a qualified biological monitor will be present, during all construction activities, to ensure that no activities adversely affect CLT using the colony.
- During the non-breeding season, a qualified environmental inspector will be present on site regularly throughout the non-breeding season.
- All refuse storage will be stored in secure, covered containers, and emptied on a regular basis and all dumpsters will have lids and placed in roofed enclosures.
- Military honors salutes will be conducted at committal service shelters or the designated assembly area only, and be conducted in a manner that directs firing (i.e., rifles or other small arms only) away from the CLT colony. No artillery or explosives salutes will be permitted.
- The volume of carillon output would be limited to ensure that use does not increase ambient noise levels at the CLT colony by more than 10%.
- During CLT breeding season, memorial events, such as those held on Memorial Day, will be conducted at designated assembly areas or committal services shelters. Events will be organized, staged, and conducted to direct noises away from the CLT colony. The use of amplifiers or public address systems will be permitted only to the extent that they do not increase ambient noise levels at the site, as measured at the north end of the CLT colony.
- All construction vehicles and equipment for construction activities will use designated site access points and remain on designated construction routes.
- Stockpiling of materials that may provide additional shelter for potential CLT predators at the construction site will be kept to a minimum and inspected on a regular basis by the biological monitor.
- During the CLT breeding season, no materials or equipment will be brought on site during evening or nighttime hours (i.e., dusk to dawn).
- Pile driving and pavement demolition activities requiring impact tools are prohibited during the CLT breeding season. The use of other types of construction equipment that would not increase the ambient noise level at the site, as measured from the north end of the CLT colony, are permitted during the CLT breeding season.
- The tops of buildings under construction, including on-site trailers, will be inspected for avian predators once each week from April 1 to August 15.

The 2012 USFWS BO includes a complete and detailed list of the avoidance and minimization measures that VA will implement to minimize potential impacts to the CLT, see Appendix B (Biological Resources Supporting Information).

---

Anticipated Benefit

- Minimizing an impact by limiting the degree or magnitude of the action and its implementation.
- Reducing or eliminating an impact over time, through preservation and maintenance operations during the life of the action.

---

How it will be Implemented

Prior to Navy to VA Federal-to-Federal land transfer and prior to commencement of construction activities; VA will hire a site “Program Manager” for the entire 624 acre parcel. The Program Manager is a permanent position with responsibility to ensure VA complies with all Mitigation Measures including implementation of specific avoidance and minimization measures, as identified in the 2012 USFWS BO (see Appendix B [Biological Resources Supporting Information]). The measures provide for the long-term conservation and management of the CLT. Avoidance and minimization measures that VA will implement include those listed above. Pursuant

---

to the 2012 USFWS BO, all avoidance and minimization measures identified will be formally described in a CLT long-term monitoring and management plan and update as needed. The plan will be reviewed and approved by the USFWS prior to transfer and as needed thereafter.

---

Criteria for Evaluating	The CLT long-term monitoring and management plan includes checklists, routine inspections, expert consultations, management practices, and other evaluation criteria mechanisms to ensure success and improve upon the CLT program based upon the avoidance and minimization measure listed above. Checklists and other CLT long-term monitoring and management plan documentation are regulatory “enforceable” recordkeeping and ensure CLT long-term conservation and management.
Responsible Party	Program Manager
Estimated Completion Date	On-going and through life of the Proposed Action

---

## 7.0 LIST OF PREPARERS

This Final EA was prepared, under the direction of VA and the Navy, by AECOM. Staff who contributed to the preparation of this document are listed below.

### *Department of Veterans Affairs*

Larry Janes, VISN 21 Capital Asset Manager  
 Richard Crowe, VISN 21 Deputy Capital Asset Manager  
 Doug Roaldson, VISN 21 Environmental Program Manager  
 Thomas Moran, PE, CFM Environmental Engineer/National NEPA Manager  
 Nelson Cancio, CFM Western Region Environmental Engineer  
 Laura Kelly, Chief of Planning, Northern California Health Care System  
 George Setlock, VISN 19 Environmental Program Manager  
 Glenn Madderom, NCA Chief of Cemetery Development and Improvement Service  
 Cliff Schem, NCA MSN V Engineer

### *Department of the Navy*

Tony Megliola, Base Closure Manager  
 Sarah Ann Moore, Deputy Base Closure Manager  
 Ron Bochenek, NEPA Project Manager  
 Erica Spinelli, Disposal Project Leader/Senior Cultural Resources Manager

### *AECOM*

<i>Name</i>	<i>Role</i>	<i>Qualifications</i>	<i>Years of Experience</i>
David Reel	Environmental Project Director, Introduction (Chapter 1), Alternatives (Chapter 2), Cumulative Impacts (Chapter 4)	BS, Architecture, University of Wisconsin Milwaukee MUP, Urban Planning, University of Wisconsin Milwaukee MArch, Architecture, University of Wisconsin Milwaukee	25
Kelsey Bennett	Environmental Project Manager, Introduction (Chapter 1), Alternatives (Chapter 2), Visual Resources and Aesthetics (Section 3.5), Greenhouse Gas Emissions (Section	BS, Biology, University of California (UC) San Diego MPA, Environmental Science & Policy, Columbia University California Water Management & Ecosystem Restoration Certificate, UC Berkeley Leadership in Energy & Environmental Design Accredited Professional (LEED-AP)	12

**AECOM**

<i>Name</i>	<i>Role</i>	<i>Qualifications</i>	<i>Years of Experience</i>
	3.8), Socioeconomics and Environmental Justice (Section 3.9), Cumulative Impacts (Chapter 4)		
Roberta Hurley	Document QA/QC	BS, Biology & Chemistry, Mary Washington College MA, Chemistry, College of William and Mary	30
Kristin Asmus	Biological Resources (Section 3.1), Cumulative Impacts (Chapter 4), Biological Resources Supporting Information (Appendix B), Wetland Delineation & Preliminary Jurisdictional Determination (Appendix C)	BS, Plant Sciences/Landscape Horticulture, UC Davis MS, Botanical Sciences, University of Hawaii Manoa ISA Certified Arborist WE-6139A	10
Kara Baker	Water Resources (Section 3.2), Utilities (Section 3.11)	BA, Environmental Sciences/Political Science, Northwestern University MS, Civil & Environmental Engineering, Stanford University LEED-AP	9
Susan Yogi	Transportation, Traffic, Circulation, and Parking (Section 3.3), Hazards and Hazardous Substances (Section 3.10), Cumulative Impacts (Chapter 4)	BA, Urban Studies and Planning, UC San Diego	11

**AECOM**

<i>Name</i>	<i>Role</i>	<i>Qualifications</i>	<i>Years of Experience</i>
Carol Shariat	Transportation, Traffic, Circulation, and Parking (Section 3.3), Transportation Impact Study (Appendix D)	BS, Civil Engineering, UC Berkeley Registered Traffic Engineer (TE)	13
Madeline Bowen	Cultural Resources (Section 3.4), Cultural Resources Supporting Information (Appendix E)	BA, Liberal Studies, San Francisco State University MA, History, San Francisco State University	14
Kerry Boutte	Cultural Resources (Section 3.4)	BA, Anthropology, University of New Orleans MA, Anthropology, University of Texas Arlington Register of Professional Archaeologists	13
Susan Lassell	Cultural Resources (Section 3.4), Cultural Resources Supporting Information (Appendix E)	BS, Environmental Design, UC Davis MA, Historic Preservation Planning, Cornell University	19
Pete Choi	Land Use (Section 3.6), Geology and Soils (Section 3.14)	BS, Environmental Studies, University of Vermont MESM, Environmental Science & Management, UC Santa Barbara	9
George Lu	Air Quality (Section 3.7), Air Quality and GHG Supporting Information (Appendix F)	BS, Environmental & Resource Science, UC Davis	7
Christopher Mundhenk	Air Quality (Section 3.7), Noise (Section 3.12), Noise Assessment Worksheets (Appendix G)	BA, Biology/Public Policy Analysis, Pomona College	12

**AECOM**

<i>Name</i>	<i>Role</i>	<i>Qualifications</i>	<i>Years of Experience</i>
Stephanie Klock	Public Services (Section 3.13)	BA, Biology, University of Colorado BA, Spanish, University of Colorado	5
Jeffrey Chan	Transportation Impact Study (Appendix D)	BASc, Civil Engineering, University of British Columbia Vancouver ME, Civil Engineering , Cornell University Professional Transportation Planner #115	12
Anthony Mangonon	Transportation Impact Study (Appendix D)	BS, Civil & Environmental Engineering, UC Berkeley Engineer-in-Training, California, #123252	6
Amanda Leahy	Transportation Impact Study (Appendix D)	BA, Urban Studies, UC Berkeley BA, Geography, UC Berkeley	4
Phi Ngo	GIS	BA, Communications, UC Davis	7
Julie Nichols	Editor	BA, Political Science, Occidental College MS, Journalism, Northwestern University	24
Carol Freeman	Other Considerations (Chapter 5), Editor	BS, Geology, Colorado State University Fort Collins MS, Geological Sciences, Arizona State University MS, Space Studies, University of North Dakota Grand Fork HAZWOPER	17
Charisse Case	Document Production	Business Administration Certificate, Sierra College	17
Brian Perry	Technical Illustrator/ Graphic Designer		25
Michael Amodeo	GIS	BSE, Civil & Environmental Engineering, Duke University Professional Engineer (PE), California	8
Stanley Kline	Geotechnical Assessment Report (Appendix H)	BS, Civil Engineering, Oregon State University MS, Geotechnical Engineering, UC Berkeley PE, California #30575 Geotechnical Engineer (GE), California #477	35