# FINAL ENVIRONMENTAL IMPACT STATEMENT

# VOLUME I

## PRESIDIO OF MONTEREY
## REAL PROPERTY MASTER PLAN

## MONTEREY, CALIFORNIA

**February 2013**


*prepared by*

**U.S. Army Corps of Engineers**

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**DEPARTMENT OF THE ARMY**

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# REAL PROPERTY MASTER PLAN

# PRESIDIO OF MONTEREY, CALIFORNIA

**FEBRUARY 2013**

**APPROVED BY:**

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# ENVIRONMENTAL IMPACT STATEMENT
# PRESIDIO OF MONTEREY REAL PROPERTY MASTER PLAN
# MONTEREY, CALIFORNIA

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|---|---|
| **Lead/Responsible Agency:** | Headquarters, Installation Management Command<br>San Antonio, Texas |
| **Title of the Proposed Action:** | Presidio of Monterey Real Property Master Plan<br>Monterey, California<br>Monterey County |
| **Designation:** | Final Environmental Impact Statement (EIS) |
| **Prepared by:** | U.S. Army Corps of Engineers, Mobile District<br>P.O. Box 2288<br>Mobile, Alabama 26628 |
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| **Approved by:** | Joel J. Clark<br>COL<br>Garrison Commander |

**Abstract:** The U.S. Army Garrison–Presidio of Monterey (USAG-POM) is evaluating an updated Real Property Master Plan for the Presidio and the Ord Military Community. The Proposed Action includes facility improvements, updated force protection measures, and modernization of infrastructure. This environmental impact statement (EIS) examines one short-range project, a barracks complex, in detail. The EIS also looks at several long-term projects, including barracks and instructional buildings. Significant impacts could occur for cultural resources. Other environmental impacts would be reduced to less than significant through appropriate mitigation.

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# EXECUTIVE SUMMARY

This environmental impact statement (EIS) analyzes the potential environmental consequences of the United States (U.S.) Army (Army) implementing the Real Property Master Plan (RPMP) for the Presidio of Monterey Installation (POM Installation). The POM Installation comprises two locations—the Presidio of Monterey (POM) and the Ord Military Community (OMC). The Army prepared this EIS as a public document for use by the Army, other governmental agencies, and the public to determine and evaluate the potential environmental consequences of proposed RPMP projects, identify mitigation measures to lessen or eliminate adverse effects, and examine feasible alternatives to the projects.

## ES.1 BACKGROUND

The RPMP presents the Army's vision for the POM Installation over the next 20 years and is intended to ensure that the master planning process is proactive in meeting the POM Installation's real property vision and the current and long-term mission requirements of the POM Installation and its tenants. The RPMP allows for systematic development that takes into account the constraints and opportunities of the POM Installation, and long-range community goals while providing a secure, high-quality environment for service members and their families, contractors, and retirees.

The POM Installation is located in northern Monterey County, California, near the Pacific Coast. The Defense Language Institute Foreign Language Center (DLIFLC), the primary tenant organization at the POM, is regarded as one of the finest schools for foreign language instruction in the nation. As part of the Army Training and Doctrine Command, the DLIFLC provides resident instruction in 24 languages.

## ES.2 PURPOSE AND NEED

The POM Installation must meet the needs of its tenants, the largest of which is the DLIFLC. The mission of the DLIFLC is to provide culturally based foreign language education and training for Department of Defense (DoD) personnel to ensure success of the defense language program and enhance national security. The DLIFLC must expand in order to meet its mission requirements to train greater numbers of linguists more efficiently and effectively.

The Army is currently engaged in planning the realignment of its force structure (organization of military personnel, and their weapons and equipment) to address budgetary constraints and critical mission

requirements as part of the Army 2020 planning initiative. In January 2012, the Secretary of Defense announced that the Army would reduce its forces from approximately 570,000 Active Component Soldiers to 490,000 Soldiers. In addition, the pace of overseas deployments is projected to slow. Despite this reduction in force, however, the Army projects that the DLIFLC will be required to teach greater numbers of linguists for deployment throughout the world.

Although the number of Army service members is projected to decrease, not all DoD elements necessarily coincide with that trend. The U.S. Air Force element at the POM has seen an increase of nearly 500 service members within the past year. The demand for military and foreign services members proficient in various languages continues to increase throughout the world. This condition results in a need for more service members to be trained for longer periods and employing additional instructors and support staff. Coincidently, the POM cannot meet the prescribed 1+1 barracks living standards (two soldiers per barracks room). Assigning up to 3 service members within a single room in certain barracks buildings is necessary due to insufficient barracks space. One overriding factor impeding growth at the POM is a lack of adequate barracks space and support facilities. Further, there is a critical shortage of properly designed classrooms, foreign language labs, and General Instruction Buildings (GIBs) to adequately meet the mission requirements at the DLIFLC. The RPMP is intended to develop a sustainable installation that meets required living and instructional standards.

## ES.3 PROPOSED ACTION

The Proposed Action is intended to achieve sustainability of the installation by implementing both short-range and long-range development outlined in the RPMP. The new RPMP would replace the 1983 POM Master Plan. The RPMP alternatives were developed to meet the installation's real property vision, goals, and objectives. The POM Installation's real property vision is to:

> Evolve the installation into an Army top tier training and living community with state-of-the-art facilities and land usage that maximizes mission readiness and care of people while maintaining positive community relationships.

This vision also addresses the purpose and need for implementing the RPMP. The DLIFLC must expand to meet its mission requirements to train greater numbers of linguists more efficiently and effectively. The infrastructure of the POM Installation requires improvements to meet the needs of the Army. In analyzing the needs over the next 20 years, the POM Directorate of Public Works initiated a multi-year planning effort to identify the improvements necessary to effectively meet the Army's mission at the installation. The

improvements would include modernizing classrooms and dormitories and improving transportation circulation within the POM. The overall goal is to improve the educational and living conditions.

The RPMP identifies proposed short-range and long-range project building renovations or upgrades to be implemented over a 20-year planning horizon. Construction of the short-range project, the POM Barracks Complex Phase I, is scheduled to begin in 2013. Construction of the majority of the long-range projects is proposed to start between 2018 and 2025, with the remainder of long-range projects extending out to 2030. Long-range projects include Access Control Point (ACP) upgrades; classroom renovations; Barracks Complexes Phases II, III, and IV; and other projects. Supplemental National Environmental Policy Act (NEPA) documentation is necessary for the long-range projects as they move forward into the design and construction phases. These projects (along with the associated Army project numbers) are shown in Table ES-1.

| Table ES-1. Proposed Construction Projects and Upgrades | | | | | |
|---|---|---|---|---|---|
| Army Project No. | New and Upgraded Facilities | Type of Activity | Construction Date | Square Footage | Description |
| *Short-range Project (2013–2018) — POM Improvements* | | | | | |
| 53789 | Barracks Complex Phase I | Demolition and new construction | 2013 | 164,960 | Construction of 3 buildings (5-story barracks, dining facility, and company operation facility) and 4 parking lots. New barracks would be located in the existing parking lot of POM Building 829. Facility would house 320 military personnel and dining facility would serve 474 people per sitting. Support facilities would include utilities, exterior lighting, drainage, and a surveillance system. This project would impact some endangered Yadon's piperia and requires consultation with the USFWS. |
| *Long-range Projects (2018–2030)* | | | | | |
| 61222 | Barracks Complex Phase IV | Demolition and new construction | 2018 | 155,200 | Construction of a 6-story barracks building immediately east of Rifle Range Road to provide adequate and updated accommodations for language students from all four services. New building would house 400 military personnel. The existing single-level parking lot for Building 660 would be replaced with a multi-level parking structure. Support facilities would include utilities, exterior lighting, drainage, and a surveillance system. |
| 53790 | Barracks Complex Phase II | Demolition and new construction | 2019–2023 | 165,971 | Construction of a company operation facility, a battalion headquarters building, and a 4- to 6-story barracks that would house 360 military personnel to provide adequate and updated accommodations for language students from all four services. Supporting facilities would include utilities, exterior lighting, storm drainage, and a surveillance system. |
| 53791 | Barracks Complex Phase III | Demolition and new construction | 2022–2025 | 139,160 | Construction of a company operation facility, a battalion headquarters building, and a 4- to 6-story barracks that would house 320 military personnel to provide adequate and updated accommodations for language students from all four services. Support facilities would include utilities, exterior lighting, drainage, and a surveillance system. |
| 68730 | General Instruction Building | New construction and demolition | 2022–2025 | 110,000 | Construction of a standard design 3- to 6-story GIB to accommodate and provide modern facilities for the anticipated future growth of students. The GIB, which would include about 100 classrooms, would consolidate language training to improve both effectiveness and efficiency of instruction. Support facilities would include utilities, fire protection and alarm systems, parking, drainage, information/network support systems, and access for persons with disabilities. |
| 68882 | General Instruction Building | New construction and demolition | 2025–2027 | 110,000 | Construction of a standard design 3- to 6-story GIB to accommodate and provide modern facilities for the anticipated future growth of students. The GIB, which would include about 100 classrooms, would consolidate language training to improve both effectiveness and efficiency of instruction. Support facilities would include utilities, fire protection and alarm systems, parking, drainage, information/network support systems, and access for persons with disabilities. |

| Table ES-1. Proposed Construction Projects and Upgrades | | | | | |
|---|---|---|---|---|---|
| Army Project No. | New and Upgraded Facilities | Type of Activity | Construction Date | Square Footage | Description |
| 73637 | General Instruction Building | New construction and demolition | 2020–2025 | 25,000 | Project would replace scope lost from the FY08 GIB project. Construction of a standard design 2- to 3-story GIB to accommodate and provide modern facilities for the anticipated future growth of students. The GIB would consolidate language training to improve both effectiveness and efficiency of instruction. Support facilities would include utilities, fire protection and alarm systems, parking, drainage, information/network support systems, and access for persons with disabilities. |
| *Long-range Projects (2019–2030) — POM Improvements* | | | | | |
| 25091 | Classroom Renovation I | Renovation of existing structures | 2019 | 76,634 | Renovation of two 3-story GIBs (Buildings 620 and 624) to current standards by upgrading ventilation, heating, and electrical systems and replacing interior surfaces (floor and ceiling tiles) and exterior doors. Installation of an elevator in each building would meet ADA requirements. |
| 67802 | Gate at Highway 68 | New construction | 2019–2023 | NA | Construction of an entrance gate in vicinity of State Highway 68 that would meet AT/FP requirements. This project would require substantial additional study and completion of projects by stakeholders other than the POM Installation and the Army before considered viable. |
| 58441 | Access Control Point (Private Bolio Road) | Demolition and new construction | 2019–2023 | NA | Construction of an ACP at Private Bolio Gate that would meet AT/FP requirements. Would include a guard house, visitor center, barrier system, CCTV, traffic control, and passenger and vehicle search areas. Supporting facilities would include utilities, storm drainage, roads, and parking. |
| 57898 | Access Control Point (Taylor Street) | Demolition and new construction | 2019–2023 | NA | Construction of an ACP at Taylor Street Gate that would meet AT/FP requirements. Would include a guard house, visitor center, barrier system, CCTV, traffic control, and passenger and vehicle search areas. Supporting facilities would include utilities, storm drainage, roads, and parking. |
| 67807 | Access Control Point (High Street) | Demolition and new construction | 2019-–2023 | NA | Construction of an ACP at High Street Gate that would meet AT/FP requirements. Would include a guard house, visitor center, barrier system, CCTV, traffic control, and passenger and vehicle search areas. Supporting facilities would include utilities, storm drainage, roads, and parking. |
| 70934 | Access Control Point (Franklin Street) | Demolition and new construction | 2019–2023 | NA | Construction of an ACP at Franklin Street Gate that would meet AT/FP requirements. Would include a guard house, visitor center, barrier system, CCTV, traffic control, and passenger and vehicle search areas. Supporting facilities would include utilities, storm drainage, roads, and parking. |
| 57949 | Security Fence Upgrade | Demolition and new construction | 2019–2023 | 24,000 linear feet | Upgrade existing fence to meet current AT/FP and security standards. Construction, replacement, and repair of fencing and 6 entrance gates. Project is required to prevent unauthorized access to the POM. Portions of the fence line would traverse Yadon's piperia habitat. This project will require consultation with the USFWS. |

| Table ES-1. Proposed Construction Projects and Upgrades | | | | | |
|---|---|---|---|---|---|
| Army Project No. | New and Upgraded Facilities | Type of Activity | Construction Date | Square Footage | Description |
| 55996 | Water Diversion | Renovation of existing | 2027–2030 | NA | Drainage improvements to prevent underground water runoff from flooding basement classrooms and laboratories and restricting their use for prolonged periods. Project would consist of inlets to receive downspout flows, provision of alternate paths of flow, installation of drain trenches, replacement of existing turf landscaping, and improvements to streets and walkways. The project would occur at three sites:<br>• Site I: Buildings 209, 210, 212, 214, 215, and 216<br>• Site II: Buildings 274, 275, and 276<br>• Site III: Buildings 450, 451, 452, 453, 454 |
| 56424 | Elevator Installation | Renovation of existing | 2019–2023 | NA | Construct elevator shaft and install elevator in POM Building 614 to comply with ADA requirements. An elevator would be required to make the building more accessible. |
| 65423 | Joint Services Training Center | New construction | 2023–2025 | 12,600 | Construction of a general assembly hall with seating for 1,500 to support DLIFLC activities, such as lectures, training, meetings, and ceremonies. This new facility would replace the Tin Barn for use for student assemblies. Supporting facilities for the center would include utilities, storm drainage, and parking. Heating would be provided by a self-contained gas-fired system. The project would replace a portion of the existing Tin Barn parking lot and would be located in the parking area in the vicinity of Building 517. |
| 70937 | Multi-Level Parking Structure (Lawton Road) | New construction | 2024–2026 | NA | Construction of new parking west of Lawton Road to replace parking areas lost from associated new building construction. Assumes standard design for about 300 vehicles and up to 3 floors. |
| 70942 | Multi-Level Parking Structure (Corporal Evans) | New construction | 2026–2028 | NA | Construction of new parking to replace parking areas lost from associated new building construction. Assumes standard design for about 300 vehicles and up to 3 floors. |
| 70940 | Multi-Level Parking Structure (Private Bolio Road) | New construction | 2020–2022 | NA | Construction of new parking to replace parking areas lost from associated new building construction. Assumes standard design for approximately 900 vehicles and up to 3 floors. |
| 70941 | Multi-Level Parking Structure (Rifle Range) | New construction | 2025–2027 | NA | Construction of new parking to replace parking areas lost from associated new building construction. Assumes standard design for about 300 vehicles and up to 3 floors. |
| 41434 | Classroom Renovation II | Renovation of existing | 2023–2025 | 75,320 | Renovation of three 3-story GIBs (Buildings 619, 621, and 623) to current standards by upgrading ventilation, heating, and electrical systems and replacing interior surfaces (floor, ceiling tiles) and exterior doors. Installation of an elevator in each building to meet ADA requirements. |
| 52364 | Indoor Swimming Pool | New construction | 2025–2026 | 10,000 | Construction of an indoor swimming pool to meet training and recreational needs of military personnel. Replaces the need to pay to use the City of Monterey municipal pool. Would include upgrades to utilities, sidewalks, and drainage. This site is located within habitat for a federally endangered plant species and will require consultation with the USFWS. |

| Table ES-1. Proposed Construction Projects and Upgrades | | | | | |
|---|---|---|---|---|---|
| Army Project No. | New and Upgraded Facilities | Type of Activity | Construction Date | Square Footage | Description |
| *Long-range Projects (2019–2030) — OMC Improvements* | | | | | |
| 58898 | Cantonment Area Fence | New construction | 2019–2020 | 52,800 linear feet | Construction of a 10-mile perimeter fence to secure primary cantonment area and provide a protective barrier for controlled, limited, and exclusion areas at the OMC. Fencing to be constructed to current AT/FP and security standards. |
| 66070 | Emergency Services Center | New construction | 2019–2020 | 33,141 | Construction of a new facility to house the police and fire departments. Would consist of an apparatus room as well as primary use and dorm areas. Supporting facilities would include utilities, roads and parking, and drainage. |
| To be determined | Replacement Child Development Center | New construction | 2025–2030 | 23,530 | Replacement of existing child development center, which will be taken over by the City of Seaside. Timing is estimated. |
| 73537 | Playground, General Purpose | New construction | 2025 | NA | Construction of new playground for elementary school age children. |
| 73538 | Youth Center Alteration | Renovation | 2023 | NA | Reconfiguration of building interior to separate kindergarten, youth, and teen age children programs. |

*Notes:* ADA = Americans with Disabilities Act; ACP =access control point; AT/FP = anti-terrorism/force protection; CCTV = closed-circuit television; DLIFLC = Defense Language Institute Foreign Language Center; GIB = General Instruction Building; NA = not applicable; and USFWS = U.S. Fish and Wildlife Service

## ES.4 ALTERNATIVES

Three alternatives are addressed in this EIS:

- No Action Alternative
- Alternative 1 – POM-Centric
- Alternative 2 – POM and OMC

Under the No Action Alternative, the recommendations of the RPMP would not be implemented and the POM Installation and its tenants would continue to use existing infrastructure. An environmental analysis of a No Action Alternative is required by the President's Council on Environmental Quality (CEQ) regulations to serve as a benchmark against which the Proposed Action and its alternatives can be evaluated. The No Action Alternative is defined as the environmental baseline conditions that would result if the RPMP projects were not constructed. Under the No Action Alternative, the RPMP would not be implemented and management of the POM would continue based on the 1983 POM Master Plan, currently in effect. The 1983 POM Master Plan does not meet current mission Goals 1 to 4 of the POM Installation, as presented in Section 2.5. An important component of the No Action Alternative is that student population growth at the POM would increase demand on existing POM facilities and would place greater pressure on neighboring areas to supplement housing or services that are deficient at the POM. Furthermore, the No Action Alternative would not meet the mission goals of DLIFLC.

Under Alternative 1 (POM-Centric Alternative), the majority of POM Installation improvements would occur within the POM with only some support facility improvements occurring at the OMC (see Figures ES-1 and ES-2). Alternative 1 is the Army's preferred alternative.

Alternative 2 (POM and OMC) would involve moving some of the new classrooms and housing facilities planned for the POM to the OMC. Under Alternative 2, the short-range project would occur at the POM and various long-range projects would occur at the OMC.

## ES.5 PUBLIC INVOLVEMENT

The Army promotes public participation as required under the NEPA process. Consideration of the perspectives and involvement of interested persons supports open communication and enables better decision making. All agencies, organizations, and members of the public having a potential interest in the Proposed Action are encouraged to participate in the public involvement process. Throughout this process, information may be obtained through the POM Installation Public Affairs Office. Public participation

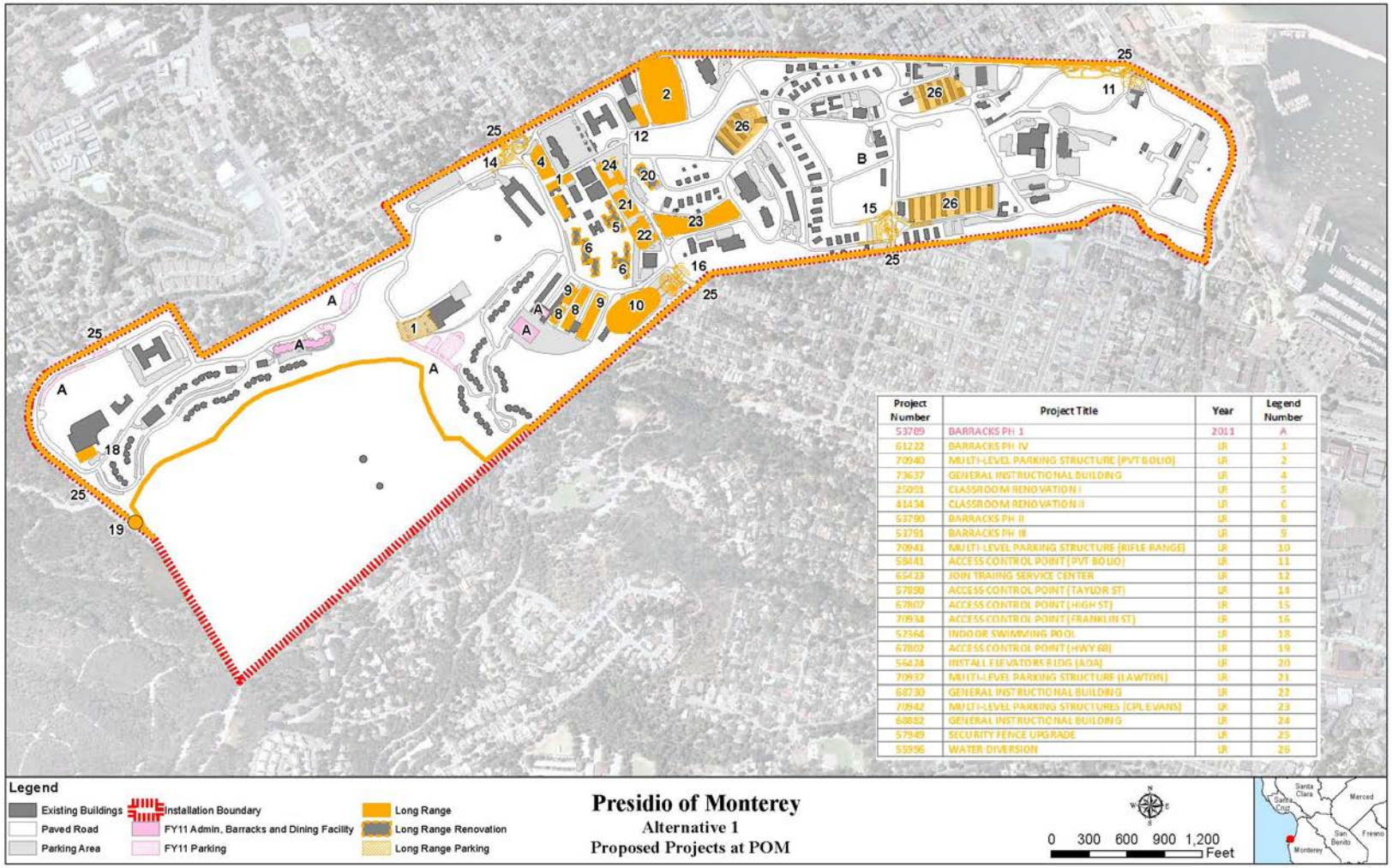


*Figure ES-1. Alternative 1 – Proposed Projects at the POM*

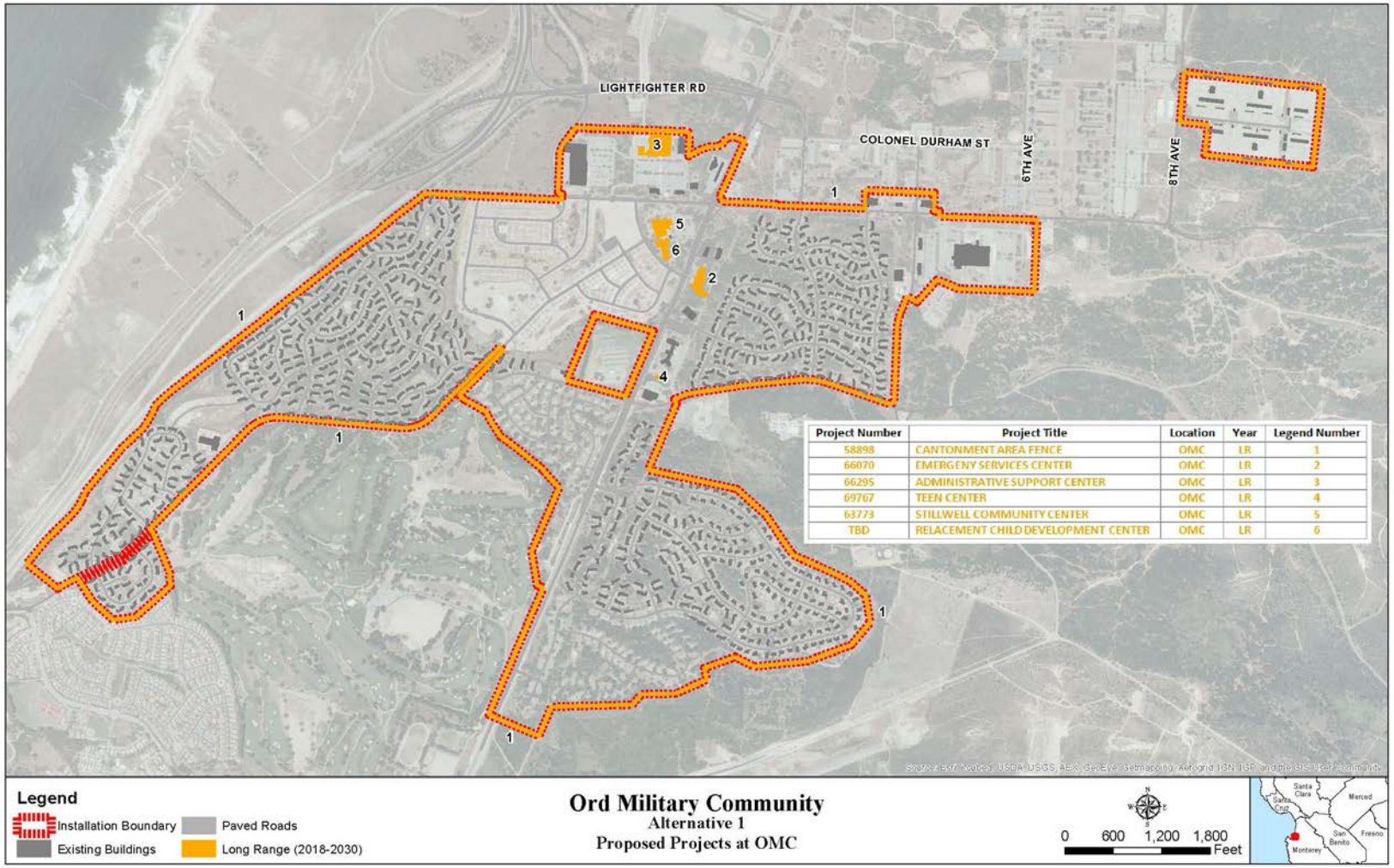


*Figure ES-2. Alternative 1 – Proposed Projects at the OMC*

opportunities with respect to this EIS and decision making on the Proposed Action are guided by 32 Code of Federal Regulations Part 651, which describes stakeholder involvement throughout the EIS process.

Public scoping addressing the need to prepare the EIS occurred in 2009. The scoping process began when the Army published a Notice of Intent in the Federal Register on January 6, 2009 (Volume 74, Number 3, pages 435–436). The Draft EIS was released for a 45-day public review period starting from the publication of a Notice of Availability in the Federal Register on April 22, 2011 (Volume 76, Number 78). The Notice of Availability and a notice of public meetings were published in the Monterey County Herald and Monterey Military News. The Draft EIS was distributed to the public agencies and organizations listed in Chapter 7. The Army held two public meetings in the Cities of Monterey and Seaside on May 31 and June 2, 2011, respectively, to answer questions and solicit public comments concerning potential environmental effects associated with the proposed development. All written comments received on the Draft EIS were considered, and this Final EIS was completed with consideration of those comments. This Final EIS is being distributed to the parties that received the Draft EIS.

Several proposed projects were relocated to different sites on the POM based upon comments received from government agencies and the public. The Phase I and IV barracks in particular were re-sited to avoid significant impacts on natural resources and reutilize existing developed areas.

## ES.6 ENVIRONMENTAL CONSEQUENCES

The environmental consequences of implementing the RPMP are addressed at two levels. The short-range project has assured funding, has developed construction designs, and is addressed at the project level. Long-range projects are those that are planned in the future and require detail design work. These long-range projects are analyzed at a programmatic level.

The resource areas addressed include: Water Supply; Water Quality; Geology, Soils, and Mineral Resources; Air Quality; Vegetation and Wildlife; Land Use; Population and Housing; Traffic and Transportation; Noise; Utilities, Energy, and Public Services; Hazardous, Toxic, and Radioactive Substances; Public Health and Safety; Socioeconomics; Environmental Justice; Visual, Scenic, and Aesthetic Resources; and Cultural Resources. Additional details on the findings from the analysis conducted for these resource areas are shown below.

## WATER SUPPLY

Water supply comes from different sources and providers at the POM and OMC. Under the No Action Alternative, the overall water demand would be unchanged at the POM and the OMC. Due to water conservation measures, water demand at the POM would be about 19 acre-feet per year (AFY) less than the average for the 2005 to 2010 period (166 AFY). Because of the existing available water supply, water conservation measures, and the lack of demand for new sources, this alternative would have less-than-significant effects on the potable water supply.

The POM-Centric Alternative would increase the water needs at the POM as compared to the No Action Alternative. Over the 20-year planning horizon for the RPMP, the new facilities would increase the total new construction demand at the POM by 34 AFY. This 34 AFY is for the long-range projects only because the water demand for the short-range project (14.4 AFY) has already been permitted. Approximately 23 AFY of the water demand reduction would occur after existing outdated barracks are razed at the POM to provide needed space for the new buildings. This reduction, along with water use credits of 13.9 AFY, would provide 36.9 AFY to meet the needs of the long-range construction projects at the POM. Projected water demand at the OMC under Alternative 1 would not exceed the OMC's available supply; therefore, the effects on water supply under Alternative 1 would be less than significant.

Under Alternative 2, the short-range project planned for the POM would be unchanged from Alternative 1, but some long-range buildings would be relocated. Constructing some long-range future buildings at the OMC (Alternative 2) would increase the projected demand by about 37 AFY compared to Alternative 1. The OMC water use credits would be sufficient to support this increase and still retain about 357 AFY for development beyond the RPMP planning horizon. Implementation of Alternative 2 would be supported by adequate water supply at both the POM and OMC to meet the projected water demand for both short-range and long-range projects, so the effects would be less than significant. Future developments concerning a Cease and Desist Order and water use moratorium could affect water supply in the Monterey Region; however, adequate water supply currently exists for the RPMP projects under all alternatives.

## WATER QUALITY

Permanent surface water features are not present at the POM and the OMC. Only intermittent streams are present at the POM, and no extensive wetlands or marsh areas exist on the POM or the OMC. Stormwater runoff and drainage at both the POM and OMC ultimately flow to Monterey Bay or the Pacific Ocean. Therefore, potential discharge of pollutants via stormwater runoff could affect water quality in these nearby water bodies. The original development of the POM and the OMC and the subsequent construction of

additional facilities and support structures altered the properties' natural hydrology. Further alterations to stormwater flow would result from the proposed projects, including increasing the amount of impervious surface by constructing the proposed buildings. Construction of the projects under both Alternatives 1 and 2 may require extensive grading and excavation. The effects of changes in hydrology and soil disturbance effects on water quality would be mitigated using Best Management Practices (BMPs) during and following construction in accordance with the California Stormwater Construction General Permit. The effects of both Alternatives 1 and 2 on water quality would be less than significant with mitigation. The effects of the No Action Alternative on water quality would be less than significant.

## GEOLOGY, SOILS, AND MINERAL RESOURCES

The POM Installation is located in a seismically active area, and people living and working there are at risk from earthquake hazards. Existing buildings would remain the same under the No Action Alternative. Some of these buildings do not meet current seismic design guidelines, and they are not currently programmed to be retrofitted to prevent seismic damage.

Under both of the action alternatives, construction of the new barracks and GIBs at either the POM or the OMC would conform to current DoD building codes and standard design guidelines for seismic hazards. Replacing the old buildings with modern buildings that meet current seismic standards would reduce risks from earthquakes. Such a replacement would be a beneficial effect compared to the No Action Alternative.

Construction of the projects under both action alternatives may require extensive grading and excavation, and erosion mitigation would be required. Although most construction would be on previously developed land, construction activities on undeveloped lands would result in a greater loss of topsoil, resulting in exposed soil subject to wind and water erosion. Although building designs would be prepared by qualified engineers, the potential for soil erosion would remain. Adherence to the California Stormwater Construction General Permit would reduce the potential for effects to less than significant with mitigation.

## AIR QUALITY

Construction is not planned under the No Action Alternative, so there would be no effects on air quality under No Action Alternative. Both Alternatives 1 and 2 would result in air emissions below the existing Monterey Bay Unified Air Pollution Control District (MBUAPCD) air quality thresholds for construction and operation after mitigation. Construction would generate a substantial amount of fugitive dust. Implementation of either Alternatives 1 or 2 would have potentially short-term significant fugitive dust effects, but these effects would be less than significant with mitigation. Operational emissions from the

short-range project would not exceed MBUAPCD significance thresholds for criteria pollutants or the CEQ's indicator for greenhouse gasses; therefore, operational air quality effects from the short-range project would be less than significant.

The same level of construction activity is expected to occur at the OMC under Alternative 2 as would occur at the POM under Alternative 1. The emissions from long-range project construction and operations would be the same under Alternative 2. Air quality effects for the long-range projects would be less than significant.

The MBUAPCD California Environmental Quality Act (CEQA) Air Quality Guidelines state that if a project is consistent with the current Air Quality Management Plan, then cumulative effects would not occur.

## VEGETATION AND WILDLIFE

Construction is not planned under the No Action Alternative, so there would be no effects on vegetation and wildlife.

Under Alternative 1, the short-range project does not encroach upon the Huckleberry Hill Nature Preserve, habitat for protected plant and animal species. The long-range State Highway 68 gate project has been reassessed and downsized and, as conceived at this time, would not encroach into the nature preserve.

Approximately 3.5 acres of Monterey pine (*Pinus radiata*)/Yadon's piperia (*Piperia yadonii*) habitat would be removed as part of the Alternative 1 short-range project. Yadon's piperia was listed by the U.S. Fish and Wildlife Service (USFWS) in 1998 as an endangered plant species. This effect would be potentially significant, and removals and habitat modification would be conducted in consultation with the USFWS. The Army is in the process of consulting with the USFWS regarding measures to protect endangered species. Mitigation measures are proposed to protect these species and reduce effects to less-than-significant levels.

Tree removal at the POM has been reduced through the relocation of the Barracks Complex Phase IV from the original ravine site and relocation of the Barracks Complex Phase I from its original forested hillside location. The new building sites would use previously developed land for buildings or parking lots. These relocations would preserve existing forested habitat and reduce the need for tree removal. Although approximately 550 trees would be removed for the building and parking lots and about 10 trees would be removed for the administration and dining facilities under the Alternative 1 short-range project, tree removal would be minimized as much as possible during the site design process and would be ultimately offset by replanting trees at a ratio of 2:1.

Under Alternative 2, some protected plant species may exist within the project area at the OMC; however, the Biological Conference Opinion for the Fort Ord Base Realignment and Closure allows for development at

the OMC as long as protected plants are salvaged and relocated prior to construction. The effects of the short- and long-range projects at the POM would be the same as those for Alternative 1. Mitigation measures would be necessary to limit effects on protected species.

## LAND USE

Under the No Action Alternative, existing buildings and facilities as well as land uses at the POM and the OMC would remain the same. The No Action Alternative would not conflict with any existing land uses or planning documents. There would be no effects on land use under the No Action Alternative.

The RPMP provides the direction for the orderly development of the real property assets of the POM Installation, including land, facilities, and infrastructure. The DoD planning process provides the POM Installation with the vision and framework for long- and short-term real property development. The RPMP calls for increased building density in already developed areas and the avoidance of effects on undeveloped property through reuse of developed areas. These considerations were utilized in the selection and siting of the projects addressed in this EIS. Therefore, neither action alternative would change the land use designations at the POM or the OMC. All construction would occur on federal property, and no conflicts with local, city, or county land use policies would occur. Therefore, effects on land use from implementation of the RPMP would be less than significant.

## POPULATION AND HOUSING

Under the No Action Alternative, the overall population at the POM Installation would decrease; however, the student population at the DLIFLC would increase with no corresponding ability to house the increased number of students. The DoD determines attendance at the DLIFLC, affecting the general population and housing needs of the POM Installation. The Proficiency Enhancement Program (PEP) for foreign language training, mandated by the DoD, requires a reduction in the student-to-teacher ratio from 10:2 to 6:2. Both factors (increased student attendance and reduced PEP ratio) are anticipated to increase the student, teacher, and associated family populations. This increase in DLIFLC student population would require triple occupancy in an even greater number of existing barracks rooms.

Both of the action alternatives would involve new and modernized housing facilities and would serve to meet the needs of the growing student population. Therefore, both action alternatives would beneficially address housing conditions at the POM Installation and surrounding communities.

## TRAFFIC AND TRANSPORTATION

No new facilities are scheduled to be constructed under the No Action Alternative. The overall POM Installation population is expected to decrease, which would result in traffic effects being the same or less in comparison to current conditions. Under the No Action Alternative, there would be no effect on the transportation system. Internal network circulation, intersection capacity, and roadway capacity would not be adversely affected. Definable safety hazards, or deterioration of roadway surfaces, would not be present as a result of the No Action Alternative.

Traffic impacts under Alternative 1 would remain largely unchanged as compared to the No Action Alternative. New barracks would be constructed at the POM to replace existing outdated barracks with upgraded facilities. New support facilities and parking structures are also planned for the long range. Combined, these projects would potentially affect the traffic flow within the POM Installation during construction by temporarily increasing delays associated with internal POM intersections, adding additional traffic on the internal POM roadway system, and changing the internal distribution of traffic flow. Over the long term, increased parking facilities would have a positive effect on traffic. When compared to the No Action Alternative, effects on the transportation system would be less than significant with mitigation required for effects from construction. Because the short-range project is not planned at the OMC, traffic conditions would be unchanged at the OMC from the No Action Alternative. Long-range projects would occur at the OMC, but effects on traffic conditions also would be less than significant with mitigation.

The short-range project under Alternative 2 is the same as under Alternative 1. Potential traffic effects would be greater at the OMC due to the placement of the Barracks Complex Phase II and Phase III buildings and GIBs that would be at the POM under Alternative 1. In this scenario, traffic effects would be reduced at the POM and elevated at the OMC. Effects on the transportation system would be less than significant if mitigated for effects from construction.

## NOISE

Under the No Action Alternative, no construction would occur at the POM Installation, so no short-term noise effects would occur. Long-term noise effects could occur from increased travel to and from the POM Installation due to student population growth. Because housing availability would remain the same at the POM Installation, military personnel and families would need to find alternative housing off-post, which could increase commutes and associated noise levels in nearby areas. In order to project an appreciable noise level increase of 3 decibels or greater, traffic volumes would need to double compared to existing traffic

volumes. Expected population growth would not result in doubling of traffic volumes; therefore, noise increases from traffic would not increase substantially over ambient levels.

Under both action alternatives, construction activities would increase noise levels at and in the vicinity of the construction sites. Noise would be short-term and occur only during the period of construction. Traffic noise levels could increase from construction workers' vehicles and haul trucks. Although construction noise effects would be temporary, the construction period could last several years. Noise mitigation would be necessary to reduce noise levels during construction activities. The effects from noise would be less than significant with mitigation.

## UTILITIES, ENERGY, AND PUBLIC SERVICES

Under the No Action Alternative, no construction would occur at the POM or the OMC. Many of the existing utilities systems are outdated and in need of repair; however, utility systems at the POM Installation are privately owned. All operation and maintenance activities are the sole responsibility of the utility providers. Effects from demand on utilities would be less than significant under all alternatives.

Under both action alternatives, new construction would be designed to Leadership in Energy and Environmental Design–Silver standards; therefore, it is expected that energy demands would decrease or remain similar to existing conditions. The new barracks would be more energy efficient than the existing barracks. The new buildings would be designed with a number of energy and water efficient products, such as dual pipe plumbing, so that toilets can be supplied with collected rain water or "purple pipe" tertiary water, dual-flush toilets and waterless urinals, day-lighting and photo-cell controlled lights to reduce electrical consumption, and Energy Management Control Systems to monitor and track usage. Specific energy conservation measures would be finalized during the project design. Effects on energy use would be less than significant.

Due to the anticipated decrease in overall population, despite the anticipated increase in number of students and faculty at the POM Installation under all alternatives, demands on public schools are not expected to intensify. The POM Installation, through its Army student enrollment liaison officer, would coordinate with the school district to support potential increases in school enrollment of military children to prevent overcrowding from becoming a significant issue.

## HAZARDOUS, TOXIC, AND RADIOACTIVE SUBSTANCES

Under the No Action Alternative, no short- or long-range RPMP construction projects are proposed for the POM or the OMC, so no new hazardous wastes would be generated. Under Alternatives 1 and 2, the

projects proposed within the POM and OMC boundaries could generate wastes classified as toxic and hazardous. Asbestos-containing materials and lead-based paint encountered during renovations would be removed from the building structures and properly disposed of offsite. General construction materials that may be hazardous would be managed and disposed of in accordance with manufacturer's specifications and hazardous waste regulatory standards.

Under Alternatives 1 and 2, no construction is planned that would affect the POM landfill cap. A parking lot proposed to overlie the POM landfill would be designed to maintain the structural integrity of the landfill cap. Proposed construction projects would not disturb known hazardous waste release sites on or near the OMC. Therefore, there would be less than significant environmental effects from hazardous, toxic, or radioactive substances under the action alternatives.

## PUBLIC HEALTH AND SAFETY

Under the No Action Alternative, public health and safety would continue to be addressed through current POM and OMC safety programs. Construction at the POM under Alternatives 1 and 2 would not increase the potential for fires and increase public safety risks from fires because construction is primarily planned for previously developed areas separated from wooded areas of the POM. Although the OMC is heavily developed, it is adjacent to the former Fort Ord, an area highly susceptible to wildfires. Construction crews for all projects would follow the measures outlined in the Presidio of Monterey Fire & Emergency Services' Fire Prevention Guide and Checklist for Contractors to reduce the potential for fires during the construction period and would keep fire suppression equipment onsite. Consequently, the risk of fire would be less than significant. The POM Installation is outside the potential risk zone for a tsunami. In the event of a tsunami, the POM Installation may open roads to aid in evacuation of the Monterey Peninsula. There would be no effect on emergency evacuation routes. Because members of the public are not allowed on the POM, construction activities would pose no risk to their public health and safety. However, construction activities such as use of vehicles and equipment could pose safety risks to personnel on the POM or the public and military personnel at the OMC. Appropriate fencing, detours, and signage would be used to alert personnel of construction zones and ensure public safety. The potential for public health and safety effects would be less than significant.

## SOCIOECONOMICS

Under the No Action Alternative, the student-to-teacher ratio would decrease relative to existing conditions, resulting in additional teaching positions. The new civilian faculty positions would have a long-term positive effect on employment and wages and salaries in the region. Increased student population at the POM

Installation under the No Action Alternative would also contribute to spending and economic output in the region. New residents would purchase goods and services within nearby cities, supporting economic activity in the area.

The action alternatives both would result in a 20-year, beneficial impact of increased employment resulting from construction of the proposed facilities. The action alternatives would have similar beneficial economic growth for the region.

## ENVIRONMENTAL JUSTICE

The RPMP would not be approved under the No Action Alternative. Student population growth would require housing and service to be provided from the neighboring communities. The potential effects on environmental resources (e.g., population and housing, traffic and transportation) would likely be more severe on the minority or low-income communities in the surrounding area due to the affordability of housing for service members in these areas. However, given the numbers of students expected to live in these areas with respect to the overall community, this population would result in an effect on environmental justice that would be less than significant.

Under the action alternatives, housing and barracks developments would reduce pressure on housing in neighboring areas; therefore, the action alternatives would have a beneficial effect with respect to environmental justice issues.

## VISUAL, SCENIC, AND AESTHETIC RESOURCES

Under the No Action Alternative, no new construction would occur. Existing buildings would remain in deferred maintenance status until operation and maintenance funding becomes available and as the facilities continue to age, the quality of visual features of the area may decline. Under the No Action Alternative, visual, scenic, and aesthetic resources would not be adversely affected.

Projects constructed under the action alternatives could have visual effects through the introduction of new buildings, parking structures, fences, barracks, recreation facilities, and ACPs. Renovation, demolition, and construction would cause temporary adverse effects on the visual features of the sites and their surroundings. The Alternative 1 Barracks Complex Phase I project would not obstruct scenic views of Monterey Bay from neighborhoods outside the POM. A shadow analysis indicated that the winter morning is the only time building shadows would extend beyond the boundary of the POM.

Upgraded force-protection fencing would replace existing fencing sections currently at the POM under the action alternatives. While it may be taller than the existing fencing, it is not expected to substantially change the visual character of the POM and would not obstruct views from existing neighborhoods. The ACPs would consist of new guard stations and reconfiguration of the road and barriers. Such construction would slightly change the visual character of the area as a new structure would be built at each ACP. Effects on the visual character at the POM Installation would be less than significant.

The long-range projects are not expected to affect views from the OMC. The OMC area is flat in elevation and does not provide scenic views of the Pacific Ocean. No neighborhoods surrounding the proposed construction sites would have views obstructed by the projects; consequently, there would be no visual effects from construction at the OMC.

## CULTURAL RESOURCES

The POM is a culturally significant property that potentially represents 7,000 years of human habitation beginning with Native American occupation, followed by Spanish, Mexican, and later American occupation. Cultural resources at the POM include prehistoric and historic archaeological sites, historic buildings and structures, cultural landscapes, and monuments. Within the boundary of the POM Installation, there is an archaeological site listed on the National Register of Historic Places (NRHP) known as "El Castillo," which includes a Native American and Spanish occupation site as well as other resources. The Presidio of Monterey Historic District, which occupies roughly one-fifth of the POM, has been determined eligible for listing on the NRHP and comprises more than 100 contributing buildings representing the POM's early American period occupation as an Infantry, Calvary, and Artillery cantonment dating from 1902–1939 (although most buildings date from 1902–1910). The OMC contains Capehart Wherry residential housing units that are exempt from further consideration under the National Historic Preservation Act of 1966, as amended (NHPA), per the Advisory Council on Historic Preservation Program Comment on Army Capehart and Wherry-Era Family Housing (1949–1962). The OMC also contains buildings of very recent date and several that are approaching 50 years old. A determination of eligibility for these buildings is forthcoming; however, it is unlikely that the structures will be considered eligible for listing on the National Register of Historic Places.

Under the No Action Alternative, the existing deteriorated wooden buildings that are contributing elements of the POM Historic District would continue to deteriorate. Mitigation of some of those effects by renovation of the Weckerling Center (POM Building 326) is being analyzed separately under a Record of Environmental Consideration. Under the No Action Alternative, the potential for adverse effects on cultural

resources would be reduced to less than significant through continued adherence to the requirements outlined in the *Programmatic Agreement among the United States Army, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer Regarding Routine Maintenance of Historic Properties at the Presidio of Monterey* (PA).

Under the short-range project proposed for both action alternatives, a parking lot would be built atop the capped, historic POM landfill, but there would be no ground disturbance associated with the construction; therefore, there would be no adverse effects to this historic archaeological site. Under the long-range action alternatives, the USAG-POM would need to complete supplemental environmental documentation and, in certain cases, Section 106 consultation under the NHPA as the planning and design progress. The long-range proposal to demolish some or all of the buildings that constitute the Russian Village may pose a significant adverse effect to cultural resources because this complex of buildings may be eligible for listing on the NRHP. A determination of eligibility for listing on the NRHP is forthcoming.

Other proposed structures would be constructed outside of the existing POM Historic District and at a distance that would not affect it. Ground-disturbing activities associated with construction could result in an inadvertent discovery of archaeological deposits. Inadvertent discoveries would require implementation of procedures defined in the POM's Integrated Cultural Resources Management Plan (ICRMP) and Army guidance and regulations.

The design features of the projects would comply, as applicable, with the Army's Installation Design Guide, the ICRMP, and the 1993 PA. Following the design guidelines and cultural resource protection requirements would ensure that effects on cultural resources are less than significant; however, proposed demolition of the Russian Village to construct the long-range Barracks Complex Phase IV may pose a significant adverse effect to cultural resources.

Table ES-2 provides a summary of the potential environmental consequences for each of the resource areas.

| Table ES-2. Potential Environmental Effects by Resource Area | | | |
|---|---|---|---|
| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
| Water Supply<br>Projected water demand exceeds available supply at the POM | Less than Significant | Less than Significant | Less than Significant |
| Water Supply<br>Projected water demand exceeds available supply at the OMC | Less than Significant | Less than Significant | Less than Significant |
| Water Quality<br>Potential for increased stormwater pollution during construction | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Water Quality<br>Potential for increased stormwater pollution following project completion | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Geology, Soils, and Mineral Resources<br>Potential for increased soil erosion during construction | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Geology, Soils, and Mineral Resources<br>Potential for adverse effects from seismic activity | Significant Effect | Beneficial Effect | Beneficial Effect |
| Air Quality<br>Construction effects would exceed applicable air quality thresholds | No Effect | Less than Significant | Less than Significant |
| Air Quality<br>Operation effects would exceed applicable air quality thresholds | No Effect | Less than Significant | Less than Significant |
| Air Quality<br>Construction effects would result in substantial fugitive dust | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Vegetation and Wildlife<br>Effects on special status species | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Vegetation and Wildlife<br>Effects on migratory birds | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Vegetation and Wildlife<br>Introduction of exotic species | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Land Use<br>Changes to existing or planned land uses | No Effect | Less than Significant | Less than Significant |
| Land Use<br>Conflicts with local land use policies | No Effect | No Effect | No Effect |
| Population and Housing<br>Improved housing facilities at the POM and the OMC | Significant Effect | Beneficial Effect | Beneficial Effect |
| Population and Housing<br>Reduced demand for housing off-post | Significant Effect | Beneficial Effect | Beneficial Effect |
| Traffic and Transportation<br>Increased traffic volumes on internal POM and OMC roadways | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Traffic and Transportation<br>Increased delay on internal POM and OMC intersections | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Traffic and Transportation<br>Increased vehicle queuing at ACP locations | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Traffic and Transportation<br>Substantial deterioration of physical roadway conditions | No Effect | Less than Significant | Less than Significant |

| Table ES-2. Potential Environmental Effects by Resource Area | | | |
|---|---|---|---|
| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
| Noise<br>Temporary noise increases from construction activities | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Noise<br>Long-term noise increases from increased travel to and from the POM and the OMC | Less than Significant | Less than Significant | Less than Significant |
| Utilities and Public Services<br>Increased electricity, gas, and communication service demands for POM and the OMC | Less than Significant | Less than Significant | Less than Significant |
| Utilities and Public Services<br>Increased solid waste | Less than Significant | Less than Significant | Less than Significant |
| Utilities and Public Services<br>Increased demand on wastewater and storm drain distribution systems | Less than Significant | Less than Significant | Less than Significant |
| Hazardous, Toxic, and Radioactive Substances<br>Contaminant release from modified landfill cap | No Effect | No Effect | No Effect |
| Hazardous, Toxic, and Radioactive Substances<br>Release of asbestos-containing materials or lead-based paint to the environment | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Hazardous, Toxic, and Radioactive Wastes<br>Effects from using hazardous substances during construction | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Public Health and Safety<br>Pose a risk to public health and safety through the use of construction vehicles, equipment, and general construction activities | No Effect | Less than Significant | Less than Significant |
| Public Health and Safety<br>Increased danger to public health and safety from wildfires or tsunamis | No Effect | No Effect | Less than Significant |
| Public Health and Safety<br>Impediment to planned evacuation routes | No Effect | No Effect | No Effect |
| Public Health and Safety<br>Impediment of emergency service vehicles and routes | No Effect | No Effect | No Effect |
| Public Health and Safety<br>Increase in the demand for emergency services off-post | No Effect | No Effect | No Effect |
| Public Health and Safety<br>Increased risk from unauthorized access to post | No Effect | Beneficial Effect | Beneficial Effect |
| Socioeconomics<br>Temporary increases in economic activity from construction spending and labor | No Effect | Beneficial Effect | Beneficial Effect |
| Socioeconomics<br>Long-term socioeconomic impacts of population changes | No Effect | No Effect | No Effect |
| Environmental Justice<br>Disproportionately high and adverse effects on a minority or low-income population. | Less than Significant | Beneficial Effect | Beneficial Effect |

| Table ES-2. Potential Environmental Effects by Resource Area | | | |
|---|---|---|---|
| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
| Visual, Scenic, and Aesthetic Resources<br>Short-range project would affect scenic vistas from surrounding neighborhoods | Less than Significant | Less than Significant | Less than Significant |
| Visual, Scenic, and Aesthetic Resources<br>Short-range project would substantially alter the existing visual character of an area | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Visual, Scenic, and Aesthetic Resources<br>Long-range projects at POM would affect scenic vistas from surrounding neighborhoods | No Effect | Less than Significant with Mitigation | Less than Significant |
| Visual, Scenic, and Aesthetic Resources<br>Long-range projects at OMC would affect scenic vistas from surrounding neighborhoods | No Effect | Less than Significant | Less than Significant |
| Visual, Scenic, and Aesthetic Resources<br>Long-range projects at the POM would substantially alter the existing visual character of an area | No Effect | Less than Significant with Mitigation | Less than Significant |
| Visual, Scenic, and Aesthetic Resources<br>Compliance with existing Installation Design Guide | Less than Significant | Less than Significant | Less than Significant |
| Cultural Resources<br>Effects on historic or cultural resources | Less than Significant | Significant Effect | Significant Effect |

## ES.7 MITIGATION

Mitigation measures proposed for implementation are summarized by resource in the Table ES-3 below.

| Table ES-3. Summary of Mitigation Measures | |
|---|---|
| Resource Area | Mitigation Measure |
| Water Supply (short-term) | WS-1 – Water conservation measures and BMPs identified in the 2004 POM and OMC Water Management Plan and further refined since that time would be implemented in all new facilities. These measures would include using water saving devices, such as waterless urinals and low-flow toilets, and landscaping with drought tolerant native vegetation. Implementation of these conservation measures would reduce the water needs associated with the new buildings. |
| | WS-2 – Rainwater collection systems would be installed in all new buildings. Runoff from the roofs and courtyards would be stored in cisterns for use in the buildings' low-flow toilets. Reusing stormwater would offset a portion of the potable water demand from the new buildings. |
| | WS-3 – Purple piping for recycled water would be installed in all new buildings in anticipation of a future recycled water supply for the POM and the OMC. Recycled water availability is independent of drought conditions and represents one of the few "new" water sources available in the Monterey area. Recycled water could be used to meet non-potable water demand, such as landscape irrigation and toilet flushing, thereby decreasing potable water demand. Implementing this measure would prepare the OMC and the POM for a potential future water source; however, this measure would not affect the identified water supply effects until a recycled water source becomes available. |
| Water Supply (long-term) | Water Transfer – Because water rights above the projected need at the OMC are available, the Army could explore the feasibility of transferring a portion of the OMC's water rights to the POM to reduce the POM's projected supply shortfall under Alternative 1. A water transfer could involve reassigning a portion of the Army's water rights with MCWD (purveyor to the OMC) to Cal-Am (purveyor to the POM). A water transfer would increase the supply of water available to the POM without disrupting the supply/demand balance at the OMC. However, the MPWMD, in its comments on the Draft EIS, stated that this might not be feasible because the transfer of water rights would involve an interbasin transfer of water in an area that is under restrictions associated with the Cease and Desist Order and the Seaside Groundwater Basin Adjudication Decision. |
| | Water Trade – One water trade option depends on the fact that Cal-Am serves both the City of Seaside and the POM. A portion of the OMC water rights would be traded to the City of Seaside to augment the City of Seaside's water supply. In turn, the City of Seaside would trade a portion of its Cal-Am water supply allocation to the POM. |
| | Regional Water Project Buy-In – The Army could consider contracting additional water from its current water purveyors. Regional water supply projects are being developed that could potentially provide future new water supplies to the POM and the OMC if and when the regional projects are brought online. Many of these projects have had environmental documentation submitted or they are in the construction stage. This measure, however, would be effective only after a regional water supply project is realized. |
| | Additional Metering and Measures at the La Mesa Military Housing Facility – The La Mesa Military Housing Complex consists of housing, an elementary school and other facilities operated by the Army on behalf of the U.S. Navy. According to Cal-Am, the Army could consider installing water meters, implementing water conserving measures to claim water use credits, and employing water conservation measures for the proposed development at the POM. Unlike the OMC, which is served by the MCWD, the La Mesa Military Housing Complex is serviced by the MPWMD and the transfer of water credits would be more feasible. Currently, the facility uses about 200 AFY and consumption has been increasing by about 10 percent per year, and the facility has only one master meter, which limits the ability to assess water use and potential water saving measures. |
| Water Quality | WQ–1 – The proposed improvements would be constructed in ways that would not exacerbate flooding conditions downstream and would maximize stormwater infiltration and/or storage and minimize stormwater runoff and sediment erosion. The California Stormwater Construction General Permit has developed specific BMPs to achieve strict compliance with federal technology-based and water quality-based standards. The minimum BMPs required by the permit are contingent on the applicable sediment risk level as described by the permit and would include erosion control and sediment control BMPs. Other measures to improve stormwater quality would include good housekeeping practices, non-stormwater management on-site, run-on and run-off control, inspection, maintenance and repair |

| Table ES-3. Summary of Mitigation Measures | |
|---|---|
| Resource Area | Mitigation Measure |
| | measures, and implementation of a Rain Event Action Plan.<br>During construction, engineering controls that may be used include hay bales, silt fencing, and inspection and monitoring would be implemented. Detailed construction plans would be developed at the time of project design and implementation. The details of each of these measures would be site-specific and described in the SWPPP for construction. |
| | WQ–2 – As part of the site design, BMPs would include non-structural controls as described in the California Stormwater Construction General Permit, such as green rooftops, impervious pavements, vegetated swales, setbacks and buffers that filter and settle out pollutants and provide for infiltration and/or storage at the POM and the OMC. Designs for the proposed projects may also include elongated trench drains, use of porous pavers in some existing and proposed areas of impervious surface, bio-retention cells, and chamber storage of stormwater (underground stormwater collection systems) in low elevation areas. Selection of a combination of these controls would be made during design of the proposed projects. By implementing these increases in storage, the peak runoff to Monterey Bay would be reduced to being either equal to preconstruction levels or lower as in compliance with the California Stormwater Construction General Permit. |
| | WQ–3 – Changes from construction can result in increased erosion and sediment transport capacity. Post-construction stormwater performance standards in the California Stormwater Construction General Permit specifically address water quality and channel protection events. Post-construction BMPs for water quality improvement include structural and non-structural controls, which detain, retain, or filter the release of pollutants to receiving waters after final stabilization is attained. Examples include downspout disconnection, soil quality preservation/enhancement, interceptor trees). Specific post-construction BMPs would be selected during project design and would comply with the post-construction runoff requirements of the California Stormwater Construction General Permit. |
| Geology, Soils, and Mineral Resources | GS–1 – The California Stormwater Construction General Permit has developed specific BMPs to achieve strict compliance with federal technology-based and water quality-based standards, as described in mitigation measure WQ-1. For each construction project, Permit Registration Documents would be prepared for submission to the SWRCB and would include a Notice of Intent, Risk Assessment, Site Map, SWPPP, a signed certification statement, post-construction documentation, and payment of fees. The findings of the Risk Assessment would determine the hazards associated with the site conditions and establish the specific compliance conditions of the permit. A SWPPP is required to be developed prior to construction to address the control of pollutant discharges using BMPs selected for the specific project and to address stormwater monitoring. The BMPs would include but not be limited to the following:<br>• Schedule construction sequences to minimize land disturbance during rainy and dry seasons<br>• Provide soil stabilization to steep slope areas<br>• Provide sediment controls to intercept and slow down stormwater flows<br>• Cover stockpiled soil<br>• Use dust suppressants, such as watering soils and unpaved roadways<br>• Preserve existing vegetation where no construction activities are planned and wherever possible<br>• Replant/revegetate all exposed disturbed areas immediately upon completion of construction<br>Following the completion of the development project, the site must meet the conditions for Termination of Coverage by certifying the site has been stabilized and there is no potential for construction-related stormwater discharges. On September 2, 2012, the new post-construction standards will be in effect, and post-construction BMPs and long-term maintenance plans will be required. |
| | GS–2 – LID techniques would be applied to the extent practical in replicating the pre-development natural hydrology of an area by using small-scale stormwater management design measures that mimic natural processes that slow, filter, infiltrate and detain runoff. These measures would help ensure that receiving waters are not negatively affected by changes in runoff temperature, volumes, durations, and flow |

| Table ES-3. Summary of Mitigation Measures | |
|---|---|
| Resource Area | Mitigation Measure |
| | rates. Several LID BMPs would include but be not limited to the following:<br>• Permeable pavement<br>• Rain gardens, bioretention and infiltration planters<br>• Vegetated swales<br>• Green roofs<br>• Integration of native riparian buffers<br>• Rain water harvesting or reuse where permissible |
| Air Quality | AIR-1 – This mitigation measure would include the implementation of the following BMPs:<br>• Schedule construction sequences to minimize land disturbance during rainy and dry seasons<br>• Provide soil stabilization to steep slope areas<br>• Cover stockpiled soil<br>• Use dust suppressants such as watering soils and unpaved roadways<br>• Preserve existing vegetation where no construction activities are planned and wherever possible<br>• Replant/revegetate all exposed disturbed areas immediately upon completion of construction<br>• This mitigation measure also would include specifying some of the following BMPs/construction controls:<br>• Apply water to surfaces three times a day<br>• Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days)<br>• Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations, and hydro-seed areas<br>• Haul trucks shall maintain at least 2 feet of freeboard (the empty space below top of the trailer)<br>• Cover all trucks hauling dirt, sand, or loose materials<br>• Locate construction equipment and staging areas away from sensitive receptors and fresh air intakes to buildings and air conditions<br>• Reduce use, trips, and unnecessary idling from heavy equipment<br>• Maintain and tune engines per manufacturer's specifications to perform at the CARB- and USEPA-certification levels and at verified standards applicable to retrofit technologies<br>• Limit idling for all vehicles<br>• Prohibit tampering with engines and require continuing adherence to manufacturer's recommendations<br>• If practicable, lease new, clean equipment meeting the most stringent of applicable federal and state standards<br>• If practicable, use USEPA-registered particulate traps and other appropriate controls, where suitable, to reduce emissions. |
| Vegetation and Wildlife | BIO-1 – Focused biological surveys would be conducted by qualified professionals to identify the presence and location of individual special status plants with potential to occur within construction areas at the POM and the OMC. For any special status wildlife species encountered, the CDFG and the USFWS would be contacted to determine the appropriate course of action. Botanical surveys would include but not be limited to Yadon's piperia, Hooker's manzanita, small-leaved lomatium, Monterey spineflower, Monterey ceanothus, sandmat manzanita, and |

| Table ES-3. Summary of Mitigation Measures | |
|---|---|
| Resource Area | Mitigation Measure |
| | virgate eriastrum. If present, plants should be enumerated, photographed, and conspicuously flagged and/or fenced to maximize avoidance and determine the total number of individuals affected. Timing of field surveys and flagging should correspond with the blooming period when this species is most conspicuous and easily recognizable. |
| | BIO-2 – Complete consultation with the USFWS regarding effects on Yadon's piperia and implement Biological Opinion recommendations, as required. Employ biological monitors at all construction sites prior to any soil disturbance or excavation. To reduce impacts to Yadon's piperia habitat, construction designs would incorporate selective Monterey pine tree removal as a first choice as opposed to complete clear cutting the forest in undeveloped areas. Consult with the USFWS, as necessary, if unanticipated observance of these species occurs at construction sites. Establish Conservation Areas, as described in the Biological Assessment, to protect large populations of Yadon's piperia in undeveloped areas such as west of Building 630 at the POM (MACTEC, 2005) and north of Mason Road across from Building 829. Relocate Yadon's piperia into appropriate receptor sites using methods and monitoring protocols acceptable to the USFWS or when permissible, donate individual bulbs to organizations conducting research condoned by the USFWS on the species. Receptor sites should be chosen as to minimize spore drift outside of the nature preserve. |
| | BIO-3 - The contractor would adhere to the Tree Protection Procedures that have been adapted by the POM Installation from the City of Monterey. |
| | BIO-4 – All native trees scheduled for removal would be clearly flagged. Native trees at both the POM and the OMC must be replaced at a 2:1 ratio in accordance with the INRMP. Trees at the POM would include, but not be limited to, Monterey pine, coast live oak, and Monterey cypress. Coast live oaks are native trees at the OMC. All trees not scheduled for removal would be protected as described in mitigation measure BIO-2. Replacement trees, particularly Monterey pines, and would be of appropriate genetic stock for the Monterey peninsula as determined by the most up to date research. |
| | BIO-5 – Measures would be taken to avoid the introduction of exotic or invasive plant species. Prior to entering the project area, workers should inspect their clothing, including shoes, all vehicles, and equipment for invasive plant seeds or plant parts. If found, compressed water or air should be used within a designated containment area to remove pathogens, invasive plant seeds, or plant parts. Any invasive plant seeds or plant parts found in the containment area would be gathered, placed in plastic bags and taken to an appropriate disposal facility.<br>Restoration and revegetation of disturbed areas would be conducted using primarily site-specific native plants and a select number of other appropriate species from the POM Installation's approved plant list. To avoid or reduce the potential introduction of harmful, non-native plant pathogens and organisms, all nursery stock and other landscape components would be consistent with INRMP and require review and approval by Army Environmental staff prior to its use. |
| | BIO-6 – On the OMC prior to the implementation of construction activities, a qualified biologist would conduct surveys to determine the presence/absence of California tiger salamander within the construction zone. If California tiger salamanders are present, the USFWS would be consulted before construction begins to determine what measures should be implemented to avoid effects on these species. |
| | BIO-7 – To prevent effects on California tiger salamander, temporary exclusion fencing would be installed around the proposed project boundaries (including access roads and staging areas) prior to the start of construction activities. The fencing would be made of suitable material, buried at the bottom to be effective, and installed with oversight by a qualified biologist monitor. The fencing would be continuously maintained until all construction activities are completed. After construction is complete, the exclusion fencing would be removed. |
| | BIO-8 – Work within habitat occupied by special status plant and wildlife species would be limited to existing access roads and to the minimal area practical. Staging areas, spoils storage, and equipment/vehicle parking should occur on existing hardscape in designated areas outside of occupied habitat if feasible. |
| | BIO-9 - In order to comply with the HMP and associated Biological Opinion and amendments, all efforts would be made to salvage, transplant, |

| Table ES-3. Summary of Mitigation Measures | |
|---|---|
| Resource Area | Mitigation Measure |
| | or relocate special status plant and wildlife species encountered prior to or during construction activities, when considered feasible. Training of construction personnel for special status species identification would be facilitated through mitigation measure BIO-10. |
| | BIO-10 – Construction personnel would be trained prior to the commencement of construction regarding the biological resources present at the proposed project site. The training would be developed and provided by a qualified biologist familiar with the sensitive plant and wildlife species that may occur in the project area and would provide educational information on the natural history of these species, required mitigation measures to avoid effects, and penalties for not complying with biological mitigation requirements. All project personnel would be required to receive training before they start working. |
| | BIO-11 – To avoid violations of federal and state migratory bird protections and prevent effects on migratory bird species, project construction would be timed to occur outside the breeding bird season, which occurs generally from February 1 through August 31. If construction must occur during the migratory bird nesting season, two biological surveys shall be conducted, one 15 days prior to and a second 72 hours prior to the commencement of construction activities that could impact local breeding birds. The surveys shall be performed by a biologist with experience conducting local breeding bird surveys. The biologist shall prepare survey reports documenting the presence or absence of any protected native bird in the habitat to be removed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors). If a protected native bird is found, surveys would be continued in order to locate any nests. If an active nest is located, construction within 300 feet of the nest (500 feet for raptor nests) would be halted until the USFWS and the CDFG are notified, and guidance from these agencies is received and proper procedures are implemented. The USFWS and the CDFG would be contacted to confirm the size of the buffer zone and provide guidance on the required avoidance measures per individual species. |
| | BIO-12 – A Tree Mitigation Plan would be implemented that includes measures such as replanting native tree species at a ratio of 2:1 in accordance with the INRMP. Restoration plantings would focus on site-specific native plants and adhere to landscape design standards outlined in the IDG and INRMP, including the selection, placement, and maintenance of plant material on the installation. |
| Traffic and Transportation | T-1 – Continue the ongoing partnership with the MST to expand/refine the service routes connecting the POM and OMC to encourage use of alternative transportation. |
| | T-2 – Reconfigure parking and roadways within the POM Installation to be more receptive to bicycle and pedestrian accessibility. |
| | T-3 – Provide sidewalk and bicycle trail connectivity throughout the POM Installation to encourage non-vehicular travel within the POM. |
| | T-4 – Implement as appropriate the short-, medium-, and long-term recommendations provided in the 2010 Comprehensive Transportation Study (Gannett Fleming and Military Surface Deployment and Distribution Command, Transportation Engineering Agency, 2010) to mitigate effects associated with the proposed POM projects. These improvements range from simple signing and pavement marking improvements to intersection lane expansion and additions, and, in some cases, removal of unnecessary intersection legs. Due to the extensive number of projects recommended, the reader is referred to the actual 2010 Comprehensive Transportation Study, accessible from the POM web site, for further details.<br>Traffic mitigation necessary for the development of a new gate at Highway 68 may be extensive. Because access to the POM would be from State Highway 68, Caltrans involvement and approval would be required. This type of project would require an environmental impact report or EIS. Additionally, the right-of-way along State Highway 68 would potentially require a deceleration lane in the northwesterly direction, and a left-turn deceleration lane in the southeasterly direction. If the Highway 68 gate moves beyond a conceptual level, the Army anticipates that the following mitigation measures may be necessary to construct a Highway 68 gate to serve the POM. |
| | T-5 – Prepare an EIR or EIS to comply with CEQA or NEPA, respectively, and other environmental requirements to develop the new ACP. |
| | T-6 – As part of the EIS or EIS, develop a detailed traffic engineering study and a microsimulation model to identify operational issues with the |

| Table ES-3. Summary of Mitigation Measures | |
|---|---|
| Resource Area | Mitigation Measure |
| | new potential ACP. |
| | T-7 – Negotiate with Caltrans to acquire new right-of-way for ingress and egress needs to serve the new ACP. |
| | T-8 – Encourage alternative modes of transportation (MST bus, carpool, parking at the OMC) during periods of extensive construction. |
| | T-9 – Develop a staging plan for each project that evaluates the possible use of nearby vacant land for staging and/or temporary parking to offset construction effects on existing parking facilities. |
| Noise | N-1 – Appropriate level of sound attenuation would be used or constructed to meet local ordinances, whenever possible. A potential sound attenuation measure that could be considered is temporary sound barriers near the construction activity noise source. |
| | N-2 – The construction contractor would be responsible for ensuring that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators, intact and operational. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding). |
| | N-3 – Construction would take place during weekday, daytime hours (Monday through Friday from 7:00 A.M. to 5:00 P.M.). In addition to the above mitigation measure, the POM currently promotes quiet hours during the normal work week for some construction projects. This could include quiet hours between 6:00 A.M. and 10:00 A.M. on specific work days, if requested by affected staff. |
| | N-4 – Provision of public notification of the project to local area neighborhoods and posting of signage that provides a phone number for the public to call to register complaints about construction-related noise problems. |
| Hazardous, Toxic and Radioactive Substances | HW-1 – The ACM and LBP removed from building rehabilitation work would be managed according to local, state, and federal requirements. The DoD guidelines for management of LBP apply. The POM's Asbestos Management Plan to prevent human exposure to asbestos hazards would be implemented. The ACM would be managed and disposed in accordance with the MBUAPCD rules and policies. |
| | HW-2 – For construction projects that may affect the POM-05 landfill cap, the closure and post-closure maintenance plans would be modified. Proposed land use changes and development plans would be submitted to the local regulatory and land use agencies, the Central Coast RWQCB, and the CIWMB for approval. The plans would address the proposed parking lot design and mitigation of potential effects. There is no proposed construction directly in the landfill area. A parking lot is proposed adjacent to the landfill; however, construction of this parking lot would be conducted in a manner that would not affect the landfill. |
| | HW-3 – Compliance with the California Stormwater Construction General Permit for stormwater practices would be necessary from the Central Coast RWQCB. This would also require development of a SWPPP that outlines BMPs for the Hazardous, Toxic, and Radioactive Substances hazardous materials handling and hazardous waste disposal in accordance with RCRA that would be implemented to reduce water quality effects associated with stormwater runoff and erosion. |
| Visual, Scenic, and Aesthetic Resources | There would be some visual effects on adjacent residences from construction of the proposed alternatives. These effects cannot be avoided, but they would be minimized to the extent practicable. Mitigation measures include, but are not limited to, minimizing the removal of mature healthy Monterey pines, using aesthetically attractive landscaping, planting additional native vegetation to serve as a visual buffer, selecting natural exterior colors more compatible with the surrounding area, and installing decorative fencing. Outdoor utility equipment would be shielded to the maximum extent practicable to minimize visual and aesthetic effects. |

| Table ES-3. Summary of Mitigation Measures | |
|---|---|
| Resource Area | Mitigation Measure |
| Cultural Resources | CR-1 - Construction activities associated with implementation of the RPMP have the potential to expose unknown subsurface cultural resources. If cultural resources are inadvertently discovered, work shall be halted within 30-meters of the find until it can be evaluated by a qualified professional archaeologist (per 36 CFR Part 61) and the USAG-POM Cultural Resource Manager. Inadvertent discoveries will require implementation of procedures set forth in the POM's ICRMP and Army Regulation (AR 200-1), which includes consultation procedures and planning requirements in Section 106 of the NHPA (16 U.S.C. 470f; 36 CFR Part 800).<br>If an inadvertent discovery of human remains occurs, work shall cease within 30 meters of the find and immediate notification must be made to the USAG-POM Cultural Resource Manager. The Cultural Resource Manager will preliminarily determine if the remains are from a recent crime scene (50 years old or less) or are of Native American descent and will immediately notify the Garrison Commander. If the remains appear recent, a 30-meter radius will be declared off limits to everyone, except authorized personnel, and the Army's Criminal Investigation Command will assume control of the crime scene. If the remains appear to be of Native American descent, the Monterey County Coroner's Office and the Oholone Coastanoan Esselen Nation will be contacted. |
| | CR-2 – If Barracks Phase IV were to be built on the Rifle Range Road site, it could involve the demolition of some or all of the buildings that constitute the Russian Village classrooms. Mitigation would occur through the Section 106 consultation process, which could include at a minimum, a Memorandum of Agreement and recordation of the Russian Village to Historic American Buildings Survey standards. |

*Notes:* ACM = asbestos-containing material; ACP =access control point; AFY = acre-feet per year; BMP = Best Management Practice; Cal-Am = California American Water Company; CARB = California Air Resources Board; CDFG = California Department of Fish and Game; CEQA = California Environmental Quality Act; CIWMB = California Integrated Waste Management Board; EIS = environmental impact statement; HMP = Habitat Management Plan; INRMP = Integrated Natural Resources Management Plan; IDG = Installation Design Guide; LBP = lead-based paint; LID = low impact development; MBUAPCD = Monterey Bay Unified Air Pollution Control District; MCWD = Marina Coast Water District; MPWMD = Monterey Peninsula Water Management District; MST = Monterey-Salinas Transit; NEPA = National Environmental Policy Act; NHPA – National Historic Preservation Act of 1966, as amended; RCRA = Resource Conservation and Recovery Act; RPMP = Real Property Master Plan; RWQCB = Regional Water Quality Control Board SWPPP = Stormwater Pollution Prevention Plan; SWRCB = State Water Resources Control Board; USEPA = U.S. Environmental Protection Agency; and USFWS = U.S. Fish and Wildlife Service

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# TABLE OF CONTENTS

# LIST OF FIGURES

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# LIST OF TABLES

## LIST OF APPENDICES

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# 1. INTRODUCTION

The United States (U.S.) Army Garrison-Presidio of Monterey (USAG-POM) has prepared this final environmental impact statement (EIS) for the Presidio of Monterey Installation (POM Installation) Real Property Master Plan (RPMP) in accordance with the National Environmental Policy Act of 1969 (NEPA), the regulations of the President's Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] Part 1500–1508), and the U.S. Department of the Army (Army) (32 CFR Part 651). NEPA requires the preparation of an EIS for major federal actions that would significantly affect the quality of the human environment.

The RPMP provides the direction for the orderly development of the POM Installation's real property assets, including land, facilities, and infrastructure. The RPMP serves as a general planning and guidance document to ensure that the master planning process is proactive in meeting the current and long-term mission requirements for the installation and its tenants, the largest of which is the Defense Language Institute Foreign Language Center (DLIFLC). The RPMP allows for systematic development that takes into account the constraints and advantages of the POM Installation, mission requirements, and long-range community goals.

The RPMP's intent is to provide a secure, high-quality environment for service members and their families, civilian employees, contractors, and retirees. The RPMP is required by Army Regulation 210-20, *Real Property Master Planning for Army Installations*, and adheres to the guidance in the Army's *Real Property Master Planning Technical Manual*, 4th Edition, dated December 2010 (U.S. Army, 2010a).

This EIS is a public document for use by the Army, other governmental agencies, and the public to determine and evaluate the potential environmental consequences of proposed projects, identify mitigation measures to lessen or eliminate adverse effects, and examine feasible alternatives to the projects. The effects analyses in this report are based on a variety of sources and the best available information at the time of preparation. The information contained in this EIS will be reviewed and considered by the Army and POM Installation Directorate of Public Works (DPW) prior to the final decision to approve, deny, or modify the proposed projects. The final decision will be documented in a Record of Decision (ROD).

## 1.1 STUDY AREA

The POM Installation is a geographical entity comprising multiple Army sites grouped together for planning purposes. A site is a discrete area of contiguous or nearly contiguous parcels of land.

### U.S. Army Garrison–Presidio of Monterey

The USAG-POM consists of five sites, but this EIS focuses only on the two sites that contain a majority of the land area and where planning and future development would occur—the Presidio of Monterey (POM) and the Ord Military Community (OMC). The remaining sites—Camp Roberts Satellite Communications Station (SATCOM), Monterey Recreation Site (occupied by the YMCA), and Benicia Military Cemetery—were not discussed in detail in the RPMP and are not described further. Consequently, the term POM Installation refers to only the POM plus the OMC. The USAG-POM is the organizational entity with base operations command and control of the POM Installation. The USAG-POM in turn reports directly to the Installation Management Command Headquarters.

### POM Installation

The POM Installation is located in northern Monterey County, California, along the coast of the Pacific Ocean, as shown in the regional map (Figure 1.1-1) and the location map (Figure 1.1-2). Figure 1.1-3 and Figure 1.1-4 illustrate the basic layout of the POM and OMC, respectively. Additionally, POM features, such as the landfill and Huckleberry Hill Nature Preserve, are shown on Figure 1.1-5.

### POM

The 392-acre POM contains a historic district, which comprises permanent and temporary buildings. The POM also is home to 20 barracks buildings, two company operations buildings, eight multi-story academic classrooms and supporting offices for the DLIFLC, a headquarters building, and community support facilities (e.g., dining, physical fitness, and recreation facilities; post exchange; and medical and dental clinics). The result is an academic setting in keeping with the population of students, language instructors, support staff, and civilian employees needed to operate an Army installation.

The DLIFLC is the largest foreign language training facility in the western world and the primary tenant of the POM Installation. The mission of the DLIFLC is to provide culturally based foreign language education and training for Department of Defense (DoD) personnel. This military operation helps ensure success of the defense language program and enhance national security.

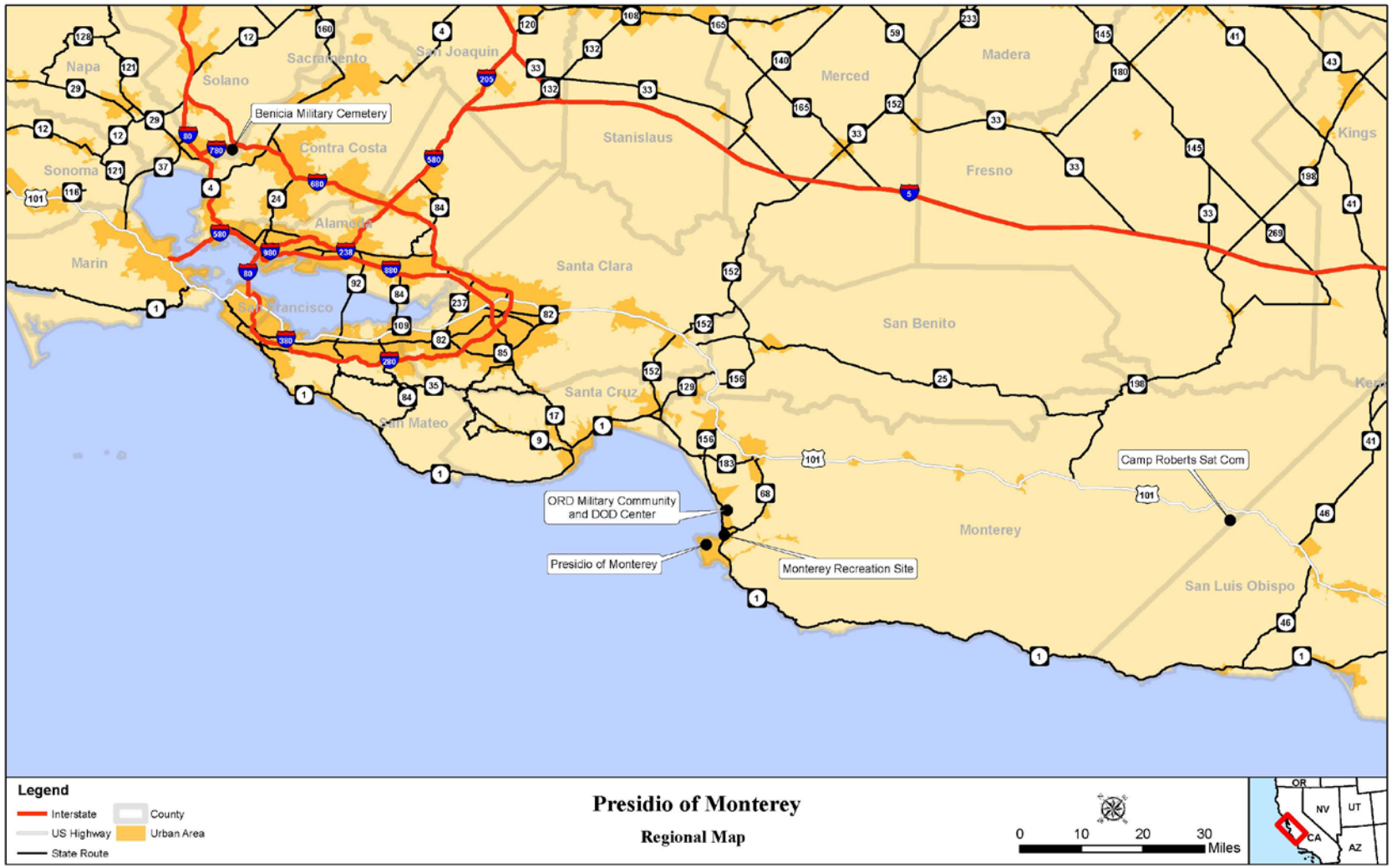


*Figure 1.1-1. Regional Map*

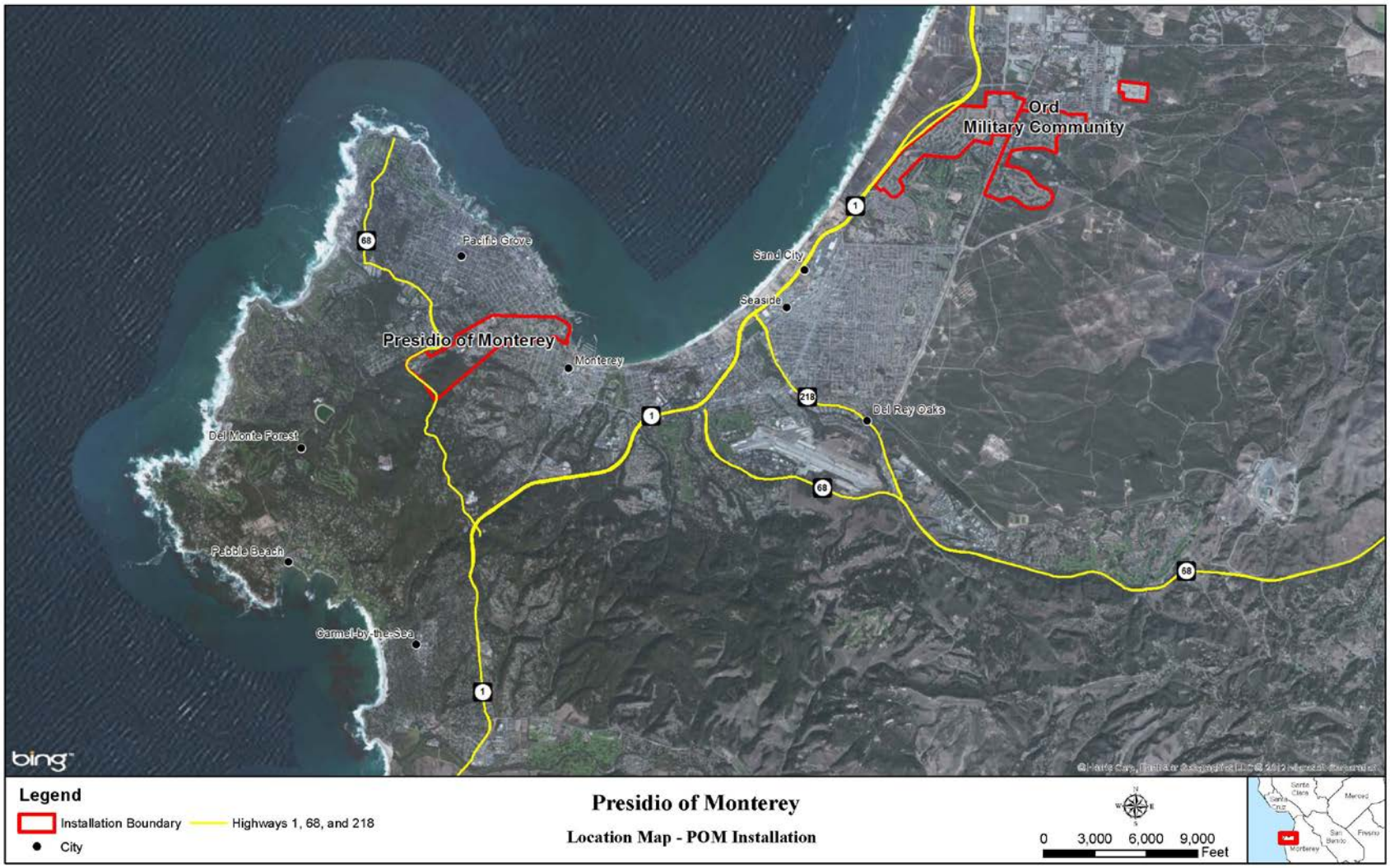


*Figure 1.1-2. Location Map – POM Installation*

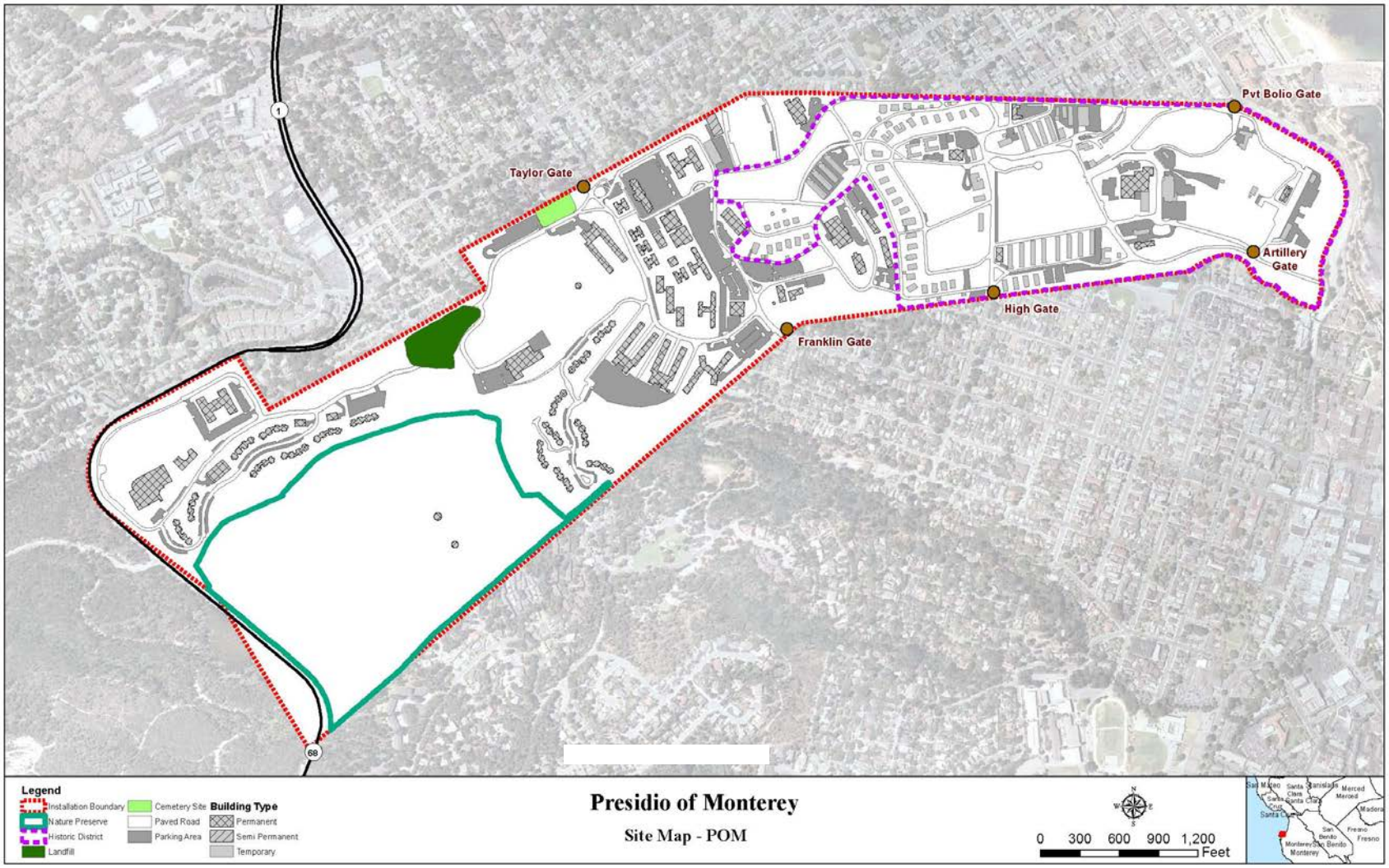


*Figure 1.1-3. Site Map – POM*

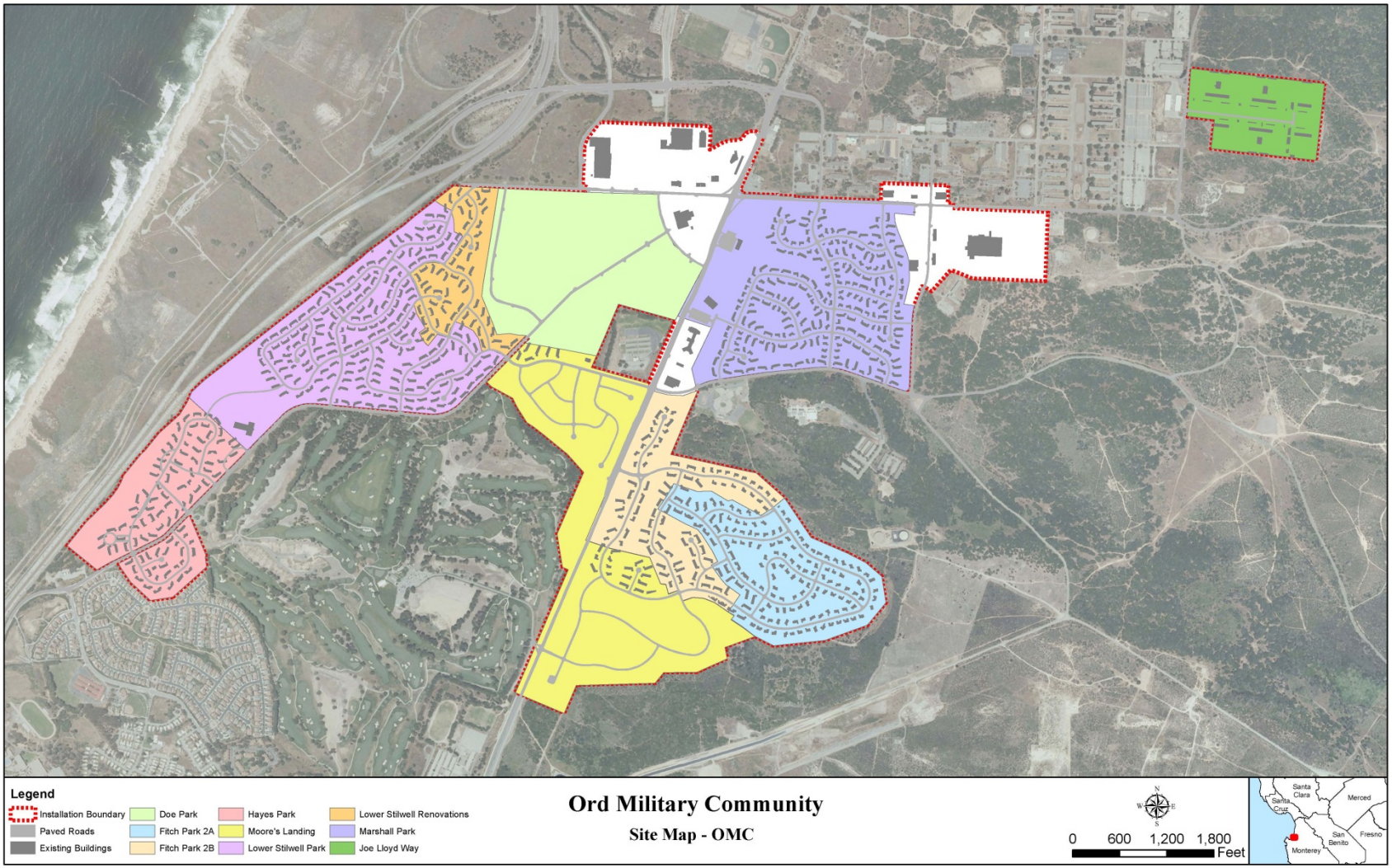


*Figure 1.1-4 Site Map – OMC*

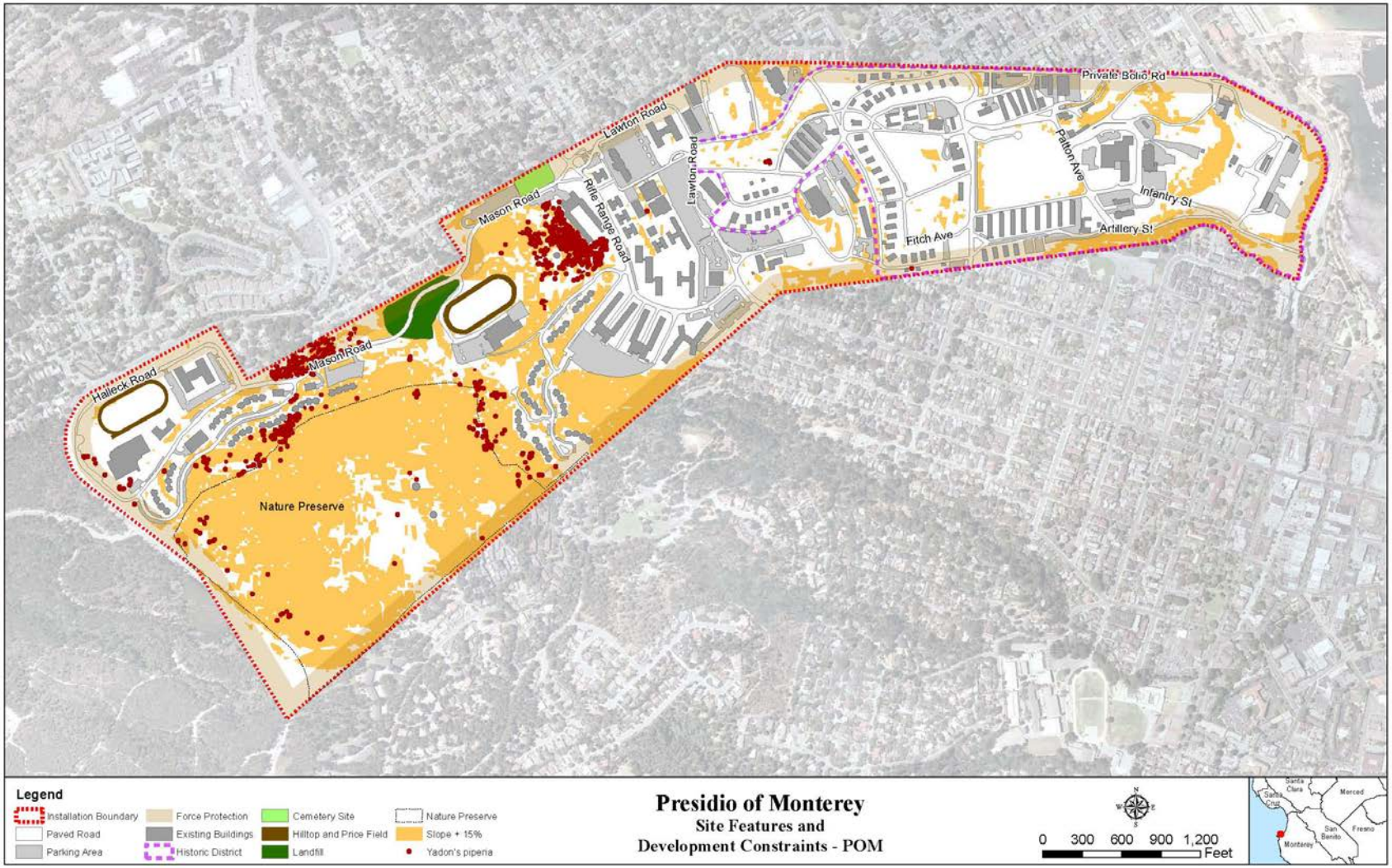


*Figure 1.1-5. Site Features and Development Constraints – POM*

### OMC

The OMC was formerly part of Ford Ord; it was selected for closure under the Base Realignment and Closure (BRAC) process in 1993. The OMC contains privately owned family housing, parks, the DoD Center – Monterey Bay (DoDC-MB), and community support facilities (e.g., emergency services, police and fire station, child development center, youth center, and community center). The development has resulted in a mixed-use, community-like setting for the populations of military service members attending the DLIFLC or Naval Postgraduate School, their families, the DoD civilian work force, and the public.

## 1.2 PREVIOUS STUDIES AND ENVIRONMENTAL DOCUMENTS

Several projects have contributed to the development of the POM Installation over the past 30 years. The following section presents a brief summary of the existing projects and respective documents that have contributed to the development of the POM Installation.

**Master Plan for the Presidio of Monterey Environmental Assessment (1983)**

Each Army community is required to have a property master plan, and an earlier Master Plan for the POM was prepared in 1983. An Environmental Assessment (EA) was prepared to assess the potential environmental effects of that Master Plan. The 1983 Master Plan presented the demand and need for facilities to support the DLIFLC. This Plan also defined the facility expansion and development projected to 1990. The projects were reviewed for possible Congressional funding in a 5-year program from 1986 to 1990. The EA identified a number of potential unavoidable adverse environmental and socioeconomic effects. These potential effects included air pollution, topographic modifications, soil erosion, water pollution, modification of onsite habitat, temporary increase of housing in neighboring communities, visual effects, energy consumption, increased demands on public facilities and services, and increased traffic generation. The implementation of construction mitigation measures identified in the 1983 Master Plan EA reduced these effects to less-than-significant levels (U.S. Army, 1983).

**Finding of No Significant Impact/Environmental Assessment for the Presidio of Monterey General Instruction Facility III, Audio Visual Center, Academic Auditorium, and Other Improvements (1994)**

The Army prepared an EA for the General Instruction Facility III, Audio Visual Center, Academic Auditorium, and other improvements. The document determined that there would be no significant adverse effects and resulted in a Finding of No Significant Impact (FONSI)(U.S. Army, 1994a).

**Leasing the Lower Presidio to the City of Monterey Environmental Assessment and Finding of No Significant Impact (1996)**

The Army prepared an EA that assessed the potential environmental effects of the leasing of the lower parcels of the POM near Monterey Bay to the City of Monterey. The document determined that there would be no significant adverse effects and resulted in a FONSI (U.S. Army, 1996).

**Final Environmental Assessment Presidio of Monterey Military Construction Project, Monterey County, California (2001)**

The Army prepared an EA to evaluate the potential environmental effects of renovating nine existing buildings and constructing new buildings at the POM. The project consisted of renovating existing classrooms (Buildings 619, 620, 621, 623, and 624) and existing barracks (Buildings 622, 627, 629, and 630). New construction projects, including a barracks, computer center, and audio-visual center, were proposed in addition to the renovation of existing buildings. The document determined that potential project effects could be reduced to less-than-significant levels and resulted in a FONSI (Harding Lawson Associates, 2001).

**Final Environmental Assessment Construction of New Dental Clinic and Demolition of Buildings 339 and 340 Presidio of Monterey, Monterey, California (2005)**

The Army prepared an EA to assess the potential environmental effects of removing Buildings 339 and 340 to construct the dental clinic. The document determined that there would be no significant adverse effects and resulted in a FONSI (USACE, 2005a).

**Environmental Assessment of Implementation of the Army Residential Communities Initiative Land Exchange, Monterey, California (2006)**

The Army prepared an EA to assess the potential environmental and socioeconomic effects of a land exchange with the City of Seaside in support of the Army's Residential Communities Initiative (RCI) at the OMC. Under the RCI, the Army was able to obtain private-sector funds for constructing, maintaining, managing, replacing, rehabilitating, and developing military family housing and ancillary support facilities. The EA addressed a land exchange to increase the amount of real property available for family housing development under the RCI program. Under the land exchange, the Army transferred the "Drumstick," Light Fighter Drive, and Firehouse parcels to the City of Seaside in exchange for the Stilwell "Kidney" parcel. All of these parcels are on or adjacent to the OMC. The document determined that there would be no significant adverse effects and resulted in a FONSI (USACE, 2006).

**Final Environmental Assessment for Proposed General Instruction Building Construction FY08, FY09, and FY10 on the Presidio of Monterey, Monterey, California (2007)**

The Army prepared an EA to assess the potential environmental effects of constructing three new General Instruction Buildings (GIBs) on the POM within the central campus area. These buildings were necessary to provide administration and classroom space for the DLIFLC. The proposed GIBs would provide approximately 260,000 square feet of academic space, an additional 192 modern language classrooms, and capacity for 384 faculty and staff. Construction for these buildings would occur from 2008 to 2011. Construction of the fiscal year (FY) 2008 GIB and FY09 GIB have been completed. Construction of the FY11 GIB (formerly FY10 GIB) began in 2011. The EA determined that there would be no significant adverse effects and resulted in a FONSI (ECW, 2007).

**VA Clinic at the OMC (2010)**

The Army prepared an EA in 2010 for leasing of a 12.39-acre Army-owned property to a private developer for potential construction of a medical services clinic to serve veterans and the active duty military community and their dependents. This property had formerly been leased to Monterey Bay Military Housing. The Proposed Action was needed to provide suitable space on the installation that would be available to support a longer-term lease action with a private entity. The EA determined that there would be no significant adverse effects and resulted in a FONSI.

**Real Property Master Plan for the Presidio of Monterey Installation (in development)**

The RPMP for the POM Installation is currently being prepared to replace the outdated 1983 Master Plan. The RPMP would serve as a guidance document to respond to future Army missions and is the subject of this EIS. The RPMP was prepared based on a comprehensive analysis and assessment of real property and consists of five components in accordance with the U.S. Army Real Property Master Planning Technical Manual: the Real Property Master Plan Digest, Long-Range Component, Installation Design Guide (IDG), Capital Investment Strategy, and Short-Range Component. The RPMP brings together information and concepts from many sources to ensure that adequate real property support is provided to meet the mission of the Army community.

## 1.3 PURPOSE AND NEED

The USAG-POM must meet the needs of its tenants, the largest of which is the DLIFLC. The DLIFLC is regarded as one of the finest schools for foreign language training in the nation. The mission of the DLIFLC is to provide culturally based foreign language education and training for DoD personnel to ensure success of the defense language program and enhance national security. The DLIFLC must increase training capacity

within the POM Installation in order to meet its mission requirements to train greater numbers of linguists more efficiently and effectively.

The Army is currently engaged in planning the realignment of its force structure to address budgetary constraints and critical mission requirements as part of the Army 2020 planning initiative. In January 2012, the Secretary of Defense announced that the Army would reduce its forces from approximately 570,000 Active Component Soldiers to 490,000 Soldiers. In addition, the pace of overseas deployments is projected to slow. In contrast, the USAG-POM projections indicate that the DLIFLC will be required to teach greater numbers of linguists for deployment throughout the world.

Although the number of Army service members is projected to decrease, not all DoD elements necessarily coincide with that trend. The DLIFLC anticipates that both its staff and student numbers will increase substantially over the next several years. In the era that will follow the Iraq and Afghanistan wars, the DoD will focus more on intelligence and reconstruction missions. This means that greater numbers of service members proficient in foreign languages will be needed. For example, the U.S. Air Force element at the POM has seen an increase of nearly 500 service members within the past year. The demand for military and foreign services members proficient in various languages continues to increase throughout the world. This condition results in a need for more service members to be trained for longer periods and employing additional instructors and support staff. Coincidently, the POM cannot meet the prescribed 1+1 barracks living standards (two soldiers per barracks room). Assigning up to three service members within a single room in certain barracks buildings is necessary due to insufficient barracks space. One overriding factor impeding growth at the POM is a lack of adequate barracks space and support facilities. The POM RPMP is intended to develop a sustainable installation that meets required living standards.

Further, there is a critical shortage of properly designed classrooms, foreign language labs, and GIBs to adequately meet the mission requirements at the DLIFLC. The need for new barracks and instructional facilities is described in the following sections.

### 1.3.1 Population Growth

The overall population at the POM Installation is projected to decrease based on DoD quarterly population projections for the POM Installation, which must then provide facilities and services for this population. Meanwhile, due to increases in demand for foreign language training services and skills, the student population at the DLIFLC will increase with no corresponding ability to house the increased number of students. Additionally, the Proficiency Enhancement Program (PEP) for foreign language training requires a reduction in student-to-teacher ratios. The ratio at the DLIFLC is being reduced from 10:2 to 6:2 to meet the PEP requirement, which would result in an increase in the number of faculty members to correspond with the anticipated increase in the student population. As the number of students, instructors, and support staff

increases to meet the DLIFLC mission, new construction, renovation, and upgrading of facilities has become necessary. For instance, the POM must increase dining facility capacity, provide updated language student accommodations, and develop new command and control facilities. The projected student population at the DLIFLC over the master planning period is shown in Table 1.3-1. This table also shows barracks capacity during the same period. Housing needs are described in the following section, and Table 1.3-1 demonstrates the need for more barracks capacity to address the rising student population and avoid overcrowding.

Table 1.3-1. Student Population and Barracks Projections at the POM Installation

| Year | Student Population | Student Population Expected On-post (1) | Capacity | Shortfall |
|---|---|---|---|---|
| 2012 (2) | 3,986 | 2,790 | 2,087 | 703 |
| 2013 | 3,858 | 2,700 | 2,087 | 613 |
| 2014 | 3,823 | 2,676 | 2,087 | 589 |
| 2015 | 4,326 | 3,028 | 2,407 (3) | 621 |
| 2016–2030 | 4,242 | 2,969 | 2,407 | 562 |

*(1) This estimate is based on the student population multiplied by 0.7. The remainder is either officers or students who have accompanying dependents and are entitled to live off-post.*

*(2) These are actual figures for 2012.*

*(3) This increase assumes that the Barracks Complex Phase I will be ready for occupancy.*

### 1.3.2 Housing Needs

Although the overall population at the POM Installation will decrease, future student and faculty population growth at the POM Installation will place increasing demand on existing housing services at the POM, the OMC, and neighboring cities. Existing housing at the POM and the OMC would not have the capacity to support the expected student population growth. Therefore, military personnel and families would be required to find off-post housing. High rental prices and low vacancy rates could limit the ability of military personnel to live close to the installation, creating a need to live in more distant and less expensive areas.

### 1.3.3 Facilities Needs

Improvements at the POM include adding new barracks and GIBs and updating classrooms and offices. A centralized campus designed to encourage pedestrian activity and reduce motorized vehicles is an objective of the POM Installation. Meanwhile, there is continuing need for anti-terrorism/force protection (AT/FP) measures and restricted access to the POM. Currently, the POM is not fully implementing the AT/FP standards, and personnel are at risk (see Section 1.3.4).

Classrooms and offices are located in substandard buildings. POM Buildings 619, 620, 621, and 623 were constructed in 1975. Building 624 was built in 1957. Other schools are housed on the lower portion of the

POM in pre-World War II, wooden, converted barracks. These buildings remain essentially the same as when constructed except for changes to the interiors. Many of these structures were designated as temporary and never intended for long-term use. Although the buildings are maintained to the best standards possible within resource limitations, the lighting, heating, ventilation, sanitary sewer, and potable water systems remain inefficient while constantly requiring maintenance. The ability to use state-of-the-art communications, electronics or technological advanced teaching aides is seriously compromised by inadequate electrical systems, faulty/obsolete infrastructure, and structural deficiencies beyond the point of repair. Furthermore, some buildings are not designed for use by personnel with physical disabilities. These conditions are not conductive to providing a high-quality environment, especially one for intensive learning activities.

The role of the DLIFLC is to adequately train sufficient numbers of linguists for deployment throughout the world. The DLIFLC is experiencing a steady gain in student population to coincide with a need to phase in more immersion-type training for greater proficiency. The PEP requires a reduction in the student-to-instructor ratio from 10:2 to 6:2 therefore resulting in a need for additional classrooms and offices. Failure to renovate completely, replace, or provide additional learning facilities would result in safety issues and lessen the foreign language learning experience. This condition would eventually culminate in a negative effect on troop morale, student and instructor retention rate, and the overall mission of the DLIFLC.

Heating and ventilation systems also are inadequate. In some cases, the water and sanitary sewer lines are inadequate. Walls are weakened and can no longer be patched or painted. Buildings 620 and 624 also do not have elevators and, therefore, do not comply with Americans with Disabilities Act (ADA). Both interior and exterior paint is fading and cracking, and some buildings require lead-based paint (LBP) abatement.

Currently, the shortfall of classrooms and offices is being met by leasing facilities outside the installation. These leases are a significant expense, costing approximately $1.5 million per year, and are only planned as a short-term, interim solution until additional space becomes available on the POM. Meanwhile, overseeing these operations at multiple locations outside the main cantonment areas creates logistical challenges associated with the military's span of control, increases demand for transportation services, diverts from consolidating activities within a central campus, and delays achieving the PEP objectives.

These problems combine to create a situation in which mere repairs and maintenance would not be adequate. Failure to replace the buildings would result in safety issues and would mean that language instruction would not be as efficient as required negatively affect the mission of the DLIFLC. Continued use of the inadequate buildings also could affect troop morale and retention rates. These deficiencies need to be corrected to enhance the quality of life and educational experience at the POM.

### 1.3.4 Security Needs

Security measures are constantly assessed to ensure compliance with Army force protection standards. Some facilities on the POM require upgrades. The OMC property is currently an open installation with no special permits or licenses required for access. The OMC is not designed to meet the security standards defined in Unified Facilities Criteria (UFC) 4 010-01, *DoD Minimum Antiterrorism Standards for Buildings*.

The Draft RPMP identifies facility improvements, replacements, and sequencing of construction necessary to sustain the mission requirements. The need for these improvements is to ensure that the active service members, staff, and instructors have modern educational facilities and living quarters to improve the quality of life throughout the community.

## 1.4 SCOPE OF ENVIRONMENTAL ANALYSIS

This EIS identifies, documents, and evaluates the potential environmental effects of the short- and long-range projects proposed over the 20-year planning horizon. The base year for this EIS is 2010. Potential environmental effects are being analyzed at both short-range (specific) and long-range (programmatic) levels. The short-range project is being evaluated in detail and designs may be refined prior to implementation. Detailed analyses for long-range projects generally occurs after completion of the design phase, typically two years prior to construction. This process is expected to hold true for all long-range projects at the POM and the OMC. Site-specific studies and NEPA analyses need to be conducted assuming the Army continues to validate a need for these long-term projects and an appropriated source of funding is available. This EIS analyzes the direct, indirect, and cumulative effects of each alternative. Within this document, the potential environmental effects of each proposed federal action are analyzed separately.

An interdisciplinary team consisting of but not limited to archaeologists, biologists, civil engineers, economists, environmental scientists, master planners, and military personnel analyzed the proposed federal actions. The relevant adverse and beneficial effects associated with the actions are identified. Two primary alternatives are proposed: POM-Centric (Alternative 1) and POM and OMC (Alternative 2).

The first chapter of the document provides the purpose, need and scope of this EIS. The Proposed Action and alternatives, including the No Action Alternative, are described in Chapter 2. Existing conditions, considered to be the baseline conditions, are described in the Affected Environment in Chapter 3. The expected effects of the Proposed Action and the alternatives considered are described under Environmental Consequences and Mitigation in Chapter 4. Chapter 4 also identifies mitigation measures. Cumulative Effects and Other Disclosures are addressed in Chapter 5.

The environmental resources categories addressed include: Water Supply; Water Quality; Geology, Soils and Mineral Resources; Air Quality; Vegetation and Wildlife; Land Use; Population and Housing; Traffic and Transportation; Noise; Utilities, Energy, and Public Services; Hazardous, Toxic, and Radioactive Substances; Public Health and Safety; Socioeconomics; Environmental Justice; Visual, Scenic, and Aesthetic Resources; and Cultural Resources.

The Draft EIS analyzed growth-inducing effects in Chapter 4 of the Draft EIS because the Army then believed the overall population at the POM Installation would increase. Upon further analysis, as explained in the description of the project alternatives in Section 2.6 and shown on Table 2.6-1, the Army now anticipates the overall population at the POM Installation will either remain the same or slightly decrease. Accordingly, growth-inducing effects are no longer analyzed as a resource in this Final EIS.

### 1.4.1 General Public Involvement Process

The Army promotes public participation as required under the NEPA process. Consideration of the perspectives and involvement of interested persons supports open communication and enables better decision making. All agencies, organizations, and members of the public having a potential interest in the Proposed Action are encouraged to participate in the public involvement process. Throughout this process, information may be obtained through the POM Installation Public Affairs Office (telephone: 831-242-6421; mailing address: 1759 Lewis Rd., Room 142B, Monterey, CA 93944; email: presidiopao@gmail.com). Public participation opportunities with respect to this EIS and decision making on the Proposed Action are guided by 32 CFR Part 651, which describes stakeholder involvement throughout the EIS process.

### 1.4.2 Notice of Intent

The Army published a Notice of Intent announcing preparation of this EIS in the Federal Register on Tuesday, January 6, 2009 (Volume 74, Number 3, Pages 435–436). Appendix A provides a copy of the Notice of Intent.

### 1.4.3 Scoping Process

On January 27 and 28, 2009, the Army presented the proposed project at public scoping meetings (refer to the planning maps in Appendix B). Meetings were held from 6:00 P.M. to 9:00 P.M. at the Monterey Institute of International Studies in Monterey and at the General Stilwell Community Center at the OMC in Seaside. A total of 31 people attended these meetings. Written public comments on the scope of this action were solicited during the meetings. The Army considered these comments to determine and develop the environmental resource areas addressed in this document.

Public comments received during the scoping period reflected several main concerns:

- Loss of Monterey pine forest and effects on biological resources (including Yadon's piperia, a federally listed endangered plant species, and the Huckleberry Hill Nature Preserve)
- Height of buildings and effects on views and visual vistas
- Increased traffic traveling through adjacent neighborhoods within the City of Monterey
- Increased demand for water in relationship to the limited supply
- Capacity of existing infrastructure to handle increases in stormwater runoff and wastewater

Following the public scoping meetings, a planning charrette was conducted. The USACE concluded the proposed site for the Barracks Complex Phase I and IV barrack buildings was insufficient in size to support the two buildings and the required parking area. The parking area was then divided between two locations on opposite sides of Mason Road and one of the barracks was moved to the eastern edge of the Huckleberry Hill Nature Preserve (see map in Appendix B dated November 2009, Phase I barracks project shown in pink/salmon color).

Plant surveys conducted in 2010 revealed an undocumented population of Yadon's piperia within the larger portion of the proposed parking area and expanded populations east of the preserve. These sites were determined off-limits for development prompting the POM DPW to continue the planning process. After analyzing several alternative sites, the Barracks Complex Phase I & IV buildings were proposed as described in the Draft EIS. Details about each barracks complex are provided in the Final EIS at sections 2.2.1 and 2.3.1. Public review of and comment on the Draft EIS are described in the following section.

### 1.4.4 Public Review and Comment Process

The Draft EIS was released for a 45-day public review period starting from the publication of the Notice of Availability in the Federal Register on Friday, April 22, 2011 (Volume 76, Number 78). The Notice of Availability and the notice of public meetings were published in the Monterey County Herald and Monterey Military News. The Draft EIS was distributed to the public agencies and organizations listed in Chapter 7 of this document. The Army held two public meetings in the cities of Monterey and Seaside on May 31 and June 2, 2011, respectively, from 6:00 P.M. to 9:00 P.M. to answer questions and solicit public comments concerning potential environmental effects associated with the proposed development. A total of 27 people attended the two public meetings.

All written comments received on the Draft EIS were considered, and this Final EIS was completed with consideration of those comments. The responses to comments are presented in Appendix C. This Final EIS is being distributed to the parties that received the Draft EIS.

The EIS and the proposed RPMP projects were altered in response to the concerns and comments received from the public and government agencies listed in Appendix C. Some of the changes to the EIS and environmental improvements to the proposed RPMP projects include the following:

- The Barracks Complex Phase IV was relocated from the ravine site selected in the Draft EIS to the previously developed site along Rifle Range Road as described in Section 2.3.1, resulting in reduced impacts to Monterey pine forest and endangered Yadon's piperia habitat and less potential for erosion and stormwater pollution. This project was also changed from a short term to long term project, and would require additional NEPA analysis before being approved for construction.
- The Barracks Complex Phase I was relocated from the wooded slope of Huckleberry Hill to the parking lot north of POM Building 829 as described in Section 2.2.1.2, resulting in reduced impacts to Monterey pine forest and endangered Yadon's piperia habitat and less potential for erosion and stormwater pollution.
- A discussion of greenhouse gas (GHG) emissions associated with energy use as recommended by CEQ's Draft NEPA Guidance on Consideration of the Effects of Climate Change and GHG Emissions was added to the Final EIS along with a description of the POM Installation's ongoing energy conservation activities designed to offset GHG and other air emissions and energy use as part of the proposed RPMP projects.
- The discussion of water supply availability for the proposed RPMP projects was revised based on input from the Monterey Peninsula Water Management District (MPWMD).
- The proposed Highway 68 Access Control Point (ACP) was listed as a potential long-range project in the Draft EIS. This project has been reduced to a potential gate construction for emergency vehicle access. If a decision is made to construct a new gate in the future, a project-level NEPA analysis would be completed at that time and would need to include detailed environmental impact analysis, additional NEPA documentation, extensive coordination with several other critical stakeholders, and approvals from governmental transportation agencies. Furthermore, a number of improvements to State Highway 68 and supporting infrastructure must be completed by the other stakeholders before the Army could justify construction of this gate. Additional information is provided in Sections 2.3.2, 4.8.2.2, and 4.8.5.
- The renovation of the Weckerling Center. was removed from this EIS as described in Section 2.2.

Complete responses to comments are provided in Appendix C.

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# 2. PROPOSED ACTION AND ALTERNATIVES

This chapter characterizes the Proposed Action and alternatives, including the No Action Alternative. Proposed project sites and alternatives considered but dismissed are also discussed.

## 2.1 PROPOSED ACTION

The Proposed Action is intended to meet the ongoing mission requirements of the installation by implementing both short-range and long-range development outlined in the POM RPMP. Under the Proposed Action, facility improvements, renovations/replacements, and upgrades to meet AT/FP requirements would ensure military service members, their families, staff, and instructors are provided with modern facilities consistent with Army standards well into the twenty-first century. Proposed development projects involve upgrading existing facilities and constructing new facilities at both the POM and the OMC. These projects would improve the quality of life for military service members by providing modern living quarters, upgrading classroom technologies, and providing improved amenities. Additionally, four new barracks complexes and several GIBs would be provided.

The RPMP identifies proposed short-range and long-range project building renovations or upgrades to be implemented over a 20-year planning horizon. Construction of the short-range project is scheduled to begin in 2013 with the POM Barracks Complex Phase I. Construction of the majority of the long-range projects is proposed to start between 2018 and 2025, with the remainder of long-range projects extending out to 2030. Long-range projects include the ACP upgrades; classroom renovations; Barracks Complexes Phases II, III, and IV; and other projects. Additional NEPA documentation would be necessary for the long-range projects as they move forward into the design and construction phases. These projects (along with the associated Army project numbers) are shown in Table 2.1-1.

| Table 2.1-1. Proposed Construction Projects and Upgrades | | | | | |
|---|---|---|---|---|---|
| Army Project No. | New and Upgraded Facilities | Type of Activity | Construction Date | Square Footage | Description |
| *Short-range Project (2013–2018) — POM Improvements* | | | | | |
| 53789 | Barracks Complex Phase I | Demolition and new construction | 2013 | 164,960 | Construction of 3 buildings (5-story barracks, dining facility, and company operation facility) and 4 parking lots. New barracks would be located in the existing parking lot of POM Building 829. Facility would house 320 military personnel and dining facility would serve 474 people per sitting. Support facilities would include utilities, exterior lighting, drainage, and a surveillance system. This project would impact some endangered Yadon's piperia and will require consultation with the USFWS. |
| *Long-range Projects (2018–2030)* | | | | | |
| 61222 | Barracks Complex Phase IV | Demolition and new construction | 2018 | 155,200 | Construction of a 6-story barracks building immediately east of Rifle Range Road to provide adequate and updated accommodations for language students from all four services. New building would house 400 military personnel. The existing single-level parking lot for Building 660 would be replaced with a multi-level parking structure. Support facilities would include utilities, exterior lighting, drainage, and a surveillance system. |
| 53790 | Barracks Complex Phase II | Demolition and new construction | 2019–2023 | 165,971 | Construction of a company operation facility, a battalion headquarters building, and a 4- to 6-story barracks that would house 360 military personnel to provide adequate and updated accommodations for language students from all four services. Supporting facilities would include utilities, exterior lighting, storm drainage, and a surveillance system. |
| 53791 | Barracks Complex Phase III | Demolition and new construction | 2022–2025 | 139,160 | Construction of a company operation facility, a battalion headquarters building, and a 4- to 6-story barracks that would house 320 military personnel to provide adequate and updated accommodations for language students from all four services. Support facilities would include utilities, exterior lighting, drainage, and a surveillance system. |
| 68730 | General Instruction Building | New construction and demolition | 2022–2025 | 110,000 | Construction of a standard design 3- to 6-story GIB to accommodate and provide modern facilities for the anticipated future growth of students. The GIB, which would include about 100 classrooms, would consolidate language training to improve both effectiveness and efficiency of instruction. Support facilities would include utilities, fire protection and alarm systems, parking, drainage, information/network support systems, and access for persons with disabilities. |
| 68882 | General Instruction Building | New construction and demolition | 2025–2027 | 110,000 | Construction of a standard design 3- to 6-story GIB to accommodate and provide modern facilities for the anticipated future growth of students. The GIB, which would include about 100 classrooms, would consolidate language training to improve both effectiveness and efficiency of instruction. Support facilities would include utilities, fire protection and alarm systems, parking, drainage, information/network support systems, and access for persons with disabilities. |

| Table 2.1-1. Proposed Construction Projects and Upgrades | | | | | |
|---|---|---|---|---|---|
| Army Project No. | New and Upgraded Facilities | Type of Activity | Construction Date | Square Footage | Description |
| 73637 | General Instruction Building | New construction and demolition | 2020–2025 | 25,000 | Project would replace scope lost from the FY08 GIB project.<br>Construction of a standard design 2 to 3-story GIB to accommodate and provide modern facilities for the anticipated future growth of students. The GIB would consolidate language training to improve both effectiveness and efficiency of instruction. Support facilities would include utilities, fire protection and alarm systems, parking, drainage, information/network support systems, and access for persons with disabilities. |
| *Long-range Projects (2019–2030) — POM Improvements* | | | | | |
| 25091 | Classroom Renovation I | Renovation of existing structures | 2019 | 76,634 | Renovation of two 3-story GIBs (Buildings 620 and 624) to current standards by upgrading ventilation, heating, and electrical systems and replacing interior surfaces (floor and ceiling tiles) and exterior doors. Installation of an elevator in each building would meet ADA requirements. |
| 67802 | Gate at Highway 68 | New construction | 2019–2023 | NA | Construction of an entrance gate in vicinity of State Highway 68 that would meet AT/FP requirements. This project would require substantial additional study and completion of projects by stakeholders other than the POM Installation and the Army before considered viable. |
| 58441 | Access Control Point (Private Bolio Road) | Demolition and new construction | 2019–2023 | NA | Construction of an ACP at Private Bolio Gate that would meet AT/FP requirements. Would include a guard house, visitor center, barrier system, CCTV, traffic control, and passenger and vehicle search areas. Supporting facilities would include utilities, storm drainage, roads, and parking. |
| 57898 | Access Control Point (Taylor Street) | Demolition and new construction | 2019–2023 | NA | Construction of an ACP at Taylor Street Gate that would meet AT/FP requirements. Would include a guard house, visitor center, barrier system, CCTV, traffic control, and passenger and vehicle search areas. Supporting facilities would include utilities, storm drainage, roads, and parking. |
| 67807 | Access Control Point (High Street) | Demolition and new construction | 2019-–2023 | NA | Construction of an ACP at High Street Gate that would meet AT/FP requirements. Would include a guard house, visitor center, barrier system, CCTV, traffic control, and passenger and vehicle search areas. Supporting facilities would include utilities, storm drainage, roads, and parking. |
| 70934 | Access Control Point (Franklin Street) | Demolition and new construction | 2019–2023 | NA | Construction of an ACP at Franklin Street Gate that would meet AT/FP requirements. Would include a guard house, visitor center, barrier system, CCTV, traffic control, and passenger and vehicle search areas. Supporting facilities would include utilities, storm drainage, roads, and parking. |
| 57949 | Security Fence Upgrade | Demolition and new construction | 2019–2023 | 24,000 linear feet | Upgrade existing fence to meet current AT/FP and security standards. Construction, replacement, and repair of fencing and 6 entrance gates. Project is required to prevent unauthorized access to the POM. Portions of the fence line would traverse Yadon's piperia habitat. This project will require consultation with the USFWS. |

| Table 2.1-1. Proposed Construction Projects and Upgrades | | | | | |
|---|---|---|---|---|---|
| Army Project No. | New and Upgraded Facilities | Type of Activity | Construction Date | Square Footage | Description |
| 55996 | Water Diversion | Renovation of existing | 2027–2030 | NA | Drainage improvements to prevent underground water runoff from flooding basement classrooms and laboratories and restricting their use for prolonged periods. Project would consist of inlets to receive downspout flows, provision of alternate paths of flow, installation of drain trenches, replacement of existing turf landscaping, and improvements to streets and walkways. The project would occur at three sites:<br>• Site I: Buildings 209, 210, 212, 214, 215, and 216<br>• Site II: Buildings 274, 275, and 276<br>• Site III: Buildings 450, 451, 452, 453, 454 |
| 56424 | Elevator Installation | Renovation of existing | 2019–2023 | NA | Construct elevator shaft and install elevator in POM Building 614 to comply with ADA requirements. An elevator would be required to make the building more accessible. |
| 65423 | Joint Services Training Center | New construction | 2023–2025 | 12,600 | Construction of a general assembly hall with seating for 1,500 to support DLIFLC activities, such as lectures, training, meetings, and ceremonies. This new facility would replace the Tin Barn for use for student assemblies. Supporting facilities for the center would include utilities, storm drainage, and parking. Heating would be provided by a self-contained gas-fired system. The project would replace a portion of the existing Tin Barn parking lot and would be located in the parking area in the vicinity of Building 517. |
| 70937 | Multi-Level Parking Structure (Lawton Road) | New construction | 2024–2026 | NA | Construction of new parking west of Lawton Road to replace parking areas lost from associated new building construction. Assumes standard design for about 300 vehicles and up to 3 floors. |
| 70942 | Multi-Level Parking Structure (Corporal Evans) | New construction | 2026–2028 | NA | Construction of new parking to replace parking areas lost from associated new building construction. Assumes standard design for about 300 vehicles and up to 3 floors. |
| 70940 | Multi-Level Parking Structure (Private Bolio Road) | New construction | 2020–2022 | NA | Construction of new parking to replace parking areas lost from associated new building construction. Assumes standard design for approximately 900 vehicles and up to 3 floors. |
| 70941 | Multi-Level Parking Structure (Rifle Range) | New construction | 2025–2027 | NA | Construction of new parking to replace parking areas lost from associated new building construction. Assumes standard design for about 300 vehicles and up to 3 floors. |
| 41434 | Classroom Renovation II | Renovation of existing | 2023–2025 | 75,320 | Renovation of three 3-story GIBs (Buildings 619, 621, and 623) to current standards by upgrading ventilation, heating, and electrical systems and replacing interior surfaces (floor, ceiling tiles) and exterior doors. Installation of an elevator in each building to meet ADA requirements. |
| 52364 | Indoor Swimming Pool | New construction | 2025–2026 | 10,000 | Construction of an indoor swimming pool to meet training and recreational needs of military personnel. Replaces the need to pay to use the City of Monterey municipal pool. Would include upgrades to utilities, sidewalks, and drainage. This site is located within habitat for a federally endangered plant species and will require consultation with the USFWS. |

| Table 2.1-1. Proposed Construction Projects and Upgrades | | | | | |
|---|---|---|---|---|---|
| Army Project No. | New and Upgraded Facilities | Type of Activity | Construction Date | Square Footage | Description |
| *Long-range Projects (2019–2030) — OMC Improvements* | | | | | |
| 58898 | Cantonment Area Fence | New construction | 2019–2020 | 52,800 linear feet | Construction of a 10-mile perimeter fence to secure primary cantonment area and provide a protective barrier for controlled, limited, and exclusion areas at the OMC. Fencing to be constructed to current AT/FP and security standards. |
| 66070 | Emergency Services Center | New construction | 2019–2020 | 33,141 | Construction of a new facility to house the police and fire departments. Would consist of an apparatus room as well as primary use and dorm areas. Supporting facilities would include utilities, roads and parking, and drainage. |
| To be determined | Replacement Child Development Center | New construction | 2025–2030 | 23,530 | Replacement of existing child development center, which will be taken over by the City of Seaside. Timing is estimated. |
| 73537 | Playground, General Purpose | New construction | 2025 | NA | Construction of new playground for elementary school age children. |
| 73538 | Youth Center Alteration | Renovation | 2023 | NA | Reconfiguration of building interior to separate kindergarten, youth and teen age children programs. |

*Notes:* ADA = Americans with Disabilities Act; ACP =access control point; AT/FP = anti-terrorism/force protection; CCTV = closed-circuit television; DLIFLC = Defense Language Institute Foreign Language Center; GIB = General Instruction Building; NA = not applicable; and USFWS = U.S. Fish and Wildlife Service

## 2.2 DEVELOPMENT AND SELECTION OF SHORT-RANGE PROJECT SITES

Sites for implementation of the Barracks Complex Phase I project were evaluated for their suitability for new development. Development constraints taken into consideration when identifying reasonable alternatives included the following:

- AT/FP
- Archeological resources
- Historic resources
- POM cemetery
- Monterey pine forest and associated special status species
- Yadon's piperia (federally listed endangered plant species)
- Huckleberry Hill Nature Preserve
- Slopes and topography
- POM landfill
- Geologic properties

### 2.2.1 Barracks Complex Phase I (FY11 Barracks)

Construction of the POM Barracks Complex Phase I project was funded in FY11. The project would consist of a new barracks building with four associated parking areas and a dining and administration facility. The new buildings would total 164,960 square feet. The new 5-story barracks would accommodate 320 persons and provide other general services such as laundry and mail rooms. The barracks would house military personnel year-round. The Barracks Complex would be busiest during meal times and the evening hours because of typical student schedules. The new dining facility would serve up to 474 people at a single sitting. The parking lots would have approximately 235 spaces.

Several sites on the POM Installation were considered for construction of parking and the barracks building before the Army chose the preferred sites. The following sections discuss the sites considered but ultimately dismissed as a result of potential significant effects and public comments and the sites chosen as the preferred project sites.

#### 2.2.1.1 Parking

##### Sites Considered

**Area North of Mason Road** – The original concept for the FY11 Barracks Building Phase I parking consisted of two areas. The largest of the parking areas was located between Mason Road and the perimeter fence of

the installation, due north of the FY11 Barracks site. However, when the Army conducted federally endangered Yadon's piperia surveys in 2010, a previously undocumented population of the plants was found in the site. Construction at this site would affect approximately 3.5 acres of occupied Yadon's piperia habitat and approximately 2,600 individual plants. This site was therefore dismissed from consideration for development (it is now designated a Conservation Area), and the parking lot was relocated to a wooded area immediately south of the post exchange (POM Building 660).

**Area South of Mason Road** – Another area across Mason Road to the south was considered for a smaller parking lot. This location was north of the originally preferred site for Barracks Complex Phase I before that barracks structure was moved due to the presence of a geologic fault as described in Section 2.2.1.2. The site for the smaller parking lot, south of Mason Road, was substantially reduced to accommodate ADA-only parking. The parking area would be constructed as a new single-level lot near the new FY11 Barracks building.

**Vicinity of Buildings 627 and 629** – Two existing parking lots behind Buildings 627 and 629 were considered for reconfiguration and reconstruction to provide parking for the dining and administrative facilities. These lots would be reconfigured and reconstructed within the existing parking lot. Better utilization of the existing parking lots would reduce the need for paving in undeveloped areas and potential stormwater runoff. This site, however, would not provide as many parking spaces as the preferred alternative.

**South of the Post Exchange (Building 660)** – A larger parking lot for the Barracks was considered to be moved to the site south of the post exchange (Building 660). This lot would be a new single-level lot terraced to conform to the existing topography. This site was also previously considered as a location for the Barracks Complex Phase IV parking. Placing the parking lot at this site, however, would avoid effects on approximately 3.5 acres of occupied Yadon's piperia habitat and approximately 2,600 individual plants. This site was selected as the preferred site for constructing one of the FY11 Barracks parking lots.

### Preferred Parking Sites

**Variation of South of the Post Exchange (Building 660)** – The Army selected as the preferred site the parking lot south of the post exchange (Building 660), which would be expanded to 126 spaces. Additionally, a new 39-space parking area would be built on the landfill, and a new 58-space parking area would be created along the Highway 68 side of the Price Fitness Center Field. Another smaller parking lot, adjacent to the FY11 Barracks, would accommodate about 10 ADA parking spaces. The Garrison Commander may look to complementing this new parking with assigning parking spaces and/or establishing a Command policy for parking on the campus.

### 2.2.1.2 FY11 Barracks Buildings

#### Sites Considered

**Immediately East of Building 829** – The original site proposed for the FY11 Barracks building was immediately east of Building 829 (Vance Hall Barracks Building). This building was reconfigured to avoid encroaching upon the Huckleberry Hill Nature Preserve, reduce impacts to Yadon's piperia habitat, and minimize the removal of trees. This site was the preferred alternative for the FY11 Barracks building in the Draft EIS; however, the site was moved after geotechnical investigations performed by the U.S. Geological Survey (USGS) in the summer of 2011 revealed a potential geologic fault running immediately beneath the site. Therefore, no buildings should be built at this site.

**Vicinity of Building 629** – This was the original site proposed for the dining facility and administrative facility associated with the Barracks Complex Phase I. This project would involve demolition of an existing barracks, POM Barracks Building 629, constructed in 1965. Construction of the administrative facility would be on the adjacent reconfigured parking lot behind Building 629. This site is not preferred because it would mean the loss of usable barracks space.

**Existing Parking Lot for Building 829** – Following environmental and geotechnical review, the preferred site for the Phase I barracks building was moved out of the wooded area east of Building 829 that would have been impacted if the facility were constructed at that location. Construction at this site would eliminate the primary impacts of access for emergency vehicles, encroachment upon the Huckleberry Hill Nature Preserve, seismic safety consideration, stormwater management, and the need to remove the intact Monterey pine forest. Some lesser removal of native trees within the landscaped islands of the existing parking lot would occur, and a few individual Yadon's piperia plants would be removed from the existing parking lot entryway. Construction at this preferred site also addresses concerns about the loss of natural resources raised during the public comment period following publication of the 2011 Draft EIS.

**Parking Lot Behind Building 629** – The new dining facility associated with the Barracks Complex Phase I would be constructed in the parking lot behind Building 629. Construction at this site would eliminate the need for demolition of Building 629 (an existing barracks), retain living and work spaces, and offer an opportunity for renovation of Building 629 (under the Barracks Upgrade Program). Under this action, existing facilities would be rehabilitated rather than being demolished and new facilities being built. Construction on the existing parking lot would create a potential loss of more than 150 parking spaces on the installation. This loss would be made up for by creating new parking spaces as described in the previous section on Preferred Parking Sites.

The new administrative building for the Barracks Complex Phase I would also be located behind Building 629. This action would require the demolition of a laundry drop-off/storage area behind Building 629.

#### Preferred Building Sites

**Existing Parking Lot for Building 829** – The Army selected the existing parking lot for POM Building 829 as the preferred site for the barracks building. This selection was made after considering the two originally proposed sites, including the previously preferred site immediately east of Building 829, public comments on the 2011 Draft EIS, and all potential environmental effects.

**Parking Lot Behind Building 629** – The Army selected the existing parking lot behind Building 629 as the preferred site for the new dining facility. This selection was made after considering the originally proposed site that would have required the demolition of Building 629, relocation of the FY11 Barracks to its current preferred site at the existing parking lot for Building 829, and all potential environmental effects.

**Rear of Building 629** – The Army selected the rear of Building 629 as the preferred site for the new administrative facility. This selection was made after considering the originally proposed site at the existing parking lot behind Building 629, relocation of the dining facility to the parking lot behind Building 629, relocation of the FY11 Barracks to its current preferred site at the existing parking lot for Building 829, and all potential environmental effects.

### 2.2.2 Weckerling Center Renovation

Renovation of the Weckerling Center was removed from this EIS and underwent NEPA analysis via a Record of Environmental Consideration (REC), under which a categorical exclusion was applied. This project is considered a renovation project rather than a development project. This project is underway at this time and is further discussed under cumulative effects in Chapter 5.

## 2.3 DEVELOPMENT OF LONG-RANGE PROJECTS

The RPMP Long-Range Component identified 27 projects (new facilities and rehabilitation) for development at the POM and the OMC. The majority of the long-range projects are proposed to start construction between 2018 and 2025, with the remainder to be completed by 2030. Projects with details beyond the summaries provided in Table 2.1-1 are briefly described below, including the Barracks Complex Phase IV (FY18 Barracks), ACP upgrades, water diversion, and Joint Services Training Center construction. The Barracks Complex Phase IV was analyzed as part of the short-range projects in the 2011 Draft EIS but was moved to the long-range projects due to changes in construction scheduling. Therefore, more detailed consideration of the siting and environmental effects of the Barracks Complex Phase IV is provided in this

EIS than for the other long-range projects. Additional environmental documentation will be necessary as the long-range projects move forward into the design and construction phases.

### 2.3.1 Barracks Complex Phase IV (FY18 Barracks)

Construction of the POM Barracks Complex Phase IV[1] is programmed for FY18. The project consists of constructing a 6-story barracks building and a multi-level parking structure. The barracks can house up to 400 military personnel and includes a mail room and laundry area.

Eleven sites were considered for the POM Barracks Complex Phase IV over several iterations of the POM RPMP. Several sites were considered prior to the selection of the ravine site described in the Draft EIS. Additional sites were considered following review of the Draft EIS, preliminary engineering/design assessments, and public comments. A summary of sites considered follows in Section 2.3.1.1. Sites evaluated are shown on Figure 2.3-1.

The Army does not anticipate that a decision will be made in the Record of Decision for the location of this project, and additional NEPA documentation will be needed.

#### 2.3.1.1 Sites Considered for FY18 Barracks

**West of Buildings 649 and 650 Site** – The original site proposed for the barracks and parking area was west of POM Buildings 649 and 650 (see planning maps in Appendix B). The Army conducted federally endangered Yadon's piperia surveys in 2010 that revealed previously undocumented and substantially increased populations of the plant. Construction of the project at this site would affect approximately 4.5 acres of occupied Yadon's piperia habitat, approximately 1,300 individual endangered plants, and approximately 900 native trees as well as encroach upon the Huckleberry Hill Nature Preserve. Parking areas were initially sited to the north and south of the proposed barracks buildings. These sites were ultimately dismissed due to potential impacts to natural resources including the removal of approximately 1,200 native trees.

Six alternative sites were originally proposed for construction of the barracks and parking as follows:

1. **Hilltop Field Site** – This site is a buildable, level site where construction of the barracks and parking would increase the overall capacity without affecting existing parking. Construction at this site would eliminate the physical training and athletic field and replace those facilities with a large structure easily visible via adjacent residential neighborhoods. This site was dismissed from further consideration.

[1] Barracks Complex Phase IV is scheduled for construction before Phases II and III. Phase IV originally came later, but was moved up for various reasons. The Army did not renumber the projects because this would have caused confusion.

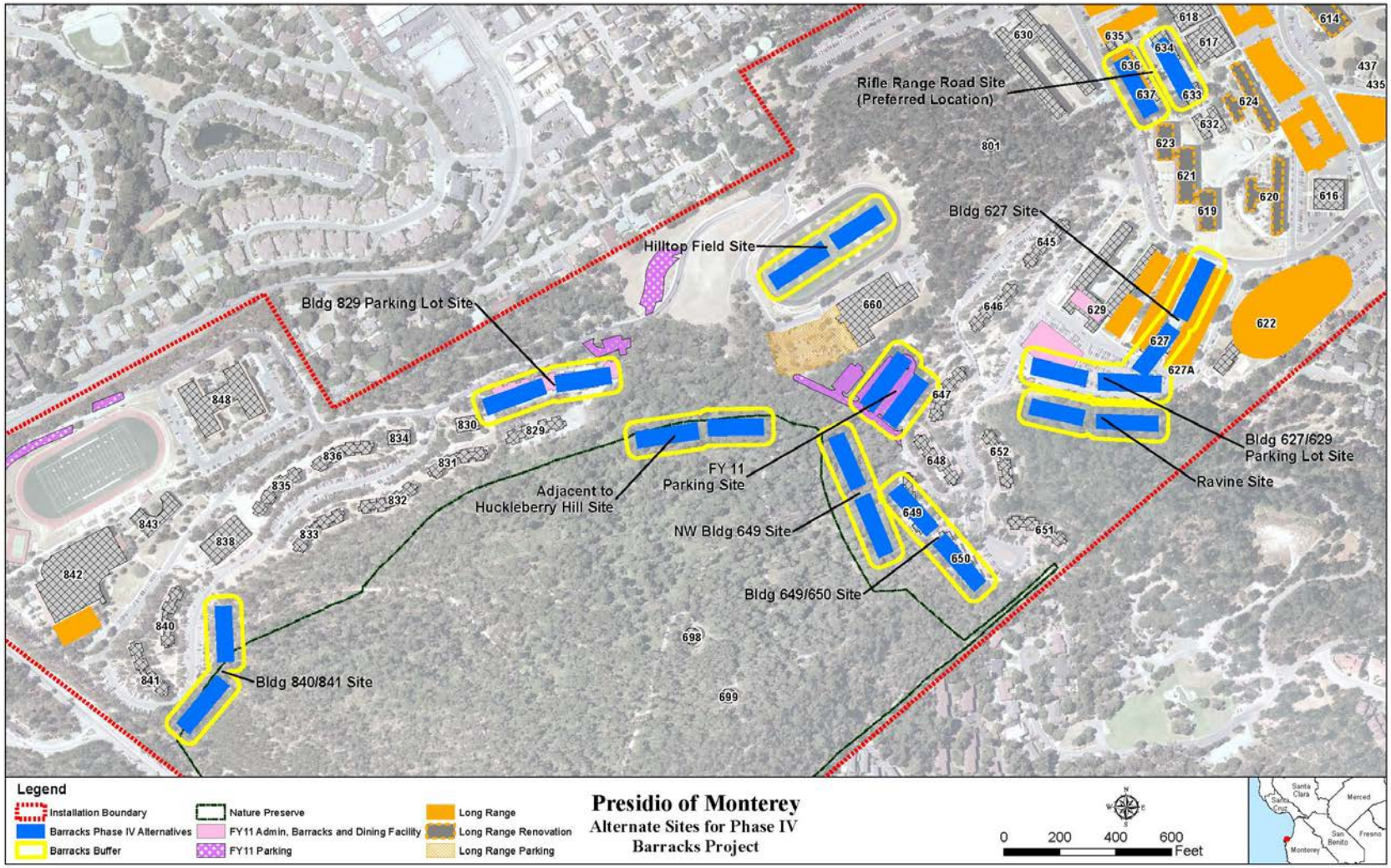


*Figure 2.3-1. Alternate Sites for Barracks Complex Phase IV Project*

2. **Building 649/650 Site** – Redeveloping this area with higher density barracks buildings was considered feasible to maintain compatible land use and further develop the central campus theme preferred by the DLIFLC. Three primary challenges were associated with this course of action: (1) both POM Buildings 649 and 650 are classified as a "green" color coding (perfectly functional living quarters) under Army barracks utilization standards and demolishing habitable buildings is extremely difficult to justify, particularly in times of limited financial resources; (2) regardless of increasing density and the size of the replacement barracks building (i.e., 400-person capacity), a net loss of up to 264 spaces would result; and (3) the proposed building could be twice as tall as the existing buildings. An increase in the height of these structures could potentially affect views of Monterey Bay from private residences along Skyline Drive and off State Highway 68. This site was dismissed from further consideration.
3. **Building 627 Site** – Construction of the new barracks upon the site of POM Building 627 would eliminate an outdated building constructed in 1957 and increase the overall barracks capacity. This previously disturbed site is level and easily buildable. Construction of a large, 5- to 6-story structure at this site, however, would be highly visible and potentially create visual effects for the adjacent residential neighborhoods. Additionally, the new building at this location would reduce the number of existing parking spaces and require temporary relocation of the U.S. Air Force administration function. This site was dismissed from further consideration.
4. **South of Buildings 840/841** – Locating the POM Barracks Complex Phase IV to this site would involve encroachment into Huckleberry Hill Nature Preserve, affect Yadon's piperia and maritime chaparral, and require significant tree removal. Site topography also would pose a significant challenge to design and construction. This site was dismissed from further consideration.
5. **Huckleberry Hill Nature Preserve Site** – This option would locate the barracks building into the northwest portion of the Huckleberry Hill Nature Preserve. Placement of a building here would require encroachment into the Huckleberry Hill Nature Preserve, impacts to endangered Yadon's piperia, steep slope, and substantial tree removal. This site was dismissed from further consideration.
6. **Ravine Site East of Building 652** – Developing this site would require construction of the barracks facility on a slope of greater than 50 percent. The steep terrain would mask the size and height of the structure since two or three floors would be below the existing grade of the adjacent parking area. Construction of the barracks at this location would also avoid effects on existing parking on the installation. Fewer Monterey pine trees would be removed, approximately 300, compared to the removal of 900 to 1,200 at the originally proposed location west of POM Buildings 649 and 650.

   Clean Water Act (CWA) permits would have been required to construct on this site because of the seasonal stream running through the ravine. After comparing all the proposed locations up to this point and considering the environmental constraints associated with the ravine site, this site was chosen as the preferred site in March 2010. The associated multi-level parking structure was to be constructed adjacent to the post exchange, a distance away from the barracks building.

   The ravine site was presented in the 2011 public review Draft EIS as the Army's preferred site for the Barracks Complex Phase IV. Concerns were raised about the steep slope, proximity to the perimeter of the installation, stormwater runoff, and tree loss. The Army evaluated these comments along with the engineering concerns and dismissed this site from further consideration.

Subsequent to the publication of the Draft EIS and partially in response to public comments, the USAG-POM developed several more alternative sites for the barracks and parking. Additional locations considered were as follows:

1. **Rifle Range Road Site** – Constructing the barracks at this site would help maintain a centralized campus setting but require demolition of several potentially historically significant buildings, involve permanent relocation of administrative offices and testing facilities, and temporarily disrupt DLIFLC operations. Barracks buildings would need to be located within an area designated for future development of administrative office and classrooms, thus altering the continuity with the land use objectives outlined in the POM RPMP. The lack of space for nearby parking would create a necessity for paving undeveloped areas or parking at distant locations. Potential adverse effects could occur to the potentially historically significant buildings at this location. Following consideration of all other sites and siting of the Barracks Complex Phase I facilities, the Rifle Range Road site was selected as the preferred location as described below.
2. **Parking Area Vicinity of Building 627 Site** – Constructing a barracks building in the parking lot southwest of Building 627 would be consistent with further development of the centralized campus. Site preparation of this fairly level area would be minimal in comparison to other locations but result in a net loss of more than 200 permanent parking spaces. No parking area would be located adjacent to the barracks building because of insufficient space. A distant parking lot or multi-level garage would be required. The height of the structure could potentially affect views of Monterey Bay from private residences along Skyline Drive and off State Highway 68. This site was dismissed from further consideration.
3. **Barracks Complex Phase I Parking Site** – This alternative would locate the barracks building and parking in the preferred site for construction of a new terraced multi-level lot as part of the Barracks Complex Phase I. Construction of the barracks on this site would result in the loss of approximately 84 planned parking spaces. This site was dismissed from further consideration.
4. **Existing Parking Area North of Building 829** – Re-development of this site would not require the demolition of existing buildings but result in the loss of approximately 88 existing parking spaces. A building at this location may impact a few individual Yadon's piperia plants located within a landscaped entryway and also require the removal of approximately 175 trees in landscaped islands. Furthermore, construction at this site would require redesigning the driveways for access to Building 829. This site was chosen as the Army's preferred site for the POM Barracks Complex Phase I and therefore dismissed from consideration for Barracks Complex Phase IV.

#### 2.3.1.2 Preferred Sites for Barracks Complex Phase IV (FY18 Barracks) and Parking

**Parking** – A multi-level parking structure would be built over the existing post exchange parking lot.

**Barracks** – The Army selected the Rifle Range Road site as the preferred site for the POM Barracks Complex Phase IV. This selection was made after considering the originally proposed site, six alternative sites developed prior to public review of the Draft EIS, public comments on the 2011

Draft EIS, four additional alternative sites developed after the public review of the Draft EIS, and all potential environmental effects.

### 2.3.2 Access Control Point Upgrades

The long-range projects would include upgrades to the ACPs at the POM. The ACP projects would increase security measures and improve traffic circulation and access to the POM by reducing wait times. The ACP projects would consist of upgrading the POM's four primary gates at Private Bolio Road, Taylor Street, High Street, and Franklin Street.

The proposed upgrades would be designed to redistribute commercial and passenger vehicle traffic, thereby improving access while ensuring compliance with AT/FP requirements. Under the proposed upgrades, the Private Bolio Road ACP would be redesigned to allow full searches of unregistered and registered vehicles prior to entering the POM. The Taylor Street, High Street, and Franklin Street ACPs would continue to serve only registered vehicles.

The renovated ACPs would include a gate house and guard booths, active/passive barriers, over-watch position canopies, traffic control (signs, signals, and sensors), passenger search and identification check canopies, and diesel generators. The entry control stations would also have exterior and interior lighting, heating, and telephone and radio-communication systems. Supporting facilities that include storm drainage, electricity, and gas lines also would be provided.

Another vehicle entrance/exit allowing limited access could be considered for construction off State Highway 68 in the future. A supplemental NEPA analysis would be required prior to construction of this project.

### 2.3.3 Water Diversion

This project is required to prevent subsurface stormwater runoff from flooding the basements of buildings surrounding Soldier Field in the POM Historic District. In the past, masonry and stone wall treatments were used to waterproof the foundation walls, but they failed due to lack of water runoff barriers or diversion trenches.

The long-range water diversion projects would consist of drainage improvements, such as installing inlets for receiving flows from downspouts, creating alternative paths of flow, installing drain trenches, replacing existing turf landscaping, and providing surface improvements to street and walkway surfaces. The water diversion improvements would occur at 14 buildings within the POM Historic District.

### 2.3.4 Joint Services Training Center

A new 12,600-square foot general assembly hall would be constructed at the POM to support DLIFLC activities, such as ceremonies, lectures, and meetings. The originally proposed location for the new center was behind and west of POM Building 630, in an area heavily forested with Monterey pine trees (refer to the planning maps in Appendix B). Subsequent plant surveys in 2010 revealed a larger population of Yadon's piperia at the site. As a result, the proposed project was relocated to the parking lot east on the east side of POM Building 517, now considered the preferred site.

POM Building 518, commonly known as the "Tin Barn" because of the corrugated sheet metal siding, functions as an assembly hall and office building. The building was constructed in 1935 and is considered in substandard condition for its current usage. Originally built as a quartermaster warehouse, POM Building 518 was enlarged and converted into an auditorium/classroom facility in 1961. Most of the historical integrity has been lost through various conversions, making POM Building 518 ineligible for the National Register of Historic Places (NRHP).

Furthermore, fire regulations limit seating in the Tin Barn to 469 persons. The new Joint Services Training Center would contain an assembly hall capable of seating up to 1,500 people. This center would be used for activities, such as the annual program reviews, general officers steering meetings, and academic advisory council meetings.

## 2.4 PROJECTS ELIMINATED FROM THE RPMP

During the development of the RPMP, five projects were eliminated completely. The eliminated facilities are described below:

- **New Chapel** – A new chapel was planned for development in a heavily forested area west of Building 630 (refer to the planning maps in Appendix B). The forested area contained a stand of mature Monterey pine forest and habitat for Yadon's piperia. The utility of the existing chapel was therefore re-evaluated and determined to be sufficient for meeting the needs of the community. This project was eliminated from the POM RPMP.
- **New Multi-purpose Administrative/Office Building** – A new multi-story office building was proposed for the location of the existing gas station (POM Building 230) on the Lower POM. Although the development of a multi-purpose building would result in better land use, eliminating it avoided potential effects on the POM Historic District and aesthetic and visual resources.
- **New Dining Facility** – The new dining facility was proposed to be constructed at the Lower POM at the site of POM Building 324, the chapel annex. A re-evaluation of this new dining facility was conducted with the new GIBs being constructed in the central academic area. This

project was eliminated from further consideration, thereby avoiding potential effects on the POM Historic District and aesthetic and visual resources.

- **Artillery Street ACP** – Access to the middle and upper POM via Artillery Street was closed as a result of mandated AT/FP requirements. Re-opening this roadway and upgrading it to current ACP and AT/FP standards was considered. A 30-day trial period for reopening Artillery Street occurred but resulted in limited usage. The City of Monterey expressed concerns about potential effects on traffic circulation on Lighthouse Avenue and Pacific Street. This ACP was removed from consideration to avoid potential effects.
- **Stilwell Community Center** – Renovation of the existing community center was being considered to consolidate support services for the military family members living on the OMC. The Army determined that its needs can be met by utilizing the newly constructed community center in the Doe Park housing area. Plans have been discussed for a new child development center to replace the existing one. These projects eliminated the need to renovate the Stilwell Community Center.

## 2.5 DEVELOPMENT OF ALTERNATIVES

This EIS was prepared to analyze potential environmental effects associated with the POM Installation's real property vision, goals, and objectives. The real property vision, as specified in the RPMP, is to:

> Evolve the installation into an Army top tier training and living community with state-of-the-art facilities and land usage that maximizes mission readiness and care of people while maintaining positive community relationships.

The goals of the USAG-POM are built on the commitment of the Army Installation Management Command to provide the right service, at the right time, and within the right cost to the assigned service members, civilian work force, and family members at all Army installations. To accomplish this commitment, there are four key stewardship responsibilities of the USAG-POM: Mission, Environment, Force Protection, and Quality of Life. These responsibilities are reflected in the goals of the POM RPMP.

**Goal 1: Mission Stewardship** – To obtain, operate, and maintain the highest-quality facilities to support the missions of the organizations assigned to the installation.

**Goal 2: Environmental Stewardship** – To protect and preserve the natural and man-made environment.

**Goal 3: Force Protection Stewardship** – To provide force protection of all personnel working and residing on the installation.

**Goal 4: Quality of Life Stewardship** – To provide enhanced quality of life for service members, civilian work force, and family members.

## 2.6 ALTERNATIVES

As a result of master planning, environmental management and public scoping, the following alternatives are addressed:

- No Action Alternative
- Alternative 1 – POM-Centric
- Alternative 2 – POM and OMC

The action alternatives were developed by identifying the possibilities and resources at the POM Installation to achieve the above goals and the specific requirements of the DFIFLC set out in Chapter 1. The action alternatives include the short- and long-range projects (identified in Sections 2.2 and 2.3). The needs and opportunities that require revision of the 1983 POM Master Plan and modernization of the POM and OMC facilities are detailed in the POM RPMP currently being completed. As a result, two action alternatives were identified as being reasonable to implement the Proposed Action and are carried forward for analysis. Several other alternatives were considered but dismissed from further analysis. These are discussed in Section 2.7, along with the reasons for dismissal.

The scope of the short-range project (POM Barracks Complex Phase I) and long-range projects would remain the same under both action alternatives, but some of the locations would vary. Several long-range projects (POM Barracks Complex Phase II, POM Barracks Complex Phase III, POM Barracks Complex Phase IV, and three new GIBs) would be constructed at the POM under Alternative 1 – POM-Centric. Under Alternative 2 – POM and OMC, POM Barracks Complex Phase II and POM Barracks Complex Phase III and two new GIBs would be constructed at the OMC (one GIB would be constructed at POM). The remaining long-range projects would remain the same under both action alternatives.

### Revisions to the Preferred Alternative

Alternative 1, POM-Centric, was selected as the Army's preferred alternative in the Draft EIS. During the various stages of developing the alternatives, several short- and long-range projects were proposed in undeveloped forested areas. After receipt of public comments and determination by the Army of adverse effects on natural resources, several of these projects were re-sited, reconfigured, or eliminated, including the POM Barracks Complex Phase I, POM Barracks

Complex Phase IV, new chapel, and the Joint Services Training Center (see siting process described in Sections 2.2, 2.3, and 2.4). Alternative 1, including these changes, remains the preferred alternative. For the same reason, the Highway 68 ACP was re-designated as a gate for emergency vehicle access and is contingent on substantial additional study (see Section 1.4.4).

### 2.6.1 No Action Alternative

An environmental analysis of a No Action Alternative is required by the CEQ regulations to serve as a benchmark against which the Proposed Action and its alternatives can be evaluated. The No Action Alternative is defined as the environmental baseline conditions that would result if the RPMP projects were not constructed. Under the No Action Alternative, the RPMP would not be implemented and management of the POM would continue based on the 1983 POM Master Plan, currently in effect. The 1983 POM Master Plan does not meet current mission Goals 1 to 4 of the POM Installation, as presented in Section 2.5. An important component of the No Action Alternative is that future growth of the student and faculty population of the DLIFLC would increase demand on existing POM facilities and would place greater pressure on neighboring areas to supplement housing or services that are deficient at the POM. Furthermore, the No Action Alternative would not meet the mission goals of DLIFLC.

#### 2.6.1.1 Population Growth

It is important to understand that even as the student and faculty population of the DLIFLC will be experiencing growth in coming years, the overall military and civilian employee population of the POM Installation will decline. This decline is a result of the overall Army realignment discussed in Section 1.3. These two trends, when combined, result in an overall decline in the POM Installation military population. This also means that family members will decline from a 2011 baseline (see Table 2.6-1). This means, for instance, that the Army would not expect an increase in school-age dependent children at local schools, increased traffic, or increased demand on public services.

| Table 2.6-1. Projected Population at the POM Installation | | | |
|---|---|---|---|
| Fiscal Year | Military Population (1) | Family Members (2) | Total Population (3) |
| 2012 | 9,866 | 8,400 | 18,300 |
| 2013 | 9,951 | 8,400 | 18,400 |
| 2014 | 8,956 | 8,400 | 17,400 |
| 2015 | 9,498 | 8,400 | 17,800 |
| 2016–2030 | 9,400 | 8,400 | 17,800 |

*Source: POM, 2012*

*(1) Military, Army civilian, and contractor population assigned to the POM Installation.*

*(2) Based on number of military personnel living at POM and OMC houses, and off-post. The U.S. Census Bureau estimate for Monterey County of 2.1 persons per household was assumed.*

*(3) Total does not add up due to rounding.*

### 2.6.1.2 Housing Demand

Military personnel assigned to the POM Installation can live at the POM, the OMC, La Mesa Village, or off-post in the nearby cities. The POM has barracks for single military personnel from all four military branches plus a limited number of houses for officers and their families. The barracks capacity currently totals 2,087 beds, but the Army has a temporary waiver to house a higher density and the barracks currently average 2,700 personnel (as of August 2012). The maximum capacity under the waiver is 3,266, but operational constraints and building configuration limitations could adversely impact language training with this population.

Thirty-seven single-family residences are located around Fitch and Lewis Avenues in the POM Historic District. The average occupancy rate is about 90 percent. Under the No Action Alternative, all barracks and single-family residences would remain and the housing capacity would not change at the POM.

Under the No Action Alternative, future student population growth at the POM Installation would place increasing demand on existing housing and services at the POM, the OMC, and neighboring cities as described in Section 1.3.

For analysis purposes, the expected residency at the POM, the OMC, and off-post housing was estimated. Under the No Action Alternative, expected residency at the POM and the OMC was assumed to be at capacity, but the OMC would maintain the 80/20 percent military to civilian ratio. Remaining military personnel and their families were assumed to reside off-post. Table 2.6-2 summarizes the estimated on- and off-post residency under the No Action Alternative.

| Table 2.6-2. Residency at the POM, the OMC, and Off-post under No Action Alternative (1) | | | | |
|---|---|---|---|---|
| Year | POM | OMC | Off-post | Total |
| 2010 | 2,500 | 2,700 | 12,100 | 17,300 |
| 2011 | 2,500 | 2,700 | 14,100 | 19,300 |
| 2012 | 2,800 | 2,700 | 13,200 | 18,700 |
| 2013–2030 | 2,500 | 3,200 | 12,700 | 18,400 |

*Assumptions:*

*Barracks would fill first before housing on- or off-post; 2.1 persons per household; and military personnel living in the OMC or the POM homes or off-post have families.*

*(1) Includes military personnel and family members; values are rounded to the nearest hundred. Residency numbers vary slightly from population projection numbers shown in Table 2.6-1 because these come from separate sources—the Army Stationing and Installation Plan and the POM Installation Housing Department.*

### 2.6.1.3 POM

The facilities, parking, traffic, and security conditions at the POM under the No Action Alternative are described below.

#### Facilities

The 392-acre POM contains a mixture of wooden, temporary and permanent buildings. Many of the wooden buildings are within the historic district located within the Lower POM on the eastern side. The POM has 20 barracks buildings, two company operations buildings, 10 multi-story academic buildings (classrooms and supporting offices), a headquarters building, and community support facilities (e.g., dining, physical fitness, and recreation facilities, post exchange, medical clinic, and dental clinic). The result is a campus-like setting in keeping with its populations of military students, civilian and military language instructors, support staff, and the numerous civilian employees needed to support the DLIFLC.

Under the No Action Alternative, some facilities would remain in deferred maintenance status until operation and maintenance funding becomes available. These conditions detract from the quality of life and educational experience at the POM. In addition, the number of classrooms under the No Action Alternative would not be adequate to support the projected increase in student and teacher populations. Some existing classrooms would continue to be overcrowded, affecting the desired learning environment.

Likewise, many of the older barracks and facilities, such as the dining, administrative, sports, and social buildings, are outdated under current building codes and in need of replacement. A total of 2,087 sleeping spaces are available in the POM barracks. The two dining facilities serve 3,400 to

3,600 meals per day for breakfast, lunch, and dinner. The existing barracks and dining facilities would not have the capacity to accommodate the projected increase in student population. These conditions would continue under the No Action Alternative.

#### Parking and Traffic

The POM has limited parking capacity and cannot meet current demand. Many students and faculty must find parking away from and walk to their duty stations. Some even park outside the installation and walk to their offices. Local government agencies and cities have expressed concerns regarding traffic effects from the projected population increases as described in the Draft EIS; however, current projections indicate that the installation population will actually decrease. Under the No Action Alternative, no additional measures would be undertaken to improve traffic flows and access into the POM. Sections 3.8 and 4.8 further discuss traffic and circulation under the No Action Alternative.

#### Security

The existing facilities at the POM do not meet current AT/FP requirements. The AT/FP measures are implemented to protect military personnel, their families, data/information, facilities, and other critical resources. The AT/FP standards developed by the DoD for new and existing facilities are provided in the 2003 UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings* (U.S. Army, 2003a). Because POM buildings were built before the 2003 AT/FP design standards were developed, some facilities do not meet the current specifications. The standards include strategies to maximize standoff distances, prevent building collapse, minimize hazardous flying debris, lay out buildings effectively, limit airborne contamination, provide mass notification, and facilitate future upgrades. For existing buildings, standoff distances can be attained by controlling access to parking and perimeters and increasing monitoring. Currently, the POM cannot fully implement the AT/FP standards, resulting in potential risk. These conditions would continue under the No Action Alternative.

### 2.6.1.4 OMC

The facilities, parking, traffic, and security conditions at the OMC under the No Action Alternative are described below.

#### Facilities

The OMC consists of lands that were part of the former Fort Ord, a military installation that housed and trained Army troops from 1940 to 1994. After its closure, the military retained

approximately 859 acres for the OMC. The OMC currently contains family housing, privately owned and operated by the RCI, the DoDC-MB, the Garrison Support Center, and several community support facilities (e.g., fire station, police station, child development center, youth center, Fort Ord BRAC Office, POM DPW, and Stilwell Community Center). Part of the DoDC-MB also contains classrooms used by DLIFLC. Consequently, the OMC has a mixed-use community-like setting in keeping with the populations of civilian employees, service members, and family members. The service members attend either the DLIFLC or Naval Postgraduate School, or they are assigned to duty stations in the Monterey Bay area.

Projects at the OMC are not included under the No Action Alternative. Consequently, the existing OMC buildings would remain unchanged (Figure 1.1-4). Facilities operated by the DoD would not be upgraded and, similar to the ones at the POM, would continue to require maintenance from usage. Many of the utilities and heating, ventilation, and air conditioning (HVAC) systems need upgrading or replacement, classrooms require updated technology, and the building exteriors do not conform with the POM IDG. These conditions would continue under the No Action Alternative. Military personnel living at the OMC would still lack modern facilities to support social activities and services. Most personnel will need to leave the OMC for these services. These conditions would continue to exist under the No Action Alternative.

### Parking and Traffic

In contrast to the POM, parking availability at the OMC is plentiful for the current facilities. The OMC is largely a residential area with adequate carports, garages, and street parking. Support buildings also have adequate parking spaces. Military personnel and employees living at the OMC must drive to the POM for classes or other jobs. The additional students, employees, and families would likely drive the primary routes during normal business hours, thus increasing traffic along local roads and at access points into the POM.

### Security

The OMC property is currently an open installation with no special permits/licenses required for access. The site is not designed to meet the security standards defined in UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*. Under the No Action Alternative, no additional security measures would be implemented to protect military personnel.

### 2.6.2 Alternative 1: POM-Centric

Under Alternative 1, development projects at the POM and OMC would involve renovating existing facilities and constructing new ones to meet the POM Installation's Proposed Construction Projects and Upgrades as described in Table 2.1-1 under Section 2.1, Proposed Action. The POM Barracks Complex Phase I would be constructed at the preferred site (see Section 2.2). Alternative 1 would place future development of primary and support facilities for the DLIFLC at the POM. Barracks Complex Phase IV (to be developed around the year 2018) is discussed in detail in Section 2.3. Barracks Complex Phases II and III and three additional GIBs would be sited to preserve the centralized location of the DLIFLC. Proposed project locations under Alternative 1 are shown in Figures 2.6-1 and 2.6-2 and identified in the text by their Military Construction Project Number (PN). Alternative 1 is the Army's preferred alternative.

- **Barracks Complex Phase II (53790)** – Construction of this 165,971-square-foot company operation facility, a battalion headquarters building, and 4-story barracks to house 360 military personnel would require the demolition of barracks Building 627 (80,286 square feet) located on the POM.
- **Barracks Complex Phase III (53791)** – Construction of this 139,160-square-foot company operation facility, a battalion headquarters building, and 4-story barracks to house 320 military personnel would require the demolition of barracks Building 627 (80,286 square feet) located on the POM. Barracks Complex Phase III would be located adjacent to Barracks Complex Phase II, with staggered construction start dates.
- **General Instruction Building (73637)** – The project location of this 25,000-square-foot single-story GIB to accommodate and provide modern facilities for the anticipated future growth of students on the POM is shown on Figure 2.6-1.
- **General Instruction Buildings (68730 and 68882)** – Construction of these 110,000-square-foot standard design 3- to 6-story GIBs would be on the POM at the existing parking lot west of Lawton Road (see Figure 2.6-1).

The development opportunity analysis for the POM determined that a total of 104 acres of land is available for development. While this acreage is considerable in relationship to the size of the POM, the total acreage comprises small tracts of land, many of which are less than 1 acre in area and unable to accommodate the planned facilities and areas for redevelopment. This development constraint adds to the complexity of site planning at the POM. Demolition of existing buildings and redevelopment with the cantonment areas would need to occur for constructing new facilities. This development opportunity analysis is shown in Appendix B. Appendix B also provides a map showing the originally (2009) proposed Alternative 1 projects at the POM. A comparison to Figure 2.6-1 shows how these proposed projects have changed since 2010.

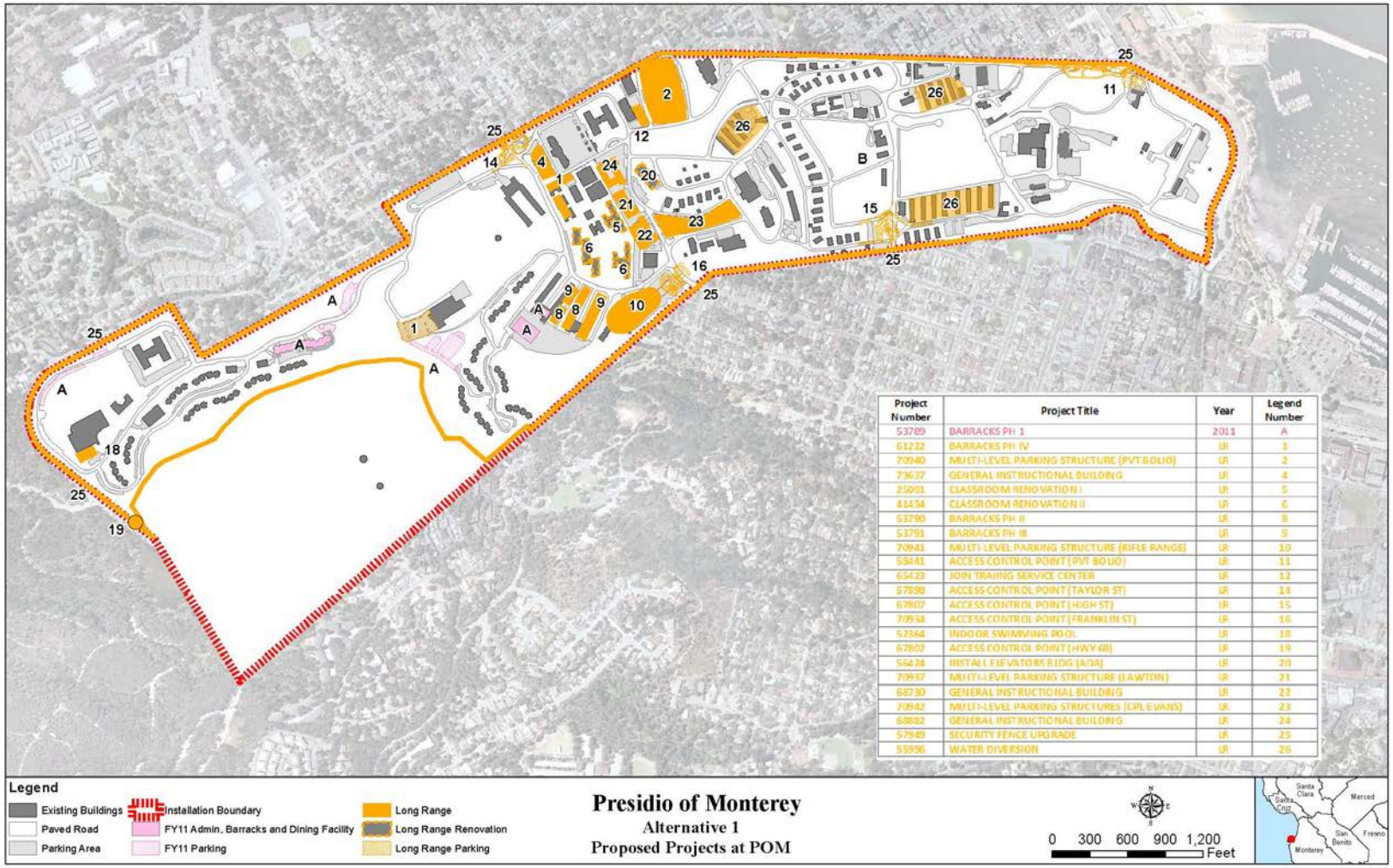


*Figure 2.6-1. Alternative 1 – Proposed Projects at the POM*

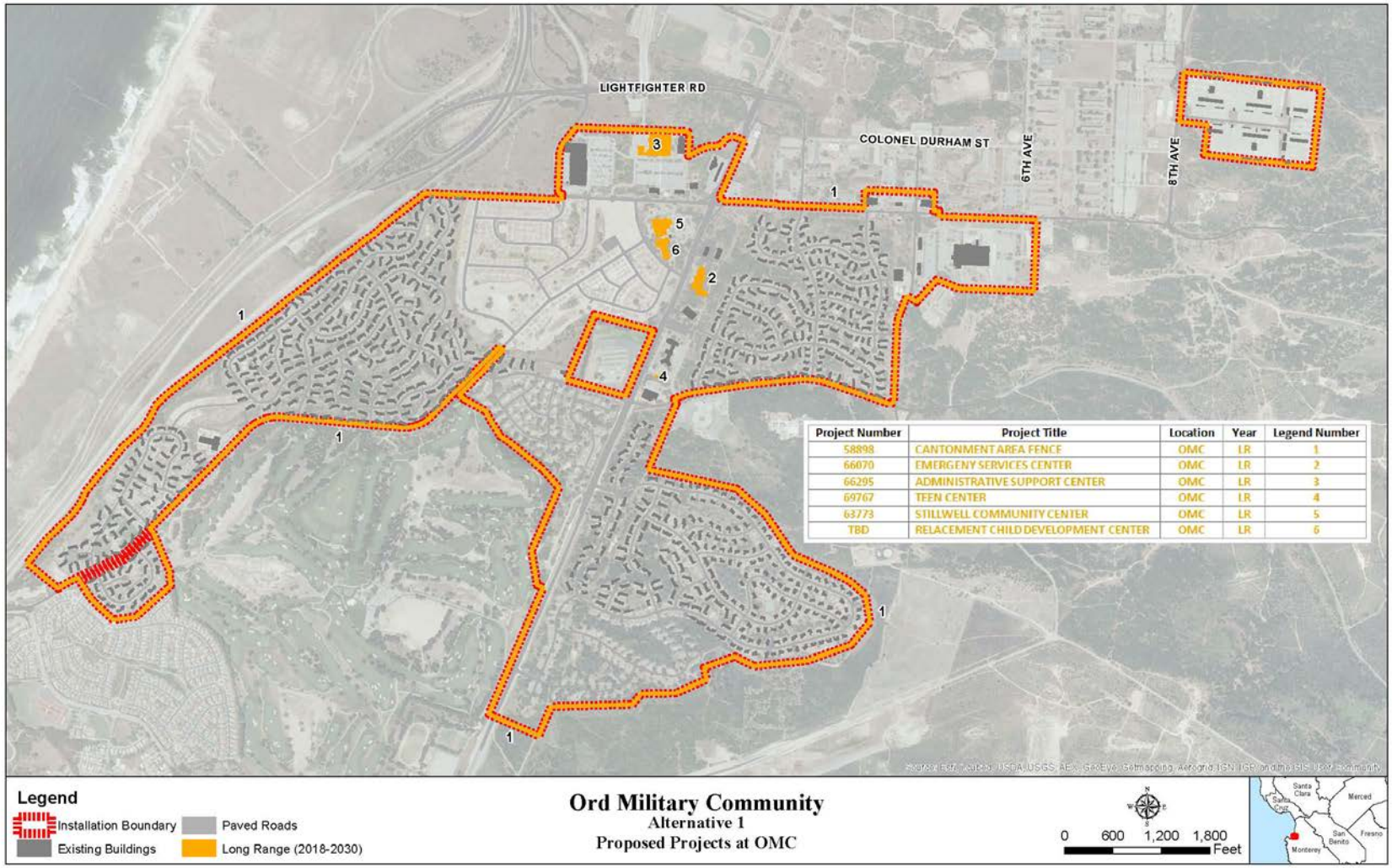


*Figure 2.6-2. Alternative 1 – Proposed Projects at the OMC*

**The advantages of Alternative 1 are:**

- Optimization of the ability of separate military services to maintain command and control over students and provide required, non-language military training at one location
- Continued consolidation of all basic language instruction at the POM
- Collocation of troop housing and support facilities with DLIFLC educational facilities
- Confinement of the majority of AT/FP requirements to the POM to reduce cost
- Maximized use of an aesthetically pleasing environment
- Reduced annual operations and maintenance costs (per square foot) through demolition of older facilities
- Continued rich history and use of the POM as a center for defense language training

**The disadvantages of Alternative 1 are:**

- Limited spatial and facility design options at the POM due to steep slopes, force protection buffers, and cultural and environmental constraints
- Few mitigation and design options available to reduce potential community concerns
- Decreased parking availability at the POM unless multi-level parking structures are approved, funded, and built
- Additional burden to on- and off-post roadways from increased traffic at the POM
- Likely decreased visual aesthetics of the POM due to facility and structure development
- Increased potential for effects on the on- and off-post viewsheds
- Potentially insufficient water credits at the POM to meet water demand of proposed long-range development (a full discussion of available water supply is provided in Section 4.1)
- Insufficient voice and data infrastructure leading to and within the buildings; additional costs would be incurred to increase these capabilities

### 2.6.2.1 Population Growth

Population growth under Alternative 1 is expected to be the same as under the No Action Alternative. In 2010, the total military population, which includes military service members, civilian employees, and contractors, assigned to the installation was 9,313. By 2018, the population is expected to total slightly more than 9,400. The population of family members is expected to peak at about 8,400 (Table 2.6-1).

### 2.6.2.2 Housing Demand

Although the population projections under Alternative 1 would be the same as under the No Action Alternative, the distribution of people residing at the POM, the OMC, or off-post would change. Housing availability at the POM would be higher under Alternative 1 compared to the No Action Alternative. The assumption is that military personnel would be required to live at the POM or the OMC rather than off-post. New housing under Alternative 1 would reduce the number of military personnel required to find housing off-post. Living at the POM or the OMC would reduce the travel needed to attend classes and utilize the other services located on the installation. The estimated residency anticipated at the POM, the OMC, and

off-post under Alternative 1 is shown in Table 2.6-3. The projected residency was determined assuming that barracks would reach capacity before single-family homes.

Table 2.6-3. Residency at the POM, the OMC, and Off-post under Alternative 1 (1)

| Year | POM | OMC | Off-post | Total |
|---|---|---|---|---|
| 2010 | 2,500 | 2,700 | 12,100 | 17,300 |
| 2011 | 2,500 | 2,700 | 14,100 | 19,300 |
| 2012 | 2,800 | 2,700 | 13,200 | 18,700 |
| 2013–2030 | 2,800 | 5,200 | 8,000 | 16,000 |

*Assumptions:*

*Barracks at the POM and the OMC would fill first before homes on- or off-post; 2.1 persons per household; and all military personnel living in OMC or POM homes and off-post have families.*

*(1) Includes military personnel and family members; values are rounded to the nearest hundred.*

Alternative 1 includes constructing new barracks to provide additional housing capacity. The total capacity of the POM barracks under Alternative 1 would be 3,138 beds. Barracks construction would be phased in according to the RPMP project list provided in Section 2.1. In the short-range timeframe, housing capacity would increase with the construction of the POM Barracks Complex Phase I project at the POM. Available housing at the POM would further increase in the long range after additional barracks are completed. No residential housing is proposed at the OMC under Alternative 1, so total housing would be unchanged from the No Action Alternative.

### 2.6.2.3 Design Guidelines

#### Installation Design Guide

The proposed projects would accommodate the needs and space requirements of military personnel, faculty, and students at the POM Installation. New construction and all major maintenance, improvements, or renovations of the installation facilities must follow the POM IDG. The IDG provides design guidance for standardizing and improving the quality of the total environment. The IDG includes standards and general guidelines for the design issues of site planning; architectural character, building exterior colors, and materials; vehicular and pedestrian circulation; and landscape elements, including plant material, seating, signage, lighting, and utilities. The IDG incorporates sustainable and quality designs with anti-terrorism, low maintenance, and cultural considerations as well as durability, safety, and compatibility issues.

#### Leadership in Energy and Environmental Design Certification

Starting with the FY13 military construction program, all vertical construction projects meeting the Minimum Program Requirements or having minimum characteristics sets by the U.S. Green Building Council, except

Family Housing will incorporate sustainable design principles into site selection, design, and construction. All such construction will be constructed to the standards of the Leadership in Energy and Environmental Design (LEED) Silver level or higher from the Green Building Certification Institute and will be built following guidance as detailed in American Society of Heating, Refrigerating and Air Conditioning Engineers Standard 189.1. The definitions and guidance on the Minimum Program Requirements are provided in a document titled Supplemental Guidance.[1] Vertical construction not meeting Minimum Program Requirement thresholds and horizontal construction (e.g., ranges, roads, and airfields) will be designed and built to incorporate the maximum LEED or equivalent sustainable design features available at the site.

#### Security

Under Alternative 1, new facilities would be designed to meet the AT/FP requirements outlined in UFC 4-010-01. New facilities at the POM and the OMC must comply with setbacks from perimeter fences, parking areas, and roadways. For new inhabited buildings, minimum standoff distances are as follows:

- 148 feet from the perimeter fence
- 82 feet from internal roads and parking areas for buildings of conventional construction (ones designed only to resist common loadings and environmental effects, such as wind, seismic, and snow loads)
- 33 feet from roads and parking areas for buildings of hardened construction (ones that are not specifically designed to resist weapons or explosive effects)

Additional security standards include designing unobstructed spaces around buildings, operating drive-up/drop-off areas rather than allowing unattended vehicles, controlling access roads, and eliminating parking beneath inhabited buildings or on rooftops. Existing buildings would be upgraded to incorporate such security measures.

### 2.6.3 Alternative 2: POM and OMC

Proposed development projects include upgrades to existing facilities and construction of new facilities as outlined in Table 2.1-1 under Section 2.1, Proposed Action. Proposed projects and their locations under Alternative 2 are shown in Figures 2.6-3 and 2.6-4. Under Alternative 2, the construction of the two barracks complexes (POM Barracks Complex Phase II and POM Barracks Complex Phase III) and two GIBs (68730 and 68882) would occur at the OMC. Under Alternative 2, the OMC would be made an important element of the DLIFLC. Demolition of an existing POM barracks (Building 627) would not be necessary for construction of POM Barracks Complex Phase II and POM Barracks Complex Phase III as those facilities would be located on the OMC under Alternative 2.

[1] Available at http://www.usgbc.org/DisplayPage.aspx?CMSPageID+2138.

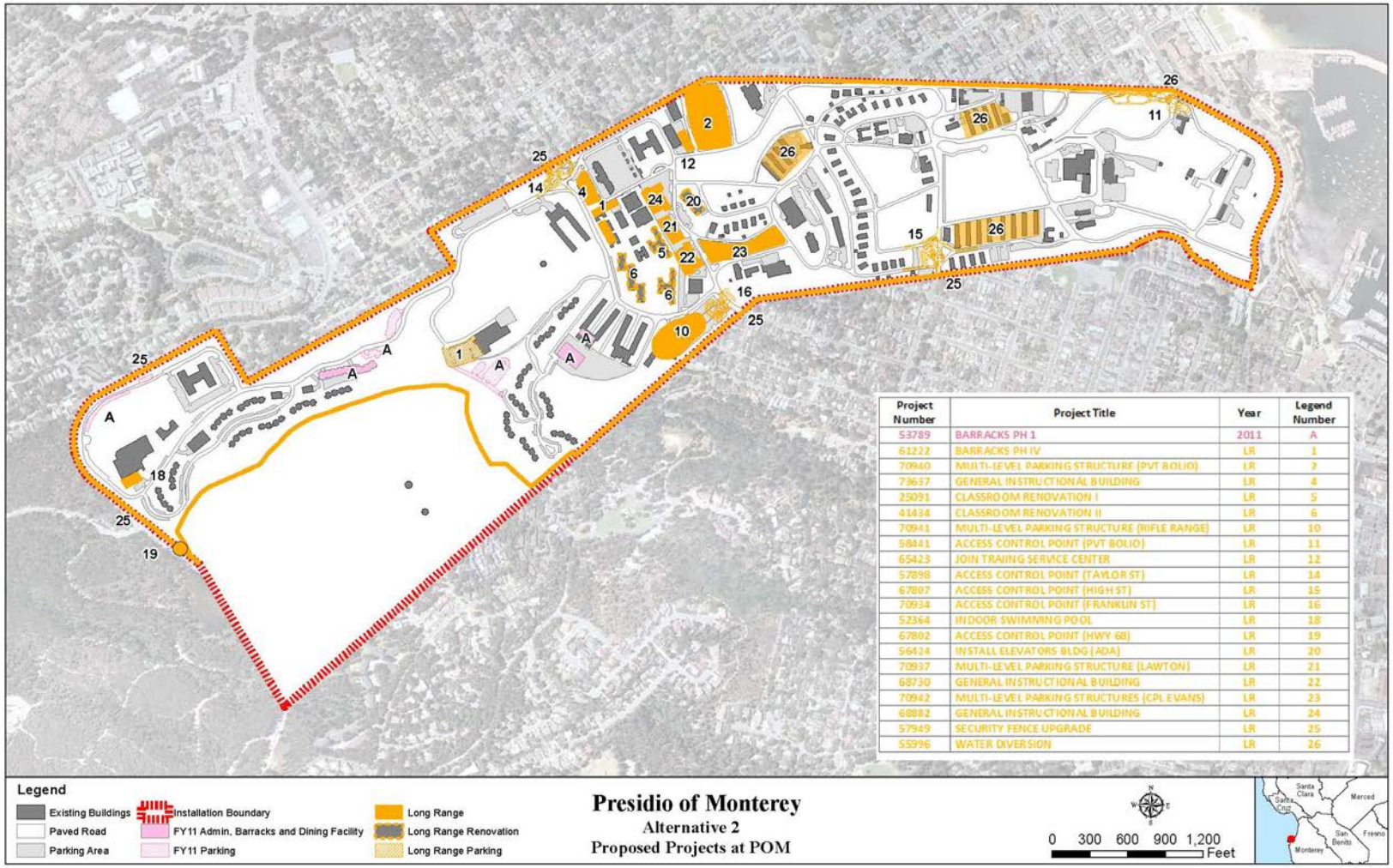


*Figure 2.6-3. Alternative 2 – Proposed Projects at the POM*

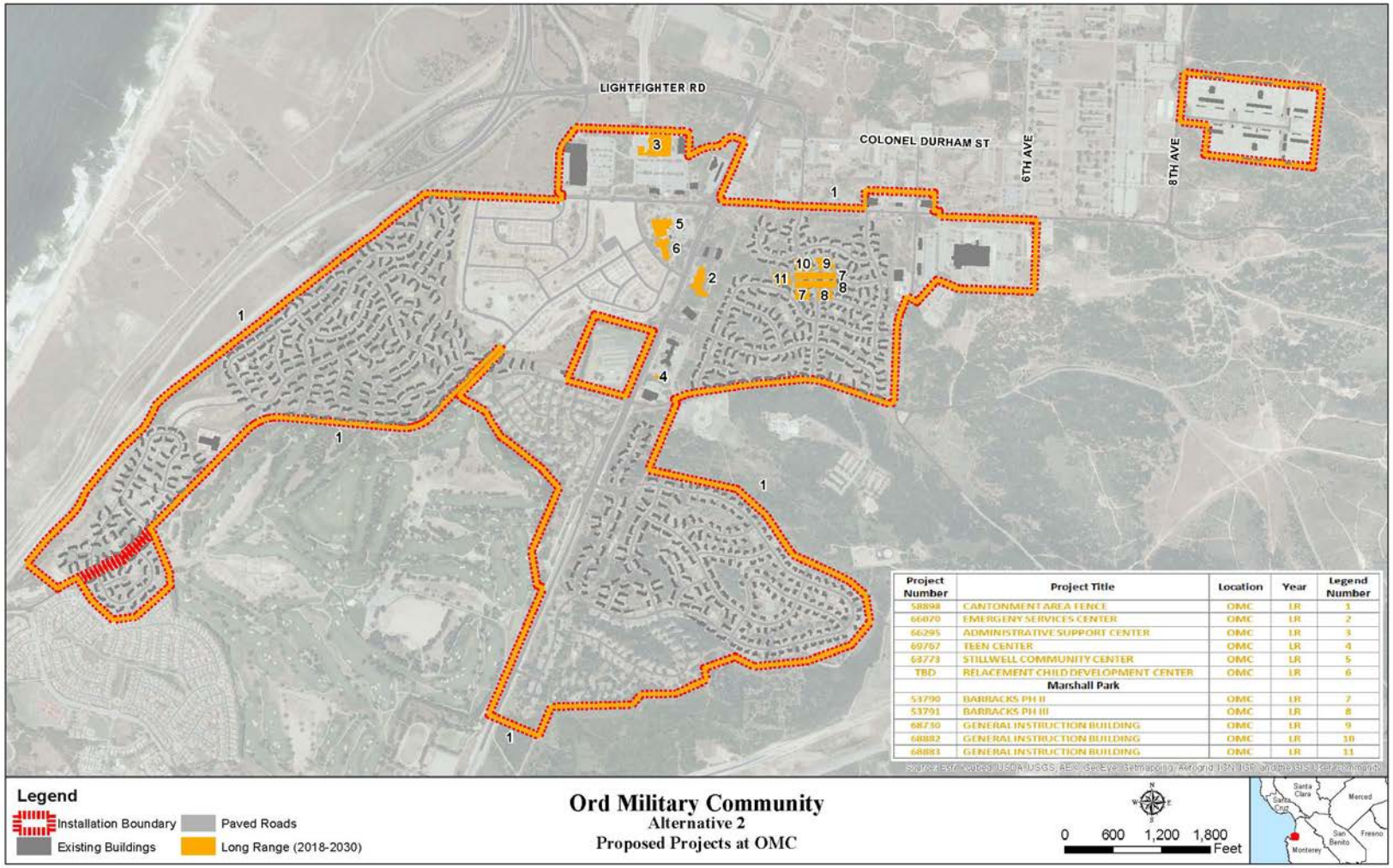


*Figure 2.6-4. Alternative 2 – Proposed Projects at the OMC*

Construction of the POM Barracks Complex Phase II, POM Barracks Complex Phase III, and the two GIBs at the OMC would be of the same square footage as those proposed under Alternative 1. The building heights would be reduced because of more land available and fewer space constraints. Operating hours for classes, activities, and facility access would be similar to Alternative 1. Parking demands at the POM would be lessened by dividing classes between the POM and the OMC.

Construction staging and scheduling for the new buildings would depend on whether the buildings were constructed at the POM or the OMC. More space would be available for staging and storage of materials for construction occurring at the OMC. Construction scheduling would not need to be phased because of space limitations. Construction under Alternative 2 could be completed over a shorter period compared to Alternative 1, partly as a result of the space limitations at the POM.

The development opportunity analysis for the OMC found a total of 153 acres of land available for development. Unlike the POM, many of the buildable areas consist of large parcels of land. Sites at the OMC include the potential reuse of land within the Marshall Park housing area (127 acres), undeveloped community area (17 acres), and youth center area (9 acres).

**The advantages of Alternative 2 are:**

- Relieves the facility load at the POM to create a less densely developed environment
- Reduces the future parking demands and vehicular traffic conditions at the POM
- Uses the OMC as a center for defense language learning
- Reduces the need for phased construction and temporary space assignments during construction
- Takes advantage of the Army's water allocation at the OMC to support proposed development
- Encourages the continuation of infrastructure improvements at the OMC, which are underway as part of the Fort Ord Reuse Plan
- Reduces the cost of construction realized by building more horizontal structures, rather than vertical structures
- Encourages efficiencies in spatial and functional design at the OMC because new facility layouts would not be as encumbered by existing land uses
- Reduces the demolition costs at the POM
- Promotes the "good neighbor" concept with the community by distributing the effects of actions between the POM and the OMC
- Facilitates timely environmental review and construction
- Protects the historic character of the POM

**The disadvantages of Alternative 2 are:**

- Alters the central campus concept and the tradition of having the language school at the POM by developing a second campus or satellite facilities at the former Fort Ord
- Increases AT/FP requirements and costs to support development at the OMC; regardless of the Military Construction and Army project specifications all projects would still require upgrades for security coverage, and fencing improvements are only a portion of the security measures that would be required at ACPs (This issue may become moot as the Army may decide independently to implement AT/FP measures at the OMC.)
- Requires demolition of buildings at the OMC and rebuilding of infrastructure to support more dense development; also requires demolition funds, and consumption of natural resources would increase with new construction
- Does not provide voice or data infrastructure in the designated areas, so network and phone services would not be available; additional costs would be incurred to add these capabilities
- Increases service and logistical support requirements above Alternative 1 (i.e., many of the services provided at the POM would need to be created on the OMC to make the satellite campus feasible)

#### 2.6.3.1 Population Growth

Population growth under Alternative 2 is expected to be the same as with Alternative 1 and the No Action Alternative.

#### 2.6.3.2 Housing Demand

Although the population projections under Alternative 2 would be the same as the No Action Alternative, the distribution of people living at the POM, the OMC, or off-post would change. Under Alternative 2, increased housing would be available at the OMC compared to the No Action Alternative and Alternative 1. The POM would offer increased housing compared to that of the No Action Alternative, but less total capacity would exist than proposed under Alternative 1. The living conditions would improve because of rebuilding and modernizing the barracks. The assumption is military personnel would choose to live at the POM or the OMC rather than living off-post. New housing under Alternative 2 would reduce the number of military personnel and families required to find off-post housing. Living at the POM Installation would reduce the travel needed to attend classes and to use the services offered on-post.

Alternative 2 would increase the total capacity at the barracks to 3,138 beds at the two persons per room density (2,458 beds at POM and 680 beds at the OMC). Construction of the barracks would be phased in according to the RPMP project list discussed in Section 2.1. New residential housing is not proposed at the OMC under Alternative 2, so it would remain the same as the No Action Alternative.

For analysis purposes, expected residency at the POM, the OMC, and off-post housing was estimated for Alternative 2, as shown in Table 2.6-4. The total military population would be the same as the No Action Alternative. The projections assume that barracks would reach capacity before single-family homes.

| Table 2.6-4. Residency at the POM, the OMC, and Off-post under Alternative 2 (1) | | | | |
|---|---|---|---|---|
| Year | POM | OMC | Off-post | Total |
| 2010 | 2,500 | 2,700 | 12,100 | 17,300 |
| 2011 | 2,500 | 2,700 | 14,100 | 19,300 |
| 2012 | 2,800 | 2,700 | 13,200 | 18,700 |
| 2013–2030 | 2,600 | 5,900 | 7,000 | 16,000 |

*Assumptions:*

*Barracks at POM and OMC would fill first before homes on- or off-post; 2.1 persons per household; all military personnel living in OMC or POM homes or off-post have families.*

*(1) Includes military personnel and family members; values are rounded to the nearest hundred.*

#### 2.6.3.3 Design Guidelines

The design guidelines relating to IDG, LEED, and AT/FP would be the same as Alternative 1. Additional AT/FP measures would be required because the population would be more spread out than under Alternative 1.

## 2.7 ALTERNATIVES CONSIDERED BUT ELIMINATED

Development of the two action alternatives was preceded by more than 7 years of planning that responded to changes in command or mission directives. During the planning process that began in 2004, four additional alternatives were considered but were eliminated for reasons described below.

### 2.7.1 Leased Space Alternative

The Army leases classroom space from the Monterey Peninsula Unified School District (MPUSD) and space for administrative offices in two other commercial buildings. One alternative is to lease additional classroom space off-post. This alternative, however, would be costly and would not meet the criteria of the PEP or initial training. As a result, the alternative to lease more space off-post was not carried forward for additional analysis.

Part of the purpose of the PEP would be to move DLIFLC students back onto the POM from off-post leased facilities and support the re-distribution of students onsite. Initial training also requires that students be located together during training. Locating classroom space outside of the POM Installation would not facilitate a central campus concept for the DLIFLC and would require duplicating support facilities, resulting in significant operational costs. Moving students back to the POM would also enhance AT/FP and reduce the transportation costs of shuttling students offsite. A 2005 USACE-Sacramento District survey also found that available commercial properties in the Monterey area were too small to accommodate the immediate

needs of the DLIFLC. The survey found that Gilroy and Morgan Hill (approximately 38 miles north of potential reuse of land within the POM) were the closest locations with properties of sufficient size.

### 2.7.2 Shift Work Alternative

The DLIFLC considered expanding the class schedules and hours of operation by implementing a second shift. An analysis highlighted several problems with this alternative, including increased traffic for longer hours through adjacent neighborhoods, visual effects from additional security lighting, increased noise levels during normal quiet evening hours, and increased demand for support facilities and services such as dining after normal business hours. The shift work alternative was eliminated from consideration because of the potential environmental effects and significant increases in operating expenses.

### 2.7.3 Relocation Alternative

The Army considered moving the foreign language training mission to a military facility outside of the region. This alternative was eliminated from consideration because the long-term goal of the DoD and DLIFLC is to sustain the current mission at the POM. Relocation would disrupt the mission for several years and would be prohibitively expensive.

### 2.7.4 Joe Lloyd Way Alternative

The Joe Lloyd Way area at the OMC is currently used as an industrial, maintenance, and storage area with 19 acres of land potentially available for development. This area was considered as a viable alternate site for development of a battalion-sized complex, housing up to 1,000 service members in a self-contained living and learning center. The complex would consist of several barracks, GIBs, a dining hall, and a recreational facility. This alternative was eliminated because significant renovations to the existing infrastructure would be required. Furthermore, additional environmental remediation requirements and land use controls are associated with this parcel as outlined in the former Fort Ord clean-up Parker Flats Munitions Response Area Record of Decision (ROD) (U.S. Army, 2008a). The substantial cost for the extensive renovation, development of infrastructure, and the need for environmental remediation were determined to be prohibitive.

### 2.7.5 OMC Administration Center Alternative

An additional alternative was suggested during the public comment period. Under this alternative, the administrative functions of the USAG-POM would move to the OMC, and most DLIFLC activities would remain on the POM. For several reasons, this alternative would not meet the purpose and need of the proposed action. This alternative would make command and control, as well as routine administration, more complicated and difficult. DLIFLC students also would have difficulty accessing client services such as legal

assistance, medical care, and the inspector general. The OMC does not have sufficient infrastructure to support current POM administrative functions. Finally, this alternative would require a great deal of new construction and renovation and would be prohibitively expensive.

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# 3. AFFECTED ENVIRONMENT

This section describes the environmental baseline conditions of each resource area. Environmental baseline conditions are the "as is" or "before the action" conditions at the POM or the OMC. The baseline facilitates subsequent identification and quantification of changes in conditions that would result from the proposed action. The resources that would be affected and described in this section include Water Supply; Water Quality; Geology, Soils, and Mineral Resources; Air Quality; Vegetation and Wildlife; Land Use; Population and Housing; Traffic and Transportation; Noise; Utilities and Public Services; Hazardous, Toxic, and Radioactive Wastes; Public Health and Safety; Socioeconomics; Environmental Justice; Visual, Scenic, and Aesthetic Resources; and Historic and Cultural Resources.

The geographic extent of the "affected environment" or "Region of Influence (ROI)" is determined by the potential for impacts from the proposed action. The ROI can change depending on the resource category. For instance, soils may be impacted within the installation, so the affected environment for soils would be the POM and OMC; however, the air quality ROI would be the geographic extent that emissions could possibly impact the regional air quality.

## 3.1 WATER SUPPLY

This section describes the potable water supply available to the POM and the OMC. Potable water is water that is drinkable based on health and aesthetic standards. The POM and the OMC each has one supply source used to meet all water needs, such as drinking, domestic use, and irrigation.

### 3.1.1 Study Area

The study area is encompassed by the physical boundaries of the POM and the OMC, as described in Chapter 1.

### 3.1.2 Regulatory Setting

The following section describes the federal, state, and local regulations and agreements applicable to the water supplies of the study area.

#### 3.1.2.1 Federal

The federal regulation applicable to the proposed project is described below.

### Safe Drinking Water Act

Enacted in 1974, the Safe Drinking Water Act gave the U.S. Environmental Protection Agency (USEPA) the authority to establish drinking water regulations to protect human health from contaminants in the nation's drinking water supply (Title XIV, Part B). As a result, the USEPA set primary (health-based) and secondary (aesthetic-based) drinking water standards. The primary drinking water standards consist of contaminant-specific standards, known as Maximum Contaminant Levels, which are enforceable at the federal level. Secondary standards are non-enforceable guidelines for contaminants that may cause cosmetic or aesthetic effects, such as taste or color.

### Executive Order 13514

Executive Order 13514 (October 8, 2009) requires the federal government to:

- Improve water use efficiency and management by reducing potable water consumption intensity by 2 percent annually through FY20, or 26 percent by the end of FY20, relative to a baseline of the agency's water consumption in FY07
- Improve water-use efficiency and management by reducing agency industrial, landscaping, and agricultural water consumption intensity by 2 percent annually through FY20, or 20 percent by the end of FY20, relative to a baseline of the agency's water consumption in FY10

## 3.1.2.2 State

The state regulations applicable to the proposed project are described in this section.

### Porter-Cologne Water Quality Control Act

California's Porter-Cologne Water Quality Control Act granted statutory authority to the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) operating under the SWRCB. Per the California Water Code, the SWRCB regulates statewide water quality standards programs and is responsible for the allocation and determination of surface water rights (Jones & Stokes, 2008). Appropriative water rights allow surface water diversions for beneficial uses.[3] Prior to 1914, appropriative water rights could be obtained by posting a written notice and recording a copy with the County Recorder's Office that stated the diversion amount and purpose, place of use, and the means for diverting the water (SWRCB and California Environmental Protection Agency [CalEPA], 1995). Since 1914, an appropriative water right can only be obtained through an application to the SWRCB, which can issue a water rights permit if unappropriated water is shown to be available (Jones & Stokes, 2008).

[3] Any removal of water from stream side areas for delivery to non-adjacent parcels constitutes appropriative use, which requires a permit from the SWRCB.

#### State Water Resources Control Board Order No. 95-10

The SWRCB adopted Order No. 95-10, *Order on Four Complaints Filed Against the California-American Water Company, Carmel River, Monterey County*, in 1995 to address complaints of over-pumping of the Carmel Valley Groundwater Basin (Department of Water Resources [DWR] Basin #3-7), as shown on Figure 3.1-1. SWRCB Order No. 95-10 was against California American Water Company (Cal-Am) for unauthorized diversion of water from the Carmel River in Monterey County. SWRCB Order 95-10 stated that Cal-Am, which supplies water to the POM, was diverting 10,730 acre-feet per year (AFY) from the Carmel River without a valid water right and was required to reduce its pumping by that amount. Cal-Am was thus forced to find an alternate water source to replace approximately 75 percent of its annual supply. Cal-Am has implemented water conservation measures to reduce demand and has increased its pumping from the nearby Seaside Area Subbasin to supplement its water supply. However, the Seaside Area Subbasin has since been adjudicated and pumping from the aquifer restricted. Cal-Am has explored potential regional water projects to develop a new reliable water supply for its customers, but a new supply has not yet been established. Cal-Am operated in its Monterey District under the terms of SWRCB Order No. 95-10 from July 1995 to October 20, 2009.

#### State Water Resources Control Board Cease and Desist Order WR 2009-0060

On October 21, 2009, the SWRCB issued Cease and Desist Order WR 2009-0060, *Authorizing and Imposing a Moratorium on Certain New or Expanded Water Service Connections for the California-American Water Company in its Monterey District,* to prescribe a series of significant cutbacks to Cal-Am's pumping from the Carmel River alluvial aquifer from 2010 through December 2016. Under the SWRCB Cease and Desist Order, Cal-Am's customers may be subject to water rationing, a moratorium on water permits for new construction and remodels, and fines if pumping limits are exceeded. For water year 2011, the Cease and Desist Order set a production limit of 10,429 AFY, which is about 856 AFY less than water year 2009. In water year 2012, the pumping limit was reduced by another 121 acre-feet. By 2016, Cal-Am is required to reduce its water withdrawals to 3,376 AFY, a 70 percent decrease from the water withdrawal in 2009 of 10,730 AFY (MPWMD, 2012a).

### 3.1.2.3 Local

#### Monterey County Superior Court – Seaside Area Subbasin Adjudication

The Seaside Area Subbasin is the primary source of water to the OMC and is under a court adjudication (California American Water v. City of Seaside, et al., Case No. 66343, 2006). Under adjudication, a court decides the amount of groundwater that can rightfully be extracted by each landowner or party overlying the

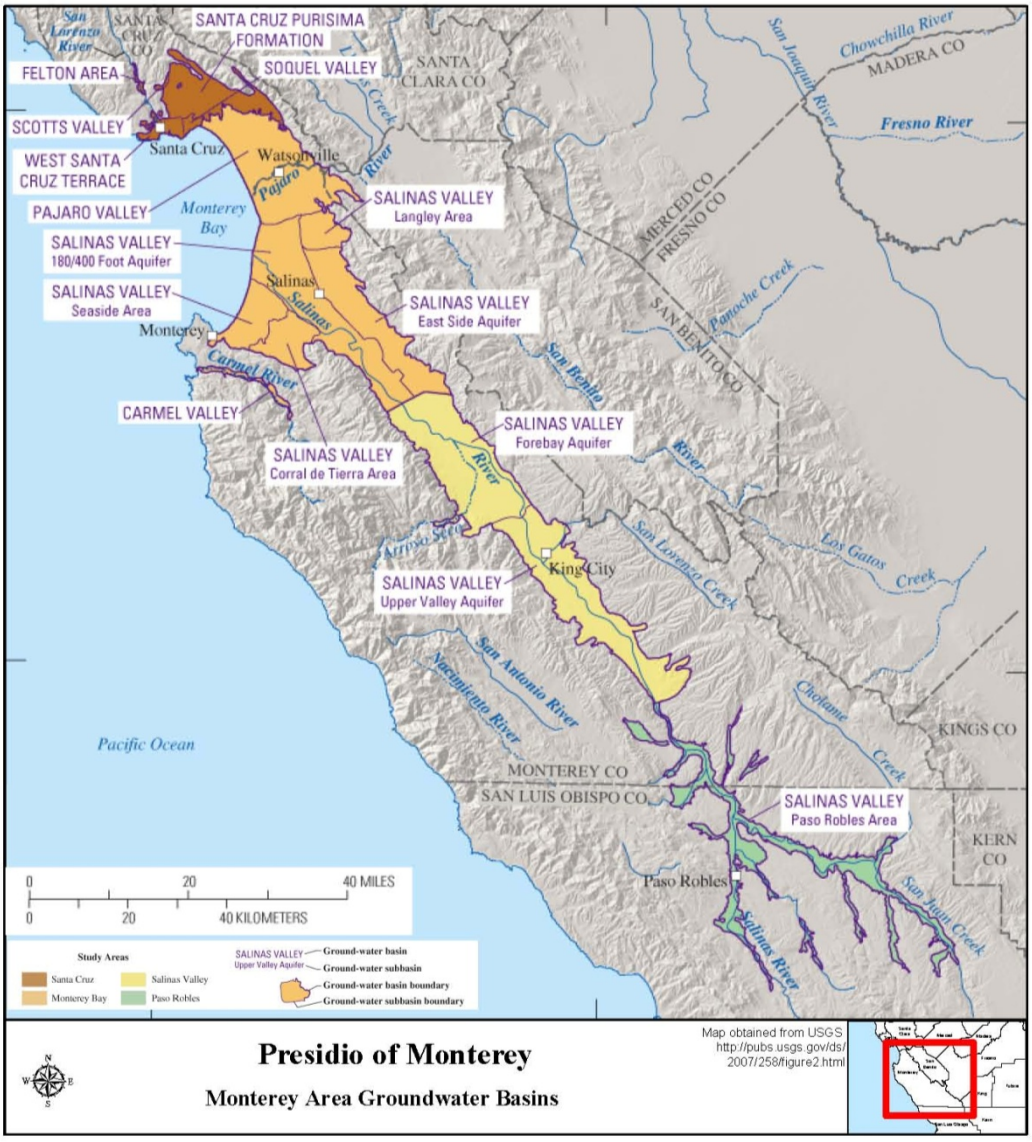


*Figure 3.1-1. Monterey Area Groundwater Basins*

groundwater basin. The court also appoints a Watermaster to oversee the judgment. The Seaside Area Subbasin (DWR Basin #3-4.08), which is part of the Salinas Valley Groundwater Basin, was adjudicated in 2006 due to overdraft conditions (Case No. M666343). Long-term pumping to meet demands in the Monterey area had caused a long-term decline in water levels, which resulted in seawater intrusion in some groundwater aquifers of the Salinas Valley Groundwater Basin. The conditions were exacerbated when SWRCB Order 95-10 limited the available supply from the Carmel Valley Groundwater Basin, resulting in increased production in the nearby Seaside Area Subbasin (Association of Monterey Bay Area Governments

[AMBAG], 2002). The adjudication decision mandated that groundwater pumping had to decrease until the defined operating yield (5,600 AFY) of the subbasin reached the natural "safe yield" of 3,000 AFY (WMG and RMC, 2007). Cal-Am expects its allocation from this area to drop to 1,474 AFY (Monterey Bay Regional Desalination Project, 2011). A Watermaster comprising nine local entities was formed to oversee the subbasin.

### Regional Water Management Agencies and Local Water Purveyors

Water allocations to the POM and the OMC are determined by agreements between the Army, water purveyors, and water management agencies. Two regional water management agencies have jurisdiction over the water supplies. The Monterey County Water Resources Agency regulates surface water and groundwater drawn from the Salinas River and Salinas Valley Groundwater Basin, respectively. The MPWMD is responsible for water drawn from the Carmel River and Carmel Valley Groundwater Basin, as well as groundwater pumped from the Seaside Area Subbasin of the Salinas Valley Groundwater Basin.

Water at the POM is supplied by the private water purveyor Cal-Am within the jurisdiction of the MPWMD and all water users are subject to the City of Monterey's overall water production limit. Water supply is part of the City of Monterey's water allocation from the MPWMD, and new water permits are reviewed in relationship to the 1993 production capacity (1993 was the date of the last new regional water development project).

Cal-Am's water supply comes almost entirely from a network of groundwater wells drawing from the Carmel Valley Groundwater Basin and the Seaside Area Subbasin. The remainder is supplied from the San Clemente and Los Padres reservoirs in the upper reaches of the Carmel River (SWRCB and CalEPA, 1995). Both basins are overdrawn and groundwater pumping from each is restricted.

On March 24, 2011, the California Public Utilities Commission approved Cal-Am's request for a moratorium in certain areas of the Monterey District, which includes the POM, for new or expanded water service connections for projects that obtained all of their governmental permits after October 20, 2009.

Following the SWRCB Order 95-10 and the Cease and Desist Order WR 2009-0060, Cal-Am stated that the significant decrease in the area's water supply could not be achieved without a new water project (the last new project was in 1993) and has protested the Cease and Desist Order in Monterey County Superior Court. Since Order 95-10 was issued, Cal-Am states that water consumption has been decreased by more than 20 percent through ambitious water conservation efforts. To help reduce its reliance on water from the Seaside Area Subbasin and from the Carmel River watershed, a Regional Desalination Project has been proposed to

help compensate for the SWRCB-required reductions in fresh water withdrawal. Other potential water supply sources are regularly evaluated by the regional water management agencies and local water purveyors.

Water at the OMC is provided by Marina Coast Water District (MCWD) within the jurisdiction of the Monterey County Water Resources Agency and the MPWMD. The water service was transferred from the Army to MCWD when the former Fort Ord was closed. The OMC retained 1,691 AFY of water rights from the 6,600 AFY held by the former Fort Ord. Of this, 114 AFY were transferred as part of the City of Seaside Land Swap Agreement, leaving the OMC with 1,577 AFY of available supply.

### 3.1.3 Affected Environment

This section presents the existing water supply and demand conditions within the study area.

#### 3.1.3.1 Surface Water

Onsite surface water is not a stable or reliable water source for the POM and the OMC. Permanent surface water features, like streams and lakes, are not present. The nearest feature at the POM is one intermittent stream along the southeastern boundary. Because of the dune characteristics at the OMC, infiltration rates are high in the sand and gravelly soils and surface water runoff is minimal.

#### 3.1.3.2 Groundwater

Groundwater pumped from two groundwater basins (Salinas Valley and Carmel Valley) in DWR's Central Coast hydrologic region is the main source of potable water to the OMC and the POM. The OMC is located above the Seaside Area Subbasin, but receives its water through the MCWD, which pumps from the Salinas Valley Groundwater Basin. The POM receives its water through the Cal-Am, which pumps from a combination of the Carmel Valley Groundwater Basin and the Seaside Area Subbasin. During "wet months" (normally November through April), the volume is tilted toward the Carmel Valley Groundwater Basin, and during "dry months" (May through October), the majority of the water comes from the Seaside Area Subbasin.

#### 3.1.3.3 Water Usage

Instead of direct pumping from the underlying aquifers, the POM and the OMC are supplied water from two purveyors, Cal-Am and MCWD, respectively, as described in Section 3.1.3.2. The water supplies of both purveyors meet drinking water standards and requirements. Additional details on the water supplies and demands at the POM and the OMC are provided in Appendix D, Revised Water Impact Analysis. This appendix describes credits and allotments that the MPWMD has determined to be incorrect; however, it contains relevant background information on water supply. The following discussion is a summary of existing water use and new water demand.

Table 3.1-1 shows existing conditions for water usage at the POM and new water use demand for a baseline period of 2005–2010, the period immediately preceding the RPMP, which has a base year of 2010. The annual usage listed in the top row of Table 3.1-1 is for existing facilities and that existing use falls within the City of Monterey's water allocation from the MPWMD.

"Demand" in Table 3.1-1 (and as used throughout the EIS discussion of water supply) refers to construction demand for new buildings, as the MPWMD permits new facilities based on a formula that uses the area (square footage) of a proposed new facility. The demand generated by the proposed new projects is discussed in Section 4.1.

Table 3.1-1 indicates that new buildings before the RPMP and between 2005-2010, the dental clinic and three GIBs (FY08, FY09, and FY11), have had their water demand permitted by the MPWMD. Although they are proposed RPMP projects, the FY11 and FY18 Barracks buildings have also had their water demand permitted by the MPWMD, and therefore they are listed in Table 3.1-1 as existing, permitted demand.

**Table 3.1-1. Existing Conditions – Water Use and Demand at the POM**

| Type | POM (Acre-feet per Year) |
|---|---|
| 2005 annual usage | 171.8 |
| New permitted demand (2000–2010): | |
| Includes dental clinic and GIBs (FY08, FY09, and FY11) (1) | 34.6 |
| Phase I and IV Barracks (FY11 and FY18, part of RPMP projects but permitted in 2009) | 14.4 |
| Demand reduction (water savings) (2) | (62.9) |
| New demand (2006-2010) – demand reduction | (13.9) |
| Excess or shortfall (3) | 13.9 |

*Sources: Malcolm Pirnie, 2006; POM, 2011*

*Notes: The tables in this section differ from those in Appendix D, Revised Water Impact Analysis, due to updated actual water use and demand data provided by the POM and based on input from the MPWMD following completion of the Revised Water Impact Analysis. The POM lies within the City of Monterey's jurisdiction area and all water users are subject to the City's overall water production limit. The MPWMD has indicated that the "water rights" of 199.4 AFY specified for the POM in Appendix D is incorrect.*

*AFY – acre-feet per year*

*Parentheses indicate negative values.*

*(1) Also includes dining facility and 15 other structures with demand permitted by the MPWMD.*

*(2) Savings realized from high efficiency clothes washer replacement in 2005 (27 AFY) and several smaller conservation measures since 2000 (MPWMD, 2011) as well as additional savings from installation of high-efficiency toilets and urinals (MPWMD, 2012b).*

*(3) The POM has an excess of 13.9 acre-feet water credits recognized by the MPWMD.*

Table 3.1-2 shows existing conditions for water usage at the OMC. The OMC operates under a different regional water management agency and water "allotment" system than the POM. The OMC currently has sufficient water rights for its existing facilities.

Table 3.1-2. Existing Conditions – Water Use and Demand at the OMC

| Type | OMC (Acre-feet per Year) |
|---|---|
| 2005 annual usage | 869 |
| New demand (2006–2010): | |
| RCI housing and facilities | 351.4 |
| Demand reduction (water savings) | 0 |
| New demand (2006–2010) — demand reduction | 1,220.4 |
| Water rights (1) | 1,691 |
| Water transfer (City of Seaside land swap) | (114) |
| Total water available | 1,577 |
| Excess or shortfall (2) | 356.6 |

*Sources: Malcolm Pirnie, 2006; POM, 2011*
*Notes: RCI = Residential Communities Initiative*
*Parentheses indicate negative values.*
*(1) OMC water rights retained from the former Fort Ord.*
*(2) The OMC has an excess of 356.6 acre-feet per year based on available water rights.*

Permitted water use at the POM was increased by 20.6 AFY from water permits approved for three GIBs and the FY05 dental clinic (Malcolm Pirnie, 2006), as shown in Table 3.1-1. Two of the three GIBs (FY08 and FY09) have been completed and brought online. The third GIB FY11 is currently under construction. The FY11 GIB was evaluated in a separate EA under NEPA (ECW, 2007). The proposed short-range project in the RPMP have been permitted by the MPWMD against the City's 1993 production capacity. These permits were obtained prior to the October 20, 2009 deadline. The March 2011 California Public Utilities Commission moratorium may affect future projects at the POM when a new connection is required.

### POM

Water usage at the POM has decreased largely as a result of conservation measures and water management programs. Available demand data show that usage at the POM steadily declined from 301 AFY in 1998 to 172 AFY in 2005 (POM, 2011). Monthly water usage at the POM from 2005 to the RPMP baseline of 2010 is shown in Figure 3.1-2. Figure 3.1-2 demonstrates that since 2005 annual water usage has generally decreased from 172 AFY in 2005 to 147 AFY in 2010, a reduction of about 15 percent.

Total demand (172 AFY) in 2005, a non-drought year, was the second lowest within the 30-year data period from 1976 to 2005 (Malcolm Pirnie, 2006). The 2005 demand was higher only than 1991 total, the lowest in this 30-year period, when drought restrictions were in effect.

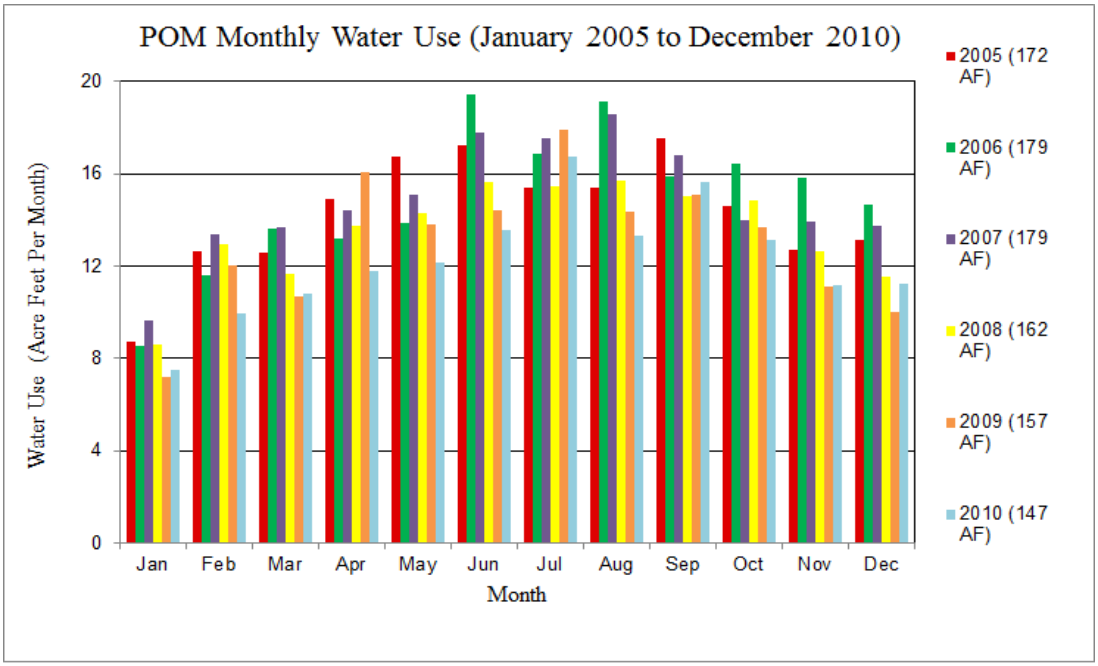


*Figure 3.1-2. Monthly Water Use at the POM, 2005 to 2010.*
*Source: California American Water Company, 2012*

Figure 3.1-3 shows annual water use from 1997 to 2010, demonstrating that water use has decreased substantially, about 50 percent from the late 1990s, from 290 AFY to 147 AFY.

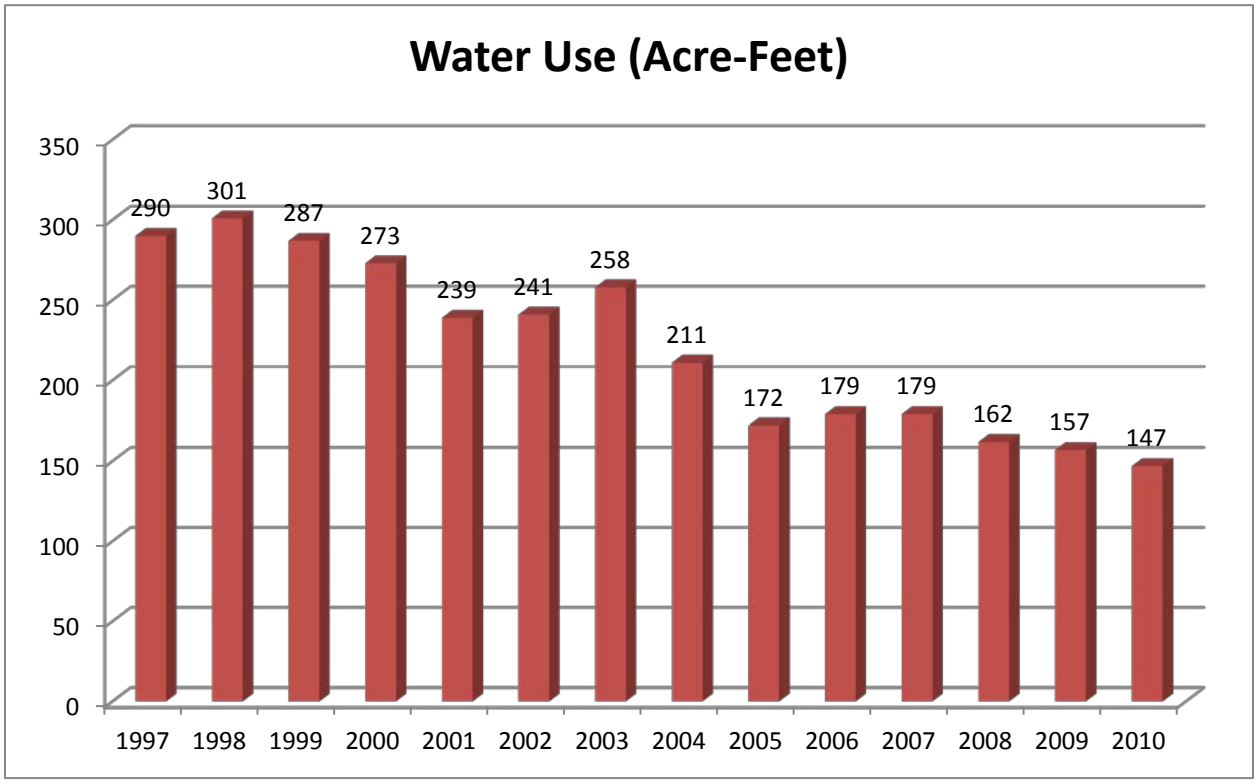


*Figure 3.1-3. Water Use for the POM for 1997 to 2010*
*Source: POM, 2011, and California American Water Company, 2012*

The Army has implemented many water saving measures at its facilities at the POM to accomplish this water use reduction and continues to look for ways to reduce water usage. Some of these recent water saving measures include the following:

- In 2002–2004, the POM installed SOMAT® water-efficient garbage disposal systems that resulted in a reduction of 8.0 AFY of water use.
- In 2004, the POM replaced existing urinals with waterless urinals, resulting in water-use reduction of 9.1 AFY.
- In 2010, the Army replaced 233 commercial clothes washers with high-efficiency clothes washers serving 1,398 dorm rooms at the POM. The MPWMD estimates the reduction in water use for this change to be 28 AFY.
- The POM is in the process of completing 104 toilet retrofits in buildings in a three-phase program that will result in an estimated total water-use reduction of 8.2 AFY.

The MPWMD has called water conservation measures at the POM "remarkable." During the past decade, the POM has continually sought ways to conserve more water and will continue to be very proactive in this area.

### OMC

Similar to the POM, potable water at the OMC is provided by a local purveyor, not by onsite production wells. As part of the BRAC process of 1990, ownership of the water facilities at the OMC was transferred to MCWD by the Fort Ord Reuse Authority. MCWD's water supply is primarily from groundwater wells drawing from the Salinas Valley Groundwater Basin.

Historical usage at the OMC was estimated because most customers are unmetered and the POM Installation DPW stopped collecting family housing demand data in 2003 when the family housing was privatized (Malcolm Pirnie, 2006). Total OMC consumption for 2005 was estimated at 869 AFY (Malcolm Pirnie, 2006). Since then, some existing family housing has been replaced and additional new housing and recreational facilities have been constructed at the OMC through the RCI projects. Water commitments for the RCI projects total about 1,115 AFY, but a large portion was from housing replacement and was not considered new demand. Only about one-third (351 AFY) of the RCI total was attributed to new demand (Table 3.1-2). Conservation measures have also been implemented at the OMC, but quantified water savings are not available because the OMC is not fully metered. The OMC retained 1,577 AFY of water rights. Based on the estimated existing water demand (1,220 AFY), approximately 357 AFY would still be available from water credits (Table 3.1-2).

The Army is implementing water-saving measures at its facilities at the OMC to accomplish water use reduction and continues to look for ways to reduce water usage. Some water-saving measures would include the following:

- Replacement of more than 190,000 square feet of turf, which uses about 4 million gallons of potable water per year, with xeriscaping. It is expected this measure would result in an immediate decrease in water use and then after a few years of establishment, an 80 percent to 90 percent reduction in water usage.
- Installation of waterless urinals across the OMC.
- Installation of aerators on faucets across the OMC.

## 3.2 WATER QUALITY

This section describes water quality at the POM and the OMC as related to the proposed projects. Water supply resources are described in Section 3.1, Water Supply. Stormwater conveyance and wastewater utilities are described in Section 3.10, Utilities, Energy, and Public Services. Potential flood hazard is described in Section 3.12, Public Health and Safety. As described in Section 3.1.3, Water Supply, Affected Environment,

permanent surface water features are not present at the POM and the OMC. Intermittent streams only are present at the POM.

No extensive wetlands or marsh areas exist on the POM or the OMC (U.S. Fish and Wildlife Service [USFWS], 2012); however, limited wetland resources occur along the intermittent stream that follows the southeastern boundary of the POM from Franklin Street to Lighthouse Avenue (POM, 2008a).

Stormwater runoff and drainage at both the POM and OMC ultimately flow to Monterey Bay or the Pacific Ocean to the west through City of Monterey and City of Pacific Grove storm drain systems. Therefore, potential discharge of pollutants via stormwater runoff could affect water quality in these nearby water bodies.

Monterey Bay and Monterey Harbor are listed as "impaired water bodies" in the 2010 Integrated Clean Water Act Section 303[d] List/305[b] Report due to levels of metals and pesticides in those water bodies (SWRCB, 2010a). A water body is considered "impaired" when a pollutant compromises the water quality to the point where it cannot serve as a designated beneficial use or uses. Impairment means that the state needs to establish a limit on allowable pollutant loads to the impaired water body (or Total Maximum Daily Loads [TMDL]) that will enable the water body to recover and meet its designated beneficial uses. New pollutant sources, e.g., those from the proposed projects, are evaluated within the context of the TMDLs.

### 3.2.1 Study Area

The study area is encompassed by the physical boundaries of the POM and the OMC, as described in Chapter 1.

### 3.2.2 Regulatory Setting

This section describes the federal and state rules and regulations applicable to the Proposed Action.

#### 3.2.2.1 Federal

##### Clean Water Act

The federal CWA includes provisions for improving surface water and stormwater quality. Under the CWA, discharge of pollutants from non-point sources (including construction sites) into navigable waters is prohibited, unless the discharges are in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This pertains to construction sites where soil erosion (sediment) and other pollutant discharges (construction-related materials) could affect water quality. For construction sites with disturbed soil areas of one acre or more, construction activities must comply with a NPDES Stormwater Construction General Permit. The permitting process in California is described in the following section.

#### Energy Independence and Security Act

Under Section 438 of the Energy Independence and Security Act of 2007 (EISA), Congress required federal agencies to provide national leadership to reduce water quality problems from stormwater runoff. The law requires federal developments with a footprint greater than 5,000 square feet to use site planning, design, construction, and maintenance strategies to maintain or restore the pre-development hydrology to the maximum extent technically feasible. The intent of this new requirement is for federal facilities to adopt green infrastructure and sustainable design techniques, which are also known as Low Impact Development (LID) practices. These LID practices are meant to imitate the pre-development site stormwater runoff conditions by using site design techniques that store, infiltrate, evaporate, and detain runoff. The requirements are to ensure that receiving waters are not negatively affected by changes in runoff temperature, volumes, durations, and rates resulting from federal projects. Military installations are now required to apply the EISA requirements to projects. Section 438 of the EISA is independent of stormwater requirements under the CWA and is not included as conditions for permits for stormwater (U.S. EPA, 2009).

### 3.2.2.2 State

#### California Stormwater Permitting

In California, the Stormwater Construction General Permit authorizes discharges of stormwater associated with construction activities that are in compliance with all requirements and conditions of the Stormwater Construction General Permit. All discharges are prohibited except stormwater and non-stormwater discharges specifically authorized in the General Permit. For each construction project, Permit Registration Documents would be prepared for submission to the SWRCB and would include a Notice of Intent, Risk Assessment, Site Map, Storm Water Pollution Prevention Plan (SWPPP), a signed certification statement, and payment of fees.

The California Stormwater General Permit is a risk-based permit. This permit establishes three levels of risk possible for a construction site. Risk is calculated in two parts: (1) project sediment risk, and (2) receiving water risk. The findings of the Risk Assessment would determine the potential pollutant hazards associated with the site (i.e., Risk Level 1, 2, or 3) and establish the specific compliance conditions and requirements of the permit. Development of a SWPPP is required prior to construction to address the control of pollutant discharges using Best Management Practices (BMPs) and provide steps to monitor the construction project. Visual monitoring and weekly pre- and post-rain event monitoring would be required. Numerical limits ("action levels") for pollutants in stormwater samples from construction sites would be monitored based on the determined Risk Level. Following the completion of the development project, the site must meet the

conditions for Termination of Coverage through a certification process that ensures the site is stabilized and there is no potential for post-construction-related stormwater discharges.

On September 2, 2012, new post-construction standards went into effect, and post-construction and long-term maintenance plans must be developed (SWRCB Order No. 2009-0009-DWQ; NPDES No. CAS000002) for construction projects. The post-construction standards require dischargers to comply with permit runoff reduction requirements by demonstrating non-structural and structural controls that replicate the pre-project water balance.

Sometime in early 2013, it is expected that the OMC and the POM will be covered under a NPDES Phase II municipal stormwater permit as a "non-traditional" permittee.

### 3.2.3 Affected Environment

The stormwater drainage systems at the POM and the OMC are described in Section 3.10, Utilities, Energy, and Public Services. Stormwater runoff is collected by the existing POM storm drain system and discharged to the Pacific Ocean or Monterey Bay (U.S. Army, 1994a). Some stormwater runoff drains off the POM and enters the storm drain systems of the cities of Pacific Grove and Monterey, which also discharge into the Pacific Ocean or Monterey Bay (U.S. Army, 1994a). The drainage system of the OMC collects surface water runoff that mainly discharges at two ocean outfalls located west of State Highway 1 as described further in Section 3.10.3.

The design and construction of proposed projects at the POM would incorporate BMPs with engineering controls so that there is no net increase in stormwater runoff from current conditions or effects on surface water or groundwater quality due to stormwater runoff. These BMPs and other mitigation measures are described in Section 4.2.

## 3.3 GEOLOGY, SOILS, AND MINERAL RESOURCES

This section describes geology, soils, and mineral resources in the study area. This section also discusses the potential for seismic events, landslides, and liquefaction in the study area and provides the basis to determine whether construction activities could increase their occurrence or affect the proposed construction.

### 3.3.1 Study Area

The study area is the POM and the OMC where potential construction activities would occur.

### 3.3.2 Regulatory Setting

This section describes the federal and state rules and regulations applicable to the Proposed Action.

### 3.3.2.1 Federal

#### Clean Water Act

The federal CWA includes provisions for reducing soil erosion relevant to water quality as previously described in Section 3.2.2.1.

#### Clean Air Act

The federal Clean Air Act (CAA) also includes provisions for reducing soil erosion relevant to air quality. On construction sites, exposed soil surfaces are vulnerable to wind erosion, and small soil particulates are carried into the atmosphere. Suspended particulate matter is one of the six criteria air pollutants of the CAA (see Section 3.4.2.1 for additional details). Construction sites would be required to implement wind erosion BMPs for reducing air quality and soil erosion effects.

#### Historic Sites Act

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

### 3.3.2.2 State

#### Alquist-Priolo Earthquake Fault Zoning Act

The 1972 Alquist-Priolo Earthquake Fault Zoning Act (California Public Resources Code [CPRC] 2621 et seq.) requires local agencies to regulate development within earthquake fault zones to reduce the hazards associated with surface fault ruptures. The act also regulates construction in earthquake fault zones.

#### Seismic Hazards Mapping Act

The 1990 Seismic Hazards Mapping Act (CPRC 2690–2699.6) addresses strong ground shaking, liquefaction, landslides, or other ground failures as a result of earthquakes. This Act requires statewide identification and mapping of seismic hazard zones that are used by cities and counties to adequately prepare the safety element of their general plans and protect public health and safety (California Geological Survey, 2003). Local agencies are also required to regulate development in any seismic hazard zones, primarily through permitting. Permits for development projects are not issued until geologic investigations have been completed and mitigation has been developed to address any issues.

## 3.3.3 Affected Environment

### 3.3.3.1 POM

#### Geology

The POM is near the boundary of the North American and Pacific plates, along the western margin of the Coast Ranges physiographic province. The province contains many elongated ranges and narrow valleys that generally parallel the coast. The POM is located along the southern margin of Monterey Bay and lies at elevations ranging from approximately 30 to 770 feet above mean sea level (ECW, 2007).

The POM overlies a geologically complex subsurface consisting primarily of variously weathered granites and marine terrace deposits (USACE, 2009). The bedrock is weathered to varying degrees, depending on relative location to drainage features, fractures, joints, and rock type. The subsurface profile varies substantially, even over short distances (ECW, 2007). Ancient sand dunes also add to the geologic complexity of the POM. The ancient dunes were formed as terraces cut by the rising oceans and covered with beach deposits as the oceans returned to former levels. The raised beach terraces are similar to others that line the Pacific Coast.

#### Soils

The two primary soil types encountered at the site are Narlon loamy fine sand and Sheridan coarse sandy loam. Narlon soils are located on the gently sloping dissected marine terraces that occur in most of the developed portions of the POM. Narlon Series soils are poorly drained with slow to medium runoff rates. Erosion hazard is considered moderate (ECW, 2007). The Narlon soils can pose severe limitations for construction activities because of the low strength, high shrink-swell potential of the clay subsoil, and acidity that is corrosive to steel and concrete. These soil limitations often require special engineering solutions (ECW, 2007). The Sheridan Series covers much of Presidio Knoll, which encompasses Huckleberry Hill Nature Preserve. The erosion hazard ranges from moderate to very high and runoff is rapid. Much of the Sheridan soil is underlain by clay and clay loam subsoils.

Soil thickness varies across the site from less than 1 foot to approximately 30 feet (USACE, 2009). Previous borings drilled at the POM encountered predominantly clayey and silty sands overlying granite bedrock. At some locations, the sands are derived from the underlying granite bedrock and grade, with depth, into weathered bedrock. In other locations, clayey and silty sands were deposited directly onto the bedrock surface during formation of the marine terrace platforms during the late Pleistocene. The sandy soils encountered in the borings vary in thickness from less than 1 foot to approximately 30 feet (ECW, 2007).

### Seismicity

The POM is located in a highly seismically active region with several major faults and fault zones in proximity, including the San Andreas Fault Zone (approximately 25 miles northeast), the San Gregorio-Hosgri Fault (approximately 19 miles northwest), and the Palo Colorado Fault (approximately 6 miles west). The Sur-Nascimento Fault Zone is approximately 10 miles southwest of the POM and may exhibit substantial seismic activity. There are lower magnitude fault zones near the site, the closest of which is the Monterey Bay Fault Zone, approximately 1 mile offshore in Monterey Bay (ECW, 2007). This is the closest active mapped fault to the POM. No known active faults have been identified at the actual POM (ECW, 2007).

In 2011 the USGS conducted geophysical investigations at the POM in the vicinity of the former proposed Barracks Complex Phase I location immediately east of Building 829 (USGS, 2011). The geophysical survey indicated that no competent rock classified as unrippable or marginally rippable exists within the top 30 feet below the ground surface. Rippability is a qualitative measure of rock strength that indicates the relative ease with which rocks can be removed using standard excavation equipment. These rocks present at the USGS study site could not convey high-velocity seismic waves. Although no faults have been previously identified at the POM, the absence of rock materials that convey high-velocity seismic waves is consistent with fault-weakened material and suggests a possible fault oriented north-northwest across the site immediately east of Building 829.

The Monterey Peninsula is in Seismic Risk Zone 4, identified as a seismically active area by the Uniform Building Code. Areas within Zone 4 are expected to experience severe ground shaking and "major destructive damage" in response to seismic activity within the region (ECW, 2007). Several moderate to large magnitude historical earthquakes have caused significant ground shaking in the past.

### Liquefaction

Liquefaction is the process in which water-saturated sand and silt change from a solid to a liquid state. Liquefaction can be caused by strong shaking of the sediments, which happens during an earthquake. Liquefied sediments lose their strength to support overlying structures. Areas with a shallow groundwater table or perched groundwater would be susceptible to liquefaction in a strong earthquake.

The potential for liquefaction of soils during an earthquake at the POM is considered minimal because of shallow soils and lack of groundwater. Perched groundwater has been identified at only two locations on the POM: (1) the Child Care Center (Building 566) and (2) Buildings 835 and 836. The perched groundwater was encountered at depths less than 30 feet below ground surface at these locations (ECW, 2007).

#### Landslides

Landslide potential is considered minimal for most of the POM because the majority of the buildings are on a series of gently dipping marine terrace platforms cut into a bedrock hill adjacent to Monterey Bay. The Huckleberry Hill Nature Preserve, areas at the base of Huckleberry Hill Nature Preserve/Presidio Knoll, and south of the parking area behind Buildings 627 and 629 are areas that contain slopes greater than 25 percent (City of Monterey, 2005). Potential for landslides is greater on these steeper slopes.

#### Mineral Resources

The upper POM contains marine sandstone from the middle Cenozoic era. An area at the upper portion of the historic POM, approximately 597 feet above sea level, has been quarried in the past. This stone is thought to be the source for the façade of the Spanish Royal Presidio Chapel of 1794. A second area to the west at 700 feet above sea level is on land added to the POM this century. This area is now part of the Huckleberry Hill Nature Preserve and is currently protected. No future quarry activities are planned for the POM (City of Monterey, 2002).

### 3.3.3.2 OMC

#### Geology

The OMC is located south of the mouth of the Salinas River, between Monterey Bay and the Sierra de Salinas Mountains. The OMC is in the Coast Ranges Province, a northwest-trending series of mountain ranges and basins, that extends from southern California to Oregon.

The western and northern portions of the site are characterized by sand dune morphology, with topography sloping gently to the north and west, toward Monterey Bay. In this region, high rates of surface water infiltration, typical of sand dune formations, result in a lack of well-defined drainage features. Topography and drainage features differ significantly in the southern portion of the site. This area is characterized by moderate to steeply sloping canyons that drain to the east into Salinas Valley (U.S. Army, 1992).

#### Soils

The two main soil series encountered at the OMC are Oceano loamy sand and the Baywood sand. Oceano Series soils are derived from stabilized dunes (2 to 15 percent slopes) and are generally very well- to excessively well-drained. The permeability rate for the Oceano Series is rapid, runoff is slow to medium, the shrink-swell potential is low, and the erosion hazard is high in localized storm drainage areas. Oceano loamy sand is classified as a Soil of Statewide Importance by the U.S. Department of Agriculture; however, it has been several years since any of the land at the OMC was under cultivation, and conversion of farmland is not anticipated (USACE, 2006).

Similar to the Oceano Series, the Baywood Series comprises excessively drained soils that form in stabilized sand dunes. Slopes are also 2 to 15 percent and erosion potential is slight to moderate.

### Seismicity

The nearest active faults to the OMC are the Monterey Bay Fault, the San Gregorio Fault, the San Andreas Fault, the Ord Terrace Fault, the Seaside Fault, and the Chupines Fault. The San Gregorio and San Andreas Faults are capable of generating large earthquakes of magnitude 7 or 8 on the Richter scale. The potential for an earthquake of magnitude 6.7 or greater on the San Andreas Fault between 2003 and 2032 has been estimated to be about 21 percent. The probability for an earthquake on the San Gregorio Fault during the same period was estimated at about 10 percent (USACE, 2006). No active faults, or Alquist-Priolo Fault Zones, are mapped within the project area.

The OMC is in an area where there is a 10 percent probability that an earthquake would cause peak bedrock acceleration in the range of 0.3 to 0.4 times the acceleration of gravity during the next 50 years, according to the U.S. Geological Survey (USACE, 2006). This is a moderately high to high acceleration. Ground shaking intensity is generally lowest in areas underlain by shallow bedrock and is higher in areas underlain by unconsolidated sediments. The intensity of ground shaking in a strong earthquake is expected to be severe within the project area. The intensity of ground shaking in the project area during the 1989 Loma Prieta Earthquake, which was centered about 30 miles north of the project area, was reported to be about VI on the modified Mercali scale (USACE, 2006). Although ground shaking feels strong at this intensity, damage is generally light.

### Liquefaction

Although the OMC is in a potentially active seismic zone, the potential for liquefaction of soils during an earthquake at the OMC is considered minimal due to the depth of groundwater, about 75 feet below the ground surface (USACE, 2006).

### Landslides

Because of the relatively flat and developed nature of the OMC, land sliding is not an issue.

### Mineral Resources

No known mineral resources are located at the OMC; however, there are several sand and gravel quarries in the Seaside/Marina area (USACE, 2006).

# 3.4 AIR QUALITY

This section describes the area studied in the air quality analysis, as well as the regulatory and environmental setting. The regulatory setting is described in terms of the state and federal requirements, and the environmental setting is described in terms of climate, atmospheric conditions, and air pollutant sources.

## 3.4.1 Study Area

The air quality effects analysis evaluates the existing conditions and air emissions from project construction activities in Monterey County.

## 3.4.2 Regulatory Setting

The following section describes the federal, state, and local rules and regulations applicable to the proposed project.

The CAA is a federal law that was created to reduce air pollution, set ambient air quality standards, and establish the regulatory authorities responsible for enforcing regulations designed to attain those standards. The CAA covers the entire country, but federal, state, and local levels of government have the responsibility to monitor air quality and meet the protection standards, including those for toxic air contaminants (TACs), as discussed below.

### 3.4.2.1 Federal

The federal CAA, as amended in 1990, currently comprises six titles:

- Title I – Air Pollution Prevention and Control
- Title II – Emission Standards for Moving Sources
- Title III – General
- Title IV – Acid Deposition Control
- Title V – Permits
- Title VI – Stratospheric Ozone Protection

Title I and V contain the provisions that typically address emissions from construction projects and stationary sources (e.g., chemical plants and gas stations). Title I includes, among other provisions, requirements to (1) establish National Ambient Air Quality Standards (NAAQS) for air pollutants that protect human health with an adequate margin of safety, as well as public welfare, (2) limit emissions from new stationary sources, (3) prevent significant deterioration of air quality in regions with air quality that is already better than the NAAQS, and (4) develop state implementation plans (SIPs) that establish the steps to be taken to bring areas with air quality that is worse than the NAAQS back into attainment of the NAAQS by mandated attainment

dates. As part of Title I, federal agencies cannot engage in, support in any way or provide financial assistance for, license or permit, or approve any activity that does not conform to an USEPA-approved SIP.

Title V requires that major stationary sources obtain operating permits and pay fees that are based on the quantity of pollutants emitted. Title III of the CAA gives authority to the USEPA to establish regulations that implement the CAA requirements. Title II, Emission Standards for Moving Sources, and Title IV, Acid Deposition Control, are not relevant or applicable to the proposed activities in the RPMP.

### National Ambient Air Quality Standards

As required by the federal CAA, the USEPA has established and continues to update the NAAQS for specific "criteria" air pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, inhalable particulate matter ($PM_{10}$), fine particulate matter ($PM_{2.5}$), and lead. The two particulate matter categories refer to solid and liquid particles of dust, soot, aerosols, smoke, ash, pollen and other matter that are small enough to remain suspended in air for a long period. $PM_{2.5}$ refers to particulates with aerodynamic diameters less than or equal to 2.5 micrometers (μm) and $PM_{10}$ have diameters less than or equal to 10 μm. The NAAQS for these pollutants represent the levels of air quality deemed necessary to protect the public health and welfare with an adequate margin of safety, see Table 3.4-1 for a list of these NAAQS. Table 3.4-2 describes the criteria pollutants of primary concern (ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter), their potential health effects, and their major sources.

Within the last 3 years, the USEPA has made substantial changes to the NAAQS. The USEPA revised the nitrogen dioxide standard on February 9, 2010, by establishing a new 1-hour nitrogen dioxide standard at a level of 100 parts per billion (ppb), based on the 3-year average of the 98th percentile of the yearly distribution of the 1-hour daily maximum concentrations (75 FR 6474). The USEPA revised the sulfur dioxide standard on June 22, 2010, by establishing a new 1-hour primary sulfur dioxide standard of 75 ppb, based on the 3-year average of the 99th percentile of the 1-hour daily maximum concentrations and revoked the 24-hour and annual primary standard (75 FR 35520). The USEPA also has proposed to strengthen the 8-hour ozone standard, but it has not yet finalized the rule.

| Table 3.4-1. Summary of National and California Ambient Air Quality Standards | | | | |
|---|---|---|---|---|
| Pollutant | Averaging Time | California | National Standards (1) | |
| | | Standards (2,3) | Primary (3,4) | Secondary (3,5) |
| Ozone ($O_3$) | 1-hour | 0.09 ppm (180 µg/m$^3$) | – | – |
| | 8-hour | 0.070 ppm (137 µg/m$^3$) | 0.075 ppm (147 µg/m$^3$) | Same as primary standard |
| Carbon monoxide (CO) | 1-hour | 20 ppm (23 mg/m$^3$) | 35 ppm (40 mg/m$^3$) | – |
| | 8-hour | 9.0 ppm (10 mg/m$^3$) | 9 ppm (10 mg/m$^3$) | – |
| Nitrogen dioxide ($NO_2$) | Annual arithmetic mean | 0.030 ppm (57 µg/m$^3$) | 53 ppb (100 µg/m$^3$) | Same as primary standard |
| | 1-hour | 0.18 ppm (339 µg/m$^3$) | 100 ppb | – |
| Inhalable particulate matter ($PM_{10}$) | Annual arithmetic mean | 20 µg/m$^3$ | – | Same as primary standard |
| | 24-hour | 50 µg/m$^3$ | 150 µg/m$^3$ | |
| Fine particulate matter ($PM_{2.5}$) | Annual arithmetic mean | 12 µg/m$^3$ | 15 µg/m$^3$ | Same as primary standard |
| | 24-hour | – | 35 µg/m$^3$ | |
| Sulfur dioxide ($SO_2$) (6) | 24-hour | 0.04 ppm (105 µg/m$^3$) | – | – |
| | 3-hour | – | – | 0.5 ppm (1,300 µg/m$^3$) |
| | 1-hour | 0.025 ppm (655 µg/m$^3$) | 75 ppb (196 µg/m$^3$) | – |
| Lead (Pb) (7) | 30-day Average | 1.5 µg/m$^3$ | – | – |
| | Calendar Quarter | – | 1.5 µg/m$^3$ | Same as primary standard |
| | Rolling 3-Month Average | – | 0.15 µg/m$^3$ | |

*Sources: California Code of Regulations Title 17 Section 7020 2010, and USEPA National Ambient Air Quality Standards (40 CFR Part 50) last updated 2010*

*Notes: ppb = parts per billion; ppm = parts per million; µg/m$^3$ = micrograms per cubic meter; mg/m$^3$ = milligrams per cubic meter; – = no standard exists*

*(1) 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 $PM_{10}$ 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m$^3$ is equal to or less than 1 day. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.*

*(2) California standards for ozone, CO (except Lake Tahoe), $NO_2$, and particulate matter are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.*

*(3) Concentrations are expressed first in units in which they were issued (i.e., ppb, ppm or µg/m$^3$). Equivalent units given in parentheses are based on a reference temperature of 25°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.*

*(4) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.*

*(5) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.*

*(6) The USEPA strengthened the NAAQS for $SO_2$ on June 2, 2010, by establishing a new 1-hour standard. The USEPA also has revoked the annual and 24-hour standards because they will not add additional public health protection given the new 1-hour standard.*

*(7) The California Air Resources Board has identified lead as a toxic air contaminant with no threshold of exposure for adverse health effects. This action allows for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

| Table 3.4-2. Criteria Pollutants and Potential Health Effects | | | |
|---|---|---|---|
| Pollutant | Characteristics | Health Effects | Major Sources |
| Ozone ($O_3$) | A highly reactive photochemical pollutant created by the action of sunshine on ozone precursors (reactive organic gasses and oxides of nitrogen). | Eye irritation.<br>Respiratory function impairment. | Combustion sources, such as factories and automobiles, evaporation of solvents and fuels, refining and gasoline delivery. |
| Carbon monoxide (CO) | Odorless, colorless gas that is highly toxic. Formed by the incomplete combustion of fuels. | Impairment of oxygen transport in the bloodstream.<br>Aggravation of cardiovascular disease.<br>Fatigue, headache, and dizziness. | Automobile exhaust, combustion of fuels, and combustion of wood in woodstoves and fireplaces. |
| Nitrogen dioxide ($NO_2$) | Reddish-brown gas formed during combustion. | Increased risk of acute and chronic respiratory disease.<br>Eye irritation.<br>Colors atmosphere reddish-brown. | Automobile and diesel truck exhaust, industrial processes, and fossil-fueled power plants. |
| Sulfur dioxide ($SO_2$) | Colorless gas with a pungent odor. | Increased risk of acute and chronic respiratory disease.<br>Potentially damaging to plants.<br>Destructive to marble, iron, and steel.<br>Limits visibility and reduces sunlight. | Oil and coal-powered power plants, industrial processes, and diesel vehicle exhaust. |
| Lead (Pb) | Metal found naturally in the environment as well as in manufactured products. | Distributes throughout the body in the blood.<br>Accumulated in the bones.<br>Depending on the level of exposure, affects the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. | The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. |
| Inhalable particulate matter ($PM_{10}$) and fine particulate matter ($PM_{2.5}$) | $PM_{10}$ refers to solid and liquid particles of dust, soot, aerosols, smoke, ash, and pollen and other matter that are small enough (aerodynamic diameter $\leq$ 10 µm) to remain suspended in the air for a long period. $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter < 2.5 µm. $PM_{10}$ and $PM_{2.5}$ are also formed from nitrogen oxides and sulfur oxides. | Aggravation of chronic disease and heart/lung disease symptoms.<br>May irritate eyes and respiratory tract.<br>Produces haze and limits visibility. | Construction dust, erosion, incinerators, automobile and aircraft exhaust, open fires, industrial and agricultural operations, atmospheric photochemical reactions, and natural activities (e.g., ocean sprays). |

*Source: CARB, 2008a*

The federal CAA requirements classify air basins (or portions thereof) as either "attainment" or "non-attainment" with respect to criteria air pollutants, based on whether the NAAQS have been achieved, and stipulate the preparation of air quality plans containing emission reduction strategies for those areas designated as "non-attainment." Non-attainment means that the air quality levels exceed the standards that have been established for that area. The North Central Coast Air Basin (NCCAB) (and therefore Monterey County) is in attainment for all pollutants under the federal NAAQS (Monterey Bay Unified Air Pollution Control District [MBUAPCD], 2007). A summary of the attainment status for all criteria pollutants is presented in Table 3.4-3.

Table 3.4-3. Attainment Status for North Central Coast Air Basin

| Pollutant | Federal NAAQS |
|---|---|
| Ozone ($O_3$) | Attainment |
| Inhalable particulates ($PM_{10}$) | Attainment |
| Fine particulates ($PM_{2.5}$) | Unclassified/attainment |
| Carbon monoxide (CO) | Attainment |
| Nitrogen dioxide ($NO_2$) | Attainment |
| Sulfur dioxide ($SO_2$) | Attainment |
| Lead (Pb) | Attainment |

*Source: MBUAPCD, 2007*

Although the 1-hour ozone standard was revoked on June 15, 2005, the former 1-hour ozone designations and classifications are being retained for purposes of anti-backsliding. Attainment areas (that is, areas with air quality levels that meet the standards) with maintenance plans for the 1-hour standards are required to demonstrate maintenance for 10 years after being designated under the 8-hour ozone standard (USEPA, 2008). The NCCAB was a maintenance area for the 1-hour ozone standard and is attainment for the 8-hour ozone standard. In 2007, the Federal Maintenance Plan[4] was updated to address the changes in the ozone standards (MBUAPCD, 2007).

[4] The 2007 *Federal Maintenance Plan for Maintaining the National Ozone Standard in the Monterey Bay Region* was approved by the MBUAPCD on March 21, 2007. The AMBAG approved the plan on May 9, 2007. The MBUAPCD's 2007 Federal Maintenance Plan was approved by the U.S. EPA on November 6, 2009.

### State Implementation Plans

Counties or regions that are designated as federal non-attainment areas for one or more criteria air pollutants must prepare a SIP that demonstrates how the area would achieve attainment of the standards by the federally mandated deadlines. In addition, those areas that have been re-designated from non-attainment to attainment are required to have a maintenance plan that shows how the area would maintain the standard for up to 10 years.

All of Monterey County had been designated a non-attainment area (marginal) for the 1-hour ozone NAAQS. Although the area had attained the 1-hour standard, when that standard was revoked, a maintenance plan for ozone is required under the implementation rules for the 8-hour ozone NAAQS as an anti-backsliding measure.

### General Conformity

Section 176(c) of the CAA requires any entity of the federal government that engages in, supports, or in any way provides financial support for, licenses or permits, or approves any activity must demonstrate that the action conforms to the applicable SIP required under Section 110(a) of the CAA (42 U.S.C. 7410(a)) before the action is otherwise approved. In this context, conformity means that such federal actions must be consistent with a SIP's purpose to eliminate or reduce the severity and number of violations of the NAAQS and achieve expeditious attainment of those standards. Each federal agency must determine that any action that is proposed by the agency and is subject to the regulations implementing the conformity requirements would, in fact, conform to the applicable SIP before the action is taken. Although this project is sponsored and supported by a federal agency, the 1-hour ozone standard was the only pollutant in non-attainment or maintenance.

Only those federal actions that take place in a region designated as an NAAQS non-attainment area or maintenance area must be evaluated for general conformity. Areas that are in attainment for the 8-hour ozone standard but were in non-attainment or maintenance for the 1-hour ozone standard are not required to demonstrate general conformity (USEPA, 2008). Due to the attainment status of the other pollutants, the project is not subject to general conformity requirements.

### Mandatory Greenhouse Gas Reporting Rule

On October 30, 2009, the USEPA published the final mandatory GHG reporting rule in the Federal Register (74 FR 56260). This rule requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that directly emit 25,000 metric tons or more of carbon dioxide equivalent per year to submit annual reports to the USEPA. Reporting would start in 2011 for the calendar year 2010, except for vehicle and engine manufacturers that would begin reporting for model year 2011.

#### Endangerment Finding

On December 15, 2009, the USEPA published its endangerment finding for GHGs in the Federal Register (74 FR 66496). The USEPA Administrator determined that six GHGs, taken in combination, endanger both the public health and welfare of current and future generations. Further, the Administrator found that the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to air pollution that endangers the public health and welfare under CAA Section 202(a). These findings are expected to pave the way for future regulations to control emissions of GHGs on a nationwide basis.

#### Tailoring Rule

On May 13, 2010, the USEPA published the Final GHG Tailoring Rule, which sets GHG emissions thresholds for when permits under the Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new or modified industrial facilities (75 FR 31514). Beginning January 2, 2011, only facilities that are currently subject to a PSD or Title V permitting program that would significantly increase emissions other than GHG pollutants would be required to address GHG pollutants.

Beginning July 1, 2011, PSD permitting requirements cover new construction projects that emit at least 100,000 tons per year of GHG emissions regardless of any other pollutant emission. New source facilities that emit at least 100,000 tons per year of carbon dioxide equivalent would be subject to Title V permitting requirements.

#### Draft Greenhouse Guidance

On February 18, 2010, the CEQ provided draft guidance on the ways in which federal agencies can provide their consideration of the effects of GHG emissions and climate change in their evaluation of proposals for federal actions under NEPA. This guidance specifically states that if a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of carbon dioxide equivalent emissions on an annual basis, agencies should consider this an indicator that an assessment may be meaningful to decision makers and the public. The CEQ does not necessarily propose this level as a threshold of significant effects but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the related NEPA analysis; however, as stated, this indicator (25,000 metric tons carbon dioxide equivalent) may provide a useful, presumptive, threshold for discussion and disclosure of GHG emissions because it has been used and proposed in other rulemakings.

### 3.4.2.2 State

The California Clean Air Act (CCAA) substantially added to the authority and responsibilities of the state's air pollution control districts. The CCAA establishes an air quality management process that generally parallels

the federal process; however, it focuses on attainment of the California Ambient Air Quality Standards (CAAQS) that are, for certain pollutants and averaging periods, more stringent than the comparable NAAQS.

The CCAA requires that the CAAQS be met as expeditiously as practicable, but it does not set precise attainment deadlines. Instead, the CCAA established increasingly stringent requirements for areas that will require more time to achieve the standards. The air quality attainment plan requirements are based on the severity of air pollution problems caused by locally generated emissions. Upwind air pollution control districts are required to establish and implement emission control programs commensurate with the extent of pollutant transport to downwind districts. The NCCAB is in non-attainment for the ozone and inhalable particulate, or $PM_{10,}$ CAAQS, so an Air Quality Management Plan was prepared by MBUAPCD to address attainment of the CAAQS.

Air pollution problems in Monterey County are influenced by contributions from the San Francisco Bay Area or the San Joaquin Valley. The San Francisco Bay Area Air Basin can contribute up to 50 percent of NCCAB exceedances and is classified as having an overwhelming significant contribution to NCCAB air quality. Thirty percent of exceedances were classified as significant from both the San Francisco Bay Area Air Basin and the San Joaquin Valley Air Basin (MBUAPCD, 2008a).

The California Air Resources Board (CARB) is responsible for developing emission standards for on-road motor vehicles and some off-road equipment in the state. In addition, the CARB develops guidelines for the local districts to use in establishing air quality permit and emission control requirements for stationary sources subject to the local air district regulations.

### California Executive Order S-3-05

California Executive Order S-3-05 (signed by Governor Schwarzenegger on June 1, 2005) established the following GHG emission reduction targets for California:

- Reduce GHG emissions to 2000 levels by 2010
- Reduce GHG emissions to 1990 levels by 2020
- Reduce GHG emissions to 80 percent below 1990 levels by 2050

### Global Warming Solutions Act of 2006 (Assembly Bill 32)

California Assembly Bill 32, the Global Warming Solutions Act of 2006, codifies the state's GHG emissions target. Assembly Bill 32, which was passed into law on September 27, 2006, requires California to reduce GHG emissions to 1990 levels by 2020 and the CARB to enforce a statewide cap on GHG that must be phased in by 2012. Key milestones follow:

- June 30, 2007: Identification of "discrete" early action GHG emissions reduction measures

- January 1, 2008: Identification of the 1990 baseline GHG emissions level and approval of a statewide limit equivalent to that level. Adoption of reporting and verification requirements concerning GHG emissions
- January 1, 2009: Adoption of a scoping plan for achieving GHG emission reductions
- January 1, 2010: Adoption and enforcement of regulations to implement the "discrete" actions
- January 1, 2011: Adoption of GHG emission limits and reduction measures by regulation
- January 1, 2012: Enforcement of GHG emission limits and reduction measures adopted in 2011

#### 3.4.2.3 Local

The MBUAPCD maintains air quality conditions in the plan area through comprehensive programs of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean-air strategy involves the preparation of plans and programs for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The MBUAPCD also inspects stationary sources, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the CAA and the CCAA.

In 2008, the MBUAPCD adopted a guidelines document for assessment and mitigation of air quality effects under CEQA. These guidelines (MBUAPCD, 2008b) provide lead agencies, consultants, and project applicants with uniform procedures for addressing air quality in environmental documents, and because they focus on environmental documentation in relationship to CEQA, they can also be used to prepare a NEPA analysis, unless otherwise noted. The guidelines contain the following applicable components:

- Criteria and thresholds for determining whether a project may have a significant adverse effect on air quality
- Specific procedures and modeling protocols for quantifying and analyzing effects on air quality
- Methods available to mitigate effects on air quality

Specific rules applicable to the construction of the project may include but are not limited to the following:

- Rule 424, National Emission Standards for Hazardous Air Pollutants
- Rule 439, Building Removals

The CCAA requires the development of plans to achieve and maintain the CAAQS. The August 2008 Air Quality Management Plan is the MBUAPCD's most current version.

MBUAPCD is currently in the process of evaluating GHG thresholds of significance but does not have any specific guidance to date (personal communication, A. Clymo, Air Quality Planner, MBUAPCD, January, 20, 2012).

#### 3.4.2.4 Toxic Air Contaminants

Air quality regulations also focus on TACs or hazardous air pollutants. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health effects may not be expected to occur. This contrasts with the criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 3.4-1). Instead, the USEPA and the CARB regulate hazardous air pollutants and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology for toxics to limit emissions. These in conjunction with additional rules set forth by the MBUAPCD establish the regulatory framework for TACs. Under the MBUAPCD's rules and regulations, all sources that possess the potential to emit TACs are required to obtain permits from the MBUAPCD. The MBUAPCD limits emissions and public exposure to TACs through a number of programs, and it prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

### 3.4.3 Affected Environment

The existing air quality conditions for a project area are typically the result of meteorological conditions and existing emission sources in an area.

#### 3.4.3.1 NCCAB Emissions Inventories

The MBUAPCD has compiled the 2007 emission inventories for the NCCAB (the old 1-hour ozone non-attainment area), presented in Table 3.4-4.

Table 3.4-4. 2007 Emissions Inventory for North Central Coast Air Basin

| Source Category | 2007 Daily Emissions (tons per day) | |
|---|---|---|
| | Volatile Organic Compound | Nitrogen Dioxide |
| Stationary sources | 9.28 | 20.67 |
| Area-wide sources | 29.63 | 4.17 |
| On-road motor vehicles | 18.71 | 40.93 |
| Other mobile sources | 13.19 | 15.63 |
| Total All Sources | 70.82 | 81.46 |

*Source: MBUAPCD, 2008a*

### 3.4.3.2 Monitoring Data—Criteria Pollutants Concentrations

Table 3.4-5 summarizes air quality data from the Salinas monitoring from the CARB's Air Quality Data Statistics database. The Salinas station was selected because it is the closest representative station to the project site.

Table 3.4-5. Summary of Air Pollutant Monitoring Data in Salinas, California

| Pollutant | Average Time | 2007 | 2008 | 2009 | NAAQS |
|---|---|---|---|---|---|
| Carbon monoxide (CO) (ppm) | 1-hour (2nd High) | 1.7 | 1.6 | ND (1) | 35 |
| | 8-hour (2nd High) | 0.99 | 0.80 | 0.85 | 9 |
| Ozone ($O_3$) (ppm) | 8-hour (4th High) | 0.053 | 0.060 | 0.056 | 0.075 |
| Nitrogen dioxide ($NO_2$) (ppm) | 1-hour (1st High) | 0.050 | 0.049 | 0.040 | 0.100 |
| | Annual | 0.007 | 0.007 | 0.006 | 0.053 |
| Inhalable particulate matter ($PM_{10}$) ($\mu g/m^3$) | 24-hour (2nd High) | 34 | 50 | 30 | 150 |
| Fine particulate matter ($PM_{2.5}$) ($\mu g/m^3$) | 24-hour (2nd High) | 15.6 | 13.8 | 13.6 | 35 |
| | Annual | 6.9 | 7.1 | 6.7 | 15 |

*Sources: CARB, 2008b; USEPA, 2010*

*Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter*

*(1) Monitoring data for 1-hour CO standard not reported on the CARB's website. Data only available until 2008 on the USEPA's data repository.*

### 3.4.3.3 Greenhouse Gases

Briefly stated, global climate change (GCC) is a change in the average climatic conditions of the earth, as characterized by changes in wind patterns, storms, precipitation, and temperature. The baseline by which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. Many of the recent concerns over GCC use these data to extrapolate a level of statistical significance, specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission projections of GHG needed to stabilize global temperatures and effects from GCC. The IPCC predicted that the global mean temperature increase from 1990 to 2100, given six scenarios, could range from 1.4 to 5.8 degrees Celsius (°C) (IPCC, 2001). Regardless of analytical methodology, global average temperature and mean sea level are expected to rise under all scenarios.

Climate models applied to California's conditions project that, under different scenarios, temperatures in California are expected to increase by 3 to 10.5 degrees Fahrenheit (°F) (California Climate Change Center, 2006). Almost all climate scenarios include a continuing trend of warming through the end of the twenty-first century given the substantial amounts of GHG already released, and the difficulties associated with reducing emissions to a level that would stabilize the climate. According to the 2006 California Climate Action Team Report, the following climate change effects are predicted in California over the course of the twenty-first century (CalEPA, 2006).

- A diminishing Sierra snowpack declining by 70 to 90 percent, threatening the state's water supply
- Increasing temperatures, as noted above, of up to approximately 10°F under the higher emission scenarios, leading to a 25 to 35 percent increase in the number of days ozone pollution levels are exceeded in most urban areas
- Coastal erosion along the length of California and seawater intrusion into the Delta from a 4- to 33-inch rise in sea level, exacerbating flooding in already vulnerable regions
- Increased vulnerability of forests due to pest infestation and increased temperatures
- Increased challenges for the state's important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta
- Increased electricity demand, particularly in the hot summer months

Temperature increases would lead to adverse environmental effects in a wide variety of areas, including: sea level rise, reduced snowpack resulting in changes to existing water resources, increased risk of wildfires, public health hazards associated with higher peak temperatures, heat waves, and deteriorated air quality.

In December 2008, the CARB released a Climate Change Scoping Plan that outlines the state's strategy to achieve the 2020 GHG emissions limit mandated by Assembly Bill 32. Assembly Bill 32 requires the state to reduce GHG emissions to 1990 levels by 2020 (CARB, 2008c). The GHG emissions in the state are expected to increase by nearly 30 percent between the levels from 2002-2004 (average emissions) and 2020 under the business-as-usual conditions.

In a report titled *California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit*, the CARB estimated the 1990 emission level as approximately 427 million metric tons of carbon dioxide equivalent (CARB, 2007a,b). The state would need to reduce emissions by 169 million metric tons of carbon dioxide equivalent in the year 2020 as compared to business-as-usual conditions to meet the emission targets, representing a nearly 30 percent decrease in emissions.

# 3.5 VEGETATION AND WILDLIFE

This section describes the vegetation and wildlife that occur at the POM and the OMC.

## 3.5.1 Study Area

The study area consists of all portions of the POM and the OMC.

## 3.5.2 Regulatory Setting

The following section describes the federal, state, and local rules and regulations with respect to vegetation and wildlife applicable to the proposed RPMP at the POM and the OMC.

### 3.5.2.1 Federal

#### Endangered Species Act

The Endangered Species Act (ESA) and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Section 7 of the ESA requires federal agencies to aid in the conservation of listed species and ensure that the activities of federal agencies will not jeopardize the continued existence of listed species or adversely modify designated critical habitat. At the federal level, the USFWS and the National Oceanic and Atmospheric Administration are responsible for administration of the ESA.

#### Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) decrees that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. Nearly all native North American bird species are protected by the MBTA. Under the MBTA, pursuing, taking, killing, or possessing migratory birds is unlawful. Projects that are likely to result in taking of birds protected under the MBTA would require the issuance of take permits from the USFWS. Activities that would require such a permit would include destruction of migratory bird nesting habitat during the nesting season when eggs or young are likely to be present. To comply with the MBTA and appropriate associated regulations (50 CFR), surveys are required to determine if nests would be disturbed and, if so, a buffer area with a specified radius around the nest would be established so that no disturbance or intrusion would be allowed until the young had fledged and left the nest. If not otherwise specified in the permit, the size of the buffer area would vary with species and local circumstances (e.g., presence of busy roads) and would be based on the professional judgment of the monitoring biologist.

#### Executive Order 13112, Invasive Species

Executive Order 13112 directs federal agencies to expand and coordinate their efforts to combat the introduction of invasive species; provide for their control; and take measures to minimize economic,

ecological, and human health effects. In compliance with Executive Order 13112, restoration of disturbed vegetation should be conducted using native plants. and efforts to prevent the introduction of invasive plant species must be demonstrated.

### 3.5.2.2 State

#### California Endangered Species Act

The California Department of Fish and Game (CDFG) is responsible for administration of the California ESA. Unlike the federal ESA, there are no state agency consultation procedures under the California ESA. For projects that affect both a state and federal listed species, compliance with the federal ESA will satisfy the California ESA if the CDFG determines that the federal incidental take authorization is "consistent" with the California ESA. Projects that result in a take of a state-only listed species require a take permit under the California ESA. The federal and state acts also lend protection to species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or den locations, communal roosts, and other essential habitat.

Under state law, plant species may be formally designated rare, threatened, or endangered by the California Fish and Game Commission. The California Native Plant Society (CNPS) operates its Rare Plant Program under a Memorandum of Understanding with the CDFG. This cooperative agreement results in rare plant assessment, protection, and formalized cooperative ventures, such as data sharing and production of complementary information sources for rare plants.

#### California Fish and Game Code Sections 3500–3705, Migratory Bird Protection

Sections 3500–3705 of the California Fish and Game Code regulate the taking of migratory birds and their nests. These codes prohibit the taking of nesting birds, their nests, eggs, or any portion thereof during the nesting season. Typically, the breeding/nesting season is from February 1 through August 31. Depending on each year's seasonal factors, the breeding season can start earlier and end later.

### 3.5.2.3 Local

#### Monterey County General Plan

The Monterey County General Plan (Monterey County, 2004a) establishes goals and policies for the protection of natural resources in Monterey County, including the preservation and conservation of native vegetation and wildlife species and habitats. The Army considers and discusses the goals and policies of this plan during the planning process in accordance with NEPA, but it is not subject to these regulations.

#### Monterey County Preservation of Oak and Other Protected Trees

Monterey County Tree Ordinance 21.64.260 limits the removal or trimming of oaks and other protected tree species (Monterey County, 1997). The Army considers and discusses this ordinance during the planning process in accordance with NEPA, but it is not subject to these regulations.

### 3.5.3 Affected Environment

#### 3.5.3.1 POM

#### Wetlands

No extensive wetland or marsh areas exist on the POM. However, limited wetland resources occur along an intermittent stream that follows the southeastern boundary of the POM from Franklin Street to Lighthouse Avenue. An intermittent stream also occurs along the southern boundary of the POM in the forested ravine adjacent to Veteran's Memorial Park.

#### Vegetation

Vegetation within the developed areas of the POM consists of landscaped vegetation, such as ornamental shrubs and irrigated lawns. Non-native trees in the developed areas include blackwood acacia (*Acacia melanoxylon*), Sydney golden wattle (*Acacia longifolia*), and blue gum eucalyptus (*Eucalyptus globulus*). Native Monterey pines (*Pinus radiata*) also occur here. Non-native grasses and forbs dominate disturbed areas throughout the POM (POM, 2008a).

The undeveloped natural areas of the POM include the Presidio Knoll, which encompasses the Huckleberry Hill Nature Preserve and forested areas at the base of the nature preserve behind Buildings 649 and 650 and the 800 series barracks. There are also undeveloped areas between Hilltop Field and Building 630, north of Mason Road across from Building 829, and south of the parking area behind Buildings 627 and 629. Vegetation communities in the Presidio Knoll area are dominated by a Monterey pine tree forest with two types of understory: shrub and grass. Non-native, invasive French broom also occurs in the Presidio Knoll area, especially along the disturbed edges of dirt roads and trails. In addition, a central maritime chaparral vegetation community dominated by manzanita interspersed with Monterey pine and coast live oak (*Quercus agrifolia*) is along the western slope of the Presidio Knoll (POM, 2008a).

**Monterey Pine Forest with Shrub Understory** – This subtype of Monterey pine forest covers approximately 120 acres, or 31 percent of the total land area, of the POM (POM, 2008a). This forest has an understory of chaparral vegetation, with dominant shrubs including shaggy-barked manzanita (*Arctostaphylos tomentosa*), California huckleberry (*Vaccinium ovatum*), bush monkeyflower (*Mimulus aurantiacus*), Pacific poison-oak (*Toxicodendron diversilobum*), California coffeeberry (*Rhamnus californica*), and Hooker's Manzanita (*Arctostaphylos*

*hookeri* ssp. *hookeri*). Herbaceous species include Douglas iris (*Iris douglasiana*), small-leaved lomatium (*Lomatium parvifolium*), Pacific peavine (*Lathyrus vestitus*), Pacific sanicle (*Sanicula crassicaulis*), and Monterey sedge (*Carex harfordii*).

**Monterey Pine Forest with Grassy Understory** – Monterey pine forest with a grassy understory occurs in the forest patch east of the Hilltop Field and makes up approximately 9.8 acres, or 2.5 percent of the total land area of the POM (POM, 2008a). Likely cleared in the past, this understory is dominated by herbaceous vegetation, including California brome (*Bromus carinatus*), rattlesnake grass (*Briza maxima*), slender wild oat (*Avena barbata*), Monterey sedge, California buttercup (*Ranunculus californicus*) and Douglas iris. Additionally, shrubs, including coast live oak, California huckleberry, and Hooker's manzanita, occur throughout the understory but are not dominant species.

### Special Status Plant Species

Special status species with the potential to occur at the POM and the OMC are listed in Table 3.5-1. The information was compiled from the California Natural Diversity Database, the USFWS, and biological surveys conducted at the POM. Yadon's piperia (*Piperia yadonii*) (Figure 3.5-1) is the only federally listed plant species known to occur at the POM. Other special status plant species at the POM include Monterey pine (Figure 3.5-2), small-leaved lomatium (Figure 3.5-3), and Hooker's Manzanita (Figure 3.5-4). Monterey pine and Hooker's manzanita are considered rare or endangered in California by the CNPS and the CDFG, while small-leaved lomatium is considered a species of limited distribution.

The USFWS has been consulted under Section 7 of the ESA and will continue to be consulted as necessary as biological issues arise on future projects included in the RPMP (Appendix E, Agency Consultation). If unanticipated effects on special status plant species not included in the original assessment occur, or if new species information becomes available, additional consultation with the USFWS may be reinitiated.

**Yadon's Piperia** – Yadon's piperia, also known as Yadon's rein orchid, was listed by the USFWS as endangered in 1998 (USFWS, 1998). This species occurs in maritime chaparral and Monterey pine forests in northern coastal Monterey County. Yadon's piperia prefers acidic soils and is typically found in grassy clearings within Monterey pine forests. In the maritime chaparral, it is often associated with Hooker's manzanita. Large populations of Yadon's piperia exist on the POM within the Monterey pine forest across from the cemetery between Building 630 and Hilltop Field, north of Mason Road across from Buildings 829 through 834, and south of Buildings 831 through 833. Smaller populations grow just outside the Huckleberry

| Table 3.5-1. Potential for Occurrence of Special Status Species at POM and the OMC | | | | | |
|---|---|---|---|---|---|
| Scientific Name | Common Name | Status [1] | Potential Location | General Habitat | Potential for Occurrence |
| **Birds** | | | | | |
| Accipiter striatus | Sharp-shinned hawk | CSC | POM | Montane evergreen forests in the drier regions of the western United States. Nest in large forests composed of conifer, deciduous, or mixed woodlands with a closed canopy. | Potential to occur. Was observed during biological surveys in 1994 and 1995. |
| Agelaius tricolor | Tricolored blackbird | CSC | OMC | Open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony. | None. No suitable habitat present. |
| Athene cunicularia hypugea | Western burrowing owl | CSC | OMC | Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. | Potential to occur. |
| Buteo regalis | Ferruginous hawk | CSC | POM, OMC | Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon-juniper habitats. | None. No suitable habitat present. |
| Charadrius alexandrinus nivosus | Western snowy plover | FT, CSC | POM | Flat, open coastal beaches, in dunes, and near stream mouths. | None. No suitable habitat present. |
| Contopus cooperi | Olive-sided flycatcher | CSC | POM | Open areas with tall trees, generally near coniferous or mixed coniferous forest. | Potential to occur. Was observed during biological surveys in 2005. |
| Eremophila alpestris actia | California horned lark | CSC | OMC | Coastal regions with short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats. | Potential to occur. |
| Gymnogyps californianus | California condor | FE, SE | POM, OMC | Chaparral, coniferous forests, and oak savannah habitats with wide open spaces. Nest in rock outcrops, cliffs or rarely in tall conifers. Forage in grasslands and open beaches. | Currently, low potential to occur as a fly-over or during foraging. Conditions may change as this highly opportunistic species becomes re-established and expands its current range. |
| Lanius ludovicianus | Loggerhead shrike | CSC | POM, OMC | Open habitat characterized by grasses and forbs of low stature interspersed with bare ground and shrubs or low trees. | Potential to occur. |
| Pelecanus occidentalis californicus | California brown pelican | Delisted | POM, OMC | Colonial nester on coastal islands just outside the surf line. | Potential to occur as a fly-over. |
| **Amphibians** | | | | | |
| Ambystoma californiense | California tiger salamander | FT, CSC | OMC | Needs underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding. | Potential to occur. Occurrence noted in 2006 and 2007. |
| Rana aurora draytonii | California red-legged frog | FT, CSC | POM, OMC | Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. | None. No suitable habitat present. |

| Table 3.5-1. Potential for Occurrence of Special Status Species at POM and the OMC | | | | | |
|---|---|---|---|---|---|
| Scientific Name | Common Name | Status [1] | Potential Location | General Habitat | Potential for Occurrence |
| **Reptiles** | | | | | |
| Anniella pulchra nigra | Black legless lizard | CSC | OMC | Sand dunes and sandy soil with bush lupine and mock heather as dominant plants. | Potential to occur. |
| Anniella pulchra pulchra | Silvery legless lizard | CSC | OMC | Sandy or loose loamy soils with high moisture content under sparse vegetation. | None. No suitable habitat present. |
| Phrynosoma blainvillii | Coast horned lizard | CSC | OMC | Variety of habitats, most common in lowlands along sandy washes with scattered low bushes. | Potential to occur. |
| **Invertebrates** | | | | | |
| Danaus plexippus | Monarch butterfly | None | POM | Winter roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. | Present. Known to occur at the POM. |
| Euphilotes enoptes smithi | Smith's blue butterfly | FE | OMC | Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz counties. | None. No suitable habitat present. |
| Linderiella occidentalis | California linderiella | None | OMC | Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. | None. No suitable habitat present. |
| **Mammals** | | | | | |
| Lasiurus cinereus | Hoary bat | None | POM | Open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage. | Potential to occur. No known occurrences. |
| Neotoma fuscipes luciana | Monterey dusky-footed woodrat | CSC | OMC | Brushy habitat in chaparral and foothills of woodlands. | Potential to occur. |
| Sorex ornatus salarius | Monterey ornate shrew | CSC | OMC | Brackish water marshes, along streams, brushy areas of valleys and foothills, forests. | Potential to occur. |
| Taxidea taxus | American badger | CSC | POM, OMC | Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. | Potential to occur. |

| Table 3.5-1. Potential for Occurrence of Special Status Species at POM and the OMC | | | | | |
|---|---|---|---|---|---|
| Scientific Name | Common Name | Status [1] | Potential Location | General Habitat | Potential for Occurrence |
| Plants | | | | | |
| *Allium hickmanii* | Hickman's onion | 1B.2 | POM, OMC | Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland, coastal prairie. | Potential to occur. No known occurrences. |
| *Arctostaphylos hookeri* ssp. *hookeri* | Hooker's manzanita | 1B.2 | POM, OMC | Chaparral, coastal scrub, closed-cone coniferous forest, cismontane woodland. | Present. Known to occur at the POM. |
| *Arctostaphylos montereyensis* | Toro manzanita | 1B.2 | OMC | Chaparral, cismontane woodland, coastal scrub. | Potential to occur. No known occurrences. |
| *Arctostaphylos pumila* | Sandmat manzanita | 1B.2 | POM, OMC | Closed-cone coniferous forest, chaparral, cismontane woodland, coastal dunes, coastal scrub. | Present. Known to occur at the OMC. |
| *Astragalus tener* var. *titi* | Coastal dunes milk-vetch | FE, SE, 1B.1 | POM | Coastal bluff scrub, coastal dunes. | None. No suitable habitat present. |
| *Callitropsis goveniana* | Gowen cypress | FT, 1B.2 | POM | Closed-cone coniferous forest. | Potential to occur. No known occurrences. |
| *Callitropsis macrocarpa* | Monterey cypress | 1B.2 | POM, OMC | Closed-cone coniferous forest. | Present. Known to occur as horticultural plantings only. |
| *Ceanothus cuneatus* var. *rigidus* | Monterey ceanothus | 4.2 | OMC | Closed-cone coniferous forest, northern coastal scrub, coastal sage scrub. | Present. Known to occur at the OMC. |
| *Chorizanthe pungens* var. *pungens* | Monterey spineflower | FT, 1B.2 | OMC | Coastal dunes, chaparral, cismontane woodland, coastal scrub. | Present. Known to occur at the OMC. |
| *Chorizanthe robusta* var. *robusta* | Robust spineflower | FE | OMC | Cismontane woodland, coastal dunes, coastal scrub. | None. No suitable habitat present. |
| *Clarkia jolonensis* | Jolon clarkia | 1B.2 | POM, OMC | Cismontane woodland. | None. No suitable habitat present. |
| *Collinsia multicolor* | San Francisco collinsia | 1B.2 | POM | Closed-cone coniferous forest, coastal scrub. | Potential to occur. No known occurrences. |
| *Cordylanthus rigidus* ssp. *littoralis* | Seaside bird's-beak | SE, 1B.1 | OMC | Closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, coastal dunes. | Potential to occur. No known occurrences. |
| *Eriastrum virgatum* | Virgate eriastrum | 4.3 | OMC | Coastal dunes, chaparral. | Present. Known to occur at the OMC. |
| *Ericameria fasciculata* | Eastwood's goldenbush | 1B.1 | POM, OMC | Closed-cone coniferous forest, chaparral (maritime), coastal scrub, coastal dunes. | Potential to occur. No known occurrences. |
| *Erysimum ammophilum* | Sand-loving wallflower | 1B.2 | OMC | Chaparral (maritime), coastal dunes, coastal scrub. | None. No suitable habitat present. |

| Table 3.5-1. Potential for Occurrence of Special Status Species at POM and the OMC | | | | | |
|---|---|---|---|---|---|
| Scientific Name | Common Name | Status [1] | Potential Location | General Habitat | Potential for Occurrence |
| *Erysimum menziesii* ssp. *menziesii* | Menzies' wallflower | FE, SE, 1B.1 | OMC | Coastal dunes. | None. No suitable habitat present. |
| *Fritillaria liliacea* | Fragrant fritillary | 1B.2 | POM | Coastal scrub, valley and foothill grassland, coastal prairie. | None. No suitable habitat present. |
| *Gilia tenuiflora* ssp. *arenaria* | Sand gilia | FE, ST, 1B.2 | OMC | Coastal dunes, coastal scrub, chaparral (maritime), cismontane woodland. | None. No suitable habitat present. |
| *Horkelia cuneata* ssp. *sericea* | Kellogg's horkelia | 1B.1 | OMC | Closed-cone coniferous forest, coastal scrub, chaparral. | Potential to occur. No known occurrences. |
| *Lasthenia conjugens* | Contra Costa goldfields | FE, 1B.1 | OMC | Valley and foothill grassland, vernal pools, cismontane woodland. Extirpated from most of its range; extremely endangered. | None. No suitable habitat present. |
| *Layia carnosa* | Beach layia | FE, SE, 1B.1 | OMC | Coastal dunes. | None. No suitable habitat present. |
| *Lomatium parvifolium* | Small-leaved lomatium | 4.2 | POM | Closed-cone coniferous forest, chaparral. | Present. Known to occur at the POM. |
| *Lupinus tidestromii* | Tidestrom's lupine | FE, SE, 1B.1 | OMC | Coastal dunes. | None. No suitable habitat present. |
| *Malacothamnus palmeri* var. *involucratus* | Carmel Valley bush-mallow | 1B.2 | OMC | Cismontane woodland, chaparral. | None. No suitable habitat present. |
| *Microseris paludosa* | Marsh microseris | 1B.2 | POM, OMC | Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. | Potential to occur. Known to occur near POM at Veteran's Memorial Park. No known occurrences at the POM or the OMC. |
| *Pinus radiata* | Monterey pine | 1B.1 | POM | Closed-cone coniferous forest, cismontane woodland. | Present. Known to occur at the POM. |
| *Piperia michaelii* | Michael's rein orchid | 4.2 | POM, OMC | Coastal scrub, closed-cone coniferous forest, cismontane woodland, chaparral. | Present. Known to occur at the OMC. |
| Piperia yadonii | Yadon's rein orchid, Yadon's piperia | FE, 1B.1 | POM, OMC | Closed-cone coniferous forest, chaparral, coastal bluff scrub. | Present. Known to occur at the POM. |
| *Potentilla hickmanii* | Hickman's potentilla | FE, SE, 1B.1 | POM | Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps, marshes and swamps. | Potential to occur. No known occurrences. |
| *Rosa pinetorum* | Pine rose | 1B.2 | POM | Closed-cone coniferous forest. | Potential to occur. No known occurrences. |
| *Stebbinsoseris decipiens* | Santa Cruz microseris | 1B.2 | POM, OMC | Broad-leafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub | Potential to occur. No known occurrences. |

Table 3.5-1. Potential for Occurrence of Special Status Species at POM and the OMC

| Scientific Name | Common Name | Status (1) | Potential Location | General Habitat | Potential for Occurrence |
|---|---|---|---|---|---|
| *Trifolium buckwestiorum* | Santa Cruz clover | 1B.1 | OMC | Coastal prairie, broad-leafed upland forest, cismontane woodland. | Potential to occur. No known occurrences (elkhorn slough reports). |
| *Trifolium polyodon* | Pacific Grove clover | 1B.1 | POM | Closed-cone coniferous forest, meadows and seeps, coastal prairie. | Potential to occur. No known occurrences. |
| *Trifolium trichocalyx* | Monterey clover | FE, SE, 1B.1 | POM | Closed-cone coniferous forest. | Potential to occur after fire. No known occurrences. |
| Vegetation Communities | | | | | |
| Central Maritime Chaparral | Central Maritime Chaparral | None | POM, OMC | NA | Known to occur at the POM and the OMC |
| Monterey Cypress Forest | Monterey Cypress Forest | None | POM, OMC | NA | Known to occur at the POM and the OMC as horticultural plantings only. |
| Monterey Pine Forest | Monterey Pine Forest | None | POM | NA | Known to occur at the POM. |
| Northern Bishop Pine Forest | Northern Bishop Pine Forest | None | POM | NA | Known to occur at the POM. |
| Northern Coastal Salt Marsh | Northern Coastal Salt Marsh | None | OMC | NA | None present at the OMC, but occurs at the former Fort Ord. |

*Sources: CDFG, 2011, 2012a,b; POM, 2008a; National Audubon Society, 2009; USFWS, 2009*

*Notes: NA = not applicable*

*(1) 1B.1 = Plants rare, threatened, or endangered in California and elsewhere. Seriously endangered in California.*
*1B.2 = Plants rare, threatened, or endangered in California and elsewhere. Fairly endangered in California.*
*4.2 = Plants of limited distribution – A watch list. Fairly endangered in California.*
*4.3 = Plants of limited distribution – A watch list. Not very endangered in California.*
*CSC = California species of special concern*
*ST = State listed threatened*
*FE = Federally listed endangered*
*SE = State listed endangered*
*FT = Federally listed threatened*

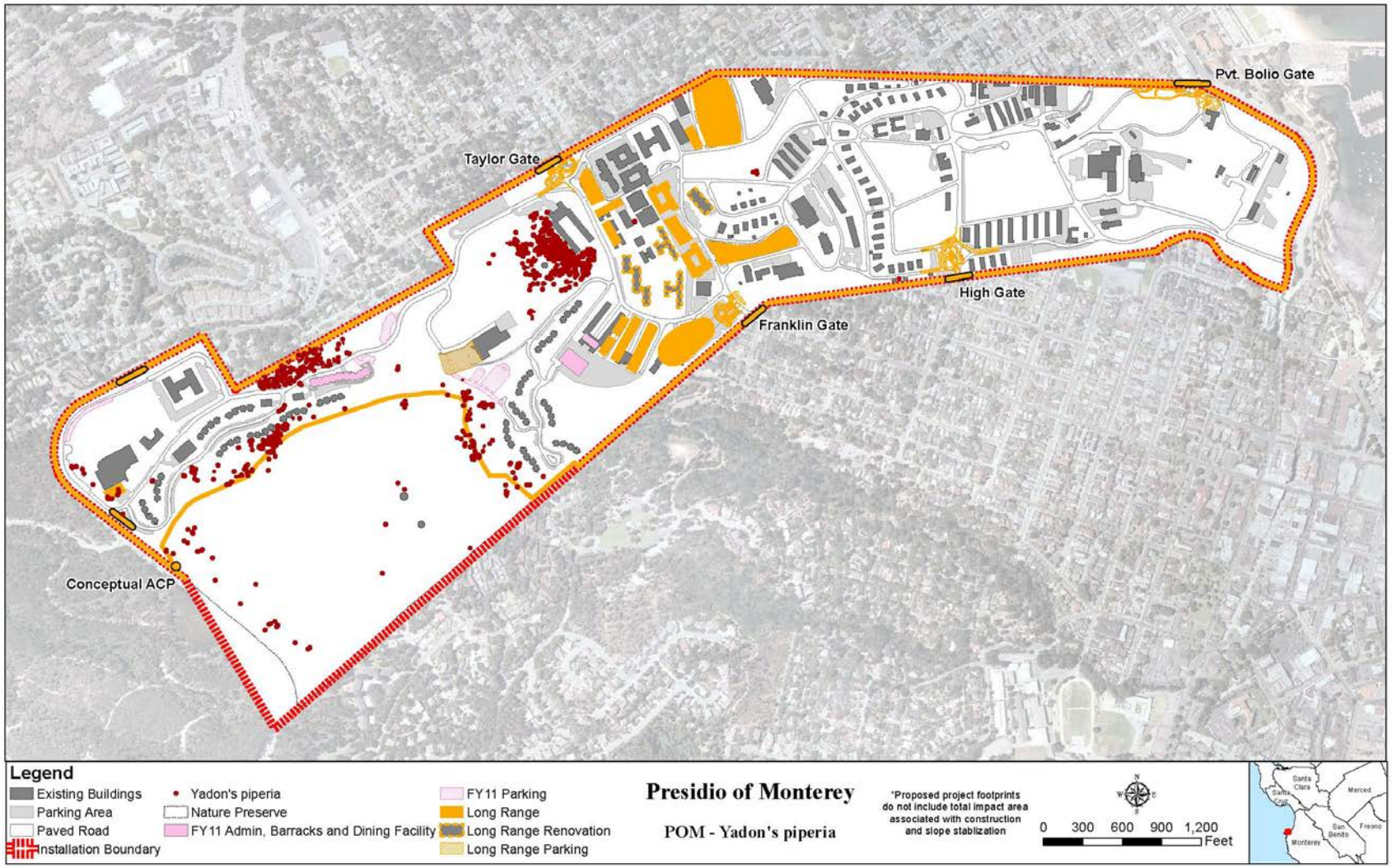


*Figure 3.5-1. POM – Yadon's Piperia*

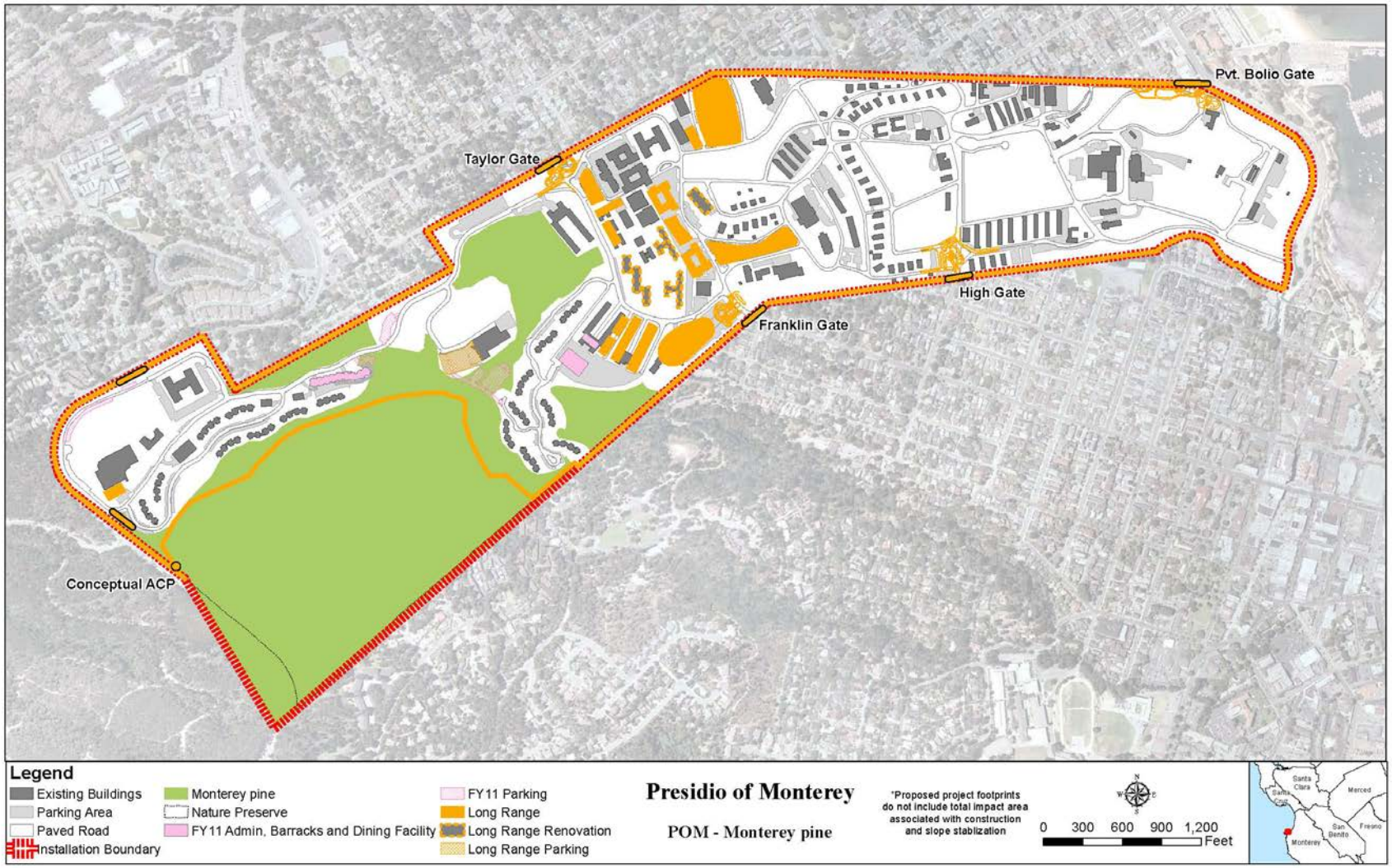


*Figure 3.5-2. POM – Monterey Pine*

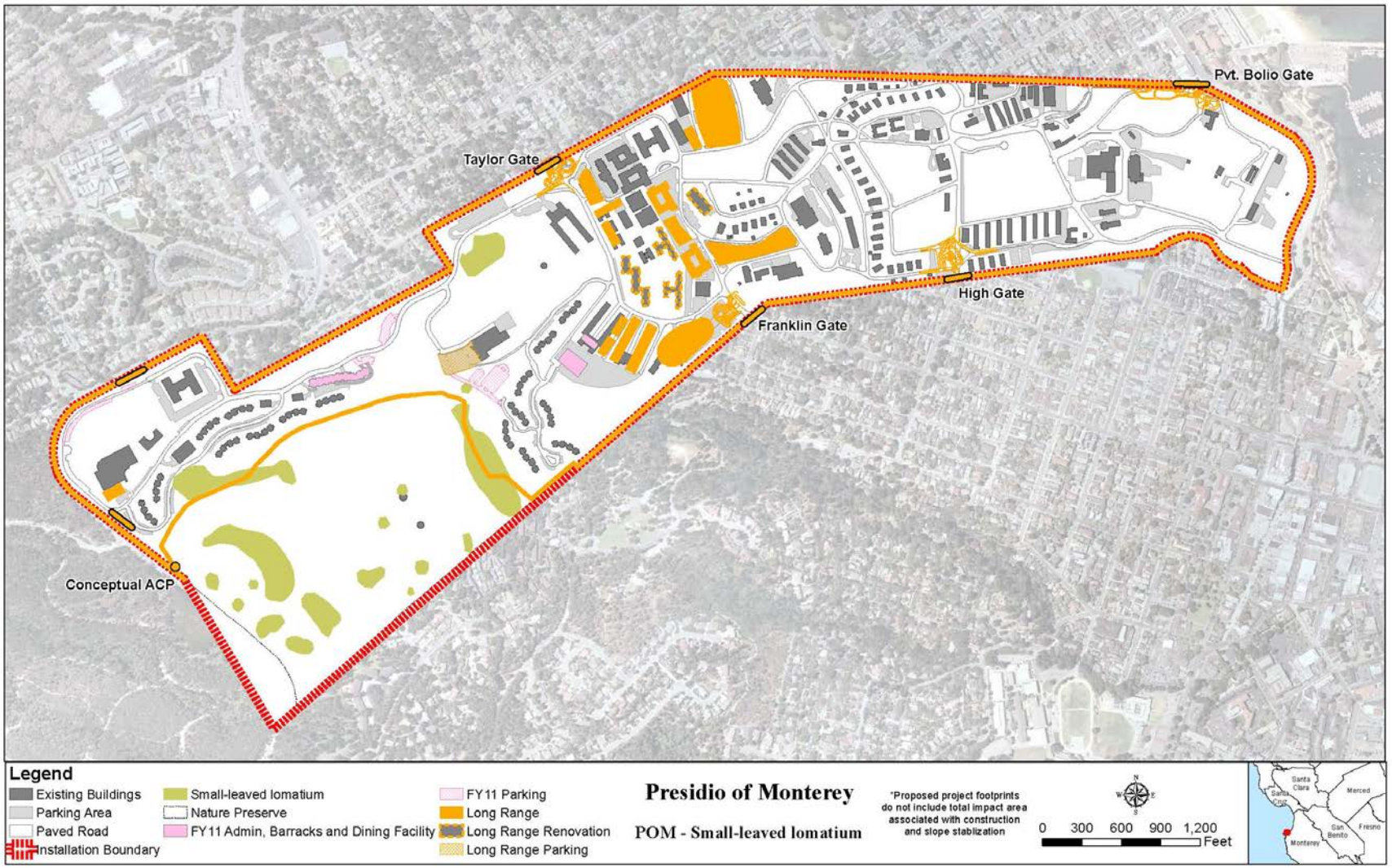


*Figure 3.5-3. POM – Small-leaved Lomatium*

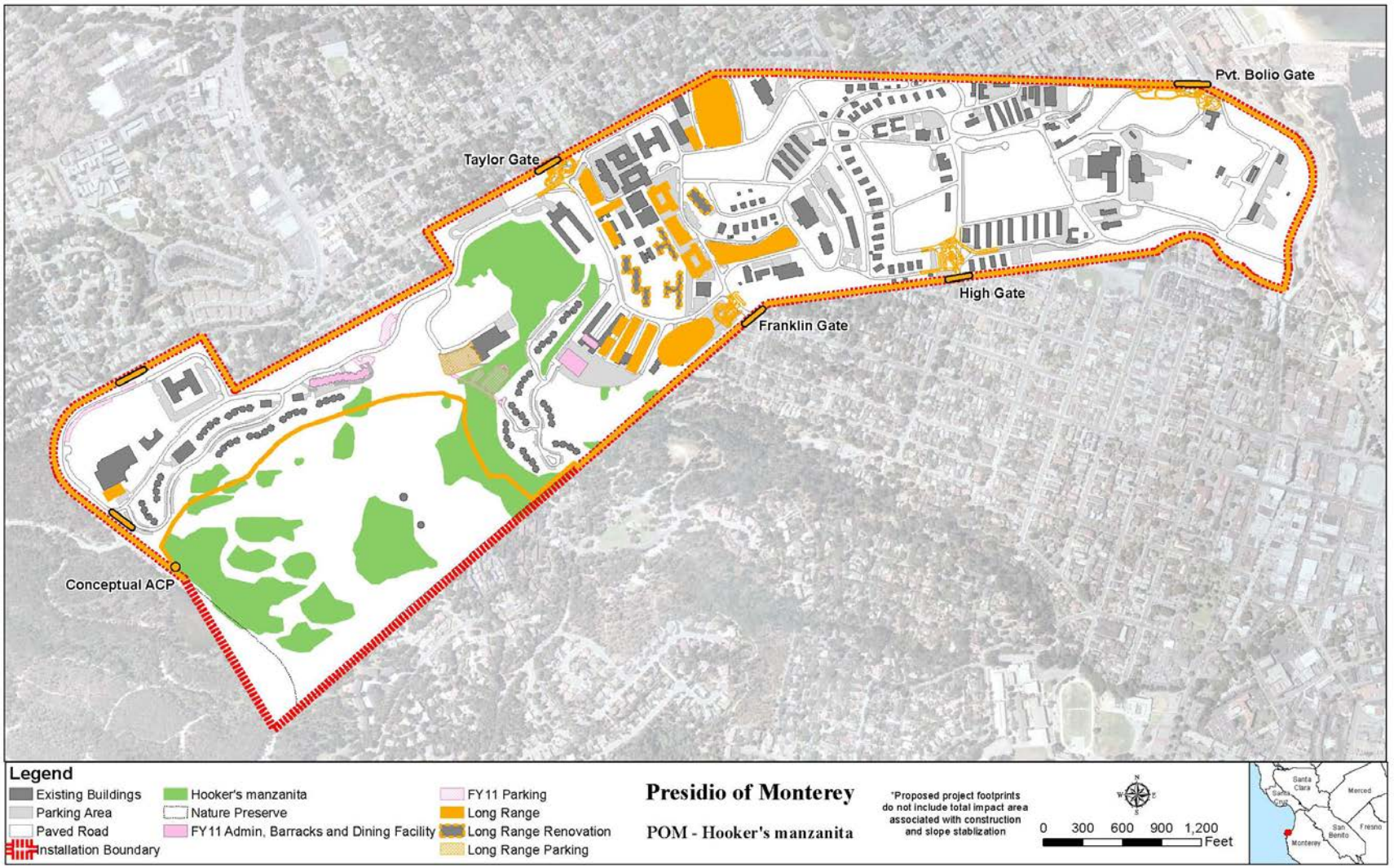


*Figure 3.5-4. POM – Hooker's Manzanita*

Hill Nature Preserve boundary fence behind Buildings 832 and 833 and west of Buildings 649 and 650. The entire Huckleberry Hill Nature Preserve has not been surveyed for Yadon's piperia; however, numerous populations have been documented within the Monterey pine forest and beneath the shrub understory. Individual plants also occur throughout the Monterey pine habitat within the POM.

The greatest threat to Yadon's piperia is development for urban and recreational land uses, including golf courses (USFWS, 1998). Other threats include competition from non-native plants, maintenance activities such as roadside mowing, and deer herbivory. At the POM, Yadon's piperia is protected through management efforts in accordance with an Endangered Species Management Plan (ESMP), which is reviewed annually and has been recently updated (POM, 2008b). Conservation goals for Yadon's piperia are to maintain existing POM populations and protect these populations from potential effects. Habitat management actions to meet conservation goals include: protecting existing populations from foot traffic, continuing to implement and expand an awareness training program, fencing where necessary, removing non-native plant species from documented habitat and from potential habitat areas, and monitoring wildlife browsing.

Federally listed critical habitat for Yadon's piperia was designated in 2007 (USFWS, 2007). Approximately 121 acres of POM lands were excluded from designation as critical habitat under Section 4 (a)(3) of the ESA, as amended, because "…conservation efforts identified in the ESMP and Integrated Natural Resources Management Plan (INRMP) provide benefits to *Piperia yadonii* occurring in habitats within the POM…" (USFWS, 2007).

**Native Monterey Pine Forest** – Native Monterey pine populations are restricted to three areas along the coast of California and two islands off the coast of Baja California(USDA, 2008). Along the immediate California coast, Monterey pine dominates forests with winter rainfall and frequent summer fogs. Monterey pine is found in areas with dominant plant communities, such as redwood or Douglas fir, coast live oak forest, grassland and chaparral (POM, 2008a). The CDFG's Natural Diversity database lists the species as critically imperiled globally and within the state (CDFG, 2012). The California Coastal Commission considers native Monterey pine ecosystems to be Environmentally Sensitive Habitat Areas. This species is also given special protection by adjacent cities, such as Carmel, Monterey, and Pacific Grove. The CNPS lists the species on its California Rare Plant Rank (CRPR) as rare or endangered. This species is threatened by development, pine pitch canker disease, genetic contamination, and climatic changes (Jones & Stokes Associates, 1996).

Historically, Monterey pine forest was the dominant vegetation at the POM. Several areas within the 81-acre Huckleberry Hill Nature Preserve have been identified as important for preservation based on the geomorphic surfaces where they occur. However, an analysis for the CDFG ranks the Presidio Management Unit as a low overall conservation priority since the Monterey pine forest within the existing nature preserve is protected and already considered to be conserved (Jones & Stokes, 1996). Similarly, Monterey pine is not included in the ESMP because the majority of Monterey pines at the POM are protected within the Huckleberry Hill Nature Preserve, which is currently managed by the City of Monterey under a lease agreement. However, if conditions change, this species may be added to the ESMP for further management considerations.

**Hooker's Manzanita** – Hooker's manzanita is endemic to the Monterey Bay area, found on sandy soils and sandstone outcrops along the coast, often as a co-dominant species within the maritime chaparral communities (POM, 2008a). The species is considered rare and endangered in California by the CDFG. The native occurrence of Hooker's manzanita has declined due to coastal development and fire suppression activities. The DoD considers Hooker's manzanita to be a Species at Risk at the POM. The Species at Risk are defined as native, regularly occurring species in the United States that are not federally listed under the ESA, but are either candidates for listing under the ESA or critically imperiled or imperiled across their range according to the NatureServe. NatureServe is a non-profit conservation organization providing an international network of biological inventories on rare and endangered species and threatened ecosystems (NatureServe, 2008).

At the POM, Hooker's manzanita occurs in the understory of the Monterey pine forest throughout the POM and the on Huckleberry Hill Nature Preserve, and it has also been planted in median strips and other landscaped areas (POM, 2008a). Hooker's manzanita is protected through management efforts in accordance with the ESMP (POM, 2008b).

**Small-leaved Lomatium** – Small-leaved lomatium is found in Monterey, Santa Cruz, and San Luis Obispo counties and occurs in pine forest and chaparral habitats on serpentine outcrops (POM, 2008a). This species is listed on the CRPR as a plant of limited distribution. Small-leaved lomatium populations have declined as a consequence of coastal development. At the POM, small-leaved lomatium grows in the understory of Monterey pine forest and in chaparral dominated by Hooker's manzanita in the Huckleberry Hill Nature Preserve.

### Wildlife

Within the developed areas of the POM, wildlife habitat is limited to landscaped areas consisting of lawns, hedges, planted trees, and gardens (POM, 2008a). Consequently, wildlife species are limited to those that are accustomed to living near humans. Common native wildlife species include western fence lizard (*Sceloporus occidentalis*), gopher snake (*Pituophis melanoleucus*), scrub jay (*Aphelocoma coerulescens*), northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), and striped skunk (*Mephitis mephitis*). Non-native species include rock dove (*Columba livia*), house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), Norway rat (*Rattus norvegicus*), Virginia opossum (*Didelphis virginiana*), and the domestic and feral cat (*Felis domesticus*).

Undeveloped areas of the POM provide habitat types, including Monterey pine forest, riparian habitat, and native shrub that are more valuable to wildlife (POM, 2008a). These areas provide habitat for many native mammal species, such as western gray squirrel (*Sciurus griseus*), brush rabbit (*Sylviagus bachmani*), desert cottontail (*Sylvilagus audubonii*), black-tailed hare (*Lepus californicus*), gray fox (*Urocyon cinereoargenteus*), black-tailed deer (*Odocoileus hemionus columbianus*), and raccoon (*Procyon lotor*). In addition, many bird species occur within the undeveloped areas of the POM, including California quail (*Callipepla californica*), American crow (*Corvus brachyrhynchos*), band-tailed pigeon (*Columba fasciata*), mourning dove (*Zenaida macroura*), scrub jay, American robin (*Turdus migratorius*), red-tailed hawk (*Buteo jamaicensis*), pygmy nuthatch (*Sitta pygmaea*), Townsend's warbler (*Dendroica townsendi*), dark-eyed junco (*Junco hyemalis*), northern flicker (*Colaptes auratus*), spotted towhee (*Pipilo erythrophthalmus*), and acorn woodpecker (*Melanerpes formicivorus*). Amphibian species utilizing Monterey pine forest habitat include the arboreal salamander (*Aneides lugubris*) and California slender salamander (*Batrachoseps attenuatus*). Riparian habitat along an intermittent stream at the southeastern boundary of the POM may provide habitat for fish species, including mosquito fish (*Gambusia affinis*), stickleback (*Gasterosteus* sp.), and introduced minnows (POM, 2008a). Native shrub habitat also provides shelter for wildlife species at the POM.

### Special Status Animal Species

Table 3.5-1 presents the special status species with the potential to occur at the POM. With the exception of the recently delisted brown pelican (*Pelecanus occidentalis*) (USFWS, 2008a), which is known to fly over, there are no federally listed wildlife species known to, or have the potential to, occur at the POM. Other special status wildlife species that have been observed at the POM include the sharp-shinned hawk (*Accipiter striatus*), a California species of concern, which was observed during surveys conducted in 1994 and 1995 in the Huckleberry Hill Preserve. The olive-sided flycatcher (*Contopus cooperi*), a California species of special concern, was observed during surveys in 2005 and 2009 (POM, 2008a; ICFJ&S, 2009). In addition, more than 100 species of migratory birds are known to occur at the POM, and are protected by the MBTA and

California Fish and Game Code Sections 3500–3705. These birds may utilize Monterey pine forest and other habitats, including landscaped vegetation, for shelter, foraging, and breeding. The Monarch butterfly (*Danaus plexippus)* is known to roost in the Huckleberry Hill Nature Preserve.

Special status species with the potential to occur due to suitable habitat at the POM include the American badger (*Taxidea axus*), loggerhead shrike (*Lanius ludovicaianus*), and hoary bat (*Lasiurus cinereus).* There are no known occurrences of these species based on previous surveys.

The USFWS has been consulted under Section 7 of the ESA and will continue to be consulted as necessary as biological issues arise on future projects included in the RPMP. If unanticipated effects on protected wildlife species not included in the original assessment occur, or if new species information becomes available, additional consultation with the USFWS may be reinitiated.

#### 3.5.1.1 OMC

##### Wetlands

There are no wetland areas that exist at the OMC (POM, 2008a).

##### Vegetation

Along with landscaped vegetation that dominant the developed areas of the OMC, other habitats include coast live oak woodland, central maritime chaparral, coastal scrub, and annual grassland.

**Coast Live Oak Woodland** – Coast live oak (*Quercus agrifolia*) woodland makes up approximately 106 acres, or 12 percent, of the total land area of the OMC (POM, 2008a). This vegetation community borders the OMC on the southern and eastern edges and extends into portions of the Marshall and Fitch Park housing areas. The coast live oak woodland at the OMC ranges from 20 to 90 percent canopy cover. Understory shrub species in this community include poison oak, coyote brush (*Baccharis pilularis*), and shaggy-barked manzanita, while herbaceous plant species include California hedge nettle (*Stachys bullata*), California brome, and miner's lettuce (*Claytonia perfoliata*).

**Central Maritime Chaparral** – Central maritime chaparral covers approximately 19 acres, or 2.4 percent of the total land area of the OMC (POM, 2008a). This community is located along a portion of the southern edge of Fitch Park and in a few isolated patches within residential areas. Common species of this community include shaggy-barked manzanita, poison oak, black sage (*Salvia mellifera*), and coyote brush.

**Coastal Scrub** – A small patch of coastal scrub occurs in the Marshall Park housing area on the OMC, making up approximately 5.2 acres or 0.7 percent of the total land area (POM, 2008a). This vegetation

community is dominated by poison oak, California sagebrush (*Artemisia californica*), mock heather (*Ericameria ericoides*), tree lupine (*Lupinus arboreus*), and coyote brush.

**Annual Grassland** – Grassland occupies approximately 55 acres, or 7 percent of the total land area of the OMC (POM, 2008a). This community occurs in open areas adjacent to residences and in several small buffer zone areas bordering oak woodland. Plant species dominating this community include annual grasses and perennial and annual forbs such as soft brome (*Bromus hordeaceus*), slender wild oat, filaree (*Erodium* sp.), ripgut brome (*Bromus diandrus*) and silver hairgrass (*Aira caryophyllea*).

### Special Status Plant Species

Special status plant species on the OMC lands are managed in accordance with the Installation-Wide Multispecies Habitat Management Plan (HMP) for former Fort Ord, California, as amended (USACE, 1997). The HMP complies with the USFWS final Biological/Conference Opinion for disposal and reuse of former Fort Ord lands. It promotes the conservation, enhancement, and restoration of habitat and populations of sensitive species by preserving large reserves and corridors while allowing development on selected properties. The document states that the biological resources contained within parcels designated for development, including all of those that comprise OMC, are not considered essential to the long-term preservation of sensitive species at former Fort Ord. Consequently, lands designated for development have no resource management restrictions placed upon them as a result of this HMP.

The effects of the base closure, cleanup, and reuse of the former Fort Ord have been addressed in the existing Biological Opinions 1-8-99-F/C-39R, 1-8-01-F-70R, and 1-8-04-F-25R. OMC lands are managed for development in accordance with the HMP and the accompanying Biological and Conference Opinion. When potentially impacted by a project, sensitive species within the OMC are identified and salvaged for use in restoration activities in the reserves.

One federally listed plant species, the Monterey spineflower (*Chorizanthe pungens* var. *pungens*) (Figure 3.5-5), is known to occur at the OMC. Several other special status plant species are known to occur on the OMC lands (Table 3.5-1). Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*) (Figure 3.5-6) and Sandmat manzanita (*Arctostaphylos pumila*) (Figure 3.5-7) are considered federal species of concern. Two special status species, virgate eriastrum (*Eriastrum virgatum*) and Michael's rein orchid (*Piperia michaelii*) (Figure 3.5-8) are not federally protected but are considered as species of limited distribution as listed on the CRPR. All of these species occur in intact ecosystems at the former Fort Ord (POM, 2008a).

**Monterey Spineflower** – This species colonizes open or disturbed sandy sites in coastal dune, coastal scrub, grassland, and maritime chaparral habitats. Monterey spineflower occurs along the coast of southern Santa

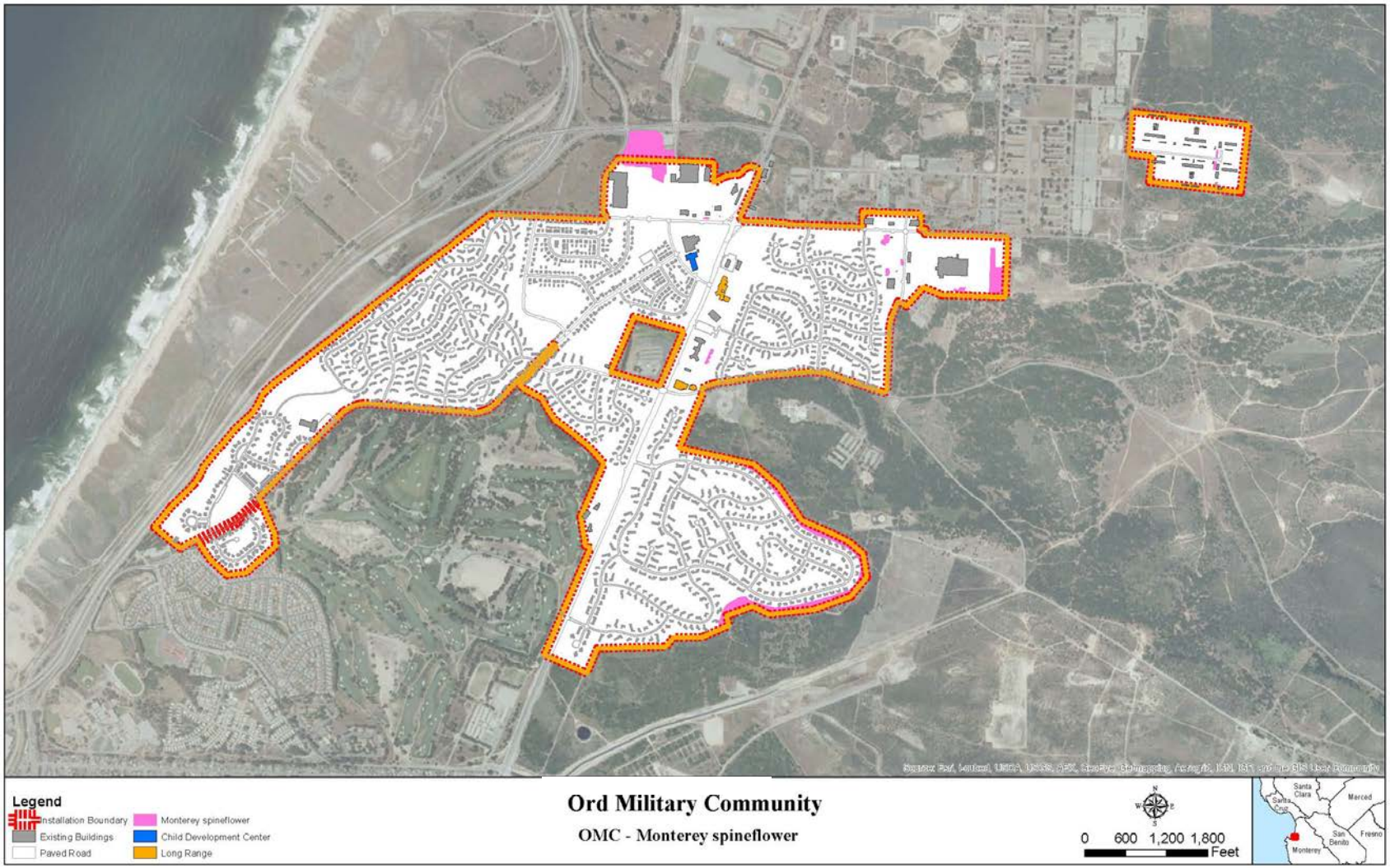


*Figure 3.5-5. OMC – Monterey Spineflower*

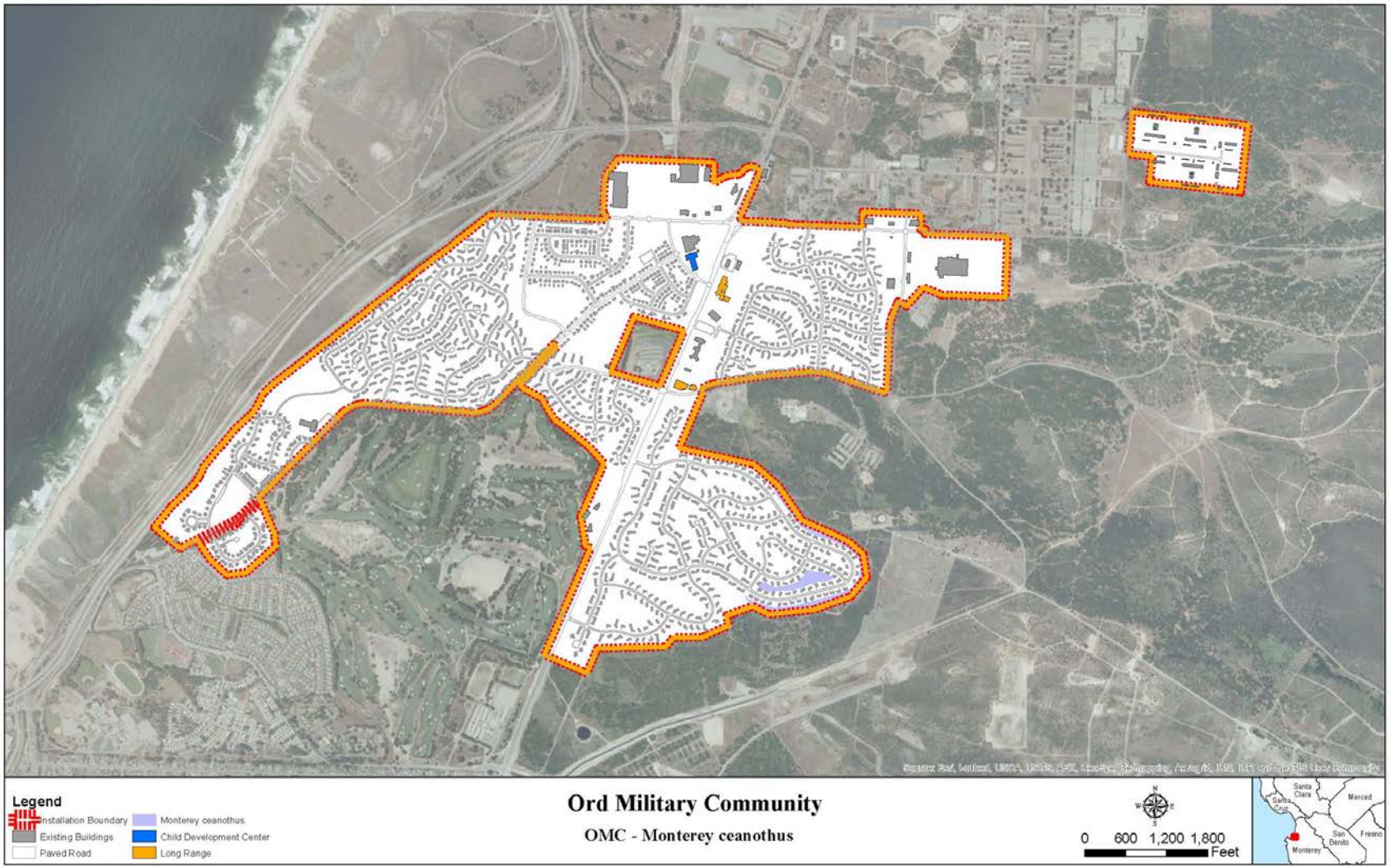


*Figure 3.5-6. OMC – Monterey Ceanothus*

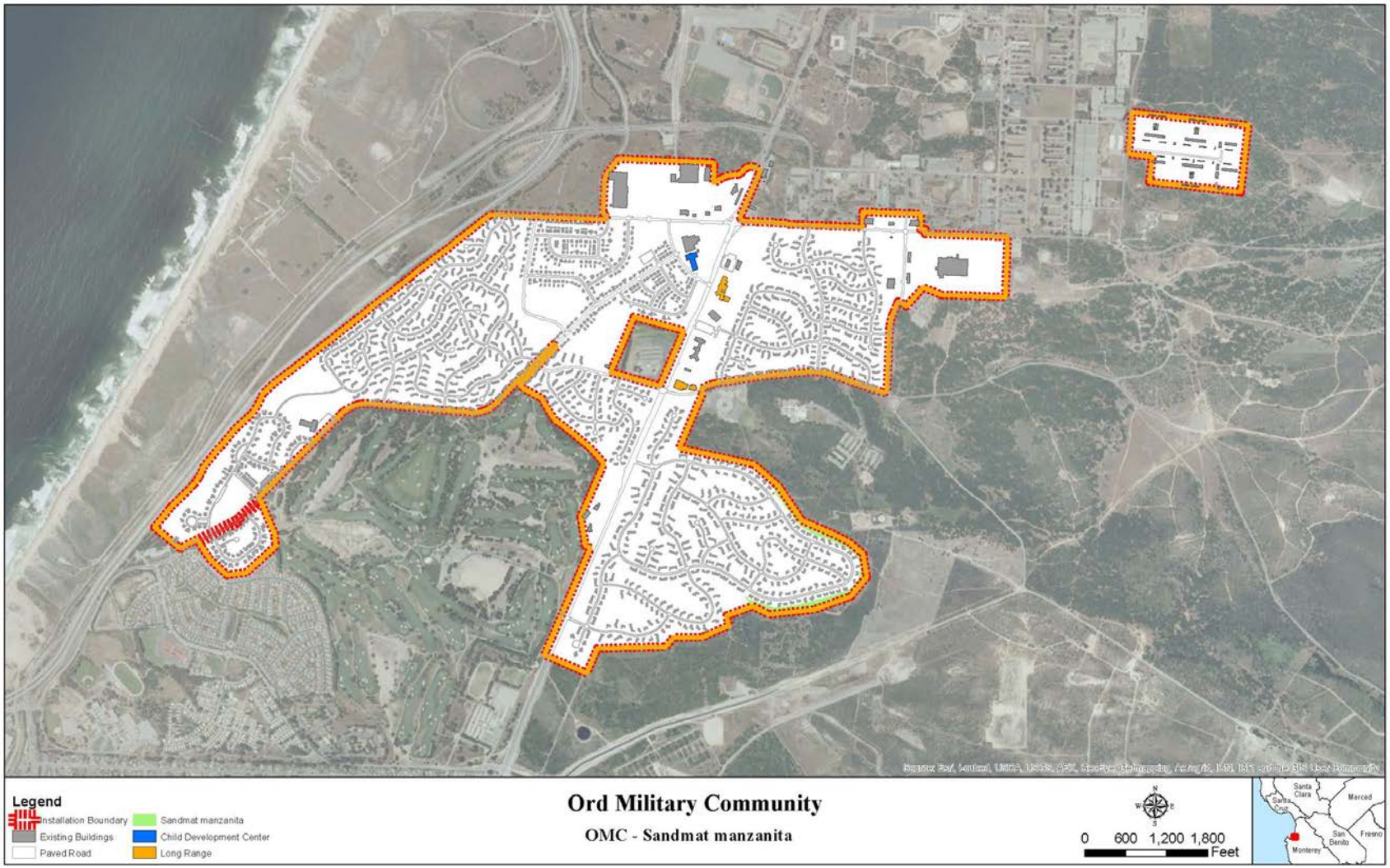


*Figure 3.5-7. OMC – Sandmat Manzanita*

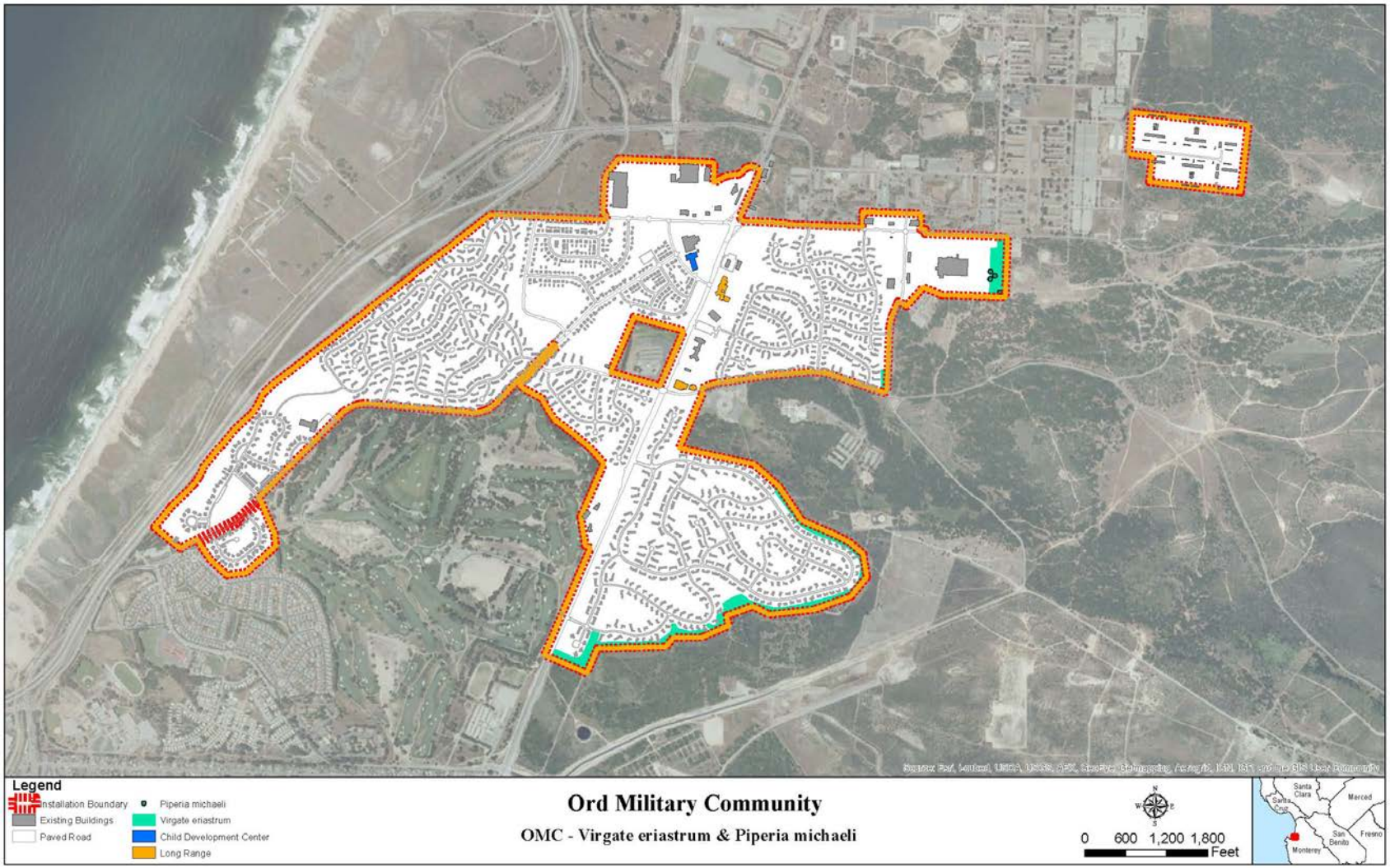


*Figure 3.5-8. OMC – Virgate Eriastrum and Michael's rein orchid*

Cruz and northern Monterey counties and inland to the western edge of the Salinas Valley. Locations of Monterey spineflower at the OMC are known from surveys in 1992 (POM, 2008a), 2009 (ICFJ&S, 2009), and limited planning surveys conducted by Army staff in 2012.

**Sandmat Manzanita** – Sandmat manzanita occurs in maritime chaparral and coast live oak woodland at scattered locations around the Monterey Peninsula and in extensive stands on the former Fort Ord (POM, 2008a).

**Monterey Ceanothus** – Monterey ceanothus occurs in maritime chaparral, closed-cone coniferous forests, and coastal scrub, with the largest population found on the former Fort Ord (POM, 2008a). At the OMC, the highest density of Monterey ceanothus occurs in the undeveloped areas adjacent to the Fitch Park Housing Area, based on surveys conducted in 1992 (POM, 2008a).

**Virgate Eriastrum** – This plant species occurs in maritime chaparral. Based on surveys conducted in 1992, virgate eriastrum occurs near the Fitch Park Housing Area at the OMC (POM, 2008a).

**Michael's Rein Orchid** – This species is limited to California but can be found in a variety of habitats including coastal scrub, chaparral, closed-cone coniferous forest, and cismontane woodland (CNPS, 2012). Also called Michael's piperia, it can co-occur with its close relative Yadon's piperia. Several individuals of Michael's rein orchid have been identified on the northeast edge of the OMC boundary (personal communication, L. Madison, POM Natural Resource Specialist, 2012).

### Wildlife

The majority of the OMC consists of developed areas associated with the former Fort Ord and is currently used for housing (POM, 2008a). Therefore, wildlife species in the developed areas are limited to those adapted to living near urban development. However, valuable habitat for terrestrial wildlife occurs at the OMC in grassland, coast live oak woodland, maritime chaparral, and coastal scrub communities. No aquatic habitat exists for fish or other aquatic species.

Native species occupying grasslands at the OMC include brush rabbit, western fence lizard, black legless lizard (*Anniella pulchra nigra*), burrowing owl (*Athene cunicularia hypugea*), Botta's pocket gopher (*Thomomys bottae*), western spadefoot toad (*Scaphiopus hammondi*), gray fox, and deer mouse (*Peromyscus maniculatus*). Typical non-native species that inhabit this land cover include rock dove.

A wide range of wildlife utilize coast live oak woodland at the OMC, including several species of mammals, such as the Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*), black tailed deer, black-tailed hare, desert cottontail, and California ground squirrel (*Spermophilus beecheyi*). While coyote (*Canis latrans*), mountain lion (*Felis concolor*), and bobcat (*Lynx rufus*) may occasionally occur at the OMC from surrounding natural

areas, the limited habitat areas within the OMC are unlikely to provide permanent habitat. Several bird species using the woodland for foraging include plain titmouse (*Parus inornatus*), hermit thrush (*Catharus guttatus*), American robin (*Turdus migratorius*), loggerhead shrike (*Lanius ludovicianus*), wild turkey (*Meleagris gallopavo*), acorn woodpecker, California quail, and several raptor species. Reptiles include the southern alligator lizard (*Gerrhonotus multicarinatus*) and western fence lizard.

Small areas of central maritime chaparral habitat at OMC are used by raccoon, loggerhead shrike, bushtit (*Psaltriparus minimus*), brush mouse (*Peromyscus boylii*), mourning dove, arboreal salamander, house wren (*Troglodytes aedon*), and barn swallow (*Hirundo rustica*). The coast horned lizard (*Phrynosoma coronatum*) may occur in small patches of coastal scrub that exist at the OMC.

### Special Status Wildlife Species

As discussed above, special status species and their potential habitats at the OMC are managed in accordance with the HMP (USACE, 1997) and the accompanying Biological and Conference Opinion and amendments. The Biological Opinion and amendments allow for development of the OMC, but also require identification of sensitive biological resources within the OMC that may be salvaged for use in restoration activities within the reserve areas. One federally threatened species, the California tiger salamander (*Ambystoma californiense*), discussed below, has the potential to occur at the OMC based on observations in 2006 and 2007. In addition, several other special status wildlife species have the potential to occur at the OMC (POM, 2008a) (Table 3.5-1). They include three mammals, the Monterey dusky-footed woodrat, American badger (*Taxidea taxus*) and the Monterey ornate shrew (*Sorex ornatus salarius*), all of which are federal and state species of concern. Special status reptile species with the potential to occur include the coast horned lizard, a federal species of concern and a state fully protected species, and the California black legless lizard, a state protected species. Three special status bird species may occur at the OMC, including the loggerhead shrike, a federal and state species of concern, the California horned lark (*Eremophila alpestris actia*), a state species of concern, and the burrowing owl, a federal and state species of concern. In addition, other migratory birds are known to occur at the OMC, and are protected under the MBTA and California Fish and Game Code Sections 3500–3705. These bird species may use habitats within the undeveloped areas in addition to landscaped vegetation within the developed areas of the OMC.

**California Tiger Salamander** – The California tiger salamander is a terrestrial amphibian that is found in grasslands and low foothill regions where there are aquatic sites for breeding. The preferred aquatic sites are those that are seasonally wet, such as vernal pools and stock ponds. During dry months of the year, when the California tiger salamander goes into a dormant phase, it requires underground refuges, such as burrows dug by ground squirrel or other small animals (USFWS, 2008b). The OMC is not within federally designated critical habitat.

# 3.6 LAND USE

This section describes existing land use within the project study area. Generally defined, land use describes the physical use of land. Lands at the POM and the OMC are characterized as improved, semi-improved, and unimproved. The improved and semi-improved land uses describe the developed portions of the installation, and the unimproved lands refer primarily to undeveloped open spaces.

## 3.6.1 Study Area

The study area consists of all portions of the POM and the OMC.

## 3.6.2 Regulatory Setting

The following section describes the federal regulations applicable to the proposed project. The local general plans and ordinances do not have jurisdiction over federal development actions at the POM and the OMC.

### 3.6.2.1 Federal

#### Coastal Zone Management Act

States must develop coastal zone management programs in order "to preserve, protect, develop and, where possible, to restore or enhance the resources of the nation's Coastal Zone...." Each coastal management plan must identify coastal zone boundaries, define permissible land and water uses within the coastal zone, inventory and designate areas of particular concern within the coastal zone, identify means by which the state proposes to exert control over land and water uses, establish guidelines for priorities of uses within particular areas, and describe the organizational structure proposed to implement the management program.

Consequently, California promulgated the California Coastal Act requiring each local coastal jurisdiction to prepare a local coastal program, comprising a land use plan and an implementation program. The Monterey County Coastal Implementation Plan was effectively certified on January 12, 1988. The City of Monterey has coastal land use plans for Cannery Row (City of Monterey, 2003a), Del Monte Beach (City of Monterey, 2003), Monterey Harbor (City of Monterey, 2003b), and Skyline (City of Monterey, 1992); the cities of Seaside and Monterey have a land use plan for Laguna Grande/Roberts Lake (City of Seaside and City of Monterey, 2000).

Federal lands (i.e., lands owned, leased, or held in trust by the federal government) are excluded from the Coastal Zone Management Act. However, federally conducted activities on excluded lands that have spillover effects on non-excluded lands, water use, or natural resources of the coastal zone will require a consistency determination. The requirements for consistency determinations are established in the National Oceanic Atmospheric Administration's regulations.

### Army Regulation 210-20 Real Property Master Planning for Army Installations

Army Regulation 210-20 establishes the implementation process for developing Army installation RPMPs with specific guidance on the assessment of environmental effects and the development of environmental overlay zones (which are locations that are subject to further restrictions established to provide additional protection) to denote areas within each installation that are appropriate for development. Army Regulation 210-20 also presents guidance on the incorporation of sustainable property development principles for installation RPMPs (U.S. Army, 2008b).

## 3.6.3 Affected Environment

### 3.6.3.1 POM

Land in the lower portion of the POM is considered improved and semi-improved, and land in the upper portion is considered semi-improved and unimproved. Improved grounds include roads, structures, buildings, fields, parking lots, and other fully maintained areas. Semi-improved grounds are located in the urban forest area adjacent to and north of Kit Carson Road. Unimproved lands are located in the upper POM within and adjacent to the Huckleberry Hill Nature Preserve and between Hilltop Field and Building 630. The central and eastern portions of the POM, below the 450-foot elevation contour, commonly known as the middle and lower POM, are the most heavily developed and are considered improved grounds. The developed areas supporting the DLIFLC are also considered improved grounds. Buildings on the middle and lower POM provide classrooms and administrative and support functions for the base mission. The lower POM is within the POM Historic District and is leased to the City of Monterey for the development of a historic park.

The unimproved upper portion of the POM, known as the Huckleberry Hill Nature Preserve, is designated as Community under the Army Land Use Categories. The City of Monterey currently leases and manages the nature preserve with the goal of retaining the forest while providing a recreation area for residents to enjoy for future generations (City of Monterey, 1987). The City of Monterey also leases Soldier Field, located in the lower POM, and operates it for recreational use. Existing Army Land Use Categories on the POM include:

- **Professional/Institutional** – Includes the POM Historic District and areas used for educational and nonindustrial support activities
- **Community** – Includes the natural resource conservation areas; the cemetery; and areas for recreational, medical, and commercial activities
- **Residential** – Includes on-post accompanied personnel housing
- **Troop** – Includes on-post unaccompanied personnel housing with related support facilities and activities

These land use activities are supported by both permanent and temporary structures. As shown in Figure 3.6-1, the existing land use pattern of the POM has a mix of categories, which is common on most Army posts.

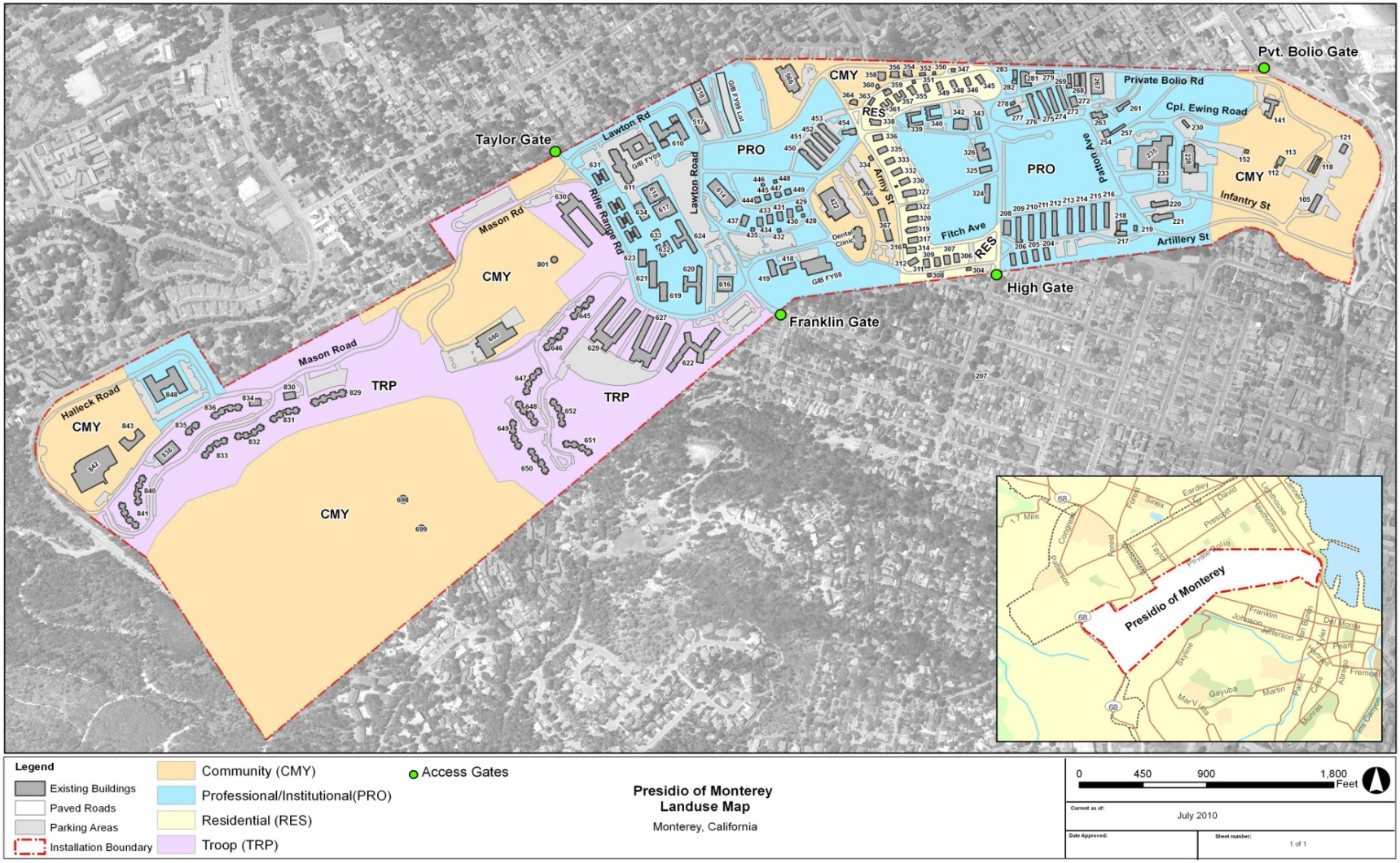


*Figure 3.6-1. Existing Land Use – POM*

The area adjacent to the POM is under the jurisdiction of the cities of Monterey and Pacific Grove. Land in the City of Monterey consists of land that is zoned low density (2 to 8 dwellings per acre) and medium density (8 to 30 dwellings per acre) residential (City of Monterey, 2005). Adjacent land in the City of Pacific Grove consists of land that is zoned low density (up to 5.4 dwellings per acre) residential and medium density (up to 17.4 dwellings per acre) residential (City of Pacific Grove, 1994).

#### 3.6.3.1 OMC

Most of the land within the OMC is developed and comprises improved grounds with limited unimproved buffer areas. The three types of land use categories at the OMC are: Community, Professional/Institutional, and Residential (Figure 3.6-2). The majority of the OMC is used for residential housing for DoD personnel. In 2003, OMC housing was transferred to a private company as part of the RCI. Collectively, the RCI housing areas are referred to as the "Parks at Monterey Bay." The RCI housing areas at the OMC consist of Doe Park, Fitch Park 2A and 2B, Hayes Park, Moore's Landing, Lower Stilwell Park, and Marshall Park.

Some land adjacent to the OMC falls under the jurisdiction of the City of Seaside and is designated recreational/commercial (Bayonet and Black Horse Golf Courses), low and medium density residential, medium density single-family residential, parks and open space, mixed use, and public/institutional (City of Seaside, 2004). Additionally, land adjacent to the OMC is owned by the City of Marina and California State University Monterey Bay. The Fort Ord National Monument, designated in April 2012 and managed by the Bureau of Land Management (BLM), lies to the north and east of the OMC. The primary land management objectives for the Fort Ord National Monument are habitat preservation and conservation, and more than 86 miles of trails are available for the public to explore on foot, bike, or horseback. The BLM manages these lands to protect rare habitat in such a way that compensates for the loss of habitat on portions of OMC that will be (or have been) developed. The BLM also works with surrounding communities to manage these public lands to also provide high-quality, environmentally sensitive recreational opportunities (BLM, 2012).

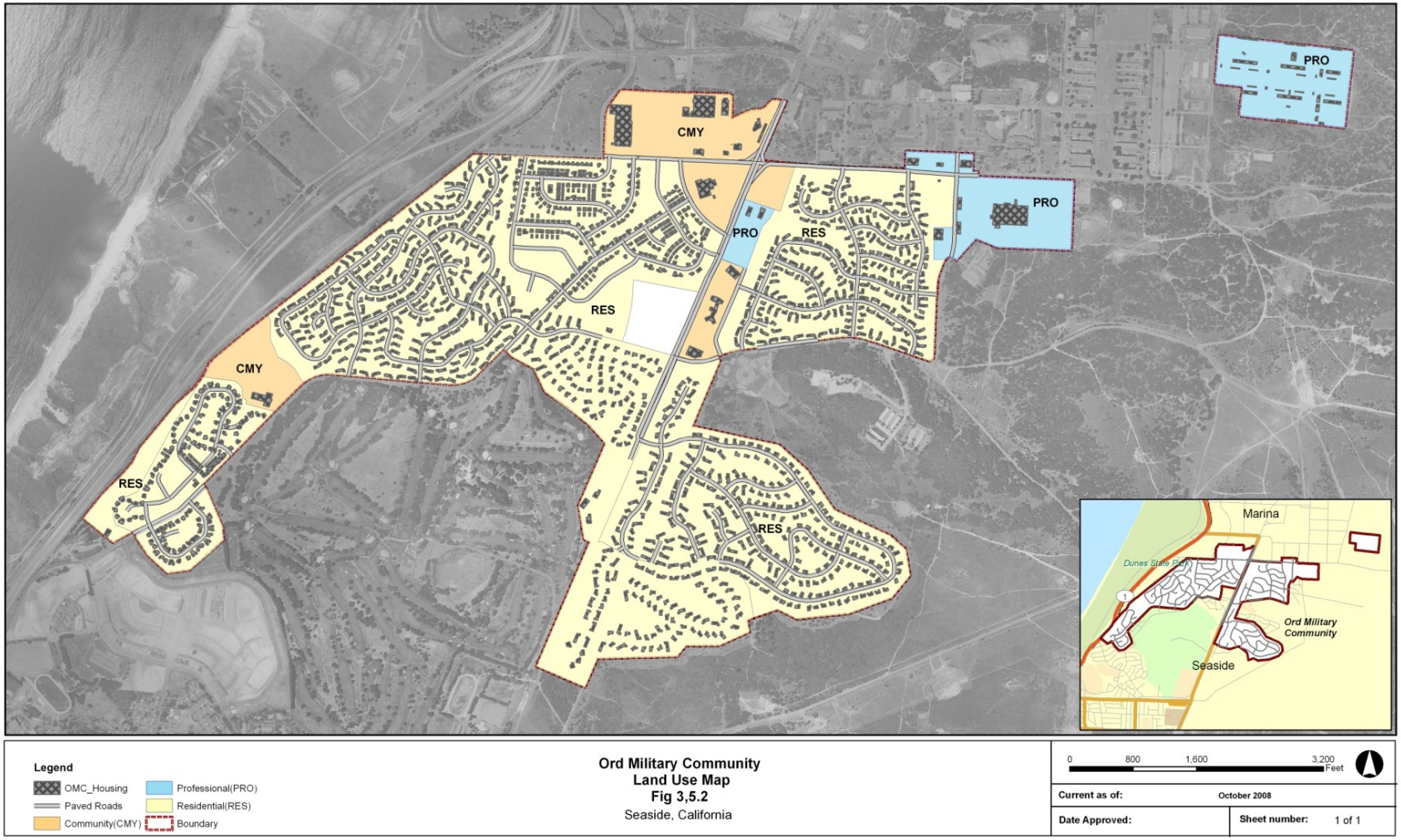


*Figure 3.6-2. Existing Land Use – OMC*

# 3.7 POPULATION AND HOUSING

This section describes the existing population and housing characteristics within the POM Installation and surrounding communities.

## 3.7.1 Study Area

The study area for population and housing includes the POM and the OMC. Although the DoD owns the POM and OMC lands, the POM falls within the border of the City of Monterey and is directly adjacent to the City of Pacific Grove. The OMC falls mainly within the City of Seaside boundary with the exception of a small portion of land within unincorporated Monterey County. While DoD lands are not subject to local government rules and regulations, population and housing in these areas could be affected if military personnel live off-post. Therefore, the cities of Monterey, Pacific Grove, and Seaside are also discussed in this section.

## 3.7.2 Regulatory Setting

There are no specific regulations that are applicable to population and housing.

## 3.7.3 Affected Environment

The estimated population and housing at the POM and OMC and in the nearby cities of Monterey, Seaside, and Pacific Grove are presented here. The physical boundaries of these areas are shown in Figure 1.1-2.

### 3.7.3.1 POM Installation

#### Population

The anticipated population of military personnel assigned to the POM Installation is shown in Table 2.6-1. Table 2.6-1 provides projected population data at the POM Installation based on 2009 Army Stationing and Installation Plan (ASIP) values that are separated into categories of military population and total population. An estimated 9 percent increase occurred from 2010 to 2012. The number of civilians and family members of military personnel that are anticipated to live at the POM Installation would range from 8,000 to 9,000 people.

#### Housing

Military personnel can live at the POM, OMC, or off-post. Single military personnel are assigned to barracks based on their branch of service and the availability of space. The POM has 20 existing barracks buildings, with a total capacity of 2,087 beds (Table 3.7-1). There are 37 single-family homes at the POM that provide housing for officers and their families.

| Table 3.7-1. Existing Barracks Capacity | | |
|---|---|---|
| Barracks Building No. | Official Capacity (at 90 SF per person) | Waiver Capacity (at 72 SF per person) |
| 622 | 199 | 391 |
| 627 | 150 | 280 |
| 629 | 197 | 372 |
| 630 | 202 | 380 |
| Other barracks (1) | 1,339 | 1,843 |
| TOTAL | 2,087 | 3,266 |

*Note: Barracks are located at the POM; the OMC does not currently have barracks.*
*(1) Other barracks include Buildings 645, 647–652, 829, 831–833, 835, 836, 840, and 841.*

OMC housing comprises residential housing, mostly single-family homes. Although this housing is available to military personnel and civilians, military members and their families are given priority, followed by DOD civilian employees and the general public. Barracks are not located at the OMC. OMC housing was privatized and transferred to a private company via a ground lease in 2003 as part of the RCI. The RCI housing, referred to as the "Parks at Monterey Bay," consists of 7 neighborhoods: Doe Park, Fitch Park (2A and 2B), Hayes Park, Moore's Landing, Lower Stilwell Park (includes Lower Stilwell Renovations), and Marshall Park (Figure 1.1-4), with a total of 1,889 units, as shown in Table 3.7-2. In 2009, the most recent year for which occupancy data are available, 400 units were vacant. Under the RCI, housing priority is given to military personnel and their families, with the remaining vacant units available to civilians. The distribution of people living at the OMC is approximately 80 percent military and 20 percent civilian.

| Table 3.7-2. Existing OMC Housing | |
|---|---|
| Neighborhood | Number of Units |
| Hayes Park | 160 |
| Fitch Park – 2A | 215 |
| Fitch Park – 2B | 138 |
| Marshall Park | 353 |
| Lower Stilwell Park | 443 |
| Moore's Landing | 247 |
| Doe Park | 324 |
| TOTAL | 1,880 |

*Source: POM, 2012*
*Note: Joe Lloyd Way is not a housing area.*
*Moore's Landing encompasses the old Lower Fitch Park and Upper Stilwell Park neighborhoods.*

The exact number of military personnel living in Army housing or off-post is difficult to determine because the population fluctuates on a monthly basis. In 2009, more than 3,000 military personnel and their families were living in Army housing at the POM or the OMC and more than 800 civilians with family members were living at the OMC (POM, 2009a).

Military personnel can live off-post in neighboring cities or in unincorporated areas of Monterey County. From 1990 to 2000, Monterey County added about 100,000 new housing units county-wide. Vacancy rates in the county tend to be low, and the number of residents per household has increased. Rent rates have risen in recent years by about 10 to 20 percent per year between 2001 and 2003, with some renters experiencing a 25 to 30 percent increase per year based on statistical data available through the Monterey County Board of Realtors. Population and housing information for the neighboring cities of Monterey, Seaside, and Pacific Grove follows.

### 3.7.3.2 City of Monterey

#### Population

The population of the City of Monterey was 27,810 in 2010 (U.S. Census Bureau, 2010d). Table 3.7-3 presents the AMBAG population and housing projections through 2030 for the city (AMBAG, 2008b). The City of Monterey population data do not include the POM population. The city population is expected to remain fairly constant, with only slight increases after 2015. The number of housing units is expected to increase slowly. Employment is anticipated to rise slightly, with an increase of about 19 percent from 2010 to 2030.

| Table 3.7-3. City of Monterey – Population, Housing and Employment Projections | | | | |
|---|---|---|---|---|
| Data | 2015 | 2020 | 2025 | 2030 |
| Population | 30,092 | 30,278 | 30,464 | 30,650 |
| Housing Units | 13,723 | 13,816 | 13,909 | 14,002 |
| Employment | 34,209 | 35,773 | 37,346 | 38,974 |

*Source: AMBAG, 2008b*

#### Housing

The City of Monterey had a total of 13,032 housing units in 2010, with approximately 35.8 percent of the housing units being owner-occupied and 64.2 percent being renter-occupied (U.S. Census Bureau, 2010a). The percentage of owner-occupied housing has decreased over time because many areas originally zoned for single-family housing have been re-zoned for apartment or commercial development. The houses are being removed, and there are a limited number of sites available for new construction. Almost all of the land within the City of Monterey's jurisdiction is already developed and few vacant lots are available. New housing in Monterey is typically higher density housing constructed on previously developed sites. In addition, the city does not have additional water for new commercial or residential development. These factors contribute to a slow growth in housing occupancy within the city. As a result, the City of Monterey has adopted polices (see City of Monterey, 2005) to encourage single-family housing.

### 3.7.3.3 City of Seaside

#### Population

The population of the City of Seaside was 33,025 in 2010 (U.S. Census Bureau, 2010d). Table 3.7-4 presents the population, housing, and employment projections through 2030 for the city (AMBAG, 2008b). The city population is expected to grow by only 1 percent from 2010 to 2030, while the number of housing units is expected to increase by about 7 percent over the same period. Employment is anticipated to increase by about 37 percent from 2010 to 2030 (AMBAG, 2008b).

| Table 3.7-4. City of Seaside – Population, Housing and Employment Projections | | | | |
|---|---|---|---|---|
| Data | 2015 | 2020 | 2025 | 2030 |
| Population | 35,165 | 35,158 | 35,709 | 35,017 |
| Housing Units | 11,593 | 11,779 | 11,964 | 12,149 |
| Employment | 7,792 | 8,462 | 9,224 | 10,055 |

*Source: AMBAG, 2008b*

### Housing

There were 10,872 housing units in the City of Seaside in 2010 (U.S. Census Bureau, 2010a), with 41.4 percent of the units being owner-occupied. Table 3.7-4 shows the projected number of housing units through 2030.

## 3.7.3.4 City of Pacific Grove

### Population

The population of the City of Pacific Grove was 15,041 in 2010 (Census, 2010d). Table 3.7-5 presents the city's population, housing, and employment projections through 2030 (AMBAG, 2008b). The population and number of housing units are expected to remain relatively static from 2010 to 2030. Employment is anticipated to increase by about 10 percent from 2010 to 2030.

Table 3.7-5. City of Pacific Grove – Population, Housing and Employment Projections

| Data | 2015 | 2020 | 2025 | 2030 |
|---|---|---|---|---|
| Population | 15,550 | 15,550 | 15,300 | 15,057 |
| Housing Units | 8,108 | 8,108 | 8,123 | 8,140 |
| Employment | 7,406 | 7,586 | 7,684 | 7,785 |

*Source: AMBAG, 2008b*

### Housing

In 2010, Pacific Grove had 8,169 housing units, with 45.7 percent of them being owner-occupied (U.S. Census Bureau, 2010a). Table 3.7-5 shows the projected number of housing units through 2030. Approximately 44.7 percent of the housing units were owner-occupied, 46.5 percent were renter-occupied, and 8.8 percent were vacant (City of Pacific Grove, 2003). From 1970 to 1990, housing in Pacific Grove increased by about 1,930 units, while from 1990 to 2000, the increase was only 82 units (City of Pacific Grove, 2003). Like Monterey, Pacific Grove has few vacant lots available for new development (only 85 in 2003). The city does, however, have a number of lots zoned for multi-family that are currently considered underutilized. The average household size in 2000 was 2.10 persons, which has decreased since 1990 by 0.06 person (City of Pacific Grove, 2003).

# 3.8 TRAFFIC AND TRANSPORTATION

This section presents the existing conditions found on the transportation system within the study area. No "new" data collection effort was undertaken; all data used for this section were obtained through a multitude of previous studies. Further details of the potential effects from implementing the projects under the No Action Alternative, Alternative 1, or Alternative 2 are provided in Appendix F, Revised Traffic Impact Study.

Analysis of the existing traffic conditions were based on investigations of the following:

- Roadway functional classification
- Roadway lane use configurations (geometrics)
- Roadway Annual Average Daily Traffic (AADT) volumes
- Intersection level of service (LOS)
- Access gate volumes and operations

Evaluation of these types of transportation data was completed for this EIS at the project level for the short-range project and at the programmatic level for the long-range ones. Because project level details are not available for the long-range projects, additional data collection and analysis would be needed once detailed designs are completed for the projects in the alternatives.

## 3.8.1 Study Area

The study area consists of the POM, the OMC, and the areas immediately adjacent to them because future activities have the potential to affect traffic outside of the POM and the OMC. The study area boundary for the transportation analysis is shown on Figure 3.8-1.

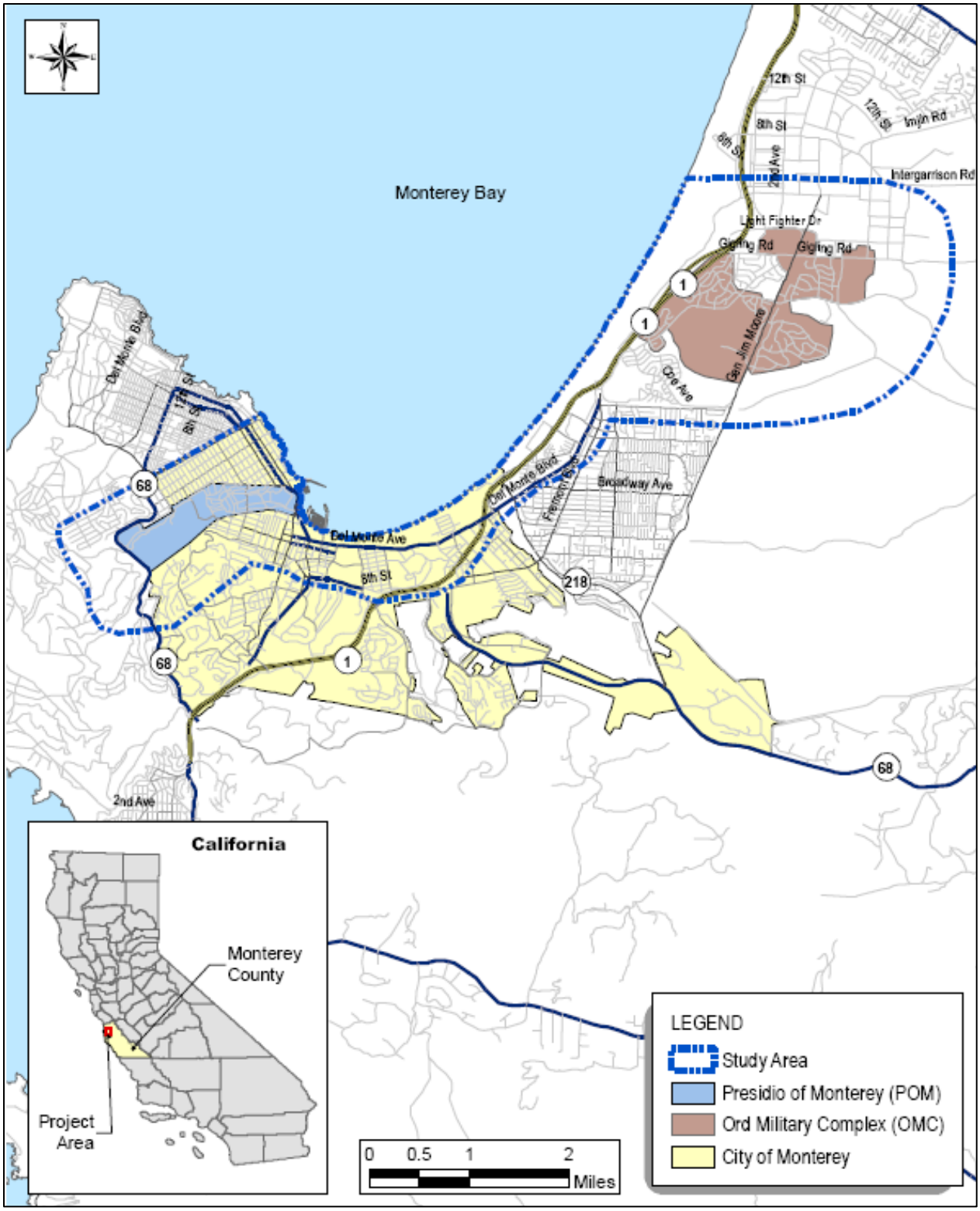


*Figure 3.8-1. Traffic Study Area Boundary*

### 3.8.2 Regulatory Setting

The Association of Monterey Bay Area Governments (AMBAG) serves as the designated Metropolitan Planning Organization for the region that includes Monterey, San Benito, and Santa Cruz counties. Local municipalities determine their own criteria for streets and roads, while the California Department of Transportation (Caltrans) oversees state highways. The relevant criteria for LOS for intersections and roadways are listed in Table 3.8-1.

Table 3.8-1. Local and Regional LOS Standards and Significance Thresholds[1]

| Regulatory Agency | Standards | Significance Thresholds |
|---|---|---|
| City of Monterey | LOS D on city roadway segments that do not adequately serve alternative modes of transportation<br><br>LOS E and F on roadway segments that are adequately served by alternative modes of transportation | General Plan incorporates monitoring program to assess LOS standards that balance how the transportation system is operating. Roadway LOS standards apply to average (non-summer) conditions.<br>Requires an analysis of the effects of transportation for projects that may cause significant traffic effects:<br>• Defines the traffic effect study area to be analyzed as all roadway segments where project traffic is expected to increase the existing traffic by 2% or more.<br>• A project's traffic effect is defined as significant if the roadway segment is expected to operate at LOS E or LOS F under cumulative traffic conditions during typical (i.e., non-summer) weekday traffic conditions. |
| City of Seaside | LOS C for signalized intersections<br><br>LOS C for unsignalized intersections<br><br>LOS C for roundabout intersections<br><br>LOS C for roadway segments | General Plan defines performance standards via LOS criteria.<br><br>Intersections: For signalized intersections, LOS C is the standard. A significant effect would occur if an intersection operating at LOS A, B, or C degrades to LOS D, E, or F. For intersections already operating at unacceptable LOS D, a significant effect would occur if a project increases average delay more than 2.0 seconds. If the intersection is already operating at LOS E or F, a significant effect would occur if the project results in an increase of more than 1.0 second in the average delay. An LOS standard at signalized intersections can be exceeded if all of the following conditions are satisfied:<br>The LOS deficiency will be short term. This requires that cumulative mitigations are planned at the location that will experience the LOS deficiency or network improvements (i.e., new streets) are planned that will redistribute traffic that will result in a long-term acceptable LOS without capacity improvements at the subject location. The project must also contribute to the planned cumulative mitigations through traffic impact fees or some other funding mechanism, unless the improvement is fully funded by some other source.<br>• There are physical or environmental constraints to providing the capacity to achieve an acceptable LOS.<br>• The forecasted average vehicular delay is within 2 seconds of the acceptable LOS standard. (Average control delay per vehicle of 35 seconds for LOS C and 55 seconds for LOS D).<br>• The project has a minimal effect at the location in question, i.e., the project will add 10 peak hour trips or less to total intersection volumes or increase delay 1.0 second or less.<br>• Credit can be given for signal timing optimization, implementation of signal coordination systems and/or implementation of intelligent transportation |

| Table 3.8-1. Local and Regional LOS Standards and Significance Thresholds(1) | | |
|---|---|---|
| Regulatory Agency | Standards | Significance Thresholds |
| | | systems that can be demonstrated to increase the efficiency of the transportation system in question, thus partially mitigating the project effect.<br>For unsignalized intersections, the LOS standard is LOS C for the average delay for all entering traffic at most locations. In addition to average delay for all entering traffic, the standard for side street LOS is E or F, in conjunction with peak hour signal, warrants described in the most recent version of the Caltrans Traffic Manual. Side street delay at unsignalized intersections can be calibrated based upon actual field measurements in accordance with the latest version of the "Manual of Transportation and Traffic Engineering Studies" by the Institute of Transportation Engineers or using electronic data measuring techniques approved by the City of Seaside Public Works Department.<br>For roundabout intersections, LOS C is the appropriate standard. The LOS methodology shall be consistent with Chapter 4.4, Performance Analysis, U.S. Department of transportation, Federal Highway Administration, June 2000, or the most recent update.<br>Roadways: LOS thresholds for street segments shall correspond with the LOS C standard described for signalized intersections. Planning level LOS standard is only appropriate for program level environmental documents. The Highway Capacity Manual (Transportation Research Board Committee on Highway Capacity and Quality of Service, 2000) states that the LOS for streets with a signal spacing of less than two miles is generally controlled by the signalized intersection levels of service along the corridor. |
| City of Pacific Grove | LOS D for intersections on arterial routes<br><br>LOS C for arterial and collector streets | General Plan policy strives for LOS no worse than C during peak periods on arterials and collector streets within the city. The General Plan accepts LOS D during weekday peak periods at intersections that are close to or at the limits of LOS D on arterial routes outside the downtown area. |
| Monterey County | LOS C for all county roads<br><br>LOS D proposed for some county roads serving affordable housing areas | General Plan for Monterey County uses an LOS C standard for all county roads, although some roads are not operating at that level. The goal contained in the General Plan is to ensure that new development does not reduce the quality of life for existing residents, such as lower levels of service on county roads.<br>Monterey County does not have the funding ability to make the necessary improvements to achieve LOS C on all roads. The County may lower the LOS standard for roads serving community areas that are planned to accommodate the County's affordable housing allocation.<br>The draft General Plan may include policies that recognize that an LOS D or lower standard is allowed within community areas and for the regional and local county roads that directly serve them. This may include state highways as well as other roads that function as the primary regional commuter routes in these areas.<br>For roads in other unincorporated areas that are not serving community areas, the County can maintain a standard of LOS C. |

*Sources: City of Pacific Grove, 1994; City of Monterey, 2005; City of Seaside, 2004; Monterey County, 2004a*

*Note: LOS = level of service*

*(1) The LOS scale ranges from "A" (indicates little, if any, vehicle delay) to "F" (indicates significant vehicle delay and traffic congestion). For more information about LOS definitions, see Section 3.8.3.4 and accompanying Tables 3.8-2 and 3.8-3.*

## 3.8.3 Affected Environment

### 3.8.3.1 Existing Roadway Network Functional Classification System

A transportation system comprises a hierarchy of roadways, with each roadway classified according to certain parameters. Some of these parameters are geometric configuration, traffic volumes, spacing in the area's transportation grid, and speeds. For an overall traffic circulation assessment, it is standard practice to examine roadways that are functionally classified as collector, minor arterial, or principal arterial. The reasoning for examining these three roadway classifications is that when the major roadway system (i.e., collectors or above) is functioning to an acceptable level, the local roadways are not used beyond their intended function. The roadways analyzed in and around the POM and the OMC are shown on Figure 3.8-2 and Figure 3.8-3, respectively.

#### Regional Roadway Network

The major regional roadways that are most significant, and that are external to both the POM and the OMC, are summarized below.

**State Highway 1** – State Highway 1 is a major north-south roadway that roughly follows the Pacific Coast from Northern California to Los Angeles. State Highway 1 is a limited access (freeway) facility from Castroville to just north of Carmel. In the project vicinity, there are freeway interchanges at Reservation Road, Del Monte Boulevard, 1st Avenue (12th Street Gate), Light Fighter Drive (Main Gate), and Fremont Boulevard in Seaside.

**State Highway 68** – State Highway 68 primarily provides access from Salinas to Monterey and areas south of Seaside. South of the study area, State Highway 68 extends west of State Highway 1 into Pacific Grove and is known as Holman Highway.

**State Highway 156** – State Highway 156 links State Highway 1 (north of Marina) with U.S. Route 101 to the northeast.

**State Highway 183** – State Highway 183 connects Salinas to State Highway 1 to the west.

**State Highway 218** – State Highway 218 starts at State Highway 1 in Sand City and provides access through Del Rey Oaks to the southeast where it joins State Highway 68. State Highway 218 is an alternative route to the westernmost segment of State Highway 68. State Highway 218 also serves areas on the south side of the City of Seaside.

**U.S. Route 101** –U.S. Route 101 is a major north-south route in California that is aligned to the east of State Highway 1, through Prunedale and Salinas in the vicinity of the OMC.

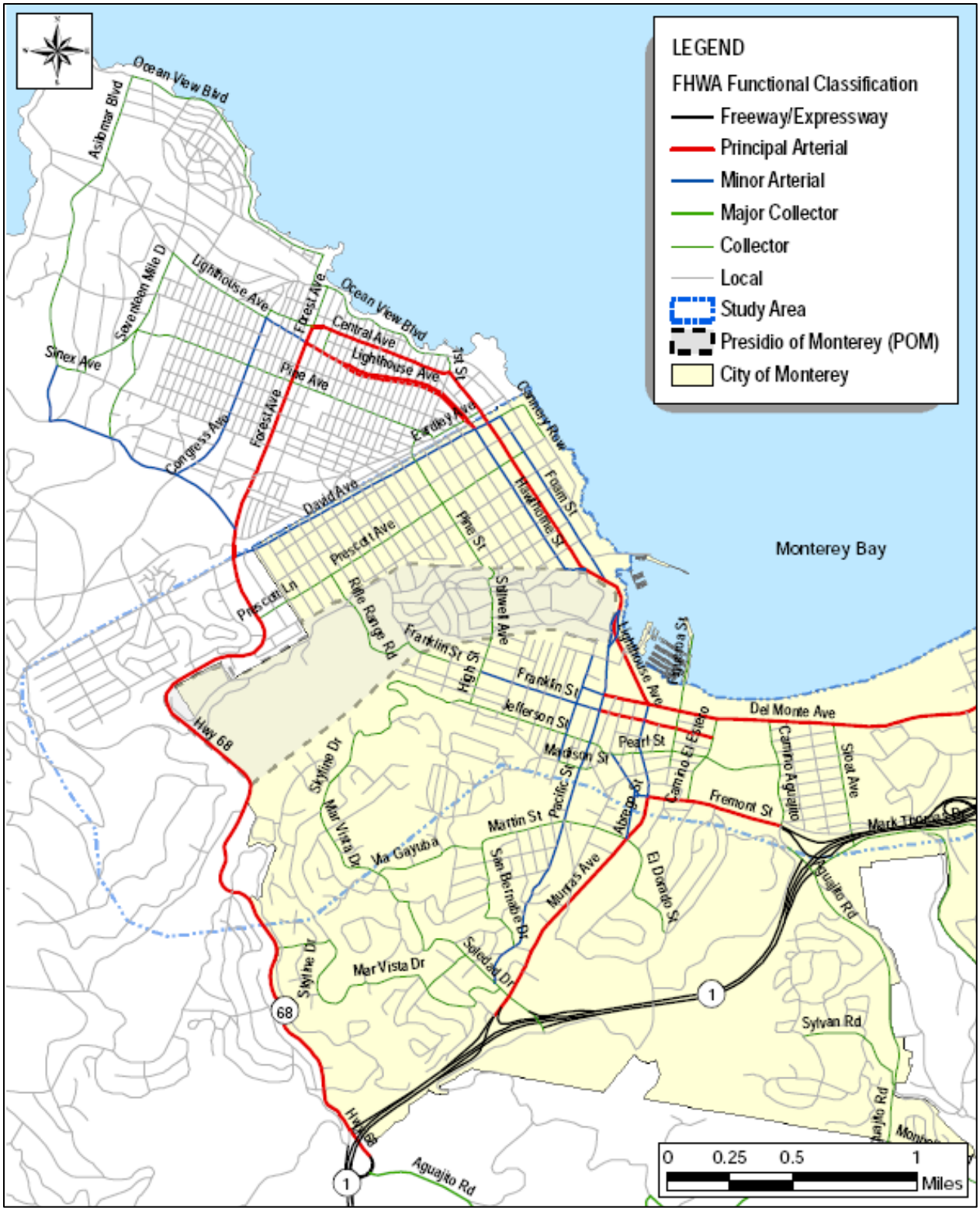


*Figure 3.8-2. Roadway Functional Classification / Study Network – POM*

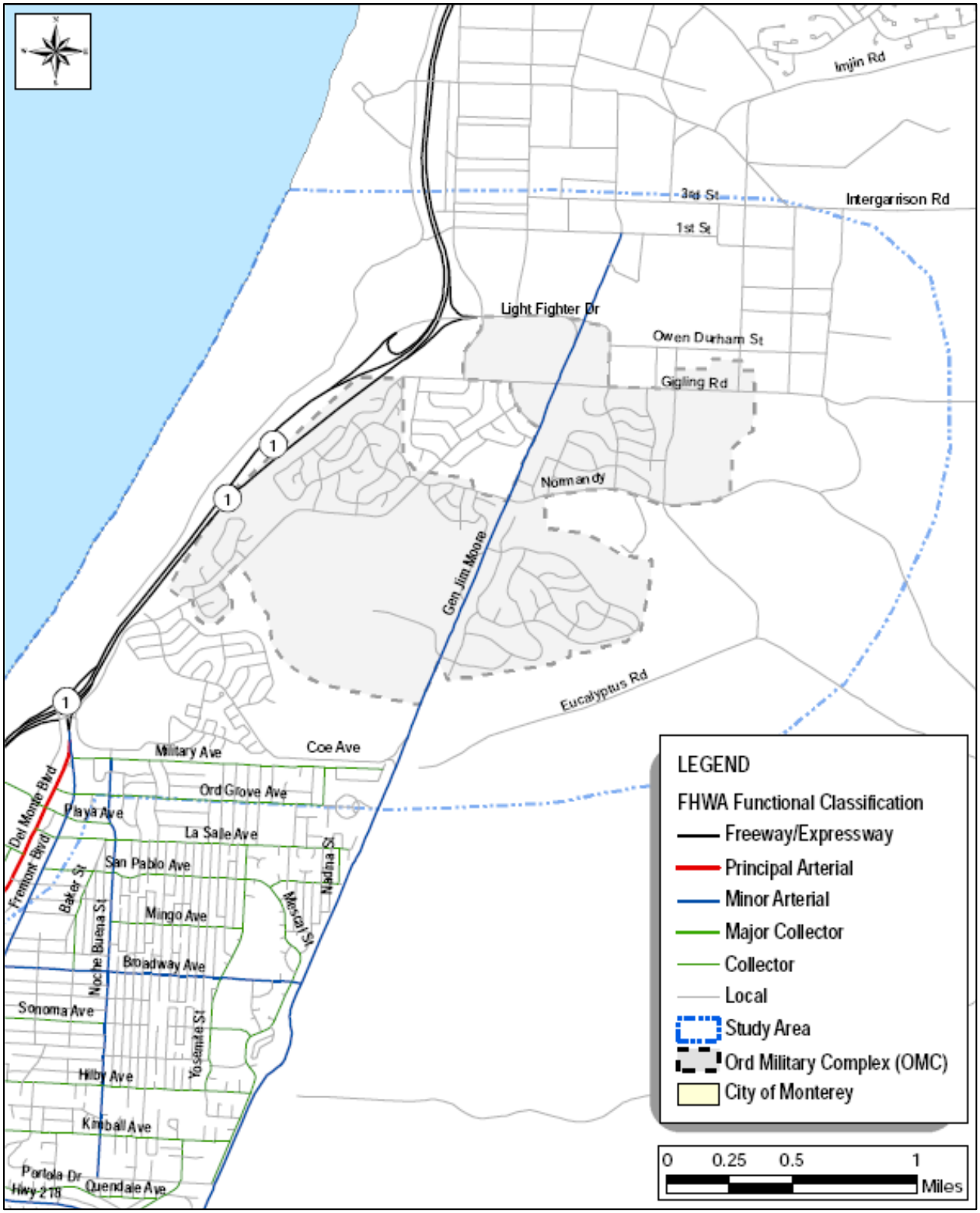


*Figure 3.8-3. Roadway Functional Classification / Study Network – OMC*

**Del Monte Avenue/Boulevard** – Del Monte Avenue/Boulevard is a roadway, that runs roughly parallel to State Highway 1, extending from Washington Avenue in Monterey to the interchange with State Highway 1 on the north side of Marina.

**Fremont Street/Boulevard** – Fremont Street/Boulevard is a key four-lane arterial providing an important link through Seaside. Fremont Street/Boulevard runs north-south, roughly parallel to State Highway 1 and has interchanges with State Highway 1 at either end.

**Broadway Avenue** – Broadway Avenue is a four-lane arterial that provides an east-west connection between Del Monte Boulevard, Fremont Boulevard, and General Jim Moore Boulevard.

**Reservation Road** – This road is aligned approximately east-west, from State Highway 1 past the northern boundary of the OMC to State Highway 68 south of Salinas. Reservation Road is currently classified as a rural highway east of Imjin Road, and a signalized arterial from Imjin Road west to State Highway 1.

**Blanco Road** – Blanco Road is an east-west route north of the OMC that provides a connection between U.S. Route 101 and Reservation Road. This facility currently provides an important link between the OMC and Salinas.

**Davis Road** – Davis Road is an arterial between Salinas and Reservation Road and is aligned approximately parallel to State Highway 68.

**Lighthouse Avenue** – Lighthouse Avenue is a four-lane undivided arterial roadway that follows the Monterey Bay coastline. Lighthouse Avenue connects the City of Pacific Grove and old Monterey with downtown Monterey. Lighthouse Avenue, which is signalized at major cross streets, provides access to the POM via a gate at Private Bolio Road.

**Pacific Street** – Pacific Street is a north-south arterial roadway that connects the POM with State Highway 1. Pacific Street is a two-lane roadway with traffic signals at major intersections.

**Prescott Avenue** – Prescott Avenue is an east-west collector street that parallels the POM on the north. Prescott Avenue is a two-lane street near the POM.

### POM Internal Roadway Network

The POM is a controlled access installation with four operational ACPs: at Franklin Street, High Street, Private Bolio Road, and Taylor Street. Prior to implementing security measures in September 2001 that closed the POM to public access, two ACPs were not operating at an acceptable LOS for the movement of vehicle traffic. Since implementation of the security measures, all ACPs are operating at an acceptable LOS.

The internal roads of the POM generally run northeast-southwest or southeast-northwest, following and crossing the natural contours of the land. The historic nature of the roadways and urban development of the POM do not accommodate high levels of vehicle speed or significant volumes of traffic.

The major POM internal roadways are summarized below.

**Rifle Range Road** – Rifle Range Road is a primary collector road that provides access to the Taylor Street ACP.

**Lawton Road** – Lawton Road is a primary collector road between the Franklin Street ACP and the Taylor Street ACP.

**Private Bolio Road** – Private Bolio Road is a primary collector that runs between the Private Bolio ACP and Lawton Road.

**Mason Road** – Mason Road is a primary collector between the Taylor Street ACP and the physical training and athletic field.

**Army Street** – Army Street is a secondary collector that runs between the High Street ACP (open for limited hours during the AM peak hour period from Monday through Friday) and Private Bolio Road.

**Stilwell Road** – Stilwell Road is a secondary collector that runs between the High Street ACP (open for limited hours during the AM peak hour period from Monday through Friday) and the Pine Street ACP (closed).

**Patton Avenue** – Patton Avenue is a secondary collector in the eastern portion of the POM and runs between Artillery Street and Plummer Street.

**Kit Carson Road** – Kit Carson Road is a secondary collector running east-west though the middle of the POM between the Private Bolio ACP and Lawton Road.

### POM Access

**High Street** – High Street, a north-south residential collector street with one lane in each direction, provides access to the POM via a gate at Stilwell Road and Corporal Evans Road.

**Franklin Street** – Franklin Street, an east-west residential collector street with one lane in each direction, provides access to the POM via a gate at Rifle Range Road and Lawton Road.

**Prescott Avenue** – Prescott Avenue is an east-west collector street that parallels the POM on the north. Prescott Avenue is a two-lane street near the POM.

**Taylor Street** – Taylor Street, a north-south residential collector street with one lane in each direction, provides access to the POM via a gate at Lawton Road.

Access from Pine Street, on the north side of the POM, and from Artillery Street, on the east side of the POM, was closed as part of the Army mandated AT/FP measures in the wake of September 11, 2001. Those same mandates also closed the POM to through traffic.

### OMC Internal Roadway Network

The OMC is an open installation, so no special access permits or licenses are required. The primary access road is Light Fighter Drive, which can be accessed from State Highway 1. Another major roadway is Gigling Road, which provides access to all areas, except the maintenance area, which is accessed via Joe Lloyd Way. Primary roadways on the OMC include General Jim Moore Boulevard, Gigling Road, and Light Fighter Drive.

The roadway network consists of a mix of arterial and local roads. The older area of the OMC was laid out in a traditional grid street pattern (integrated). Subsequent residential development incorporated the curvilinear and cul-de-sac street patterns common to residential developments following World War II. The existing roadway system generally consists of four types of roads:

- Two-lane rural local
- Residential local
- Urban arterial (both four- and six-lane)
- Rural arterial

The two-lane rural roads primarily serve the artillery ranges and remote areas of the OMC; examples are Parker Flats Road and Barloy Canyon Road. These roads are paved but not engineered to any specific standard. The residential streets serve permanent housing areas as well as several mobile home park facilities, such as Marshall Park Family Housing and Patton Park Family Housing.

Four-lane urban arterials consist of streets such as Gigling Road, Light Fighter Drive (main entrance road) and the portion of General Jim Moore Boulevard between Light Fighter Drive and Ardennes Circle. These streets have curbs and in some cases sidewalks and a median. Rural arterials such as Inter-Garrison Road, Reservation Road, and the remaining portion of General Jim Moore Boulevard have no curbs, sidewalks, or medians.

The key existing roadways within the OMC include 2nd Avenue, Light Fighter Drive, Gigling Road, Imjin Road, Inter-Garrison Road, Coe Avenue, and General Jim Moore Boulevard. These facilities are described below.

**2nd Avenue** – This roadway runs north-south and is east of State Highway 1.

**12th Street** – 12th Street is an east-west collector road running between Imjin Road and State Highway 1. Access to State Highway 1 is provided at the 12th Street interchange.

**8th Street/8th Street Cut-Off** – This arterial runs from the railroad tracks just east of State Highway 1 eastward towards Imjin Road. Near this location, the roadway turns to a southeast direction and intersects Inter-Garrison Road.

**Light Fighter Drive** – Light Fighter Drive is a short east-west arterial that provides access to State Highway 1. The roadway also connects to 2nd Avenue and General Jim Moore Boulevard.

**Gigling Road** – This roadway is an east-west facility in the central part of former Fort Ord, aligned south of Light Fighter Drive. Gigling Road connects with several north-south streets, including General Jim Moore Boulevard.

**Imjin Road** – A portion of Imjin Road is an arterial roadway running from Reservation Road through the OMC where it ends at 12th Street. The northern portion of Imjin is four lanes, narrowing to two lanes in the southern portion.

**Inter-Garrison Road** – Inter-Garrison Road is an east-west two-lane arterial that provides a connection from the former East Garrison to the central area of former Fort Ord, where Inter-Garrison Road becomes 3rd Street.

**Coe Avenue** – Coe Avenue, a two-lane arterial, currently provides access to the OMC areas south of the golf courses from General Jim Moore Boulevard. Coe Avenue starts at General Jim Moore Boulevard and ends immediately east of State Highway 1 at its intersection with Monterey Road.

**General Jim Moore Boulevard** – General Jim Moore Boulevard is the major north-south roadway through the southern part of former Fort Ord. The boulevard begins north of State Highway 218 and follows the western edge of former Fort Ord at the Seaside city limits. Farther north, General Jim Moore Boulevard intersects with Coe Avenue and continues to an intersection with Light Fighter Drive. General Jim Moore Boulevard ends at 3rd Street, where it becomes 4th Avenue. General Jim Moore Boulevard is also known as North South Road.

#### 3.8.3.2 Existing Roadway Lane Use Configurations

Traffic volumes collected by the regional Metropolitan Planning Organization and various cities were used to determine current traffic conditions at the gates entering the POM. In 2009, traffic volumes were collected

for 24-hour periods to determine AADT volumes on major road segments within the POM. This information is shown on Figure 3.8-4. Existing traffic volume data from 2005 were used to determine AADT volumes on major road segments within the OMC, as shown on Figure 3.8-5.

After identifying the current AADT volumes, the existing road network was examined to determine the current corridor size (i.e., lane use configuration) of the major routes. This information is presented on Figure 3.8-6 for the POM and Figure 3.8-7 for the OMC.

#### 3.8.3.3 Existing Intersection Descriptions

##### Intersections within the POM

Major intersections within the POM are described below.

**Taylor Street, Rifle Range Road, Mason Road, and Lawton Road** – The traffic flow at the intersection of Mason Road, Lawton Road, Taylor Street, and Rifle Range Road consists of four approaches. The lane configuration of the Mason Road approach from the west consists of a single through/left turn lane. The Lawton Road approach from the east consists of a combined through/right/left turn lane. Both the approach on Taylor Street from the north and the approach on Rifle Range Road from the south have a combined through/right/left turn lane.

**Rifle Range Road and SSG Fronins Street** – The SSG Fronins Street at the Rifle Range Road intersection consists of three approaches. The approach from the north along Rifle Range Road consists of a combined through/right turn lane. The approach from the south along Rifle Range Road consists of a combined through/left turn lane. The lane configuration of the SSG Fronins Street approach from the west is a combined left/right turn lane.

**Patton Avenue and Plummer Street** – The Patton Avenue at Plummer Street intersection consists of three approaches. The approach from the south along Patton Avenue consists of a combined through/left turn lane. The approach from the west along Plummer Street consists of a combined right turn /left turn lane. The lane configuration of the Patton Avenue approach from the north is a combined left/right turn lane.

**Kit Carson Road at Stilwell Road and Plummer Street** – The Kit Carson Road at Stilwell Road and Plummer Street intersection consists of four approaches. The lane configuration of the Stilwell Road for both approaches is a combined through/left/right turn lane. The approach of Plummer Street from the east consists of an exclusive right turn lane and an exclusive through/left turn lane. The approach along Kit Carson Road from the west consists of a combined through/left/right turn lane.

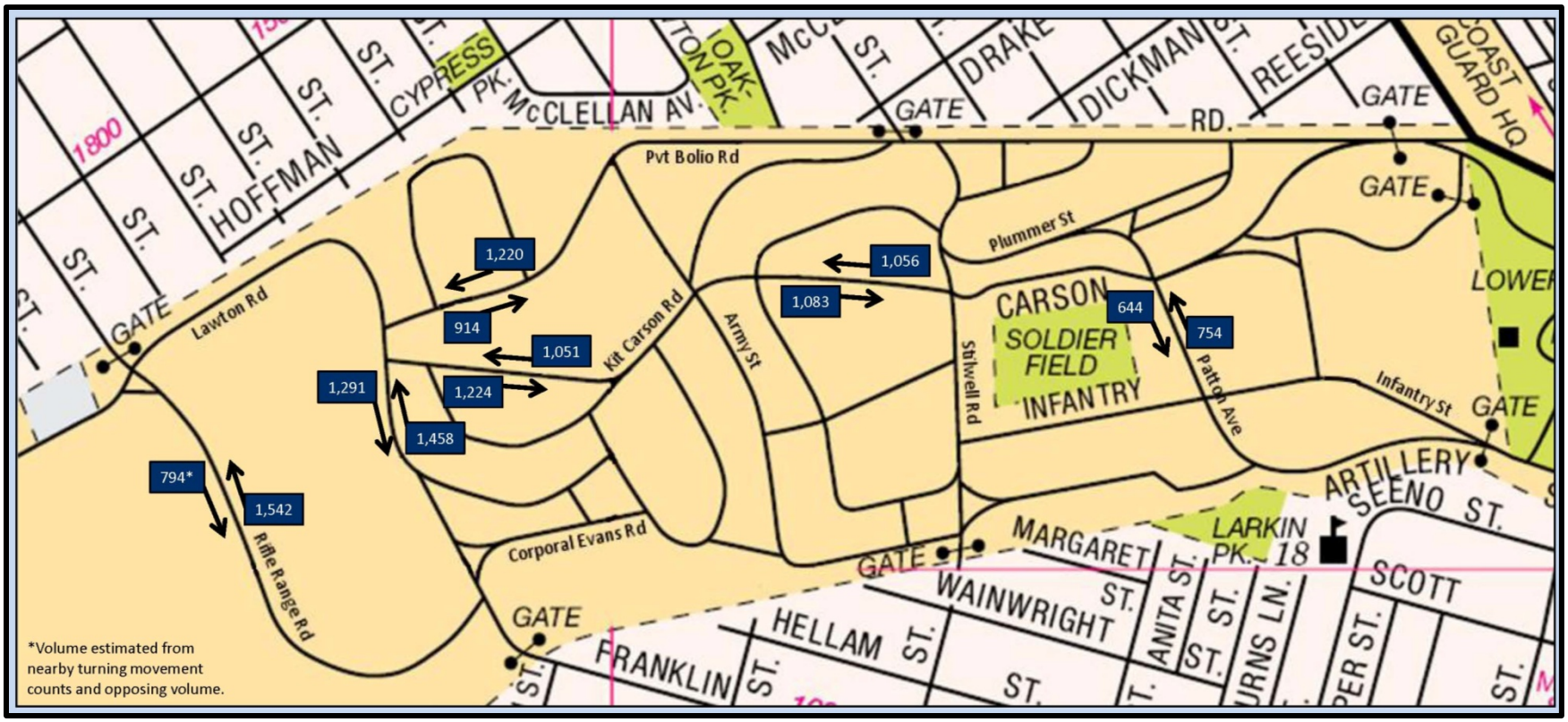


*Figure 3.8-4. Annual Average Daily Traffic Volumes – POM*

*Source: Gannett Fleming and Military Surface Deployment and Distribution Command, Transportation Engineering Agency, 2010*

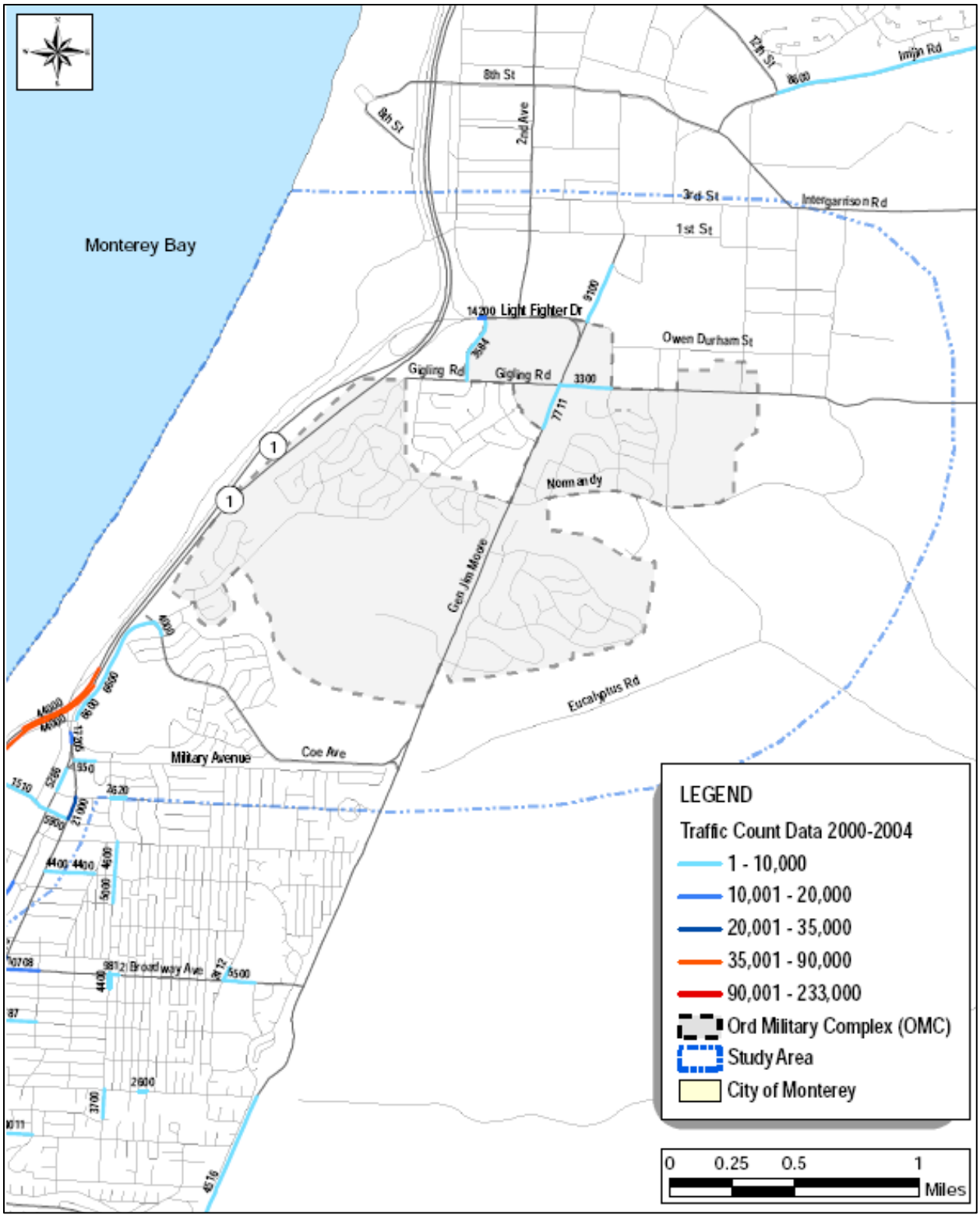


*Figure 3.8-5. Weekday Traffic Volumes – OMC*

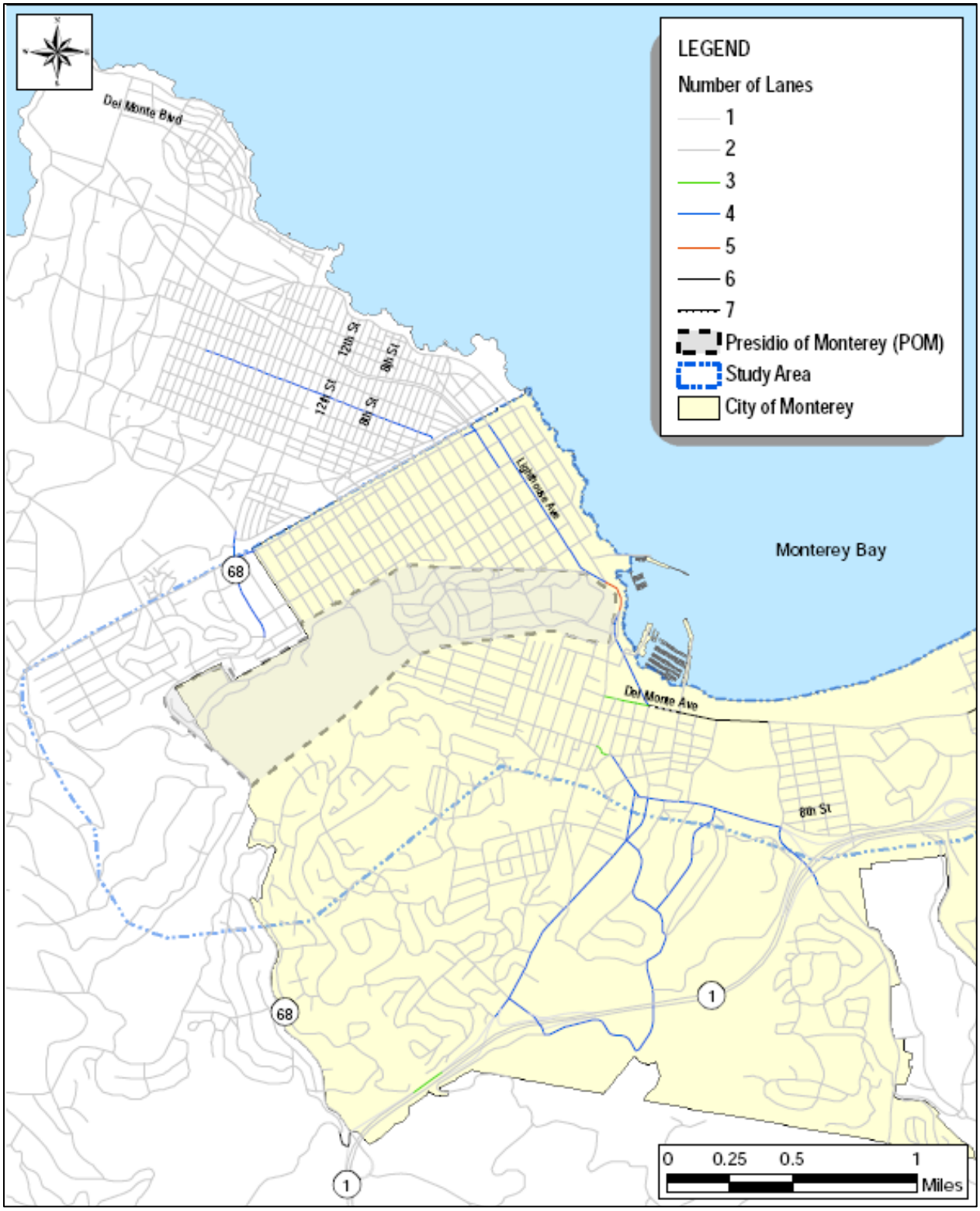


*Figure 3.8-6. Corridor Size – POM*

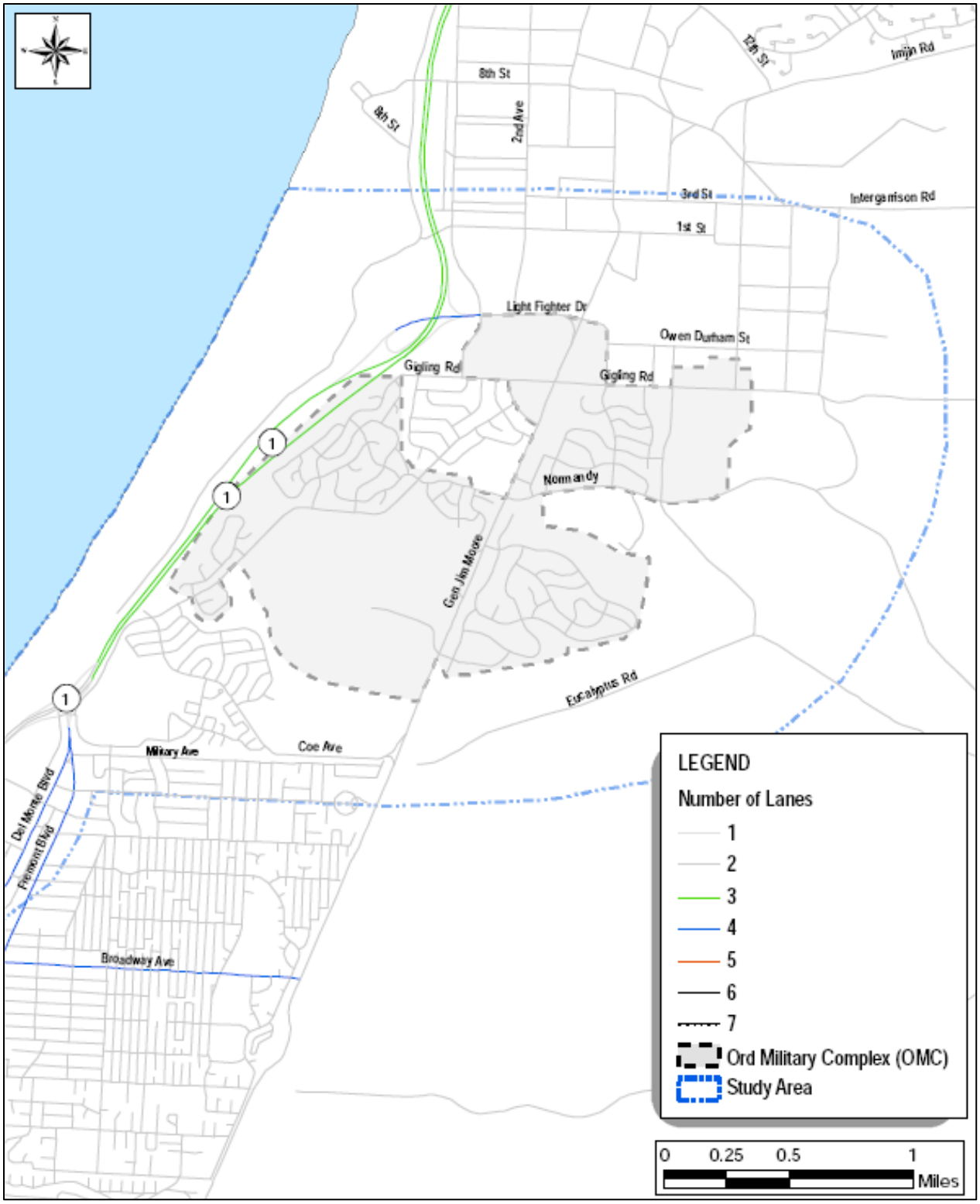


*Figure 3.8-7. Corridor Size – OMC*

**Army Street and Private Bolio Road** – The Army Street at Private Bolio Road intersection consists of three approaches. The approach from the south along Army Street consists of a combined left/right turn lane. The approach from the east along Private Bolio Road consists of a combined through/right turn lane. The lane configuration of the Private Bolio Road approach from the east is a combined through/left turn lane.

**Army Street and Kit Carson Road** – The Army Street at Kit Carson Road intersection consists of four approaches. The lane configuration of Army Street for both the north and south approaches is a combined through/left/right turn lane. The lane configuration of Kit Carson Road for both the east and west approaches is a combined through/left/right turn lane.

**Kit Carson Road at Lewis Road** – The Kit Carson Road at Lewis Road intersection consists of three approaches. The approach from the north along Lewis Road consists of a combined through/right turn lane. The approach from the south along Lewis Road consists of a combined through/left turn lane. The lane configuration of the Kit Carson Road approach from the west is a combined through/left/right turn lane.

**Lawton Road at Kit Carson Road** – The Lawton Road at Kit Carson Road intersection consists of four approaches. The Lawton Road approaches both consist of a combined through/left/right turn lane. The approach from the east on Kit Carson Road is a single through/left/right turn lane. The approach to this intersection for the west is from a parking lot and consists of a single through/left/right turn lane.

**Lawton and Franklin Street at Rifle Range Road** – The traffic flow at the intersection of Franklin Road and Rifle Range Road consists of three approaches. The Franklin Road approach from the north consists of a combined through/right turn lane. The Franklin Road approach from the south consists of an exclusive through lane and exclusive left turn lane. The approach from Rifle Range Road from the west consists of an exclusive left turn lane and an exclusive right turn lane.

**Lawton Road at Private Bolio Road** – The traffic flow at the intersection of Lawton Road and Private Bolio Road consists of three approaches. All three approaches consist of a combined through/left/right turn lane.

### Intersections near the POM

Major intersections near the POM are described below.

**Taylor Street at Prescott Lane** – The Taylor Street and Prescott Street intersection consists of four approaches. The two Taylor Street approaches each consist of a combined through/left/right turn lane. The Prescott Street approach from the east consists of a combined through/right turn lane and an exclusive left turn lane. The Prescott Street approach from the west consists of a combined through/left turn lane and an

exclusive right turn lane. The intersection is signalized and has pedestrian signal heads and push buttons. Pedestrian crosswalks are provided on all four approaches.

**Franklin Street at High Street** – The Franklin Street and High Street intersection consists of four approaches. The Franklin Street approaches both consist of a combined through/left/right turn lane. The lane configuration of the High Street approaches both consist of a combined through/left/right turn lane. The intersection has stop signs for both High Street approaches, but there are no stop signs for either Franklin Street approach. Pedestrian crosswalks are provided at all four approaches.

**Van Buren Street at Franklin Street** – The Van Buren Street and Franklin Street intersection consists of four approaches. All four approaches consist of a combined through/left/right turn lane. The intersection is signalized and has pedestrian signal heads and push buttons. Pedestrian crosswalks are provided on all four approaches.

**Pacific Street at Franklin Street** – The Pacific Street and Franklin Street intersection consists of three approaches. The Pacific Street approaches both consist of an exclusive left turn lane and a combined through/right turn lane. The Franklin Street approach from the west consists of a combined through/right turn lane and an exclusive left turn lane. The intersection is signalized and has pedestrian signal heads and push buttons. Pedestrian crosswalks are provided on all four approaches.

**Lighthouse Avenue and Private Bolio Road** – The intersection of Lighthouse Avenue and Private Bolio Road consists of three approaches. The approach from the north along Lighthouse Avenue consists of an exclusive through lane and a combined through/right turn lane. The Lighthouse Avenue approach from the south consists of two exclusive through lanes and an exclusive left turn lane. The lane configuration of the Private Bolio Road approach from the west consists of a right turn lane. However, drivers can no longer turn left onto Private Bolio Road from Lighthouse Avenue, and northbound traffic must turn right onto Foam Street and then double back southward on Lighthouse Avenue to turn right onto Private Bolio Road.

### Intersections within the OMC

Major intersections within the OMC are described below.

**First Avenue at Gigling Road** – Traffic flow at First Avenue and Gigling Road consists of three approaches. The First Avenue approach from the north consists of a combined through/left/right turn lane. The lane configuration of the Gigling Road approach from the west consists of a combined through/left/right turn lane. The Gigling Road approach from the east consists of an exclusive through lane as well as an exclusive right turn lane. The intersection has stop signs for all three approaches. There are no pedestrian crosswalks on any of the approaches.

**Sixth Division Circle at Gigling Road** – Traffic flow at Sixth Division Circle and Gigling Road consists of three approaches. The Sixth Division Circle from the south consists of a single combined through/left/right turn lane. The lane configuration of the Gigling Road approaches both consist of a combined through/left/right turn lane. The intersection has stop signs for the Sixth Division Circle approach. The pedestrian crosswalk is provided for only the Sixth Division Circle approach.

**General Jim Moore Boulevard at Gigling Road** – Traffic flow at General Jim Moore Boulevard and Gigling Road consists of four approaches. The General Jim Moore Boulevard approach from the south consists of an exclusive left turn lane and an exclusive through lane as well as a combined through/right turn lane. The approach from the north on General Jim Moore Boulevard consists of an exclusive lane for each of the left turning and right turning traffic lanes as well as two exclusive lanes for through traffic. The Gigling Road approach from the east has an exclusive lane each for right turning, left turning, and through traffic. The Gigling Road approach from the west has an exclusive lane for left turning and a combined lane for through/right turning traffic. The intersection is signalized and has pedestrian signal heads and push buttons. Pedestrian crosswalks are provided on all four approaches.

**Monterey Road at Normandy Road** – The Monterey Road and Normandy Road intersection consists of four approaches. All four approaches consist of a combined through/left/right turn lane. The intersection has stop signs and pedestrian crosswalks at all four approaches.

**General Jim Moore Boulevard at Normandy Road** – Traffic flow at General Jim Moore Boulevard and Normandy Road consists of four approaches. The General Jim Moore Boulevard approach from the south consists of an exclusive left turn lane, a through lane, and a combined through/right turn lane. The approach from the north on General Jim Moore Boulevard consists of an exclusive lane for each of the left turning and right turning traffic lanes as well as two exclusive lanes for through traffic. The two Normandy Road approaches each have a combined lane for through/left/right turning traffic. The intersection is signalized and has pedestrian signal heads and push buttons. Pedestrian crosswalks are provided on both Normandy Road approaches as well as the northern approach of General Jim Moore Boulevard.

**California Avenue at Monterey Road** – The Monterey Road and California Road intersection consists of four approaches. All four approaches consist of a combined through/left/right turn lane. The intersection has stop signs and pedestrian crosswalks at all four approaches.

### Intersections near the OMC

Major intersections near the OMC are described below.

**Second Avenue at First Street** – The Second Avenue and First Street intersection consists of four approaches. The Second Avenue approaches both have a three-lane configuration; one exclusive left turn lane, an exclusive through lane, and a combined through/right turn lane. The First Street approach from the west consists of a single combined through/left/right turn lane. The First Street approach from the east consists of an exclusive right turn lane and a combined through/left turn lane. The intersection has stop signs and pedestrian crosswalks at all four approaches.

**First Avenue at Light Fighter Drive and Highway 1 Off-Ramp** – The First Avenue and Light Fighter Drive/Highway 1 ramp intersection consists of four approaches. The First Avenue approach from the south consists of two lanes—an exclusive left turn lane and an exclusive right turn lane. The lane configuration of the First Avenue approach from the north consists of three exclusive lanes, one each for left turning, through, and right turning traffic. The Highway 1 off-ramp approach from the west consists of an exclusive through lane and a combined through/right turn lane. The Light Fighter Drive approach from the east consists of an exclusive left turn lane and two exclusive through lanes. The intersection has stop signs for the First Avenue approaches only. There are no pedestrian crosswalks on any approach.

**Second Avenue at Light Fighter Drive** – The traffic flow at the intersection of Second Avenue and Light Fighter Drive consists of four approaches. The Second Avenue approach from the south consists of a combined lane for through/left/right turning traffic. The Second Avenue approach from the north consists of three exclusive lanes, one each for through/left/right turning traffic. The Light Fighter Drive approaches both consist of an exclusive left turn lane and two exclusive through lanes. The intersection is signalized and has pedestrian signal heads and push buttons for both the Second Avenue approaches as well as the eastern Light Fighter Drive approach. Pedestrian crosswalks are provided on both Second Avenue approaches as well as the eastern approach of Light Fighter Drive.

**General Jim Moore Boulevard at Light Fighter Drive** – The General Jim Moore Boulevard and Light Fighter Drive intersection consists of four approaches. The General Jim Moore Boulevard approach from the south consists of two exclusive left turn lanes and a combined through/right turn lane. The lane configuration of the northern approach of General Jim Moore Boulevard consists of an exclusive left turn lane, an exclusive through lane, and a combined through/right turn lane. The Light Fighter Drive approaches both consist of an exclusive left turn lane and a combined through/right turn lane. This is a signalized intersection with a pedestrian signal head and push button for the western approach of Light Fighter Drive.

**Monterey Road at Coe Avenue** – The traffic flow at the intersection of Monterey Road and Coe Avenue consists of three approaches. The Monterey Road approach from the west consists of an exclusive lane each for through traffic as well as a lane for right turning traffic. The Monterey Road approach from the east consists of an exclusive lane each for through traffic as well and left turn lane. The Coe Avenue approach from the south consists of an exclusive left turn lane as well as an exclusive right turn lane. All three approaches are controlled by stop signs, and all three approaches have pedestrian crosswalks.

**General Jim Moore Boulevard at McClure Way-Arloncourt Road** – The General Jim Moore Boulevard and McClure Way/Arloncourt Road intersection consists of four approaches. The General Jim Moore Boulevard approaches both consist of an exclusive left turn lane, exclusive right turn lane, and two dedicated through lanes. The Arloncourt Road approach from the east consists of a combined left/right turn lane. The McClure Way approach from the west consists of a combined through/left/right turn lane. The intersection has stop signs on all four approaches.

**General Jim Moore Boulevard at Coe Avenue** – The General Jim Moore Boulevard and Coe Avenue intersection consists of three approaches. The Coe Avenue approach from the west consists of an exclusive lane each for left turning and right turning traffic. The lane configuration of the southern approach from General Jim Moore Boulevard consists of an exclusive left turn lane as well as an exclusive through lane. The lane configuration of the northern approach from General Jim Moore Boulevard consists of an exclusive right turn lane as well as an exclusive through lane.

**Fremont Boulevard at Monterey Road** – The intersection at Fremont Boulevard and Monterey Road consists of three approaches. The Fremont Boulevard approach from the south consists of an exclusive left turn lane, an exclusive through lane, and a combined through/right turn lane. The Monterey Road approach from the east consists of a combined through/right turn lane. The Monterey Road approach from the west consists of an exclusive right turn lane, an exclusive left turn lane, and a combined through/left turn lane. The intersection is signalized on all three approaches, and there are no pedestrian crosswalks.

**Fremont Boulevard at Del Monte Boulevard-Military Avenue** – The intersection of Fremont Boulevard and Del Monte Boulevard/Military Avenue consists of four approaches. The Del Monte approach from the southwest consists of an exclusive left turn lane as well as a dedicated right turn lane. The Military Avenue approach from the east consists of a single right turn lane. The Fremont Boulevard approaches both consist of an exclusive through lane and a combined through/right turn lane. The Del Monte and Military Avenue approaches have stop signs. There are no pedestrian crosswalks on any of the approaches.

**General Jim Moore Boulevard at Broadway Avenue** – The General Jim Moore Boulevard and Broadway Avenue intersection consists of three approaches. The lane configuration for General Jim Moore Boulevard for both approaches consists of a combined through/left/right turn lane. The Broadway Avenue approach from the west consists of a combined left/right turn lane. The intersection has stop signs on all three approaches. Pedestrian crosswalks are not provided on any approach.

**General Jim Moore Boulevard at State Highway 218** – The General Jim Moore Boulevard and State Highway 218 intersection consists of three approaches. The General Jim Moore Boulevard approach from the north consists of an exclusive left turn lane as well as a dedicated right turn lane. The State Highway 218 approach from the east consists of a dedicated through lane and a dedicated left turn lane. The State Highway 218 approach from the west consists of a dedicated through lane as well as an exclusive right turn lane. The intersection is signalized and has pedestrian signal heads and push buttons. Pedestrian crosswalks are provided for all four approaches.

#### 3.8.3.4 Existing Intersection Levels of Service

Urban road systems are ultimately controlled by the function of the major intersections. Intersection failure directly reduces the number of vehicles that can be accommodated during the peak demand hours and reduces the total daily capacity of a corridor. As a result of this substantial effect on corridor function, it is important to determine how well the major intersections are functioning by determining their LOS.

An LOS is a qualitative measure developed by the transportation profession to quantify driver perception for such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles. The LOS provides a scale that is intended to match the perception by motorists of the operation of the intersection and a means for identifying intersections that are experiencing operational difficulties, as well as providing a scale to compare different intersections. The LOS scale represents the full range of operating conditions and it is based on the ability of an intersection or street segment to accommodate the amount of traffic using it. The scale ranges from "A" (indicates little, if any, vehicle delay) to "F" (indicates significant vehicle delay and traffic congestion), as summarized in Table 3.8-2. The LOS computational analysis is guided by the procedures outlined in the Transportation Research Board's Highway Capacity Manual – Special Report 209 using the Highway Capacity Software, version 4.1f.

| Table 3.8-2. Descriptions of Traffic LOS | | |
|---|---|---|
| LOS | Description | Delay |
| A | Free-flow conditions | Little or no delay |
| B | Reasonably free-flow conditions | Short traffic delays |
| C | Stable operations | Average traffic delays |
| D | High density, bordering unstable flow | Long traffic delays |
| E | Very unstable operations | Very long delays |
| F | Forced or breakdown flow | Stop and go conditions |

*Source: Transportation Research Board Committee on Highway Capacity and Quality of Service, 2000*
*Note: LOS = level of service*

### Signalized Intersections

For signalized intersections, research has determined that average stopped delay per vehicle is the best available measure of LOS. Table 3.8-3 identifies the relationship between LOS and average stopped delay per vehicle for signalized intersections. The procedures used to evaluate signalized intersections use detailed information of geometry, lane use, signal timing, peak hour volumes, arrival types, and other parameters. This information is then used to calculate delays and determine the capacity of each intersection. Generally, an intersection is determined to be functioning adequately if operating at LOS C or better.

| Table 3.8-3. LOS Criteria – Signalized Intersections | |
|---|---|
| LOS | Stopped Delay per Vehicle (seconds) |
| A | < 10 |
| B | 10 to 20 |
| C | 20 to 35 |
| D | 35 to 55 |
| E | 55 to 80 |
| F | > 80 |

*Source: Transportation Research Board Committee on Highway Capacity and Quality of Service, 2000*
*Note: LOS = level of service*

### Unsignalized Intersections

The LOS for unsignalized intersections is based on the delay experienced by each movement within the intersection, rather than on the overall control delay per vehicle at the intersection. This difference from the method used for signalized intersections is necessary since the operating characteristics of a stop-controlled intersection are substantially different. Driver expectations and perceptions are also entirely different. For

two-way, stop-controlled intersections, the through traffic on the major (uncontrolled) street experiences no delay at the intersection. Conversely, vehicles turning left from the minor street and vehicles turning left from the major to the minor street experience more delay than other movements and at times can experience significant delay. Vehicles on the minor street, which are turning right or going across the major street, experience less delay than those turning left from the same approach. Due to this situation, the LOS assigned to a two-way, stop-controlled intersection is based on the average delay for vehicles on the minor street approach. Therefore, for a two-way, stop-controlled intersection, there is no LOS for the entire intersection but rather an LOS for minor street movements and the left turns from the major to the minor street.

The LOS for all-way, stop-controlled intersections is also based on the delay experienced by the vehicles at the intersection. Because there is no major street, the highest delay could be experienced by any of the approaching streets. Therefore, the LOS is based on the approach with the highest delay. The LOS criteria for the all-way and two-way, stop controlled intersections are shown in Table 3.8-4.

Table 3.8-4. LOS Criteria – Stop-Controlled Intersections

| LOS | Control Delay per Vehicle (seconds) |
|---|---|
| A | < 10 |
| B | 10 to 15 |
| C | 15 to 25 |
| D | 25 to 35 |
| E | 35 to 50 |
| F | > 50 |

*Source: Transportation Research Board Committee on Highway Capacity and Quality of Service, 2000*
*Note: LOS = level of service*

## POM and OMC Intersections

A number of intersections were selected for this EIS traffic analysis based on the availability of traffic count data from previous traffic studies. A total of 10 intersections were identified within the POM boundary (Table 3.8-5) and 12 intersections were identified for the major street network adjacent to the POM (Table 3.8-6). Similarly, 6 intersections were identified within the OMC (Table 3.8-7) and 11 intersections were identified adjacent to the OMC (Table 3.8-8). The LOSs reflect conditions at the time data were collected and may be different due to real-time changes in traffic patterns and roadway geometry.

The operational characteristics of each intersection were determined from data collected and analyzed for the peak hour periods to ensure the intersection peak volume was represented. Peak periods for the POM were

6:00 A.M. to 8:00 A.M. (AM Peak Hour) and 3:30 P.M. to 5:30 P.M. (PM Peak Hour), while the peak periods for the OMC were 7:00 A.M. to 900 A.M. (AM Peak Hour) and 4:00 P.M. to 6:00 P.M. (PM Peak Hour).

Table 3.8-5. Existing Intersection LOS – Locations within the POM (2009)

| Intersection | AM Peak Hour LOS | PM Peak Hour LOS |
|---|---|---|
| Taylor Street / Lawton Road / Mason Road / Rifle Range Road | B | B |
| Rifle Range Road / SSG Fronins Road | B | B |
| Patton Avenue / Plummer Street | B | B |
| Stilwell Road / Kit Carson Road | A | A |
| Army Street / Private Bolio Road | B | B |
| Army Street / Kit Carson Road | A | A |
| Kit Carson Road / Lewis Road | B | B |
| Lawton Road / Kit Carson Road | E | B |
| Lawton / Rifle Range Road / Franklin Street | F | D |
| Lawton Road / Private Bolio Road | C | B |

*Source: Gannett Fleming and Military Surface Deployment and Distribution Command, Transportation Engineering Agency, 2010*
*Note: LOS = level of service*

Table 3.8-6. Existing Intersection LOS – Locations Adjacent to the POM (2009)

| Intersection | AM Peak Hour LOS | PM Peak Hour LOS |
|---|---|---|
| Lighthouse Avenue / Washington Street / Del Monte Avenue | B | B |
| Foam Street / Reeside Avenue | A | B |
| Lighthouse Avenue / Reeside Avenue | B | B |
| Private Bolio Road / Lighthouse Avenue | B | C |
| Prescott Avenue / Taylor Street | A | B |
| Prescott Avenue / Lighthouse Avenue | NA | B |
| Franklin Street / High Street | C | C |
| Franklin Street / Pacific Street | C | C |
| Franklin Street / Van Buren Street | B | A |
| Munras Avenue / Soledad Drive | B | C |
| Fremont Street / Aguajito Road | C | D |
| Fremont Street / Abrego Street | B | C |

*Source: Gannett Fleming and Military Surface Deployment and Distribution Command, Transportation Engineering Agency, 2010*
*Note: LOS = level of service; NA = not available*

| Table 3.8-7. Existing Intersection LOS – Locations within the OMC (2005) | | |
|---|---|---|
| Intersection | AM Peak Hour LOS | PM Peak Hour LOS |
| First Avenue / Gigling Road | A | A |
| Sixth Division Circle / Gigling Road | A | A |
| General Jim Moore Boulevard / Gigling Road | B | B |
| Monterey Road / Normandy Road | A | A |
| General Jim Moore Boulevard / Normandy Road | B | B |
| California Avenue / Monterey Road | C | D |

*Source: USACE, 2006*
*Note: LOS = level of service*

| Table 3.8-8. Existing Intersection LOS – Locations Adjacent to the OMC (2005) | | |
|---|---|---|
| Intersection | AM Peak Hour | PM Peak Hour |
| | LOS | LOS |
| Second Avenue / First Street | A | A |
| First Avenue / Light Fighter Drive | C | D |
| Second Avenue / Light Fighter Drive | A | A |
| General Jim Moore Boulevard / Light Fighter Drive | C | C |
| Monterey Road / Coe Avenue | A | A |
| General Jim Moore Boulevard / McClure Way-Arloncourt Road | F | C |
| General Jim Moore Boulevard / Coe Avenue | A | A |
| Fremont Boulevard / Monterey Road | D | D |
| Fremont Boulevard / Del Monte Boulevard-Military Avenue | A | E |
| General Jim Moore Boulevard / Broadway Avenue | D | C |
| General Jim Moore Boulevard / State Route 218 | C | A |

*Sources: Harding Lawson Associates, 2001; USACE, 2006*
*Note: LOS = level of service*

### 3.8.3.5 Existing Access Gate Volumes and Operations

#### POM Access Gates

The POM has six ACPs; four are active and two are closed due to mandated AT/FP measures. Data are not available for the two closed locations at Pine Street and Artillery Street. The average daily traffic (ADT) data for the ACPs shown in Table 3.8-9 are based on traffic counts taken during the first and second weeks of

August 2007 and from data collected before September 11, 2001. The City of Monterey collected the 2007 data. After September 11, 2001, the gates were closed to through traffic due to mandated AT/FP measures, thus the total ACP traffic volumes decreased after that date.

Specific data for each gate used to arrive at the values shown in Table 3.8-9 are discussed below. The daily volumes observed during the first week of August 2007 at the ACPs are also provided.

Table 3.8-9. ACP Traffic Volumes – POM (2001 and 2007)

| Access Control Point | August 2007 | | | | Pre-September 11, 2001 |
|---|---|---|---|---|---|
| | AM Peak Hour (In) | PM Peak Hour (Out) | Weekday ADT (In) | Weekday ADT (Out) | AM Peak Hour (In) |
| Franklin Street | 446 | 425 | 2,719 | 2,360 | 484 |
| Private Bolio Road | 176 | 151 | 1,341 | 1,273 | 305 |
| Taylor Street | 262 | 278 | 1,676 | 2,833 | 475 |
| High Street | 175 | 122 | 754 | 676 | 195 |
| Pine Street (closed ACP) | NA | NA | NA | NA | 364 |
| Artillery Street (closed ACP) | NA | NA | NA | NA | NA |

*Sources: City of Monterey, 2007; ECW, 2007*
*Notes: ACP = access control point; ADT = average daily traffic; NA = not available*

**Franklin Street ACP** – The Franklin Street ACP provides the most direct and primary access to the core of the POM. Most of the DLIFLC students living off-post enter the POM at this location. This ACP also provides the most direct access for emergency response vehicles. The street grade on Franklin Street is steep and as such does not lend itself to allow for heavy vehicle/commercial truck traffic. Some heavy vehicle traffic, however, does occur. The ACP includes two inbound lanes and one outbound lane and is staffed by three guards who check visitor identification. Pedestrian turnstiles have been installed. Traffic volume data from 2007 for the Franklin Street ACP are provided in Table 3.8-10.

| Table 3.8-10. Traffic Volumes – Franklin Street ACP (2007) | | | | |
|---|---|---|---|---|
| Date | Day | In | Out | Total |
| 8/04/2007 | Saturday | 1,420 | 1,217 | 2,637 |
| 8/05/2007 | Sunday | 1,117 | 1,100 | 2,217 |
| 8/06/2007 | Monday | 2,696 | 2,304 | 5,000 |
| 8/07/2007 | Tuesday | 2,673 | 2,353 | 5,026 |
| 8/08/2007 | Wednesday | 2,678 | 2,241 | 4,919 |
| 8/09/2007 | Thursday | 2,646 | 2,448 | 5,094 |
| 8/10/2007 | Friday | 2,904 | 2,456 | 5,360 |
| 8/11/2007 | Saturday | 1,390 | 1,257 | 2,647 |
| 8/12/2007 | Sunday | 1,039 | 1,066 | 2,105 |
| | Weekday ADT | 2,719 | 2,360 | -- |
| | Weekend ADT | 1,242 | 1,160 | -- |
| | | | AM Peak Hour (6:45 A.M. to 7:45 P.M.): 446 Vehicles | |
| | | | PM Peak Hour (4:15 P.M. to 5:15 P.M.): 425 Vehicles | |

*Source: City of Monterey, 2007*
*Notes: ACP = access control point; ADT = average daily traffic*

**Private Bolio ACP** – This ACP is located at the unsignalized intersection at Lighthouse Avenue. Because of the anti-terrorism configuration of the barricades at the Taylor ACP and the steep grades at Franklin ACP, the majority of heavy vehicles and commercial traffic comes through the Private Bolio ACP. Traffic from the cities of Monterey and Pacific Grove enters the POM by travelling southbound on Lighthouse Avenue and turning right onto Private Bolio Road. Traffic from the cities of Monterey and Pacific Grove enters the POM by travelling southbound on Lighthouse Avenue and making a right turn onto Private Bolio Road. The southbound traffic entering the POM does not impede traffic because queues can back up to Lighthouse Avenue without impeding through traffic. Northbound traffic from the Lighthouse Tunnel (from the cities of Seaside and Marina and downtown Monterey) enters the POM by making an uncontrolled left turn from Lighthouse Avenue onto Private Bolio Road. Vehicles making this left turn must find an appropriate gap in the southbound traffic on Lighthouse Avenue. The left turn queue at the intersection of Lighthouse Avenue and Private Bolio can be problematic. The Private Bolio ACP includes one inbound lane (with separated tandem positions) and one outbound lane. The gate is staffed by two guards who check visitor identification, two guards who inspect the vehicles, and one guard stationed at the Visitor Control Center. Traffic volume data from 2007 for the Private Bolio ACP are provided in Table 3.8-11.

| Table 3.8-11. Traffic Volumes – Private Bolio ACP (2007) | | | | |
|---|---|---|---|---|
| Date | Day | In | Out | Total |
| 8/04/2007 | Saturday | 695 | 625 | 1,320 |
| 8/05/2007 | Sunday | 557 | 450 | 1,007 |
| 8/06/2007 | Monday | 1,352 | 1,263 | 2,615 |
| 8/07/2007 | Tuesday | 1,370 | 1,227 | 2,597 |
| 8/08/2007 | Wednesday | 1,447 | 1,374 | 2,821 |
| 8/09/2007 | Thursday | 1,308 | 1,221 | 2,529 |
| 8/10/2007 | Friday | 1,230 | 1,282 | 2,512 |
| 8/11/2007 | Saturday | 868 | 829 | 1,697 |
| 8/12/2007 | Sunday | 528 | 444 | 972 |
| | Weekday ADT | 1,341 | 1,273 | -- |
| | Weekend ADT | 662 | 587 | -- |
| | | | AM Peak Hour (7:00 A.M. to 8:00 P.M.): | 176 Vehicles |
| | | | PM Peak Hour (4:30 P.M. to 5:30 P.M.): | 151 Vehicles |

*Source: City of Monterey, 2007*
*Notes: ACP = access control point; ADT = average daily traffic*

**Taylor Street ACP** – The Taylor Street ACP provides the only direct access from the POM to the cities of Monterey, Pebble Beach, and Pacific Grove. There is potential for the traffic queue to interfere with the traffic signal at Taylor and Prescott Streets. During the PM Peak Hour, there does appear to be heavy traffic from Rifle Range Road and Private Bolio Road (where the DLIFLC classrooms are located) to Mason Road (where the dorms are located), which conflicts with vehicles entering the POM from Taylor Street. The ACP includes one inbound lane and one outbound lane and is staffed by one guard who checks privately owned vehicle identification, one guard who checks pedestrian identification (pedestrian turnstiles are being installed), and one guard who performs random inspections. Traffic volume data from 2007 for the Taylor Street ACP are provided in Table 3.8-12.

| Table 3.8-12. Traffic Volumes – Taylor Street ACP (2007) | | | | |
|---|---|---|---|---|
| Date | Day | In | Out | Total |
| 8/04/2007 | Saturday | 628 | 553 | 1,181 |
| 8/05/2007 | Sunday | 573 | 542 | 1,115 |
| 8/06/2007 | Monday | 1,797 | 1,394 | 3,191 |
| 8/07/2007 | Tuesday | 1,774 | 1357 | 3,131 |
| 8/08/2007 | Wednesday | 1,796 | 1,311 | 3,107 |
| 8/09/2007 | Thursday | 1,308 | 1,685 | 1,685 |
| 8/10/2007 | Friday | 1,704 | 1,449 | 31,53 |
| 8/11/2007 | Saturday | 658 | 598 | 1,256 |
| 8/12/2007 | Sunday | 535 | 498 | 1,033 |
| | Weekday ADT | 1,676 | 2,833 | -- |
| | Weekend ADT | 599 | 548 | -- |
| | | | AM Peak Hour (11:30 A.M. to 12:30 P.M.): 262 Vehicles | |
| | | | PM Peak Hour (4:30 P.M. to 5:30 P.M.): 278 Vehicles | |

*Source: City of Monterey, 2007*
*Notes: ACP = access control point; ADT = average daily traffic*

**High Street ACP** – This ACP provides good access for all types of vehicles. The direct route from High Street to the core of the POM is through the residential area to the west of the High Street ACP. This ACP is an important secondary access point for emergency response vehicles to the POM. The ACP includes one inbound lane and one outbound lane and is staffed by one guard who checks privately owned vehicle identification and one guard who checks pedestrian identification. Pedestrian turnstiles have been installed. Traffic volume data from 2007 for the High Street ACP are provided in Table 3.8-13.

| Table 3.8-13. Traffic Volumes – High Street ACP (2007) | | | | |
|---|---|---|---|---|
| Date | Day | In | Out | Total |
| 8/04/2007 | Saturday | 82 | 76 | 158 |
| 8/05/2007 | Sunday | 87 | 61 | 148 |
| 8/06/2007 | Monday | 712 | 685 | 1,397 |
| 8/07/2007 | Tuesday | 838 | 621 | 1,459 |
| 8/08/2007 | Wednesday | 663 | 741 | 1,404 |
| 8/09/2007 | Thursday | 765 | 524 | 1,289 |
| 8/10/2007 | Friday | 792 | 807 | 1,599 |
| 8/11/2007 | Saturday | 65 | 75 | 140 |
| 8/12/2007 | Sunday | 86 | 81 | 167 |
| | Weekday ADT | 754 | 676 | -- |
| | Weekend ADT | 80 | 73 | -- |
| | | | AM Peak Hour (7:30 A.M. to 8:30 P.M.): | 175 Vehicles |
| | | | PM Peak Hour (4:30 P.M. to 5:30 P.M.): | 122 Vehicles |

*Source: City of Monterey, 2007*
*Notes: ACP = access control point; ADT = average daily traffic*

Data collected in 2009 at the four open ACPs for a POM study were compared to the August 2007 and September 2001 counts collected by the City of Monterey. In general, there was an increase in demands observed at the ACPs between 2007 and 2009. Approximately 41 percent of the traffic demand occurs at the Franklin Street ACP, while only 11 percent use the High Street ACP. The 2009 traffic demands are shown in Table 3.8-14.

| Table 3.8-14. ACP Traffic Volumes – POM (2009) | | | | | |
|---|---|---|---|---|---|
| Demand Type | Private Bolio | Franklin Street | High Street | Taylor Street | Combined |
| Number of vehicles processed in peak hour | 342 | 611 | 230 | 391 | 1,574 |
| Number of maximum queued vehicles in peak hour | 9 | 24 | 2 | 10 | 45 |
| Total existing peak hour demand | 351 | 635 | 232 | 401 | 1,619 |
| Proportion of total AM Peak Hour demand | 22% | 39% | 14% | 25% | -- |
| Total daily demand | 1,392 | 2,353 | 644 | 1,418 | 5,807 |
| Proportion of total vehicle daily demand | 24% | 41% | 11% | 24% | -- |

*Source: Gannett Fleming and Military Surface Deployment and Distribution Command, Transportation Engineering Agency, 2010*

### 3.8.3.6 Existing Parking Conditions

Existing parking supply data (current as of April 12, 2007) for the POM and the OMC are shown in Table 3.8-15.

Table 3.8-15. Existing Parking Supply

| Parking Type | Available Spaces |
|---|---|
| Staff | 1,320 |
| Reserved | 372 |
| Open | 1,634 |
| Visitor | 67 |
| Handicap | 90 |
| Motorcycle | 91 |
| Military/General Services Administration | 46 |
| Loading zone | 5 |
| Total available parking | 3,625 |

### 3.8.3.7 Existing Transit Service

Monterey-Salinas Transit (MST), an external bus service, provides bus service within the POM and also between the OMC and the POM via bus lines 71-79, although route 78 was discontinued in January 2012. Figure 3.8-8 illustrates these nine commuter bus routes. Additionally, it offers bus service to and from the OMC, Naval Postgraduate School, and the POM. These services are funded entirely by the Federal Mass Transit Benefit/Transportation Incentive Program through the Department of Transportation; no local funds are used for these routes. An internal shuttle system links key areas on the POM. The internal shuttle service operates during the morning, midday, and evening periods.

MST has been working in partnership with the USAG-POM, launching nine commuter routes in 2009 and expanding the service to 12 routes in 2010. Surveys of installation personnel led to the design of routes for the convenience of the POM's work force, resulting in reduced overall time on the buses and, thus, encouraging ridership. In addition, the DoD implemented a Mass Transit Benefit Program that provides free bus passes for active duty military members and DoD civilian employees who do not reside at the POM Installation. Dependents of program participants are eligible for discounted passes (MST, 2011a). The

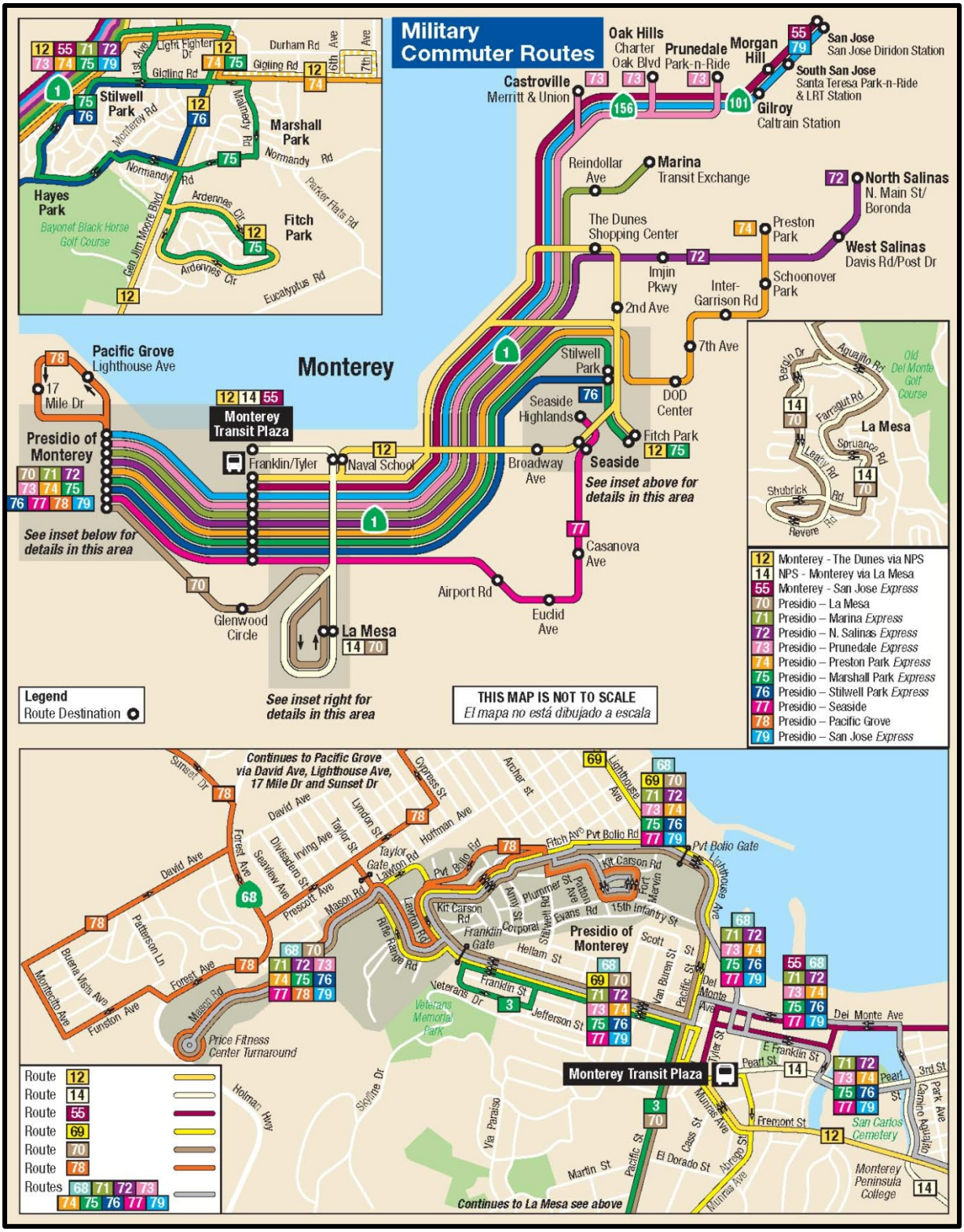


*Figure 3.8-8. Monterey-Salinas Transit Routes Serving the POM and the OMC*
*Source: MST, 2010*

program is currently ongoing with more than 800 people enrolled. As a result of these measures, the MST reported that boardings increased 330 percent between 2009 and 2010, to more than 25,000 boardings per month (MST, 2011b). As of August 2010, this was measured as a reduction of 600 vehicles on local roadways, a decrease of 2.9 million pounds of carbon emissions, and an increase of 30 jobs at the MST. As of February 2012, the monthly boardings surpassed 50,000 (POM, 2012a).

#### 3.8.3.8 Existing Pedestrian Traffic

Pedestrian activity to, from, and within the POM is relatively heavy compared to the region as a whole. The highest concentration of pedestrian activity occurs across Rifle Range Road, where students travel between the barracks and the classrooms before morning classes (beginning at approximately 7:45 A.M.), during the noon lunch period, and after classes (ending at approximately 3:30 P.M.). There is also considerable pedestrian activity between the POM and the restaurants and retail business on Forest Avenue and to other support areas.

Pedestrians can access the POM at the Franklin, High, and Taylor Street ACPs and by a pedestrian entrance located at the end of Clay Street. This entrance is often used by people who live nearby and by some commuters who choose to park offsite, although security key cards are required for access. Gates for pedestrian access at Lyndon Street and Divisadero Street are currently locked and not available for access.

Pedestrian facilities on the POM are non-continuous, and sidewalks are often located solely on one side of a roadway, such as on parts of Mason Road. Crosswalks are provided at some intersections and at mid-block crossings. Formal and informal pedestrian paths provide access to student activity locations. ADA compatibility varies throughout POM; for example, curb ramps have been updated in some areas but most intersections lack appropriate upgrades.

The majority of the existing roadways in the POM and the OMC do not have dedicated bicycle lanes and do not have enough room for vehicles and bicycles to comfortably share the roadway.

## 3.9 NOISE

Many factors affect one's perception of noise. These factors include pitch, loudness, and the character of the noise. The standard unit of sound amplitude measurement is the decibel (dB). Because the human ear cannot hear all frequencies, a special scale has been devised to relate noise to human sensitivity, the A-weighted decibel (dBA) scale. The dBA scale de-emphasizes the low- and high-end frequencies and emphasizes those frequencies the human ear is able to hear. The following terms are typically used in analyzing noise:

- **Leq** – Equivalent energy level. The A-weighted sound level corresponding to a steady state sound level containing the same total energy as a time varying signal over a given sample period. Leq is typically computed over 1-, 8-, and 24-hour measurement periods.
- **Lmax** – The maximum A-weighted sound level during the measurement period.
- **Ldn** – Day-night average level. A 24-hour average Leq, with the addition of 10 dBA to the sound level during the hours of 10:00 P.M. to 7:00 A.M. to account for greater noise sensitivity of people at night.
- **CNEL** – Community Noise Equivalent Level. A 24-hour average Leq, with the addition of 5 dBA to sound levels from 7:00 P.M. to 10:00 P.M. and the addition of 10 dBA to sound levels from 10:00 P.M. to 7:00 A.M. CNEL is widely used in California and is similar to Ldn, except it increases noise levels by 5 dBA between 7:00 P.M. and 10:00 P.M.

Most human sound perception can barely detect a change in sound level of 3 dBA.

### 3.9.1 Study Area

The affected areas, with respect to construction and operations noise, are the areas on the POM and the OMC proposed for development in the RPMP, plus the immediately surrounding areas. Short-term traffic noise associated with construction and long-term noise from traffic generated by the proposed land uses would potentially affect noise-sensitive land uses along the travel routes.

### 3.9.2 Regulatory Setting

The following section describes the federal, state, and local noise guidance and regulations applicable to the proposed project.

#### 3.9.2.1 Federal

The Noise Control Act of 1972 (Public Law 92-574) established a national policy to promote an environment for all Americans that is free from noise that would jeopardize their health and welfare. The act authorized and directed federal agencies to carry out programs to further the policy declared in the Act. Each federal department or agency must comply with federal, state, interstate, and local requirements regarding control and abatement of environmental noise.

##### Army

To comply with the Noise Control Act, the Army has established a noise policy as part of Army Regulation 200-1 (Chapter 14; U.S. Army, 2007a). The major goals of the Army's noise policy are to:

- Control operational noise to protect the health and welfare of people, on- and off-post, affected by all Army-produced noise, including on- and off-post noise sources
- Reduce community annoyance from operational noise to the extent feasible, consistent with Army training and materiel testing mission requirements
- Actively engage local communities in land use planning in areas subject to high levels of operational noise and a high potential for noise complaints

The Army's noise policy establishes noise criteria for land use compatibility planning that are specific to aviation sources, impulsive military sources (such as artillery), and small arms firing ranges. None of these categories of noise criteria are directly applicable to the types of noise sources associated with the POM RPMP, which are primarily related to construction and ground-based transportation. The Army's operational noise policy states, "transportation and industrial noise will be assessed on a case by case basis using appropriate noise metrics, including U.S. Department of Transportation guidelines." Therefore, the following section provides an overview of some of the key noise criteria used by the U.S. Department of Transportation's various modal administrations.

### U.S. Department of Transportation

The Federal Highway Administration (FHWA) has established noise abatement criteria used to determine effects and mitigation measures for new roadways or the reconstruction of existing roadways (23 CFR Part 772). The FHWA requires state Departments of Transportation to further define how the FHWA policy will be implemented in each state. Caltrans issued a revised *Traffic Noise Analysis Protocol* in May 2011 (Caltrans, 2011). The Caltrans noise policy effect criteria are based on 1-hour equivalent sound levels (Leqh) for the hour of the day with the highest traffic noise level. For residential exterior uses, a noise effect occurs under the Caltrans policy when:

- The predicted Leqh with the project is equal to or greater than 66 dBA, or
- The predicted Leqh with the project exceeds the existing Leqh by 12 dBA or more

Different criteria are specified for different land use types, in accordance with their sensitivity to annoyance from traffic noise.

The Federal Transit Administration (FTA) and Federal Aviation Administration (FAA) assess noise effects using different metrics, effect criteria, and procedures than the FHWA. FTA assesses operational noise effects on residential uses based on Ldn (24-hour Leq with 10 dB penalty on noise occurring at night). There is no single Ldn level that determines a noise effect under FTA procedures; effects are determined through an equation/chart that takes into account both the existing noise level and the increase in noise levels due to the project (FTA, 2006). FAA also assesses noise effects using the Ldn metric (referring to it as DNL, or day-night average sound level), but uses a predicted noise level above 65 Ldn as the basis for determining effects and land use compatibility (FAA, 2007).

The transportation noise criteria discussed above are all applicable to long-term operational noise exposure. For construction noise exposure, higher noise levels may be acceptable because of their temporary nature. The FHWA and the FAA have not established construction noise effect criteria in policy or regulations. The FTA's procedures suggest the following criteria as a reasonable basis for assessing construction noise effects:

- 8-hour daytime Leq – 80 dBA
- 8-hour nighttime Leq – 70 dBA
- 30-day Ldn – 75 dBA

The FTA and the FHWA recommend that the construction noise criteria for each project should take into account the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use.

### 3.9.2.2 Local

#### City of Monterey Noise Ordinance

The City of Monterey noise regulations consist of a set of noise performance standards that apply to all land use classifications in all zoning districts (City of Monterey, 2010).

All uses and activities shall comply with the provisions of the Monterey Noise Regulations (Sections 22-17 and 22-18). Decibel levels shall be compatible with neighboring uses, and no use shall create ambient noise levels which exceed the noise standards, shown in Table 3.9-1.

Table 3.9-1. Maximum Noise Standards by Zoning District

| Zone of Property Receiving Noise | Maximum Decibel Noise Level (dBA) |
|---|---|
| Open Space District | 60 |
| Residential District | 60 |
| Public and Semi-Public District | 60 |
| Commercial District | 65 |
| Industrial District | 70 |
| Planned Development | Study required |

**Duration and Timing** – The noise standards shall be modified as follows to account for the effects of time and duration on the effect of noise levels:

- In Residential Districts, the noise standard shall be 5 dB lower between 10:00 P.M. and 7:00 A.M.
- Noise that is produced for no more than a cumulative period of 5 minutes in any hour may exceed the standards above by 5 dB.
- Noise that is produced for no more than a cumulative period of 1 minute in any hour may exceed the standards above by 10 dB.

#### City of Pacific Grove

The City of Pacific Grove does not have numerical limits for control of noise. The City of Pacific Grove does have an ordinance that makes it unlawful to make any loud, unnecessary or unusual noise that disturbs

the peace or quiet of any neighborhood or causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area (City of Pacific Grove, 2010). The standards that are considered in determining whether a violation exists include the level of the noise, the intensity of the noise, the level and intensity of the background noise, the time of day or night when the noise occurs and the proximity of the noise to residential sleeping facilities.

#### City of Seaside

The City of Seaside noise regulations pertaining to construction and operations prohibit the following (City of Seaside, 2010):

- Excessive, unnecessary or unusually loud operation or use of any of the following before 7:00 A.M. or after 7:00 P.M. daily (except Saturday, Sunday, and holidays when the prohibited time shall be before 9:00 A.M. and after 7:00 P.M.):
  - Hammers, hand-powered saws, or similar implements; impact wrenches or similar equipment powered by compressed air; tools or pieces of equipment powered by an internal combustion engine such as, but not limited to, chain saws, blowers and lawn mowers; electrically powered tools or equipment such as, but not limited to, saws, drills, lathes or routers; heavy equipment such as, but not limited to, bulldozers, steam shovels, road graders, back hoes; ground drilling and boring equipment; hydraulic crane and boom equipment; portable power generators or pumps; pavement or pile driving equipment.
- Any construction, demolition, excavation, erection, alteration or repair activity, unless authorized in writing by the building official. Written authorization may be issued in the case of an emergency, or where the building official determines that the peace, comfort and tranquility of the occupants of residential property will not be impaired because of the location or nature of the construction activity. (Ordinance 837 §1, 1993; Ordinance 820 §1(part), 1992).

#### Monterey County

In Monterey County, "No person shall, within the unincorporated limits of the County of Monterey, operate any machine, mechanism, device, or contrivance which produces a noise level exceeding eighty-five (85) dBA measured 5 feet there-from. The prohibition in this Section shall not apply to aircraft nor to any such machine, mechanism, device or contrivance which is operated in excess of 2,500 feet from any occupied dwelling unit" (Monterey County, 2010).

### 3.9.3 Affected Environment

#### Noise Sources

The major sources of noise in the project area are motor vehicle traffic on regional roadways such as State Highway 1 and State Highway 68 and local roadways internal and adjacent to POM and the OMC. Additional noise sources include overhead aircraft, construction activities, and commercial and residential area activities. The Monterey Peninsula Airport is approximately 3 miles from the POM. A 1979 airport noise study indicated the POM was outside the 55 CNEL noise contour, meaning the airport did not cause

unreasonably high noise levels at the POM. However, because the POM and the OMC are in the vicinity of the airport approach and departure zones, the aircraft noise could be heard at the POM and the OMC.

The POM is subject to noise from State Highway 68, which passes by its western boundary. Noise contours developed by Caltrans show noise levels ranging from 50 to 75 dBA Leq (1 hour), depending on proximity to State Highway 68 (Jones & Stokes, 1994). Potential noise complaints are received by the POM through its Public Affairs Office and addressed on an individual basis by the Public Affairs Office and DPW Environmental Office.

Data provided in USEPA (1974), "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," were used to estimate average ambient daytime and nighttime Leq and Ldn noise levels on the POM and the OMC (Table 3.9-2). Thus, the Ldn noise levels are based on the predominantly educational, office, and residential land use characteristics of the sites. The daytime and nighttime Leq noise levels were based on the $L_{dn}$ levels. According to USEPA (1974), areas on the POM and the OMC are expected to have an average Ldn of 50 to 60 dBA, with an average daytime Leq of 50 to 60 dBA and a nighttime Leq of 40 to 50 dBA. The major variable is proximity to the more heavily traveled roadways on and adjacent to the sites.

Table 3.9-2. Average Ambient Noise Levels for Various Land Uses

| Land Use Description | Average Ldn (1) (dBA) | Daytime Leq (dBA) | Nighttime Leq (dBA) |
|---|---|---|---|
| Wilderness | 35 | 35 | 25 |
| Rural Residential | 40 | 40 | 30 |
| Quiet Suburban Residential | 50 | 50 | 40 |
| Norman Suburban Residential | 55 | 55 | 45 |
| Urban Residential | 60 | 60 | 50 |
| Noisy Urban Residential | 65 | 65 | 55 |
| Very Noisy Urban Residential | 70 | 70 | 60 |

*(1) Source: USEPA, 1974*

*Notes: dBA = A-weighted decibel; daytime Leq = equivalent energy level from 7 A.M. to 10 P.M.; nighttime Leq = equivalent energy level from 10 P.M. to 7 A.M.*

## Noise Receptors

Noise sensitive receptors include residences, schools, offices, hospitals, religious meetings, and recreation areas. Receptors at the POM include barracks buildings and classrooms. Neighborhoods adjacent to the POM are also sensitive to increased noise levels at the POM. Residences at the OMC can be considered

noise sensitive receptors. Existing noise levels at the OMC are generally low because of the residential nature of the area.

## 3.10 UTILITIES, ENERGY, AND PUBLIC SERVICES

This section describes existing utilities and public services within the POM Installation, including wastewater, stormwater drainage, solid waste, energy, natural gas, electricity, communications, schools, and hospitals. Water services are described in Section 3.1 and water quality, including stormwater quality, is described in Section 3.2.

### 3.10.1 Study Area

The study area includes the POM and the OMC.

### 3.10.2 Regulatory Setting

The following section describes the federal and state rules and regulations applicable to the proposed project.

#### 3.10.2.1 Federal

##### Wastewater and Stormwater

The federal Water Pollution Control Act (Public Law 92-500), commonly known as the CWA, was promulgated in 1972 following a series of previous legislative efforts to establish water pollution control laws in the United States. The CWA, Section 402, NPDES Permit Program authorizes the issuance of individual or general permits to control municipal and industrial point source discharges, including those from wastewater and stormwater. The federal government has full authority to issue NPDES permits but may delegate the permit program to the state, and California has the authority to issue NPDES permits.

Executive Order 13514 (October 8, 2009) requires the federal government to implement and achieve the objectives of Section 438 of the EISA of 2007 (42 U.S.C. 17094). This guidance requires federal agencies to reduce stormwater runoff from federal development and redevelopment projects to protect water resources. Federal agencies can comply using a variety of stormwater management practices often referred to as "green infrastructure" or "low impact development" practices, including, for example, reducing impervious surfaces and using vegetative practices, porous pavements, cisterns, and green roofs. This Executive Order is also discussed in Section 3.2, Water Quality.

#### Solid Waste

The USEPA regulates the management of non-hazardous solid waste according to the Resource Conservation and Recovery Act (RCRA), Subtitle D. Under RCRA, the USEPA is also in charge of regulating the handling and disposal of hazardous wastes.

#### Energy

The POM is required to follow several executive orders and other documents pertaining to energy use by the federal government:

- Executive Order 13423 (January 26, 2007) is intended to improve energy efficiency and reduce GHG emissions of the agency, through reduction of energy intensity by 3 percent annually through the end of FY15, or 30 percent by the end of FY15, relative to the baseline of the agency's energy use in FY03. Executive Order 13423 also describes requirements for renewable energy use, sustainable environmental practices, and requirements for new construction in accordance with *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* set forth in the *Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding* (2006).
- Executive Order 13514 (*Federal Leadership in Environmental, Energy, and Economic Performance*) sets sustainability goals for federal agencies and focuses on making improvements in their environmental and energy performance. Executive Order 13514 also requires federal agencies to set a 2020 GHG emissions reduction target, increase energy efficiency, and reduce petroleum consumption.
- Energy Policy Act of 2005 addresses energy production in the United States and describes energy management requirements for federal agencies, procurement of energy efficient products, federal building performance standards, and enhancing energy efficiency in management of federal lands.
- EISA of 2007 is intended to move the United States toward greater energy independence and security and includes requirements for improving the energy performance of the federal government. The Act contains requirements for energy efficiency in federal vehicle fleets and sets energy reduction goals for federal buildings.

### 3.10.2.2 State

#### Wastewater and Stormwater

The California Water Code, Sections 13575–13583, contains the Water Recycling Act of 1991, which establishes a statewide goal of recycling 1 million acre-feet of water annually by the year 2010 and encourages retail water suppliers to increase the use of recycled water. The Health and Safety Code, the Water Code, and Title 22 and Title 17 of the California Code of Regulations (CCR) contain regulations for the treatment, use, and distribution of reclaimed water.

California's primary statute governing wastewater is the Porter-Cologne Act with numerous amendments and additions since initial adoption. The Porter-Cologne Act grants the SWRCB and nine California RWQCBs broad powers to protect water quality and is the primary vehicle for implementation of California's responsibilities under the federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, regulate discharges to surface and groundwater,

regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. Water quality is described further in Section 3.2.

#### Solid Waste

Under the jurisdiction of the CalEPA, the California Integrated Waste Management Board (CIWMB) is charged with managing solid waste. Title 14, Chapter 3, of the CCR addresses minimum standards for solid waste handling and disposal (CIWMB, 2008).

The California Integrated Waste Management Act (Assembly Bill 939) requires each county or incorporated city to prepare a Source Reduction and Recycling Element that shows how they will divert 25 percent of all solid waste from landfill or transformation facilities by January 1, 1995, and divert 50 percent of all solid waste by January 1, 2000 (CIWMB, 2008).

#### Energy

The California Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Title 24, Chapter 6, of the CCR addresses these Energy Efficiency Standards. The most recent (2008) Energy Efficiency Standards contained several changes that were intended to accomplish the following items (among others):

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020
- Pursue a California energy policy in which energy efficiency is the resource of first choice for meeting California's energy needs
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes
- Meet Executive Order 13514 requirements to improve the energy efficiency of nonresidential buildings through aggressive standards

Information on GHG emissions at the POM and OMC is contained in Section 3.4, Air Quality.

### 3.10.3 Affected Environment

#### 3.10.3.1 POM

#### Wastewater

The City of Monterey owns and maintains all sewer lines at the POM, with the exception of the laterals, which are owned and maintained by the POM. The wastewater system at the POM consists of building connections, lateral sewers, several major trunk sewers, and two sewage lift stations at the north end of POM.

Lift station #1 has a peak wet weather flow of 27 gallons per minute, and lift station #2 has a peak wet weather flow of 58 gallons per minute. Wastewater is collected from the POM via 78,636 linear feet (15 miles) of underground wastewater collection lines, which reach up to 24 inches in diameter. The collection system in the older part of the base was constructed in the 1950s, with the newer part constructed during the mid-1980s (C.H. Guernsey & Company, 1998).

Wastewater from the POM is treated at the Monterey Regional Water Pollution Control Agency (MRWPCA) wastewater treatment plant, under an existing wastewater agreement. The POM does not have a permitted discharge limit. The MRWPCA wastewater treatment plant is located approximately 2 miles north of the City of Marina. Wastewater discharged from the POM and OMC to the regional treatment plant averaged about 30 million gallons per year from 2006 to 2009 based on estimates from MRWPCA data. The plant has an existing capacity of 29.6 million gallons per day (mgd) and is permitted to treat up to 27 mgd. The plant currently treats approximately 21 mgd and has a remaining capacity of about 8.6 mgd (Monterey County, 2004a). Water receiving secondary treatment is discharged 2.5 miles into Monterey Bay. The MRWPCA also operates a recycled water facility at the regional treatment plant that provides irrigation water to 12,000 acres of agricultural lands in the northern Salinas Valley.

### Stormwater

Stormwater runoff is collected by the existing POM storm drain system and discharged to the Pacific Ocean or Monterey Bay (U.S. Army, 1994a). Some stormwater runoff drains off the POM and enters the storm drain systems of the cities of Pacific Grove and Monterey, which also discharge into the Pacific Ocean or Monterey Bay.

Stormwater runoff from POM is discharged to Monterey Bay through two natural stream channels and five storm drains:

- Drainage channel southwest of the POM dormitories and east of Huckleberry Hill Nature Preserve: an open ditch that runs southwest and exits the POM west of Johnson Street and southwest of the entrance to the POM at Franklin Street
- Drainage channel running along the southern border of the POM to Lighthouse Avenue: an open drainage ditch that runs along the southern border of POM from east of the entrance to the POM at High Street to Lighthouse Avenue
- North POM: a 36-inch reinforced concrete pipe (RCP) that drains the north part of the POM
- Southern boundary: a 51-inch RCP that runs along the southern boundary of the POM
- South-central portion of the POM: a 24-inch RCP that drains the south central area of the POM in the dormitory area
- Northwest of the Huckleberry Hill Nature Preserve: a 24-inch RCP that drains the northwest portion of the POM along State Highway 68

- Northeast of Huckleberry Hill Nature Preserve: a 30-inch RCP that drains into Pacific Grove's storm drain system

In addition to the main drainage channels and storm drains, a series of smaller storm drains serve specific portions of the base. These smaller drains collect stormwater and discharge to larger drains eventually flowing into the POMs main storm drains previously described above. Several types of piping are used including vitrified clay, steel, concrete, and corrugated steel.

Water quality regulations and permitting pertaining to stormwater discharges from the POM are described in Section 3.2.

### Solid Waste

The Monterey City Disposal Service collects solid waste and recyclable materials at the POM. The waste is sent to the Monterey Environmental Park approximately 2 miles north of Marina and operated by the Monterey Regional Waste Management District ([MRWMD] MRWMD, 2007). The Monterey Regional Environmental Park contains a 315-acre permitted sanitary landfill, a materials recovery facility, and a household waste facility. Based on the current permitted waste capacity and a state-mandated 50 percent recycling rate, the landfill would reach capacity in 2107 (MRWMD, 2007). Hazardous waste generation at the POM is described in Section 3.11.

The POM implements a proactive recycling program, which includes a program to recycle or reuse all materials obtained from the razing of existing buildings. The Integrated Solid Waste Management Plan for the POM describes the following solid waste objectives:

- Efficiently manage solid waste in a manner that protects human health and the environment
- Comply with applicable federal, state, and Army solid waste regulations
- Reduce the volume of solid waste generated to meet DoD and state waste reduction goals
- Reduce or recycle materials in the solid waste stream to the maximum extent possible

### Energy (Electricity and Natural Gas)

Pacific Gas and Electric Company (PG&E) provides electricity to the POM. The existing electric power distribution system includes a 4,160-volt, three-phase, four-wire loop primary feeder. Pole-top and pad-mount transformers convert the incoming electricity to normal utilization voltages (110 volts) (ECW, 2007). PG&E can deliver a maximum of approximately 4,500 kilovolt-ampere to the POM. The 2011 electrical usage at the POM was 16,780,314 kilowatt-hour (kWh), and the 2011 electrical usage at the OMC was 1,861,716 kWh) (Army Energy and Water Reporting System [AEWRS], 2011).

PG&E provides natural gas service to the POM and maintains all associated infrastructure. A high-pressure gas line runs underground along Rifle Range Road and a second gas line crosses the POM near Lighthouse Avenue (ECW, 2007). Natural gas consumption on the POM was 869,666 therms, or 99 million cubic feet for 2011 (AEWRS, 2011).

In addition to energy conservation measures for the new proposed projects, many recent energy efficiency measures have been undertaken at the POM. Executive Orders 13423 and 13514 require the POM to reduce energy consumption by 3 percent per year for a 30 percent reduction by 2015. The Army has been actively pursuing energy conservation measures at the POM and has made an average reduction of over 5 percent per year since 2008.

In July 2010, the POM hired a full-time Energy Manager, and on November 30, 2011, the POM implemented a Command Policy on Energy Conservation. In addition to energy conservation measures for the proposed projects, planned renewable energy and energy efficiency improvement projects at the POM during the short-range project period include the following:

- Insulation project of 60 buildings (FY10)
- One-megawatt Photovoltaic System at SATCOM (funded in FY12)
- Under the FY11 Smart Meter Project, 90 percent of the Garrison's required buildings sub-metered for electric in 2012
- A major project to retrofit the pneumatic control system with Direct Digital Controls in two of the largest energy consuming buildings (Building 842 fitness center and Building 848 instruction building), which should reduce energy by 30 percent in the two facilities while reducing trouble calls
- Implementation of an Energy Management Control System to allow for real-time monitoring and control of HVAC systems and, in conjunction with the metering project, to monitor energy consumption
- Replacement of 190 parking lot lights with high-efficiency, light-emitting diode and magnetic induction fixtures (completed in 2012)

### Communications

At the POM, AT&T and American Warrior Network provide telephone and internet services. Cable service is provided by Suddenlink Communications.

### Schools

Most children of military personnel attend schools within the MPUSD. There are no DoD schools in the area. While two schools, Marshall Elementary and Marshall West, are located in the middle of the OMC, they are located on MPUSD property. Another MPUSD school, La Mesa Elementary, is located in the middle of La Mesa Village.

Marshall Elementary serves students in grades one through five and Marshall West houses a mixture of grade levels, which include 11th and 12th graders at Central Coast Continuation High School, kindergartners from Marshall Elementary, and students from kindergarten through second grade in the Dual Language Immersion Program. La Mesa Elementary serves kindergarten through grade six. Table 3.10-1 summarizes the elementary, middle, and high schools that serve the POM and OMC.

Table 3.10-1. Schools Serving the POM and the OMC

| POM / DLIFLC | OMC |
|---|---|
| Monte Vista School, Monterey, CA<br>Kindergarten – 6th grade | Marshall Elementary, Seaside, CA<br>Kindergarten – 5th grade |
| Colton School, Monterey, CA<br>Kindergarten – 8th grade | Fitch Middle School, Seaside, CA<br>6th grade – 8th grade |
| Monterey High School, Monterey, CA<br>9th grade – 12th grade | Seaside High School, Seaside, CA<br>9th grade – 12th grade |
| La Mesa Elementary, Monterey, CA<br>Kindergarten – 6th grade | |

In order to quantify the effect of federally connected pupils on MPUSD schools, a federal survey was conducted on September 25, 2008. The findings, reported for both elementary and secondary schools, are summarized in Table 3.10-2, below. This table also provides an idea of the total enrollment in area schools.

Currently, both Marshall and La Mesa Elementary schools are over-enrolled. Despite this, MPUSD has been closing schools in the district over the past several years. Unless numbers of students increase dramatically, this trend is not expected to change (personal communication, C. Rothstein, former POM Installation School Liaison Officer, 2009).

There are also public charter schools, private and parochial schools that serve the area (MARCOA, 2007).

| Table 3.10-2. Federally Connected Student Enrollment in MPUSD Schools (2008-2009) | | | | | |
|---|---|---|---|---|---|
| Schools | Parent in Uniformed Services | | Civilian Parent (works and/or lives on federal property) | Total Federally Connected Pupils | Non-Federally Connected Pupils |
| | Living on Federal Property | Living in Private Homes | | | |
| Monte Vista | 3 | 23 | 37 | 49 | 371 |
| Crumpton | 0 | 9 | 56 | 65 | 347 |
| Del Rey Woods | 0 | 1 | 5 | 6 | 521 |
| Foothill | 5 | 20 | 25 | 50 | 478 |
| Highland | 0 | 1 | 8 | 9 | 407 |
| La Mesa | 418 | 21 | 25 | 464 | 113 |
| Marina Del Mar | 3 | 3 | 6 | 12 | 263 |
| Marina Vista | 0 | 5 | 4 | 9 | 340 |
| Marshall | 288 | 37 | 62 | 387 | 255 |
| Olson | 1 | 12 | 10 | 23 | 406 |
| Ord Terrace | 5 | 9 | 1 | 15 | 625 |
| *Secondary Schools* | | | | | |
| Colton | 71 | 15 | 51 | 137 | 654 |
| Fitch | 46 | 6 | 45 | 97 | 530 |
| King | 0 | 2 | 8 | 10 | 719 |
| Los Arboles | 1 | 2 | 28 | 31 | 573 |
| Monterey High | 51 | 24 | 115 | 190 | 1,319 |
| Seaside High | 25 | 9 | 67 | 101 | 1,117 |
| Central Coast | 1 | 0 | 2 | 3 | 144 |
| Marina High | 0 | 6 | 31 | 37 | 353 |

### 3.10.3.2 OMC

#### Wastewater

The wastewater collection system at the OMC is operated by MCWD. The MRWPCA regional wastewater treatment plant treats waste transported by this system. The wastewater collection system consists of a combination of gravity flow lines and force mains ranging from 2 to 30 inches in diameter. Like the water distribution system, it has operational deficiencies and requires constant maintenance. MCWD is responsible for all maintenance associated with the wastewater collection system (USACE, 2005b). The OMC does not have a permitted discharge limit. Wastewater discharged from the POM and the OMC to the regional treatment plant averaged 30.6 million gallons per year from 2006 to 2009 based on estimates from MRWPCA data.

### Stormwater

The stormwater drainage system at the OMC includes natural channels and constructed storm drain systems. Drainage patterns are influenced by the topography of the area; they are not well developed because most rainfall runoff directly infiltrates the sand and gravelly soils that dominate this area (Jones & Stokes, 1992).

The storm drain system at the OMC was initially built in the 1940s as a separate system from the sanitary sewer lines. The storm drain system consists of an extensive system of storm sewer branches that feed into major lines running either directly to the ocean or to inland drainage systems. Portions of the storm drain system have been replaced over time; storm drain failures do, however, continue to occur. The only ongoing maintenance performed at this time is the periodic clearing of sediment and debris from culverts (Jones & Stokes, 1992).

The drainage system of the OMC collects surface water runoff from the housing, recreational areas, and storage facilities. Runoff mainly discharges at two ocean outfalls located west of State Highway 1. The Joe Lloyd Way Area of the OMC empties stormwater runoff into depressions and open fields within the former Fort Ord (Jones & Stokes, 1992). The stormwater system also serves lands that have been transferred to local reuse agencies. Storm drains serving the OMC convey stormwater to the percolation pond and remaining ocean outfall located on the Fort Ord Dunes State Park, west of State Highway 1. Stormwater discharges to the Pacific Ocean from the OMC are not regulated under the NPDES.

There are no open drainage channels located within the OMC (Jones & Stokes, 1992). Main storm drains, as well as a series of smaller storm drains, serve individual portions of the OMC. Two types of piping are used at the OMC, corrugated metal and concrete. In general, the pipes serve individual buildings or groups of buildings and range from 12 to 36 inches in diameter.

Water quality regulations and permitting pertaining to stormwater discharges from the POM Installation are described in Section 3.2.

### Solid Waste

USA Waste of California Inc. collects solid waste generated on the OMC. The waste is collected weekly and trucked to the MRWMD's landfill in Marina. In 2009, approximately 3,825 tons of solid waste was collected from the OMC. Recycling is also provided at the OMC with weekly curbside pickup for the housing units. All solid waste and recyclables are sent to the Monterey Environmental Park. Refer to Section 3.10.3.1 above for a description of the Monterey Environmental Park.

### Energy (Electricity and Natural Gas)

PG&E provides electricity to the OMC and maintains and owns all associated infrastructure up to and including the meters. The 2011 electrical usage at the POM was 16,780,314 kWh, and the 2011 electrical usage at the OMC was 1,861,716 kWh (AEWRS, 2011). Usage at the OMC includes buildings and facilities, such as the DPW, fire department, police department, and General Stilwell Community Center. Independent commercial facilities, such as the commissary, post exchange, and gas station, are individual accounts paid by the user.

PG&E provides natural gas services to the OMC and owns/maintains all associated infrastructure up to and including the meter. Two main lines traverse the OMC: a 16-inch-diameter high pressure line that parallels State Highway 1; and a 10-inch-diameter high pressure line that extends east to west across the OMC (USACE, 2005b). Natural gas is regulated through metering stations. The estimated total natural gas consumption for the OMC housing areas in 2011 is 8.12 million cubic feet, excluding the DoD building, the commissary, and the PX, each of which is on a separate metering and billing system.

### Communications

Cable service for the OMC is provided by Suddenlink Communications. Most of the housing on the OMC has been turned over to private agencies; therefore, residents can choose from a variety of internet and phone providers including AT&T and Verizon.

### Schools

See description above for the POM.

## 3.11 HAZARDOUS, TOXIC, AND RADIOACTIVE SUBSTANCES

This section describes the methods used to identify hazardous, toxic, and radioactive substances/wastes (HTRW) associated with the POM Installation and known hazardous waste disposal sites within the project area.

### 3.11.1 Study Area

The study area is encompassed by the physical site boundaries of the POM and the OMC. The POM consists of 392 acres and is located between the City of Pacific Grove on the west and the City of Monterey on the east. The OMC consists of 859 acres and is located northeast of POM within the boundary of the former Fort Ord, which was inactivated in 1994. Together, the POM Installation consists of approximately 1,251 acres of land. The detailed descriptions of these boundaries are described in Chapter 1.

### 3.11.2 Regulatory Setting

Regulation of hazardous materials, and treatment and disposal of hazardous and toxic wastes are designed to protect human health and the environment. The USACE policy regarding hazardous waste disposal sites is presented in Engineering Regulation 1165-2-132 and was developed in response to the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended. The term HTRW includes any material listed as a "hazardous substance" under the CERCLA, "hazardous wastes" under the RCRA, "hazardous substances" identified under the CAA, "toxic pollutants" designated under the CWA, "hazardous air pollutants" designated under the CAA, and "imminently hazardous chemical substances or mixtures" under the Toxic Substances Control Act (USACE, 1992).

The objective of the Army guidance is to outline procedures to facilitate early identification and appropriate consideration of HTRW problems. This policy for cost-shared projects stipulates that the non-federal sponsor must ensure cleanup of a USACE civil works project. When problems are identified, response actions must be acceptable to the USEPA and applicable state regulatory agencies. The USACE policy also requires that each civil works project must include a phased and documented review to provide early identification of known and potential HTRW sites that may be affected by a proposed federal project. The lead state regulatory agency in the environmental restoration program for the POM is the Central Coast RWQCB, and the Department of Toxic Substances Control, agencies within the CalEPA. Locally, the lead regulatory agency for hazardous waste management is the Monterey County Department of Health, Environmental Health Division.

The HTRW regulatory requirements include the components described in Sections 3.11.2.1 through 3.11.2.8.

#### 3.11.2.1 Hazardous Materials Releases

The CERCLA of 1980 (42 United States Code [USC] 9601 et seq.) regulates hazardous materials releases into the environment that occurred before 1986. Along with the Superfund Amendments and Reauthorization Act of 1986, it established the Superfund Program to clean up hazardous waste sites. The DoD's implementing program for Superfund is the Installation Restoration Program and is limited to cleanups in the United States.

#### 3.11.2.2 Toxic Substances

The Toxic Substances Control Act of 1976 (15 USC 2601 et seq.) implements restrictions on certain chemical substances, including chlorofluorocarbons, polychlorinated biphenyls (PCBs), and asbestos. The law imposes restrictions to protect human health and environmental exposure to these highly toxic substances, requires chemical testing, and regulates the release of these chemicals into the environment.

### 3.11.2.3 Hazardous Waste

The RCRA of 1976, with amendments, establishes regulations to characterize hazardous waste and requirements for transporting, storing, and disposing of hazardous waste. RCRA places "cradle to grave" responsibility for hazardous waste on the generator of the waste. RCRA also covers universal wastes, which are hazardous wastes that are more common and pose a lower risk to people and the environment than other hazardous wastes. Examples of common hazardous wastes are florescent lighting tubes that may contain mercury and potential PCBs found in florescent light fixture ballasts. Federal and state regulations identify universal wastes and provide rules for handling, recycling, and disposing of them (40 CFR Part 273; 22 CCR 66273.1 et seq.). All universal wastes are hazardous wastes but are managed under less stringent standards than other hazardous wastes.

### 3.11.2.4 Hazardous Materials Transportation

The Federal Hazardous Materials Transportation Law of 1988 (49 U.S. Codes 100 et seq.), as amended, authorizes the U.S. Department of Transportation to issue interstate and intrastate regulations regarding the transportation of hazardous material and waste on public roads, including packaging, handling, labeling, marking, placarding, and transporting.

### 3.11.2.5 Petroleum Storage Tanks

Federal and state regulations concerning underground storage of hazardous substances govern the management, operation, removal, and remedial action of underground storage tanks (USTs) (40 CFR Part 280; 23 CCR 2610 et seq.). Regulated USTs must include automated monitoring devices for leak detection, annual third-party testing, cathodic protection (i.e., a technique used to control the corrosion of metal surfaces), and overfill warning devices. Releases from USTs require following a protocol of remedial investigation, environmental sampling, and preparation of a feasibility study to implement a remedial action plan to remedy the environmental release.

The California Aboveground Petroleum Storage Act requires the owner or operator of a tank facility, with an aggregate storage capacity greater than or equal to 1,320 gallons of petroleum, to prepare and implement a spill prevention control and countermeasure plan in accordance with federal law.

### 3.11.2.6 Lead-based Paint

Federal, state, and local regulations regulate the management of LBP, LBP additives, and LBP hazards. The Army policy is to manage LBP in place, unless it presents an imminent health threat as determined by the installation medical officer or unless operational, economic, or regulatory requirements dictate its removal. Army policy also imposes requirements to reduce the release of lead, lead dust, or LBP into the environment

from deteriorating paint surfaces, building maintenance, or other sources on Army installations or on Army-controlled property (USACE, 1998a).

Wastes are characterized to determine whether they are classifiable under applicable regulations as hazardous, special, or solid. The DoD developed guidelines for residential property and LBP requirements (DoD, 1999). The procedures in the guide are used primarily to address the requirements of Title X, the Residential Lead-based Paint Hazard Reduction Act, a portion of the Housing and Community Development Act of 1992. This guide addresses housing built before 1960 and between 1960 and 1978, child-occupied facilities, and other target housing.

The POM Installation has developed a LBP Hazard Management Plan to prevent human exposure to lead hazards through proactive policies that comply with all applicable laws and regulations. The LBP Hazard Management Plan applies to lead-containing paint that is present in housing and non-housing buildings (USACE, 1998a).

#### 3.11.2.7 Asbestos

The federal National Emissions Standards for Hazardous Air Pollutants regulations establish performance standards for the demolition and renovation of buildings with asbestos-containing material (ACM) (40 CFR Part 61). Federal, state, and local MBUAPCD rules and policies address not disturbing potentially friable ACM (which, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure) and provide removal standards for renovation and demolition projects. During demolition, maintenance, repair, remediation, or renovation of buildings, friable asbestos in ACM can be released into the air. Asbestos fibers can be released from various building materials, such as pipe and boiler wrap and other insulating materials and acoustic ceiling tiles (USACE, 2006). The POM Installation has developed an Asbestos Management Plan to prevent human exposure to asbestos hazards through the implementation of proactive policies that comply with all applicable laws and regulations (USACE, 1998b). This Asbestos Management Plan is currently being updated and is scheduled for completion in 2012.

#### 3.11.2.8 Radon

No federal regulations require radon testing. California law requires radon testing and mitigation plans for new construction. Building permits are not issued until compliance is met (California Health and Safety Code 105430). The effects of human exposure to radon are uncertain primarily because it is difficult to isolate the effects from particular radiation sources. The effects of radiation can occur at any dose, no matter how small; this widely accepted theory is called the linear no-threshold hypothesis. According to this theory, there is no level of exposure below which no adverse effect occurs. If the theory is correct, all exposure to radiation

presents some health risk. The risk of lung cancer caused by exposure to radon through its inhalation is currently a topic of concern.

The Army has implemented a Radon Reduction Program to determine and control the levels of radon exposure of military personnel and their dependents. The Army has completed testing of most of its facilities as part of this program.

Army policy provides for ongoing radon management efforts. In accordance with Army Regulation 200-1, the Army maintains and updates records of completed radon assessments and includes radon testing results with real property and housing data to notify tenants and transferees of elevated radon levels. Army policy provides that indoor radon levels in newly constructed units and units converted to housing or continuously occupied structures (such as hospitals) located in high-radon level areas are to be tested prior to occupancy. Where elevated levels of radon are encountered, Army facilities managers are to adhere to abatement measures. In addition, Army Regulation 200-1 requires that radon be measured in newly constructed Army facilities.

### 3.11.3 Affected Environment

Facility needs at the POM Installation are met through renovation of existing facilities, leasing, or construction of new facilities. Construction of new facilities may require demolition of existing buildings and land disturbance prior to construction, as well as considerations of USTs, LBP, ACM, and radon.

Each construction project may involve some use of hazardous materials or the generation of hazardous wastes. Facilities hazardous material and hazardous waste issues include:

- Demolition, construction, or renovation of existing facilities, including UST replacement and disposal
- Removal and disposal or encapsulation of LBP
- Abatement and disposal ACM
- Detection and abatement of radon

The goals of the Army hazardous material and hazardous waste program are to (1) reduce risk to public health and the environment, (2) prevent pollution, and (3) comply with applicable regulations. Army policies and regulations require that the generation of hazardous or toxic wastes must be avoided, reduced, or eliminated.

Facility operations activities and installation training missions require provisions for hazardous waste storage facilities. The installation's use, storage, and disposal of construction materials and wastes are controlled by existing comprehensive Army policies, regulations, and guidelines. These activities are subject to federal, state, and local ordinances, statutes, and regulations.

Maintenance activities at POM and the OMC require the use, storage, and disposal of hazardous materials. An example of maintenance activities is operating the housing maintenance office and the recreation areas where a wide variety of chemicals, such as paint, pesticides, herbicides, cleaning chemicals, and other cleaning solvents are used in small quantities. Minor repair and maintenance of vehicles and small engine units also occur at the OMC Motor Pool. These activities are prohibited at the POM.

RCI contracts a state-certified structural pest control company to apply pesticides to common facilities and individual housing units. Residents are allowed to use commercial off-the-shelf products, as necessary. No estimates are available on the locations, volumes, extent, strength, persistence, or toxicity of materials applied by residents.

Other than the normal use of hazardous products, there are known HTRW sites where spills and significant effects on the environment have occurred. These known HTRW sites at the POM and the OMC are described in Sections 3.11.3.1 and 3.11.3.2.

### 3.11.3.1 POM

A preliminary assessment was prepared when the POM was added to the CERCLA National Priorities List (NPL) in 1992. The NPL is the USEPA's list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the USEPA in determining which sites warrant further investigation. The POM sites identified from the preliminary assessment were categorized as either known spill or dumping areas, USTs scheduled for removal, or areas where measures were needed to prevent spills. Once housekeeping measures were improved most POM sites required no further action and no longer posed an environmental hazard.

#### Installation Restoration Program

The DoD developed the Installation Restoration Program to facilitate investigation and cleanup of contaminated sites associated with military installations. The POM Installation Restoration Program was initiated in 1986 with the discovery of contamination from a former 4-acre landfill, also referred to as POM-05 (Figure 1.5-5).

At POM-05, the primary contaminants of concern were metals and pesticides that were affecting soil and surface water. Remedial actions were completed in 1995. The landfill was closed, capped, and graded per the requirements of CERCLA and the California water quality and solid waste landfill regulations. Closure is the process during which a landfill or disposal site, or a portion thereof, is no longer receiving waste and is being prepared for post-closure maintenance according to an approved plan and construction schedule. Monthly inspections and repairs were part of the long-term monitoring program for the landfill. Long-term monitoring of the site is ongoing.

Under CERCLA, the USEPA may remove a site from the NPL if it is determined that no further response is required to protect human health or the environment. The POM was delisted and is no longer on the NPL. Although no longer a NPL-listed site, POM-05 is still subject to the California closure and post-closure maintenance requirements (23 CCR Division 3, Chapter 15; 14 CCR Chapter 3, Article 7.8). There are no other Installation Restoration Program sites, unexploded ordnance sites, or other sites that are hazardous in nature that would limit development on the installation. All required remedial actions at the POM have been completed (USACE, 2009).

### Petroleum Storage Tanks

Since 1988, 25 USTs containing petroleum products have been removed. These sites have been closed with regulatory agencies approvals and require no further action. Aside from the closed USTs, one compartmentalized UST remains in service at the Building 230 Army and Air Force Exchange Services (AAFES) service station. The tank is in compliance with UST testing, maintenance, and monitoring regulations. Several existing aboveground storage tanks (ASTs) are present on the POM as shown in Table 3.11-1.

Table 3.11-1. POM – Petroleum Storage Tanks

| POM Building # | Tank Type | Quantity (gallons) | Fuel Type | Facility Name |
|---|---|---|---|---|
| 230 | UST | 20,000 | Gasoline | AAFES service station |
| 343 | AST | 500 | Diesel | Public Info Dir. Building generator |
| 418 | AST | 145 | Diesel | Emergency Control Center generator |
| 422 | AST | 500 | Diesel | Medical clinic generator |
| 614 | AST | 500 | Diesel | Headquarters generator |
| 626 | AST | 180 | Diesel | Cal-Am water pump station generator |
| 627 | AST | 486 | Diesel | U.S. Air Force Training Squadron generator |
| 630 | AST | 45 | Diesel | Barracks/administration generator |
| 634 | AST | 145 | Diesel | Faculty/Staff Dev. Building generator |
| 828 | AST | 500 | Diesel | Cal-Am water pump station generator |
| 830 | AST | 194 | Diesel | DLI Building generator |
| 838 | AST | 241 | Diesel | Belas Dining Hall generator |
| 850 | AST | 500 | Diesel | Cal-Am water pump station generator |

*Source: POM DPW*

*Notes: AAFES = Army and Air Force Exchange Services, AST = aboveground storage tank, Cal-Am = California American Water Company, UST = underground storage tank*

#### Radon

No radon survey is available for the POM. Radon mapping by the California Department of Conservation (2007) indicates that the POM is located in an area with low potential for indoor radon levels above 4.0 picocuries per liter.

#### Lead-based Paint and Asbestos

Asbestos surveys of more than 3,000 non-housing units (e.g., retail stores, office buildings, lavatories, dining halls, barracks, general purpose buildings, vehicle maintenance and storage, oil storage, bus/taxi stations, and ammunition bunkers) at the OMC were conducted from 1989 to 1995. Friable and non-friable ACMs were found on tanks and pipe insulation, HVAC vibration joint cloths, exhaust flues, acoustic ceiling treatment, floor tile, linoleum and associated mastics, and debris in the buildings. Locations containing ACM were either slated for removal or routine inspection depending on site-specific conditions (USACE, 1997).

According to the POM LBP Hazard Management Plan prepared in 1998, an LBP survey was conducted in 364 housing units at the POM Installation. LBP and ACM surveys, which covered non-housing units, were conducted in 1995 and 2007 for the POM Installation. This survey was conducted in compliance with the U.S. Housing and Urban Development standards whereby all painted surfaces were tested and either encapsulated or disposed of as hazardous waste materials.

Prior to any building renovation or demolition, building materials to be disturbed would be sampled and analyzed for ACM and LBP so that these materials can be handled and disposed of in accordance with regulatory requirements.

#### Electronic Database Search

An additional source of environmental information is the SWRCB Geotracker. Geotracker, a database and geographic information system that provides online access to environmental data, tracks regulatory data about leaking underground fuel tanks—spills, leaks, investigations, and cleanups—and landfill sites (SWRCB, 2010b). This searchable electronic database was used to identify other HTRW locations at the POM Installation. The database confirmed that the only HTRW activity within POM is the landfill monitoring (Table 3.11-2).

### 3.11.3.2 OMC

#### Installation Restoration Program and Military Munitions Response Program

The OMC is within the boundaries of the former Fort Ord. The former Fort Ord was listed on the NPL in 1990; all NPL actions are handled by the Fort Ord BRAC office. Approximately 200 sites were investigated and grouped into 16 remedial categories to accelerate the cleanup process (USACE, 2007). Included in the

| Table 3.11-2. POM – Geotracker Database Search Results | | | | | | |
|---|---|---|---|---|---|---|
| Geotracker ID | Site Name | Cleanup Status | Address | City | Latitude | Longitude |
| T0605300200 | Building 650 | Completed – case closed | Unknown | Presidio of Monterey | 36.6049789 | -121.9098506 |
| T0605300328 | Presidio-Monterey | Completed –case closed | Building 832 2nd Phase | Presidio of Monterey | 36.6049789 | -121.9098506 |
| L10001178873 | Monterey Presidio landfill | Open | Monterey Presidio | Monterey | 36.601881 | -121.914396 |
| T0605311482 | Presidio of Monterey | Open – verification monitoring | P.O. Box 5004 | Monterey | 36.6029365 | -121.9180298 |
| T0605300143 | AAFES service station, Building 230 | Completed – case closed | Building 230 Presidio of Monterey | Presidio of Monterey | 36.60643338 | -121.9038125 |
| T0605300069 | Building 270 (Tanks 1-5) | Completed – case closed | Building 270 Fitch & Private Bolio Road | Presidio of Monterey | 36.6062 | -121.9037 |
| T0605300067 | Building 610 | Completed – case closed | Building 610 Presidio of Monterey | Presidio of Monterey | 36.6062 | -121.9037 |
| T0605300065 | Building 422 | Completed – case closed | Building 422 Presidio of Monterey | Presidio of Monterey | 36.6062 | -121.9037 |
| T0605300383 | U.S. Coast Guard | Completed – case closed | 100 Lighthouse Avenue | Monterey | 36.6079461 | -121.8957792 |

*Source: SWRCB, 2010b*

*Note: AAFES = Army and Air Force Exchange Services*

approximately 200 potentially contaminated sites investigated, there are 4 groundwater contaminant plumes (Operable Unit-1, Operable Unit-2, Sites 2/12, and Operable Unit Carbon Tetrachloride Plume) with three active groundwater treatment facilities. The contaminant plumes are located north of California State University of Monterey Bay and about 1.5 miles north of the OMC boundary. The plumes contain chlorinated solvents and are oriented in a northwest and southeast direction (USACE, 2007). These plumes are not migrating toward the RPMP short- and long-range planning areas. Cleanup activities for these HTRW sites at the former Fort Ord have been completed or are in the process of being remediated. The Installation Restoration Program and Military Munitions Response Program (MMRP) are currently being managed out of the Fort Ord BRAC Office.

Of the contaminated sites and contaminant plumes, Sites 10, 11, and 21 and Munitions Response Sites (MRSs) 13B, 24B, 24C, 24D, 24E, and 39 are located within the OMC boundary in proximity to the proposed short- and long-range projects in the RPMP (Figure 3.11-1 and Figure 3.11-2, respectively). These sites are discussed further below.

The remaining sites are not within the OMC boundary and are not close to the proposed short- or long-range projects in the RPMP. Consequently, they are not discussed further but are shown in the following figures for reference.

**Site 10** – The former burn pit was addressed in the Interim Action Sites ROD (U.S. Army, 1994b) as well as site-specific investigation reports. Site 10 is located approximately 160 feet south of the Fort Ord Fire Station in the Main Garrison. The site was an unlined, rectangular pit (approximately 45 feet long, 25 feet wide, and 2 feet deep) into which flammable liquids were placed, ignited, and subsequently extinguished for firefighting training. A 2-inch-diameter pipe apparently was used to regulate fluid levels in the pit, and a narrow drainage ditch exits the pit to the south. The southern portion of the 2-inch-diameter pipe is buried within surface soils. The pit is no longer in use and is partially overgrown with grass. All of the contaminated soil was removed in 1996.

**Site 11** – FTO-010 – The AAFES service station was identified as requiring no further remedial action and listed as a site in the No Action ROD (U.S. Army, 1995). The No Action ROD defined the criteria and process to qualify as a site requiring no further remedial action.

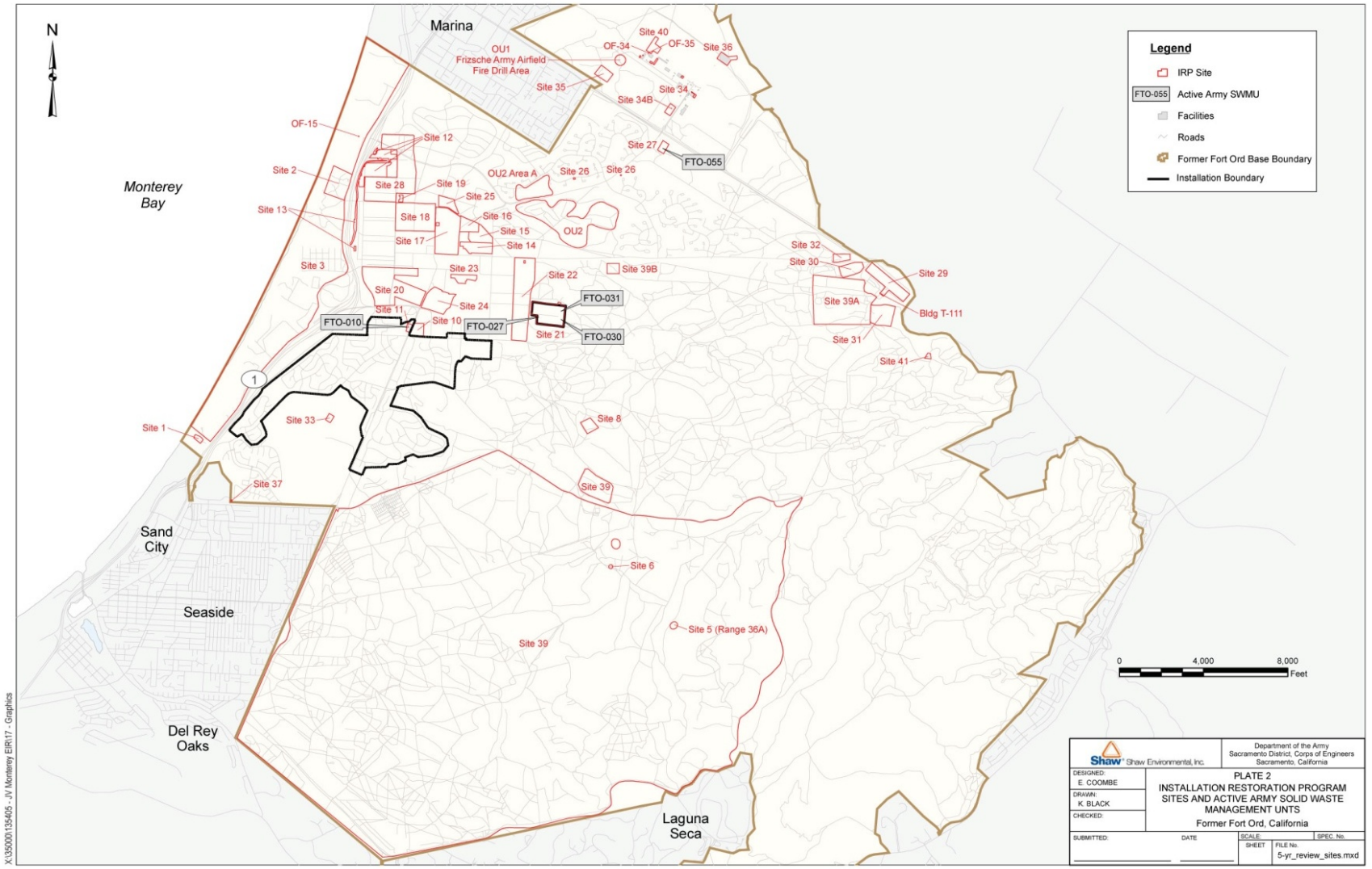


*Figure 3.11-1. OMC – Installation Restoration Program Sites*
*Source: USACE, 2007*

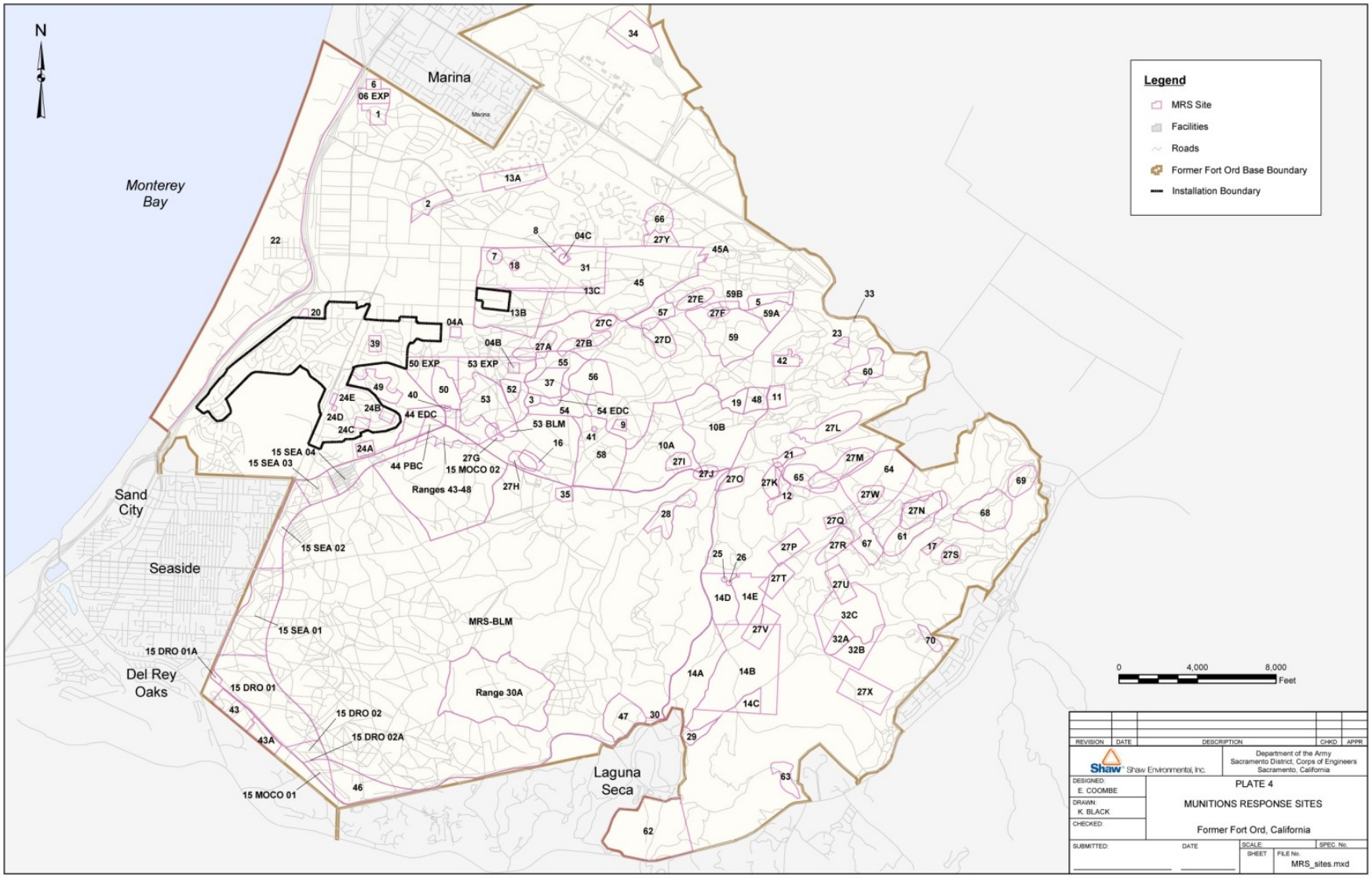


*Figure 3.11-2. OMC – Munitions Response Sites*
*Source: USACE, 2007*

**Site 21** – 4400/4500 Block Motor Pool East is located in the Joe Lloyd Way development and addressed in the Interim Action ROD (U.S. Army, 1994b). This site was identified as containing limited areas of shallow soil contamination. The site was used for motor vehicle service, maintenance, and storage. Potential areas of concern included a 400-gallon gasoline fuel spill near Building 4495 that occurred in 1979, six oil/water separators, a concrete-lined canal and its unpaved discharge area, 9 wash racks and 9 grease racks, and 20 current and former USTs. For Site 21, the contaminated soil was completely excavated for disposal and replaced with clean fill (U.S. Army, 1994b). The cleanup of this site was completed in 1996.

**Munitions Response Site 13B** –MRS Site 13B is also located in the Joe Lloyd Way development and is a former practice mortar range. In the late 1990s, investigations at MRS Site 13B included removal of surface and subsurface munitions, including munitions and explosives of concern (MEC) and unexploded ordinance (UXO). MRS Site 13B is part of the Parker Flats Munitions Response Area where land use restrictions have been applied under CERCLA. The proposed short-range and long-range projects do not include any development in the Joe Lloyd Way area; however, the land use restrictions that are applicable to the area include:

- People conducting ground-disturbing or intrusive activities are required to attend an MEC Recognition and Safety Training Course offered through the Fort Ord BRAC Office.
- Construction monitoring is required for any ground-disturbing or intrusive activities that disturb more than 10 cubic yards of soil. Construction projects planned for the Joe Lloyd Way development must coordinate construction management through the Fort Ord BRAC Office.
- Residential use in the Joe Lloyd Way development is prohibited unless a proposal for residential development is reviewed and approved by the USEPA and California Department of Toxic Substances Control. This residential use restriction also applies to single family or multi-family residences, childcare facilities, nursing homes, assisted living facilities and any type of educational facility for children or young adults in grades kindergarten through 12.

These land use controls may be modified through the CERCLA 5-year review process.

**Munitions Response Site 24B** – The Practice Hand Grenade Range (MRS 24B) was identified as a practice hand grenade area. During sampling in 1997, an expended grenade fuze was found; however, no munitions and explosives were found. The site was identified as requiring no further action in the ROD, No Further Action Related to Munitions and Explosives of Concern (U.S. Army, 2005). This area is currently developed as housing in Fitch Park 2A.

**Munitions Response Site 24C** – The Live Hand Grenade Range was identified as a live hand grenade range. Sampled in 1997, no UXO was found; however, three munitions debris items and grenade fragments were recovered in this area. No further action regarding munitions response is required at MRS 24C on the basis

of the Track 1 Plug-in Approval Memorandum, MRS 24A, MRS 24C, and Parcel E20c.1 (U.S. Army, 2011a). This area is currently developed as housing in Moore's Landing.

**Munitions Response Site 24D** – The Booby Traps Site (MRS 24D) was identified as a booby trap area on a 1945 training map. Disturbed areas are present on 1941 through 1951 aerial photographs. One fragment was identified during sampling in 1997; however, no munitions and explosives were recovered in MRS 24D. The site was identified in the No Action Sites ROD as requiring no further action (U.S. Army, 2005). This area is currently developed as housing in Fitch Park 2B.

**Munitions Response Site 24E** – The Practice Rifle Grenade Range was identified as a practice rifle grenade range on a 1945 training map. Disturbed areas are present on 1949 and 1951 aerial photographs. One piece of fragment was identified during sampling in 1997; however, no UXO was found, and no other munitions debris was recovered. The site was identified in the No Action Sites ROD as requiring no further action (U.S. Army, 2005). This area is currently developed as housing in Fitch Park 2B.

**Munitions Response Site 39** – The Mine and Booby Trap Area is located east of the future Emergency Services Center. The Emergency Service Center is part of the RPMP long-range plan under Alternatives 1 and 2. This Mine and Booby Trap Area is shown on 1957 and 1958 Fort Ord Training Areas & Facilities maps. There were no military munitions recovered during sampling in 1997. The site was identified in the No Action Sites ROD as requiring no further action (U.S. Army, 2005). This area is currently developed as housing in Marshall Park.

### Hazardous Waste Storage

A variety of hazardous wastes are generated from normal maintenance and operations of the Army programs at the OMC. Hazardous waste generators on the OMC collect and bring waste to the Directorate of Environmental and Natural Resources Hazardous Waste 90-day accumulation site before the waste is transported to an approved RCRA disposal facility (USACE, 2006).

Two hazardous waste satellite accumulation areas and one 90-day hazardous waste accumulation area are located within the OMC boundary. There is also one small quantity hazardous waste generator on OMC.

Building 4495, the Hazardous Waste Accumulation Area at the OMC, is located on the southeast corner of 8th Avenue and Joe Lloyd Way. Building 4495 is a 90-day waste accumulation location where hazardous wastes are packaged and prepared for transport to off-site disposal facilities (U.S. Army, 1994b; USACE, 2006). Satellite accumulation points are hazardous waste generating points accumulating at or near the point of generation. The hazardous waste may be accumulated in containers with minimal storage and handling requirements. When a sufficient quantity of hazardous waste is accumulated, the waste is transported to the

Hazardous Waste Accumulation Area within 3 days. No environmental concerns have been reported for these hazardous waste generators or the 90-day waste accumulation area (U.S. Army, 2007).

### Petroleum Storage Tanks

Within the OMC boundary are AST locations (Table 3.11-3). Tanks at the AAFES service station belong to a subtenant and are not owned and operated by the OMC. No other current or historical AST's are located within the study area. No leaks, releases, or any other environmental concerns have been reported for these tanks.

Table 3.11-3. OMC – Petroleum Storage Tanks

| OMC Building # | Tank Type | Quantity (gallons) | Fuel Type | Facility Name |
|---|---|---|---|---|
| 4220A | UST | 20,000 | Gasoline | AAFES service station |
| 4220B | UST | 20,000 | Gasoline | AAFES service station |
| 4220 | AST | 1,000 | Used waste oil | AAFES Car Care Center |
| 4250 | AST | 500 | Diesel | Communications/Telephone Exchange Building generator |
| 4400A | AST | 1,000 | Diesel | Fire Station |
| 4400B | AST | 160 | Diesel | Fire Station generator |
| 4510A | AST | 500 | Gas/diesel | DOL maintenance yard |
| 4385A | AST | 5,000 | Diesel | DoD Center - generator |
| 4385B | AST | 5,000 | Diesel | DoD Center generator |
| 4385C | AST | 1,000 | Diesel | DoD Center generator |
| 4463 | AST | 305 | Diesel | DPW/BRAC generator |

*Source: POM DPW*

*Notes: AAFES = Army and Air Force Exchange Services, AST = aboveground storage tank, BRAC = Base Realignment and Closure, DoD = Department of Defense, DOL = Director of Logistics, DPW = Directorate of Public Works, UST = underground storage tank*

### Lead-based Paint and Asbestos

Asbestos surveys of more than 3,000 non-housing units (e.g., retail stores, office buildings, lavatories, dining halls, barracks, general purpose buildings, vehicle maintenance and storage, oil storage, bus/taxi stations and ammunition bunkers) at the OMC were conducted from 1989 to 1995. Friable and non-friable ACMs were found on tanks and pipe insulation, HVAC vibration joint cloths, exhaust flues, acoustic ceiling treatment, floor tile, linoleum and associated mastics, and debris in the buildings. Locations containing ACM were either slated for removal or routine inspection (USACE, 1997).

According to the POM LBP Hazard Management Plan prepared in 1998, an LBP survey was conducted in 364 housing units at the POM and the OMC. This survey was conducted in compliance with the U.S. Housing and Urban Development standards whereby all painted surfaces were tested and either encapsulated or disposed as hazardous waste materials.

#### Radon

A radon survey was conducted from 1989 to 1990. The surveys included assessment of approximately 2,900 housing and office buildings basewide at the OMC. Buildings with radon levels above 4 picocurie per liter would be retested periodically for 1 year. Buildings with radon levels above 8 picocurie per liter are required to undergo remediation. All radon concentrations measured in the survey were below the recommended public health thresholds.

#### Electronic Database Search

An additional source of environmental information is the SWRCB Geotracker (SWRCB, 2010b). This searchable electronic database was used to identify other HTRW locations at the OMC and identified sites that have been completed or are undergoing environmental remediation (Table 3.11-4).

Except for the NPL sites previously discussed, the database identified the MCWD's leaking diesel UST (Geotracker site #T0605394134) as the only environmental issue in proximity to the proposed construction projects. The tank was located near the northeast corner of the proposed Veterans America (VA) Clinic and parking buildable area. The clinic and parking is a proposed project in the long-range plan under Alternatives 1 and 2. The leaking UST was remediated to the regulatory agencies' satisfaction in 1994.

## 3.12 PUBLIC HEALTH AND SAFETY

This section describes existing public health and safety concerns with regard to wildfires or other safety hazards, high volume of pedestrian and motor vehicle interface, unexploded ordnances, emergency services, and emergency evacuation routes. Additionally, this section addresses the safety aspects required for demolition and construction proposed under the action alternatives. Seismicity is discussed in Section 3.4, Geology, Soils, and Mineral Resources.

### 3.12.1 Study Area

The study area includes the POM and the OMC and the surrounding off-post vicinity.

| Table 3.11-4. OMC – Geotracker Database Search Results | | | | | | |
|---|---|---|---|---|---|---|
| Geotracker ID | Site Name | Cleanup Status | Address | City | Latitude | Longitude |
| L10009419286 | Fort Ord – Fort Ord UST Soil Remediation | Completed – case closed | 519th Motorpool Area | Fort Ord | 36.6242 | -121.780801 |
| T0605300004 | Fort Ord – 14th Engineers Motor Pool | Open – site assessment | 7th Ave | Fort Ord | 36.6242 | -121.780801 |
| T0605300157 | Fort Ord – Building 511 | Open – site assessment | Building 511 Fort Ord | Fort Ord | 36.6242 | -121.780801 |
| T0605392397 | Fort Ord – Fort Ord | Open – remediation | Unknown | Marina | 36.64431932 | -121.7994976 |
| DOD100196700 | Fort Ord – Fort Ord – BW | Open – remediation | Unknown | Monterey | 36.64383725 | -121.8016434 |
| T0605394134 | Marina Coast Water District | Completed – case closed | Gigling Rd & Noumea Road | Marina | 36.643981 | -121.802883 |
| DOD100219900 | Fort Ord – Fort Ord – Site 39 | Open – remediation | General Jim Moore Boulevard | Monterey | 36.61194514 | -121.815033 |
| T0605300145 | Fort Ord – Building 1483 | Completed – case closed | Building 1483 5th Avenue and 8th Street | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300146 | Fort Ord – Building 550a, Radio Tower | Completed – case closed | Building 550a Fort Ord | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300193 | Building 3803 (Site 24, Deh Ya) | Completed – case closed | Building 3803 North-South Road | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300191 | Building 3016a | Completed – case closed | Building 3016a 3rd Avenue | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300190 | Building 2253 (Site 19) | Completed – case closed | Building 2253 8th Street | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300189 | Building 4493.3 & 4493.5 | Completed – case closed | Building 4493 8th Avenue | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300198 | Building 4590 | Completed – case closed | Building 4590 7th Avenue | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300047 | Fort Ord Golf Course | Completed – case closed | Building 4110 Fort Ord | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300063 | Building 550a (Fritzsche Army Air Field) | Completed – case closed | Building 550a Fort Ord | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300102 | Building 550a, Radio Tower | Completed – case closed | Building 550a Fort Ord | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300197 | Former Building 1685 | Completed – case closed | Building 1685 3rd Ave | Fort Ord | 36.6502591 | -121.8007617 |
| T0605300162 | Fort Ord – Building 4225 | Open – site assessment | Building 4225 Fort Ord | Fort Ord | 36.6502591 | -121.8007618 |
| T0605300005 | Fort Ord – 707 Maintenance Yard | Completed – case closed | 707 Inter Garrison Road | Fort Ord | 36.655093 | -121.7933404 |
| L10006198832 | Fort Ord – Fort Ord Sanitary Landfill | Open – remediation | Fort Ord | Fort Ord | 36.66160294 | -121.7778683 |
| DOD100221900 | Fort Ord – Fort Ord – OU2 | Open – remediation | Unknown | Monterey | 36.6620849 | -121.7793274 |
| T0605317203 | Marina Coast Water District | Completed – case closed | Schoonover | Marina | 36.659301 | -121.761789 |

| Table 3.11-4. OMC – Geotracker Database Search Results | | | | | | |
|---|---|---|---|---|---|---|
| Geotracker ID | Site Name | Cleanup Status | Address | City | Latitude | Longitude |
| DOD100220500 | Fort Ord – Fort Ord OU1 (Fritzsche Army Airfield Fire Drill Area, On-Site Plume) | Open – remediation | Unknown | Marina | 36.68356338 | -121.7807007 |
| DOD100204800 | Fort Ord – Fort Ord – Sites 2 and 12 | Open – remediation | Unknown | Monterey | 36.66297995 | -121.8150759 |
| T0605300108 | Building 4493-4 | Completed – case closed | Building 4493 8th Avenue | Fort Ord | 36.6820555 | -121.7958287 |
| DOD100196800 | Fort Ord – Fort Ord – OUTCP | Open – remediation | Unknown | Monterey | 36.67447706 | -121.7777824 |

*Source: SWRCB, 2010b*

## 3.12.2 Regulatory Setting

### 3.12.2.1 Federal

The Army Safety Program, Army Regulation 385-10 (U.S. Army, 2011b), governs Army policies, responsibilities, and procedures to protect and preserve Army personnel and property against accidental loss. The regulation provides for operational safety, safe and healthy work places, and ensures compliance with applicable safety laws and regulations.

Workplace safety applies to on-the-job safety and implements the requirements of 29 CFR Part 1910 et seq. (Occupational Safety and Health Standards). These requirements include the use of protective clothing and equipment, hazard materials communication, health and safety standards for the workplace, on-the-job reporting requirements, and myriad other requirements designed to protect the health and safety of workers.

Construction and demolition activities performed or contracted by the USACE must follow the USACE Safety and Health Requirements Manual 385-1-1 (USACE, 2008). This manual outlines all of the requirements to comply with Occupational Safety and Health Administration standards during the construction and demolition process.

The Garrison commander is charged with the health and safety of the people living and working on the POM Installation. There are other federal regulations and issues pertaining to public health and safety at the POM Installation that are related to the domestic drinking water supply, wastewater management, air pollution control, hazardous waste management, and noise. These other public health related resource areas are not addressed in this section but are evaluated in detail elsewhere in Chapter 3.

## 3.12.3 Affected Environment

### 3.12.3.1 Fire Hazard

The POM Fire Department implements a fire suppression and prevention program at the POM Installation and applies the National Fire Protection Association's National Fire Code requirements. Every new and existing building or structure is required to be constructed, arranged, equipped, maintained, and operated to provide a reasonable level of life safety, property protection, and public welfare from actual and potential fire hazards, explosions or other conditions. A fire prevention inspection and education program is currently being applied at the POM Installation that includes prevention for urban structures and wildfires.

#### POM

The Huckleberry Hill Nature Preserve is an undeveloped, heavily forested area with thick vegetation, and it requires occasional management efforts to reduce potential for fire hazards. The maintenance road along the fence line that separates the Preserve and the POM acts as a fire break. Additionally, existing roads within the

Preserve serve as fire breaks. Each year, the California Department of Forestry helps to remove flammable brush from the Preserve under the direction of the City of Monterey (Harding ESE, 2001) to reduce the potential for wildfires.

#### OMC

Although the OMC is heavily developed, it is adjacent to the former Fort Ord, an area highly susceptible to wildfires. Several portions of the OMC with vegetation and all lands surrounding the OMC are designated as fire hazard areas (City of Seaside, 2004). Several major fires have occurred on the former Fort Ord in the past five years. Only one fire break exists at the OMC on the eastern side of the Fitch Park housing area (Harding ESE, 2001).

### 3.12.3.2 Flooding

#### POM

The POM is designated by the Federal Emergency Management Agency (FEMA) as Zone C, an area of minimal flooding (City of Monterey, 2005). The POM is not within the 100-year floodplain (FEMA, 2009).

#### OMC

The OMC has been designated by the FEMA as Zone B, subject to inundation by a 100- to 500-year flood event (City of Seaside, 2004). The OMC is not located within the 100-year floodplain (FEMA, 2009).

### 3.12.3.3 Tsunamis and Emergency Evacuation

A tsunami is a massive wave that is created by an earthquake or an underwater disturbance. Because of its proximity to active faults and the coast, many areas of Monterey County have the potential to be affected by a tsunami. The Monterey County Operational Area Tsunami Incident Response Plan divides Monterey County into 10 different regions and describes local evacuation routes and low-lying areas that would need to be evacuated (Monterey County, 2007).

Rising sea levels are a concern from GCC. Both the POM and OMC are greater than 10 feet above current high tide levels and therefore are not at risk from rising sea levels.

#### POM

According to Monterey County's response plan (Monterey County, 2007), the POM is completely outside the tsunami evacuation zone. However, in the event of a tsunami, the U.S. Coast Guard would shift operations to the POM because the existing Coast Guard Station would need to be evacuated. Additionally, the POM could open up roads to aid in an evacuation.

According to the City of Monterey General Plan, State Highway 1 and State Highway 68 have been designated as evacuation routes in the event of an emergency (City of Monterey, 2005). Roads in the vicinity of the POM that are designated as "access roads to the evacuation routes" include:

- Pacific Street
- Prescott Avenue
- Lighthouse Avenue
- Del Monte Avenue
- Franklin Street

If the Lighthouse Avenue tunnel is closed due to flooding, the roads through the POM would become the best means for traffic ingress and egress between the City of Monterey and points north and west (Monterey County, 2007).

#### OMC

The OMC is unlikely to be substantially affected by a tsunami as it is near the coast but contains high bluffs that would reduce the potential for inundation from a tsunami. According to Monterey County's response plan, there are no evacuation areas within the former Fort Ord, with the exception of the beach that is under the jurisdiction of the California Department of Parks and Recreation.

According to the City of Seaside General Plan, the following roads in the vicinity of the OMC have been designated as evacuation routes (City of Seaside, 2004):

- State Highway 1
- Gigling Road
- Light Fighter Drive
- General Jim Moore Boulevard

### 3.12.3.4 Unexploded Ordnance

#### POM

The DoD developed the MMRP to address the potential explosives safety, health, and environmental issues caused by past munitions related activities. However, the POM does not have an MMRP because there have been no known unexploded ordnance identified. The investigation and findings are discussed in Section 3.11.

#### OMC

The OMC is within the boundaries of the former Fort Ord. Because of past military activities, the former Fort Ord area was investigated for unexploded ordnance. The investigation and findings for unexploded ordnance is discussed in Section 3.11. Although the OMC does not contain unexploded ordnance, it does have an MMRP that is managed by the Fort Ord BRAC Office.

#### 3.12.3.5 Public Safety and Emergency Services

##### POM

Police services at the POM are provided by the POM Police Department and the Monterey Fire Department provides emergency fire services. The POM U.S. Army Health Clinic (Building 422) provides medical services for military personnel at the DLIFLC and the Naval Postgraduate School, as well as for military family members and the civilian work force.

The POM is accessed through four controlled gates at High Street, Franklin Street, Private Bolio Road and Taylor Street. Access from Pine Street, on the south side, and Artillery Street, on the east side, was closed as part of the Army mandated AT/FP measures in the wake of September 11, 2001. The POM also is closed to through traffic, thus providing safer conditions for the high volume of pedestrians crossing roadways and interfacing with vehicles, especially during classes and peak traffic times.

##### OMC

Police services at the OMC are provided by the POM Police Department, and the OMC Fire Department provides fire services. The POM U.S. Army Health Clinic provides medical services for all military personnel at the OMC.

The OMC is an open installation with no controlled gates. Special access permits or licenses are not required to gain access onto the property.

## 3.13 SOCIOECONOMICS

This section describes existing socioeconomic conditions in the region.

### 3.13.1 Study Area

The study area includes Monterey County and the cities of Monterey, Pacific Grove, and Seaside because these areas have the potential to be affected by the actions described in the RPMP.

### 3.13.2 Regulatory Setting

There are no specific regulations that are applicable to socioeconomics.

### 3.13.3 Affected Environment

The employment, income, and industrial earnings typical to the area are discussed below.

### 3.13.3.1 Population and Income

#### Monterey County

In 2008, Monterey County had a population of 415,057 (U.S. Census Bureau, 2010d). The county's population is projected to reach 476,000 by 2020 (EDD, 2007). According to the 2010 U.S. Census, Monterey County's population was 55 percent white, 3 percent black or African American, 1 percent Native American, 6 percent Asian, 1 percent Pacific Islander, and the remaining classified as other or more than one race (U.S. Census Bureau, 2010b).

In 2010, estimated median family income was $54,534, and 13 percent of families lived below the poverty level (U.S. Census Bureau, 2010d).

#### City of Monterey

The population of the City of Monterey was 27,810 in 2010 (U.S. Census Bureau, 2010d). In 2010, Monterey's population was 78 percent white, 3 percent black or African American, 0.5 percent Native American, 8 percent Asian, 0.3 percent Pacific Islander, and the remaining classified as other or more than one race (U.S. Census Bureau, 2010b).

In 2010, estimated median family income was $61,271 and 5.8 percent of families lived below the poverty level (U.S. Census Bureau, 2010c).

#### City of Pacific Grove

The population of Pacific Grove was 15,041 in 2010 (U.S. Census Bureau, 2010d). In 2010, Pacific Grove's population was 85 percent white, 1.3 percent black or African American, 0.5 percent Native American, 5.8 percent Asian, 0.3 percent Pacific Islander, and the remaining classified as other or more than one race (U.S. Census Bureau, 2010b).

In 2010, estimated median family income was $66,730, and 3.1 percent of families lived below the poverty level (U.S. Census Bureau, 2010c).

#### City of Seaside

The population of Seaside was 33,025 in 2010 (U.S. Census Bureau, 2010d). In 2010, Seaside's population was 48.4 percent white, 8.4 percent black or African American, 1.1 percent Native American, 9.7 percent Asian, 1.6 percent Pacific Islander, and the remaining classified as other or more than one race (U.S. Census Bureau, 2010b).

In 2010, median family income was $57,713 and 7.9 percent of people lived below the poverty level (U.S. Census Bureau, 2010c).

### 3.13.3.2 Industry

#### Monterey County

Table 3.13-1 shows the industry earnings in Monterey County from 2005 to 2010. Top earning industries in 2010 were government and government enterprises; forestry, fishing, and related activities; and health care and social assistance. From 2005 to 2010, government and government enterprises earnings grew the most in absolute terms, by about $704 million. During the same period, construction earnings fell about $100 million. In terms of percentage, the fastest growing industries from 2005 to 2010 were mining, reflecting a 44 percent increase, and educational services, reflecting a 34 percent increase (BEA, 2010).

Table 3.13-1. Industry and Industry Earnings, Monterey County, 2005 to 2010 ($1,000s)

| Industry | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|
| Forestry, fishing, and related activities | 742,892 | 818,388 | 893,616 | 896,246 | 892,554 | 975,872 |
| Mining | 18,246 | 21,078 | 23,485 | 28,539 | 31,542 | 26,446 |
| Construction | 374,878 | 408,456 | 416,038 | 383,956 | 301,383 | 271,220 |
| Manufacturing | 402,705 | 353,757 | 348,532 | 338,471 | 303,972 | 309,716 |
| Wholesale trade | 362,298 | 381,995 | 395,949 | 434,306 | 420,731 | 441,384 |
| Retail trade | 629,556 | 637,621 | 648,548 | 635,974 | 570,448 | 573,475 |
| Transportation and warehousing | 155,872 | 160,444 | 178,976 | 193,857 | 187,391 | 186,693 |
| Information | 177,923 | 204,089 | 173,318 | 164,013 | 139,915 | 136,263 |
| Finance and insurance | 324,580 | 355,951 | 367,273 | 372,941 | 282,108 | 251,366 |
| Real estate and rental and leasing | 99,699 | 106,385 | 101,444 | 87,461 | 77,244 | 80,449 |
| Management of companies and enterprises | 157,178 | 163,199 | 144,030 | 153,193 | 143,595 | 144,296 |
| Administrative and waste management services | 197,533 | 204,862 | 191,314 | 201,128 | 188,614 | 217,211 |
| Educational services | 84,239 | 87,940 | 91,583 | 97,729 | 106,041 | 112,781 |
| Healthcare and social assistance | 619,912 | 652,254 | 685,396 | 725,413 | 754,441 | 752,037 |
| Arts, entertainment, and recreation | 86,686 | 98,429 | 99,812 | 99,950 | 109,377 | 110,207 |
| Accommodation and food services | 521,348 | 521,260 | 582,015 | 571,159 | 517,103 | 545,031 |
| Other services, except public administration | 248,191 | 251,637 | 269,132 | 284,083 | 272,251 | 275,792 |
| Government and government enterprises | 2,470,320 | 2,614,799 | 2,837,870 | 2,990,317 | 3,056,489 | 3,174,555 |

*Source: BEA, 2010*

### City of Monterey

Table 3.13-2 shows the annual sales figures and number of establishments of the major industries in the City of Monterey. Health care and social assistance had the most establishments; wholesale trade generated the highest amount of sales.

Table 3.13-2. Major Industries in Monterey, 2007

| Industry | Number of Establishments | Sales (1) ($1,000s) |
|---|---|---|
| Manufacturing | 49 | 152,274 |
| Wholesale trade | 45 | 2,172,212 |
| Retail trade | 227 | 512,865 |
| Information | 50 | NA |
| Real estate, rental, and leasing | 98 | 79,019 |
| Professional, scientific, technical services | 262 | D |
| Administrative, support, waste management and remediation service | 77 | 89,699 |
| Educational service | 19 | 12,472 |
| Health care and social assistance | 303 | 738,959 |
| Arts, entertainment, and recreation | 31 | 84,809 |
| Accommodation and food services | 216 | 374,298 |
| Other services (except public administration) | 99 | 106,777 |

*Source: U.S. Census Bureau, 2007*
*Notes: NA = not applicable*
*(1) Employer value of sales, shipments, receipts, revenue, or business done ($1,000).*

### City of Pacific Grove

Table 3.13-3 shows the annual sales figures and number of establishments of the major industries in the City of Pacific Grove. Retail trade had the most establishments and generated the highest amount of sales for the city.

Table 3.13-3. Major Industries in Pacific Grove, 2007

| Industry | Number of Establishments | Sales ($1,000s) |
|---|---|---|
| Wholesale trade | 7 | NA |
| Retail trade | 87 | 139,849 |
| Information | 7 | NA |
| Real estate, rental, and leasing | 29 | 12,338 |
| Professional, scientific, technical services | 45 | 20,433 |
| Administrative, support, waste management and remediation service | 29 | 9,333 |
| Educational service | 5 | 835 |

| Table 3.13-3. Major Industries in Pacific Grove, 2007 | | |
|---|---|---|
| Industry | Number of Establishments | Sales ($1,000s) |
| Healthcare and social assistance | 49 | 47,871 |
| Arts, entertainment, and recreation | 7 | 5,584 |
| Accommodation and food services | 76 | 71,337 |
| Other services (except public administration) | 28 | 11,318 |

*Source: U.S. Census Bureau, 2007*
*Notes: NA = not applicable*

### City of Seaside

Table 3.13-4 shows the annual sales figures and number of establishments of the major industries in the City of Seaside. Retail trade had the most establishments and generated the highest amount of sales for the city.

| Table 3.13-4. Major Industries in Seaside, 2007 | | |
|---|---|---|
| Industry | Number of Establishments | Sales ($1,000s) |
| Wholesale trade | 13 | 33,564 |
| Retail trade | 96 | 563,282 |
| Information | 6 | NA |
| Real estate, rental, and leasing | 15 | 12,361 |
| Professional, scientific, technical services | 19 | 5,593 |
| Administrative, support, waste management and remediation service | 36 | 17,659 |
| Healthcare and social assistance | 21 | 11,228 |
| Arts, entertainment, and recreation | 6 | 6,156 |
| Accommodation and food services | 62 | 56,641 |
| Other services (except public administration) | 56 | 29,245 |

*Source: U.S. Census Bureau, 2007*
*Notes: NA = not applicable*

## 3.13.3.3 Employment

### Monterey County

Table 3.13-5 shows industry employment and compensation in Monterey County from 2005 to 2009. During that period, government and government enterprises employed the most people in Monterey County. Forestry, fishing, and related activities; retail trade, and accommodation and food services also had high

Table 3.13-5. Industry Employment and Compensation, Monterey County, 2005 to 2009

| Industry | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Jobs | Compensation ($) | Jobs | Compensation ($) | Jobs | Compensation ($) | Jobs | Compensation ($) | Jobs | Compensation ($) |
| Forestry, fishing, and related activities | 25,322 | 742,892 | 24,425 | 818,388 | 26,834 | 893,616 | 27,680 | 896,246 | 27,471 | 892,554 |
| Mining | 374 | 18,246 | 413 | 21,078 | 432 | 23,485 | 552 | 28,539 | 699 | 31,542 |
| Utilities | 540 | 52,803 | 551 | 55,162 | 580 | 56,033 | 529 | 64,973 | 528 | 66,614 |
| Construction | 10,753 | 374,878 | 11,132 | 408,456 | 10,728 | 416,038 | 9,704 | 383,956 | 8,109 | 301,383 |
| Manufacturing | 7,375 | 402,705 | 6,924 | 353,757 | 6,873 | 348,532 | 6,868 | 338,471 | 6,352 | 303,972 |
| Wholesale trade | 5,970 | 362,298 | 5,985 | 381,995 | 5,920 | 395,949 | 6,194 | 434,306 | 5,922 | 420,731 |
| Retail trade | 21,967 | 629,556 | 21,804 | 637,621 | 22,037 | 648,548 | 21,534 | 635,974 | 19,660 | 570,448 |
| Transportation and warehousing | 4,164 | 155,872 | 4,238 | 160,444 | 4,442 | 178,976 | 4,441 | 193,857 | 4,263 | 187,391 |
| Information | 3,062 | 177,923 | 2,814 | 204,089 | 2,687 | 173,318 | 2,649 | 164,013 | 2,359 | 139,915 |
| Finance and insurance | 6,345 | 324,580 | 6,250 | 355,951 | 7,119 | 367,273 | 7,790 | 372,941 | 7,912 | 282,108 |
| Real estate and rental and leasing | 9,190 | 99,699 | 9,647 | 106,385 | 9,596 | 101,444 | 9,098 | 87,461 | 8,843 | 77,244 |
| Professional, scientific and technical services | 10,966 | 361,224 | 11,341 | 401,849 | 11,690 | 404,419 | 11,839 | 430,288 | 11,593 | 420,290 |
| Management of companies and enterprises | 1,972 | 157,178 | 1,925 | 163,199 | 1,583 | 144,030 | 1,535 | 153,193 | 1,557 | 143,595 |
| Administrative and waste management services | 8,925 | 197,533 | 8,834 | 204,862 | 8,437 | 191,314 | 8,076 | 201,128 | 7,612 | 188,614 |
| Educational services | 2,952 | 84,239 | 3,117 | 87,940 | 3,161 | 91,583 | 3,258 | 97,729 | 3,627 | 106,041 |
| Health care and social assistance | 14,176 | 619,912 | 14,483 | 652,254 | 15,024 | 685,396 | 15,326 | 725,413 | 15,548 | 754,441 |

Table 3.13-5. Industry Employment and Compensation, Monterey County, 2005 to 2009

| Industry | 2005 | | 2006 | | 2007 | | 2008 | | 2009 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Jobs | Compensation ($) | Jobs | Compensation ($) | Jobs | Compensation ($) | Jobs | Compensation ($) | Jobs | Compensation ($) |
| Arts, entertainment, and recreation | 4,605 | 86,686 | 4,714 | 98,429 | 4,633 | 99,812 | 4,685 | 99,950 | 4,680 | 109,377 |
| Accommodation and food services | 20,299 | 521,348 | 20,170 | 521,260 | 20,819 | 582,015 | 21,040 | 571,159 | 20,021 | 517,103 |
| Other services, except public administration | 12,227 | 248,191 | 12,041 | 251,637 | 12,525 | 269,132 | 12,427 | 284,083 | 12,227 | 272,251 |
| Government and government enterprises | 35,349 | 2,470,320 | 35,764 | 2,614,799 | 36,448 | 2,837,870 | 37,273 | 2,990,317 | 36,920 | 3,056,489 |

*Source: BEA, 2010*

employment numbers. Mining saw the largest increase in employment (87 percent) over the 5-year period, while construction had the largest decrease (25 percent) from 2005 to 2009 (BEA, 2010).

### City of Monterey

Table 3.13-6 shows industry employment in the City of Monterey. The educational services and arts and entertainment industries with 21.3 and 20.1 percent of total employment, respectively, employ the largest proportion of people in the City of Monterey (U.S. Census Bureau, 2010c).

Table 3.13-6. City of Monterey Employment, 5-year Estimate (2006–2010)

| Industry | Employment | Percent (%) |
|---|---|---|
| Construction | 628 | 5.2 |
| Manufacturing | 406 | 3.4 |
| Wholesale trade | 161 | 1.3 |
| Retail trade | 1,095 | 9.1 |
| Transportation, warehousing and utilities | 257 | 2.1 |
| Information | 403 | 3.4 |
| Finance and insurance, and real estate, rental and leasing | 885 | 7.4 |
| Professional, scientific, and management and administrative and waste management services | 1,517 | 12.6 |
| Educational services, and health care and social assistance | 2,562 | 21.3 |
| Arts, entertainment, and recreation, and accommodation and food services | 2,412 | 20.1 |
| Other services (except public administration) | 806 | 6.7 |
| Public Administration | 790 | 6.6 |

*Source: U.S. Census Bureau, 2010c*

### City of Pacific Grove

Table 3.13-7 shows industry employment in the City of Pacific Grove. The educational services and arts and entertainment industries with 26.2 and 16.4 percent of total employment, respectively, employ the largest proportion of people in the City of Pacific Grove (U.S. Census Bureau, 2010c).

Table 3.13-7. Pacific Grove Employment, 5-year Estimate (2006–2010)

| Industry | Employment | Percent (%) |
|---|---|---|
| Construction | 358 | 4.8 |
| Manufacturing | 216 | 2.9 |
| Wholesale trade | 179 | 2.4 |
| Retail trade | 625 | 8.4 |
| Transportation, warehousing and utilities | 169 | 2.3 |
| Information | 297 | 4.0 |
| Finance and insurance, and real estate, rental and leasing | 535 | 7.2 |
| Professional, scientific, and management and administrative and waste management services | 1,106 | 14.9 |
| Educational services, and health care and social assistance | 1,944 | 26.2 |
| Arts, entertainment, and recreation, and accommodation and food services | 1,219 | 16.4 |
| Other services (except public administration) | 427 | 5.7 |
| Public Administration | 344 | 4.6 |

*Source: U.S. Census Bureau, 2010c*

### City of Seaside

Table 3.13-8 shows industry employment in the City of Seaside. The arts and entertainment and educational services industries with 23.5 and 17.6 percent of total employment, respectively, employ the largest proportion of people in the City of Seaside (U.S. Census Bureau, 2010c).

Table 3.13-8. Seaside Employment, 5-year Estimate (2006–2010)

| Industry | Employment | Percent (%) |
|---|---|---|
| Construction | 851 | 5.6 |
| Manufacturing | 370 | 2.4 |
| Wholesale trade | 132 | 0.9 |
| Retail trade | 2,178 | 14.2 |
| Transportation, warehousing and utilities | 494 | 3.2 |
| Information | 295 | 1.9 |
| Finance and insurance, and real estate, rental and leasing | 629 | 4.1 |
| Professional, scientific, and management and administrative and waste management services | 2,180 | 14.2 |
| Educational services, and health care and social assistance | 2,693 | 17.6 |
| Arts, entertainment, and recreation, and accommodation and food services | 3,593 | 23.5 |
| Other services (except public administration) | 943 | 6.2 |
| Public Administration | 744 | 4.9 |

*Source: U.S. Census Bureau, 2010c*

## 3.14 ENVIRONMENTAL JUSTICE

Environmental justice addresses the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. In particular, minority and low-income populations should not be disproportionately affected by a project.

Fair treatment means that "no group of people, including racial, ethnic, or socioeconomic groups, shall bear a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies" (CEQ, 1997a; USEPA, 1998). The goal of this "fair treatment" is not to shift risks among populations, but to

identify potential disproportionately high and adverse effects and identify alternatives that may mitigate these effects.

This section examined the potential effects on these populations from proposed construction under the RPMP.

## 3.14.1 Study Area

To determine the study area, the term "affected area" must be defined. A minority population may be present if the minority population percentage in the affected area is meaningfully greater than the minority population percentage in the general population (USEPA, 1998) or other appropriate unit of geographic analysis. For this analysis, the affected area is that area the RPMP short- and long-range projects would or may have an effect upon. The affected area for a minority population is compared to the next larger geographic area. The study area analyzed for environmental justice impacts corresponds to that of the socioeconomics analysis and consists of the three cities of Seaside, Monterey, and Pacific Grove, which are adjacent to the POM Installation.

## 3.14.2 Regulatory Framework

### 3.14.2.1 Federal Laws

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, directs all federal agencies to meet environmental justice by identifying and addressing disproportionately high and adverse human health or environmental effects of their federal action(s) on minority and low-income populations. Each federal agency must analyze the environmental effects, including human health, economic, and social effects of their action(s).

### 3.14.2.2 State Laws

California law defines environmental justice as the "fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies" (California Government Code 65040.12(e)). The state law designates the Governor's Office of Planning and Research as the coordinating agency in State government for environmental justice programs. The State law also requires the Office of Planning and Research to develop guidelines for incorporating environmental justice into general plans (California Government Code 65040.12).

### 3.14.3 Affected Environment

The minority and low-income populations in the cities within the study area were compared to the demographics of Monterey County to identify if they were "meaningfully greater" than the population percentages within the county.

The minority and low-income demographics in the area potentially affected by the RPMP projects were identified using the 2010 U.S. Census Bureau data. For the purposes of an environmental justice screening, race, ethnic origin, and poverty status were obtained for Monterey County and the nearby cities (Table 3.14-1). The City of Seaside has an aggregate minority population of greater than 50 percent. The proportion of individuals living below the poverty level within this city is similar to that found in Monterey County (Table 3.14-1).

Table 3.14-1. Monterey County Demographics

| Demographics | Monterey County | City of Seaside | City of Monterey | City of Pacific Grove |
|---|---|---|---|---|
| Total Population | 401,762 | 31,696 | 29,674 | 15,522 |
| White | 55.9% | 49.2% | 80.8% | 88.0% |
| Black or African American | 3.7% | 12.6% | 2.5% | 1.1% |
| American Indian or Alaska Native | 1.0% | 1.0% | 0.6% | 0.6% |
| Asian | 6.0% | 10.1% | 7.4% | 4.5% |
| Native Hawaiian or other Pacific Islander | 0.4% | 1.3% | 0.3% | 0.3% |
| Some other race | 27.8% | 18.4% | 3.9% | 1.8% |
| Two or more Races | 5.0% | 7.3% | 4.4% | 3.7% |
| Hispanic or Latino (of any race) | 46.8% | 34.5% | 10.9% | 7.1% |
| Median household income | $48,305 | $41,393 | $49,109 | $50,254 |
| Per capita income | $20,165 | $15,183 | $27,133 | $31,277 |
| Individuals below poverty level | 13.5% | 12.1% | 7.8% | 5.4% |

*Source: U.S. Census Bureau, 2010d*

*Note: Shaded cells in the table identify data meeting the environmental justice definition of a minority or low income population.*

## 3.15 VISUAL, SCENIC, AND AESTHETIC RESOURCES

This section describes the existing visual, scenic and aesthetic resources within the project study area. Generally defined, aesthetic resources are those natural resources, landforms, vegetation, and human-made structures in the environment that generate one or more sensory reactions and evaluations by the observer,

particularly pleasurable responses. These sensory reactions are traditionally categorized as visual, auditory, and olfactory responses. The visual sense is usually the predominant reaction of the observer.

## 3.15.1 Study Area

The study area consists of all portions of the POM and the OMC.

## 3.15.2 Regulatory Setting

### Installation Design Guide

The POM's IDG establishes standards for the visual, scenic and aesthetic quality of development in the project study area. The IDG is a component of the RPMP that promotes the use of consistent architectural themes and standards for Army facilities and infrastructure. The IDG is used as a reference to acquire recommendations for and Army standards on the design of all facilities, new roads, road widening, parking, sidewalks and other pedestrian paths, bicycle paths, ACPs, site furnishing selection and placement, signage selection and placement, lighting selection and placement, utility corridor selection, and utilities.

The IDG outlines goals and objectives applied to all Army facilities as well as goals and objectives specific to development activities at the POM and the OMC. The goals and objectives are used to shape standards and general guidelines for the design issues of site planning, architectural character, colors and materials, vehicular and pedestrian circulation, and landscape elements, including plant material, seating, signage, lighting, and utilities. These design guidelines incorporate sustainable design, quality of design, anti-terrorism measures, low maintenance measures, historical and cultural considerations, durability, safety, and compatibility.

## 3.15.3 Affected Environment

### 3.15.3.1 POM

The POM's visual character is unique because of a large intact historic district, the natural forests in and around the Huckleberry Hill Nature Preserve, the presence of a military cemetery and the Mission or Spanish elements in newer buildings. Additionally, the POM, which is situated adjacent to the cities of Monterey and Pacific Grove, is visible from public roads and private homes in these cities.

The POM is situated on a sloping hillside above the City of Monterey, and ranges in elevation from approximately 770 feet above sea level at its highest point in the western part of the installation, to approximately 30 feet above sea level at its lowest elevation to the east. The POM overlooks Monterey Bay, which is the most prevalent view from the installation. Photos 1 and 2 show views of the bay from the POM Historic District.

*Photo 1. View of Monterey Bay from the POM*

*Photo 2. Sloat Monument and Monterey Bay from the POM*

The POM contains six areas that can be categorized according to their visual layout and history. These areas from east to west, are identified as: the archaeological district, historic district (Lower Presidio), the Parade Ground (Soldier's Field), Fitch Hill, the main campus, and Presidio Knoll (USACE, 2005b). Presidio Knoll, the location of the Huckleberry Hill Nature Preserve, is the most prominent visual feature of the POM. This area consists of a large, dense forest of Monterey pine trees covering a steeply sloped hill and was established to mitigate the effects of constructing barracks on the knoll. The peak of the knoll is one of the highest points on the Monterey Peninsula. Presidio Knoll is an undeveloped nature preserve at an elevation above 550 feet above mean sea level and is developed at lower elevations. Buildings occupying this portion of the POM include the Price Fitness Center, GIB and other instructional buildings along with eight barracks.

The main campus area contains most of the facilities that are devoted to instruction. Buildings occupying this portion of the POM are of various heights and architectural styles, but the primary design theme is international. Most of the buildings in the Fitch Hill and Parade Ground areas were constructed between 1903 and 1940. Other buildings in these areas have Spanish Revival and historic (i.e., World War II) design themes. Photographs 3 and 4 show existing classrooms on the main campus and illustrate the varying architecture and age of the buildings.

*Photo 3. Older Classrooms at the POM*

*Photo 4. Newer Classrooms at the POM*

The existing housing and barracks at the POM also vary in age and architecture. The following photographs show existing residences on the POM. Photo 5 shows an older barracks building that does not have any unique architectural features or visual qualities. Photo 6 shows newer residences that are consistent with the design guide and are designed to blend with the surrounding environment.


*Photo 5. Older Barracks Buildings at the POM*

*Photo 6. Newer Barracks Buildings at the POM*

### 3.15.3.2 OMC

The OMC is immediately east of State Highway 1 along Monterey Bay. The OMC is relatively flat, in a transition area on the northwest edge of the Salinas Valley that is formed by low hills ranging in elevation from 100 to 450 feet above mean sea level. The predominant topography of the area reflects geomorphology typical of the dune sand deposits that underlie the western and northern portions of the former Fort Ord. In these areas, the ground surface slopes gently west and northwest, draining toward Monterey Bay.

The OMC consists largely of residential neighborhoods. Since 2003, the RCI has replaced some existing family housing and constructed additional housing and recreation facilities to support growth at the OMC. During this phased process, all of the current houses at the OMC and La Mesa Family Housing will be demolished and replaced with new "privatized" houses over a period of several years. Until the RCI is complete at the OMC, some neighborhoods (e.g., Doe Park) are new and others are waiting to be rebuilt. Housing at the OMC is uniform in color, size, and landscaping; many units have peeling paint, and some appear to be in in need of repair. Some houses at the OMC have views of the ocean. Structures at the OMC are more spread out than the POM and roads are wider. Photo 7 shows the entrance to the OMC from Monterey Road. Photo 8 shows an OMC residential community.

*Photo 7. Entrance to the OMC*

*Photo 8. OMC Residential Community*

Immediately south of the OMC are the Bayonet and Black Horse golf courses and a large former military family housing area, comprising homes occupied by residents of Seaside. Other neighborhoods, schools, and small parks in Seaside are also south of the OMC. The golf courses largely separate Seaside and the OMC.

The areas to the east and immediately north of the OMC are more sparsely developed with neighborhoods and schools.

The portion of State Highway 1 that passes the OMC is eligible for designation as a state scenic highway. There are no lands suitable for Class III Special Interest Areas on the OMC.

## 3.16 CULTURAL RESOURCES

This section presents information on cultural resources within the project study area as defined by applicable federal laws and regulations, including the National Historic Preservation Act (NHPA) of 1966, as amended, which addresses buildings, sites, structures, districts, and objects eligible for or listed in the NRHP; the Archaeological Resources Protection Act of 1979, which protects archaeological resources; the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, which provides for the protection of Native American graves and other purposes; and the American Indian Religious Freedom Act (AIRFA) of 1978, which protects and preserves the traditional religious rights and cultural practices of American Indians. Although these laws and regulations have general applicability, not all are directly relevant to the actions proposed in the RPMP. Therefore, this section will primarily address those resources known or likely to be found at the project study area.

### 3.16.1 Study Area

The study area consists of all portions of the POM and the OMC, as well as adjacent land known to contain historic properties eligible for, or listed in, the NRHP. The City of Monterey contains a National Historic Landmark district in its downtown adjacent to the boundary of the POM, which might be affected by the implementation of the RPMP.

### 3.16.2 Regulatory Setting

Effects on cultural resources under NEPA are evaluated in conjunction with several federal laws that address historic preservation, archaeology, and Native American concerns. Federal regulations issued in accordance with these laws guide agency compliance along with the Army's environmental regulations.

#### 3.16.2.1 Federal

##### National Historic Preservation Act

The NHPA of 1966, as amended, is the principal federal law that governs federal agencies, including the Army, in the treatment of historic properties and is closely linked with the evaluation of effects on cultural resources under NEPA.

Section 106 of the NHPA, as implemented in 36 CFR Part 800, requires federal agencies to consider the effects of federally funded, regulated, or licensed undertakings on cultural resources listed on or eligible for inclusion in the NRHP; moreover, the federal agency must afford the Advisory Council on Historic Preservation (ACHP) the opportunity to comment in the event that an undertaking will have an adverse effect on a cultural resource that is eligible for or listed in the NRHP. Under current regulations, the federal agency consults with the cognizant State Historic Preservation Officer (SHPO) or the Tribal Preservation Officer under the oversight of the ACHP.

Section 110 of the NHPA requires federal agencies to survey their land holdings to identify historic properties eligible for the NRHP. Eligibility for the NRHP is established according to the official Criteria of Evaluation (36 CFR Part 60.4) issued by the Department of the Interior. The criteria relate to the following:

- 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
  - Are associated with the lives of persons significant in our past; or
  - 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
  - Has yielded, or may be likely to yield, information important in prehistory or history.

For the purposes of this EIS, cultural resources include historic archaeological sites, prehistoric sites, and standing architectural structures, historic districts, cultural landscapes, and memorials. The identification of significant cultural resources depends on professional cultural resource surveys carried out by qualified professionals and with reference to established contexts and regulatory protocols.

### Archeological Resources Protection Act and Antiquities Act

The Archeological Resources Protection Act (ARPA) defines archaeological resources as any material remains of past human life or activities that are of archaeological interest. The ARPA requires that federal permits be obtained before cultural resource investigations are initiated on federal land and that the investigators consult with the appropriate federally recognized Native American tribes prior to initiating archaeological studies on sites of Native American origin.

The Antiquities Act of 1906 established a system of permits for conducting archaeological and paleontological investigations on federal land and specified penalties for non-compliance. Some antiquities permits issued under this law remain in effect. New permits are now issued under the ARPA and its implementing regulations (43 CFR Part 7).

### Native American Graves Protection and Repatriation Act of 1990

The NAGPRA mandates that federal agencies consult with federally recognized Native American tribes regarding planned excavation on federal lands, which may result in the excavation of Native American human remains and other cultural items. NAGPRA also establishes procedures agencies must follow in the event of an inadvertent discovery of Native American remains and/or cultural items. Cultural items include Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony. Although there are no federally recognized Native American tribes affiliated with the POM or the OMC, Standard Operating Procedure #4 of the POM's Integrated Cultural Resource Management Plan (ICRMP) identifies the Ohlone Costanoan Esselen Nation as the POM's tribal contact and outlines procedures to be followed in the event of an inadvertent discovery of Native American human remains and cultural objects; in planning an excavation that has the high potential to result in the discovery of Native American human remains and cultural objects; and in dealing with the treatment and disposition of Native American human remains and cultural objects (POM, 2004).

### American Indian Religious Freedom Act of 1978

The AIRFA, also a joint resolution of Congress, was enacted to protect and preserve the traditional religious rights and cultural practices of American Indians (Native Americans), Eskimos, Aleuts, and Native Hawaiians. These rights include, but are not limited to, access to sacred sites, freedom to worship through ceremonial and traditional rights, and use and possession of objects considered sacred. The AIRFA requires governmental agencies to eliminate interference with the free exercise of Native religion and to accommodate access to and use of religious sites to the extent that the use is practicable and is not inconsistent with an agency's essential functions.

### DoD Instruction 4715.16 and Integrated Cultural Resources Management Plans

DoD Instruction 4715.16 requires installations to develop an ICRMP as an internal compliance and management tool to integrate cultural resources management with ongoing mission activities. The POM Installation's latest ICRMP, which was completed in December 2004, provides guidance on the management of cultural resources and ensures the POM Installation is in compliance with existing laws, including the NHPA.

### Army Regulation 200-1 Environmental Protection and Enhancement

Army Regulation 200-1 provides guidance on, among other topics, the implementation and coordination of NHPA, and other cultural resource laws to the Army's cultural resources management program.

## 3.16.3 Affected Environment

### 3.16.3.1 POM

The POM is a culturally significant property that potentially represents at least 7,000 years of human habitation beginning with Native American occupation, followed by Spanish, Mexican, and later American occupation. Only the last 162 years of this history has been under United States jurisdiction and the last 110 years under the control of the Army. Only a brief summary of the historical and cultural resources management data available on the POM and its surroundings is provided as a general framework (Table 3.16-1). Information of direct relevance to the analysis is presented in greater detail. Greater detail may also be found in the 2004 ICRMP and under the City of Monterey website's history tab (City of Monterey, 2012).

Table 3.16-1. Important Historic Periods – POM Installation

| Historic Period | Date | Description |
|---|---|---|
| Prehistoric era | circa 5000 B.C. to A.D.1602 | Native Americans lived in the Monterey Bay area for many millennia. Archaeological sites representing many of those years are found at the Lower POM. |
| Early European exploration | 1602 to 1770 | After settling Mexico and Central America, Spanish rulers began to explore California and reached Monterey in 1770. |
| Spanish/Mexican period | 1770 to 1846 | Construction of the Presidio and chapel in Monterey in 1770. Mission built by Serra in Carmel Valley in 1771. Mexico gained independence in 1821. |
| American and U.S. Military period | 1846-Present | Americans seized Monterey and Commodore Sloat raised the flag over the Customs House. (Alta) California became a territory of the United States in 1848; U.S. troops were stationed at the POM during Spanish-American war; construction of installation buildings and training facilities for cavalry and infantry took place. By World War II, horseback cavalry was obsolete. The POM found a new mission in 1946 as an Army Language School, later the Defense Language Institute. Lower Presidio Historical Park was developed after 26 acres were leased to the City of Monterey. |

*Source: POM, 2004*

Monterey was the capital of Alta California from 1777 to 1846 under Spain and then Mexico, and it was the only port of entry for taxable goods in California. In 1846, the U.S. flag was raised over the Customs House in downtown Monterey, and California was claimed for the United States.

The city had California's first theater, public building, public library, publicly funded school, printing press, and newspaper. The city and surrounding area have attracted artists since the late nineteenth century, and many celebrated painters and writers have lived there. Until the 1950s, there was an abundant fishery.

#### Prehistoric Era

The Native American peoples that inhabited the Central Coast of what is now California are often referred to today as the Ohlone. They first came to the attention of European settlers in the eighteenth century who

called them the "coast people." The pre-contact Ohlone maintained a hunter-gatherer lifestyle that consisted of the seasonal collection of acorns, kelp, grass seeds, and shellfish as well as fishing and hunting for deer, elk, bear, seals, and sea lions. After the establishment of missions in Carmel and Santa Cruz, susceptibility to European diseases decimated their population. Ohlone culture and identity were also adversely affected by persecution from the succession of non-Native American regimes that took control of the region: Spanish, Mexican, and then American (POM, 2004).

### Early European Exploration

The Spanish explorer Sebastian Vizcaino is known to have landed at Monterey Bay in December 1602. Nonetheless, it was not until the latter half of the eighteenth century that a permanent settlement was established by Spain at Monterey. The main centers of Spanish colonization were distant Peru and New Spain (Mexico). However, the pressure of rival maritime powers in the Pacific, such as Russia and England, and the desire to spread the Catholic faith, spurred Spanish colonial authorities to explore lands to which they had a claim and establish permanent bases in territories in Alta California. In 1769, an overland expedition led by Governor Gaspar de Portola accompanied by the Franciscan Father Junipero Serra arrived in San Diego Bay where Father Serra founded the first of the California missions, San Diego de Alcala. Later that year, an advance party following the coast northward reached Monterey. In the following year, an organized effort was made to establish a permanent military presence in Monterey. Portola arrived by land on May 24, 1770, and a week later Captain Juan Perez and Father Serra followed by sea. The military encampment, known as the Presidio, was set up in the current location of Church and Figuero Streets in downtown Monterey, but, a year later, Fr. Serra chose to locate the permanent mission for the region, San Carlos Borromeo, in the Carmel Valley (POM, 2004).

### Spanish/Mexican Period

The Spanish Presidio became the center of administrative, military, and commercial life for the new settlement. A 1796 battery with fortifications was constructed on higher land farther north along the waterfront, eventually acquiring the name of "El Castillo" and becoming the genesis of the American Presidio or modern-day POM.

Spanish Monterey was a fragile outpost of New Spain because of its inaccessibility by sea due to high winds and strong currents and the distance by land to be traversed along the Camino Real. The Native American population continued its decline, and the economic base of the colony was weak. Resupply from larger colonial centers was needed to keep the settlement alive.

In 1821, Mexico gained its independence from Spain. The Mexican period in Monterey is characterized by a loosening of international trade restrictions that caused the sale of cattle hides to the U.S. and Great Britain to

become the basis of an authentic economy. This period also saw the "secularization" of the Native Americans who had been attached to the missions, a development that did little to reverse their decline in numbers, strengthen their cultural identity, and allow access to land and resources. Lastly, there was a gradual influx of American settlers whose growing dominance was sealed by the outbreak of the Mexican-American War. In 1846, Monterey was seized and the American flag was raised over the Monterey customs house by the order of Commodore John Sloat, U.S. Navy. In the same year, an American fort, Fort Mervine, was constructed 200 yards uphill from El Castillo. In 1848, Mexico ceded all of Alta California to the United States (POM, 2004).

### American and U.S. Military Period

During the latter half of the nineteenth century, following California's official statehood in 1850, Monterey and its region were little affected by military events, other than the manning of Fort Ord Barracks during the Civil War. Economic development and the infrastructure to support it were the primary foci of activity. Native American and Mexican land claims were adjudicated by a board of land commissioners and the courts, although the burden of proof was on the claimants, and they were often unsuccessful. Cattle and sheep ranching on fenced estates, grain farming, and irrigated agriculture prospered, aided by the availability of rail transport. Later, Italian immigrants developed the sardine fishing and canning industries for which Monterey became well known.

While Spanish fortification of El Castillo with its adobe walls was allowed to decay, Fort Mervine was activated and deactivated several times. The general area, including acreage on the elevated flat land to the west, remained Army property. In 1902, following the Spanish American War, the Army post once again acquired a major military role as a cantonment for the 15th Cavalry and the 9th Cavalry or "Buffalo Soldiers." In 1904, the post was given the name "Presidio of Monterey" in honor of the old Spanish Presidio. The arrival of large numbers of troops required permanent barracks, mess halls, training facilities, and stables for horses. From 1902 to 1910, the largely flat upland area behind and west of the El Castillo/Ft. Mervine zone was intensively developed in vernacular Army style facilities under the supervision of Major E. H. Plummer, an officer with the Army Quartermaster Corps. The newer buildings followed a regular plan built around a parade ground, Officers' Row, and cavalry area. Field artillery troops were later stationed at the POM, but its identification with the cavalry would continue until World War II, when it was finally conceded that this mode of warfare was obsolete. The POM was used as an induction and staging post for troops during the war but found its new vocation in 1946 when it was made the home of the Army Language School, then in 1963 the Defense Language Institute-West Coast Branch, and lastly in 1976 the DLIFLC.

The earlier El Castillo area served for a time as the location of cavalry training and exercises but became gradually more peripheral to the major operations of the post. In time, the remains of its past fortifications were supplemented by a number of memorials to the historic events that had taken place there or to historical personages themselves. The entire area's popular names were "El Castillo" and "Monterey Monuments." In the 1960s, a State Historic Park was suggested for the area and several archaeological investigations were carried out; these investigations also supported a city plan to turn Lighthouse Avenue into a major traffic arterial. Since 1996, the City of Monterey has leased the lower 26 acres of the POM and, in conjunction with the state park system, operates a Lower Presidio Historic Park that contains the Presidio of Monterey Museum.

### Status of Knowledge

As indicated above, Section 110 of the NHPA and Army policy (Army Regulation 200-1) require Army installations to survey and inventory their landholdings for cultural resources eligible for the NRHP. These surveys must be carried out by competent professionals who meet the criteria of the Secretary of the Interior Standards for Historic Preservation. A major distinction must be made between the standard practice of cultural resource surveys focused on buildings and structures and those focused on archaeological resources. The coverage of extant above ground structures in a survey is usually complete or nearly so, while the coverage of below ground (or underwater) resources is necessarily more limited. For the latter, a step-by-step approach of phased investigation is undertaken, ranging from predictive models through archival research with limited subsurface testing to more intensive investigations, which may establish site boundaries and/or determine NRHP eligibility.

Other laws and regulations, discussed in Section 3.16.2, apply specifically to sites and objects of Native American patrimony. Army installations are also required by Army policy to develop ICRMPs to guide the installation's treatment and management of its cultural resources. The ICRMPs also provide a summary of the cultural resource surveys and investigations taken to date and a list of known NRHP eligible, ineligible, or unevaluated properties. Eligibility can be a moving target in that properties less than 50 years old are generally ineligible unless they are deemed of exceptional importance. A property previously on the ineligible list that turns 50 years old will require a Determination of Eligibility (DOE) if it is to be affected by a project.

The POM is an installation with multiple layers of history. The Lower POM comprises two historic properties eligible for inclusion in the NRHP: El Castillo and the POM Historic District. In 1971, El Castillo was listed on the NRHP. In 1986, the POM Historic District was determined eligible for inclusion in the NRHP but was not listed.

**El Castillo** — El Castillo was placed on the NRHP in 1971 for its association with the foundations of the original Spanish fortification and the presence of sites of prehistoric occupation. Subsequent research has more fully documented the contributing nature of other site components, such as the remains of the American Fort Mervine; a variety of commemorative monuments, including the Commodore Sloat Memorial, Junipero Serra Monument, and the Gaspar de Portola Monument; sites of historic events, such as the Vizcaino/Serra landing (Gerbic, 2006). Although the boundaries of the NRHP historic property extend beyond Army property into the city and overlap somewhat with the later designated POM Historic District (which is entirely on Army property), El Castillo essentially constitutes the eastern and oldest portion of the POM Installation. As indicated earlier, the Army has leased the 26-acre heart of El Castillo, including its major contributing features, to the City of Monterey for a Lower Presidio Historic Park; however, the POM retains ultimate responsibility under the NHPA (City of Monterey, 2002). Other than access control and other security features, the RPMP does not envisage new construction that would affect the El Castillo NRHP property.

El Castillo is particularly rich in prehistoric and historic resources and is known to contain Native American burials. However, because archaeological site locations are protected under the ARPA, little information can be given in this public document about the archaeological sites of El Castillo.

**POM Historic District** – The POM Historic District constitutes a 75-acre district within POM that represents its twentieth century role as a cavalry-infantry-artillery cantonment. The POM Historic District was laid out and constructed primarily from 1902 to 1910, although the official period of significance extends to 1939. Its location is due west and upland from El Castillo, although, as noted earlier, there is some overlap in territory. The NRHP nomination describes it as "an exceptional example of what might be called 'military vernacular' of the early twentieth century." The POM Historic District was laid out according to a plan based upon three main spaces: the parade ground, Officers' Row, and the cavalry area. During the era of initial development supervised by Quartermaster E.H. Plummer, the buildings, primarily barracks, were designed in a low uniform wooden style. Later elements of Colonial Revival and Classicism were featured in the more prominent buildings. Within the historic district, the outline of the original plan is still visible. The military history significance of the historic district lies in its role in the reorganization of the Army after the Spanish American War to maintain posts for training and mobilization accessible to the Pacific region and its American possessions (POM, Undated).

The POM Historic District is also a zone of archaeological sensitivity. As with El Castillo, more identifying information about archaeological resources cannot be given in a public document.

**Procedures for Archaeological Compliance** – Concerns for effects on archaeological resources at the POM are dealt with by means of strict protocols, known as Standard Operating Procedures #5, #6, and #8 in the ICRMP, for archaeological monitoring and the appropriate treatment of any archaeological issues that arise, anticipated or unanticipated (POM, 2004). Per the1993 *Programmatic Agreement Among the United States Army, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer Regarding Routine Maintenance of Historic Properties at the Presidio of Monterey*, all ground-disturbing activities in the POM Historic District and El Castillo require monitoring by an archaeologist who meets the Secretary of Interior's Professional Qualification Standards per 36 CFR Part 61, Appendix A.

**External Historic Properties** – The City of Monterey has several historic districts downtown. The one closest to the POM, a National Historic Landmark, is also shown on Figure 3.16-1. Under Section 106 regulations (36 CFR Part 800), all effects on historic properties within the area of potential effect must be taken into account (City of Monterey, 2000).

### Historic Properties Potentially Affected by RPMP Projects

The following is the affected environment in terms of known cultural resources that could be potentially affected by projects in one or more alternatives of the RPMP. Long-range projects that have no NRHP-eligible or potential future NRHP-eligible architectural resources within their area of potential effect are omitted.

- Short-range Project
  - Barracks Complex Phase I (Project 53789) would construct a 6-story barracks in the parking lot of Building 829 at the western side of the POM. Its area of potential effect includes the POM landfill that is potentially eligible for listing in the NRHP. The Army proposes to construct a 39-space parking lot atop this capped historic landfill. The landfill, archaeological site CA-MNT-1888/H, was originally created circa 1902 not long after the USAG-POM was founded. The site was closed sometime between 1940 and 1947 and has been capped with a protective cover to prevent leaching of hazardous substances. Due to the fact that the protective landfill cap cannot be penetrated for health and safety reasons and the fact that there will be no ground disturbance to construct the proposed parking lot, subsurface archaeological investigations were not completed to determine if the site is eligible for listing in the NRHP. In order to ensure the USAG-POM has made a good faith effort to consider all impacts the Barracks Complex Phase I undertaking may have on cultural resources, the USAG-POM assumed CA-MNT-1888/H was potentially eligible for listing on the NRHP for the purpose of the Section 106 consultation (per 36 CFR 800) with the California SHPO (Appendix E).
  - The associated dining and administration buildings would be in the parking lot of Building 629 or attached to it. Building 629, which was constructed in 1965, is a Cold War Era Unaccompanied Personnel Housing structure that does not require further evaluation or compliance under the NHPA. See Section 4.16 for further details.


*Figure 3.16-1. Historic District with Contributing Structures Identified*

- Long-range Projects

  Barracks Complex Phase IV (Project 61222) would construct a barracks outside of the El Castillo and POM Historic Districts but would necessitate the demolition of some or all of Buildings 631-637 constructed in 1967, which would require NRHP eligibility determinations by the time this project would be implemented. These buildings, identified as the Russian Village, were recommended by PAST Consultants LLC (PAST Consultants, 2012) as potentially eligible for listing on the NRHP as a historic district under National Register Criteria Consideration G: Properties that have Achieved Significance within the Last Fifty Years. The Russian Village was associated with the development of the Russian strategic defense language program and the complex embodies the distinctive characteristics of a type, period, or method of construction. The buildings are of exceptional importance as they represent a unified complex designed and constructed to teach the Russian language to military personnel to enhance the United States' national security effort during the Cold War. Understanding of the Russian language and culture was paramount in a variety of Cold War efforts, particularly counterintelligence. Graduates of the Russian language program worked throughout the world protecting the U.S. and enhancing its national security during the Cold War.

  - Classroom Renovation I and II (Projects 25091 and 4134) would renovate GIBs 620 and 624, which were built in 1965 and 1957, respectively. They are not within El Castillo or the POM Historic Districts; however, they are now near or over the threshold of being 50 years old and requiring NRHP-eligibility evaluation.
  - Security Fence Upgrade (Project 57949) would occur within the boundaries of El Castillo and the POM Historic Districts.
  - ACP at Private Bolio Road (Project 58441) would occur within the boundaries of El Castillo and the POM Historic Districts.
  - ACP at High Street (Project 67807) would occur within the boundary of the POM Historic District.
  - Water Diversion (Project 55996) would occur within the boundary of the POM Historic District.
  - Multi-Level Parking Structures (Projects 70937 and 70942) and GIBs (Projects 68730 and 68882) would occur adjacent to the boundary of the POM Historic District.

#### 3.16.3.2 OMC

The OMC is a remnant of the former Fort Ord, which originated as a 16,000-acre tract of land purchased in 1917 for a maneuver area for the POM and later expanded to 27,000 acres. Although first termed the Gigling Reservation and operated as an annex to the POM, Fort Ord quickly overshadowed the POM in the scale of its troop training activities, all of which migrated to Fort Ord after World War II. Fort Ord was a major troop induction and basic training facility for the Army from World War II through the Panama incursion. However, it was decided during the 1991 round of implementation of the BRAC Act to close Fort Ord. An 812-acre parcel, the OMC, remained in Army control to accommodate military and civilian teacher housing for the POM (POM, 2004).

The OMC's geographic setting, coastal plain not headland, differs from the POM as does its post-1940 military history. However, the summary above of the prehistoric era, early European exploration, Spanish/Mexican period, and American period historical themes for POM can be taken to apply to OMC as well, albeit for a more remote and non-urbanized setting. The OMC's location is just east of State Highway 1, which separates it from the coastal dunes of Monterey Bay, and roughly at the midpoint of the north–south

extent of the former Fort Ord. The OMC does not extend into the vast hinterland of flat scrubland to the east.

Although the 2004 ICRMP applies to the OMC as well as the POM and gives some historical background for the former Fort Ord, it is not clear that the events and cultural resources described have a direct relevance to the OMC parcel. The OMC is currently developed with communities of privatized housing units on government-owned land and served by a few joint recreational and community support facilities. The OMC contains Capehart Wherry residential housing units that are exempt from further consideration under the NHPA per the ACHP Program Comment on Army Capehart and Wherry-Era Family Housing (1949–1962) (USACE 2003). The OMC also contains buildings of very recent date and several that are approaching 50 years old. Determination of NRHP eligibility would be required or if they are affected by an RPMP project.

The listing above of the affected environment for non-archaeological historic properties contains only listings for the POM, but not the OMC, because (1) the short-range project for all action alternatives would occur only at the POM, and (2) the OMC lacks any known NRHP or potential NRHP architectural resources that would require further compliance with the NHPA. This issue is discussed more fully in Section 4.16.

### 3.16.4 Native American Interest

The California Native American Heritage Commission (NAHC) maintains a Sacred Lands Inventory and a Native American contact list for the state of California. No federally recognized Native American tribes have been identified in Monterey County by the NAHC. However, the federally recognized Santa Ynez Band of Chumash Indians, whose reservation is located in Santa Barbara County, has interests in southern Monterey County, but not at the POM or the OMC. To date, no federally recognized tribe has asserted cultural affiliation with, or past occupancy of, the POM or the OMC.

Review of the Sacred Lands Inventory in the location of the short-range project identified in the EIS failed to indicate the presence of cultural resources in the project area; however, the NAHC has provided a list of 13 non-federally recognized Native American contacts in Monterey County that may have locations of concern in the project area. The NAHC's coordination with these groups is described in Section 4.16.1.2 and documented in Appendix E.

## 3.17 RESOURCES NOT EVALUATED IN DETAIL

The following resources are not discussed in detail because the Proposed Action would have no effect on these resources.

### 3.17.1 Agricultural Resources

There are no agricultural resources within the study area or surrounding the study area that would be affected by the Proposed Action.

### 3.17.2 Indian Trust Assets

Indian Trust Assets (ITAs) are defined as legal interests in property held in trust by the United States government for Indian tribes or individuals, or property protected under United States law for Indian tribes and individuals. Federal agencies are required to take responsibility for protection and maintenance of ITAs.

There are no known ITAs or treaty rights exercised by federally recognized Native American tribes on the POM or the OMC, and no reservation or trust lands border the POM or the OMC.

#### 3.17.2.1 Department of Defense American Indian and Alaska Native Policy

The DoD Annotated American Indian and Alaska Native Policy (October 27, 1999), a component of DoD Policy 14710.02, governs DoD interactions with federally recognized tribes. The policy outlines DoD trust obligations, communication procedures with tribes on a government-to-government basis, consultation protocols, and actions to recognize and respect the significance that tribes ascribe to certain natural resources and properties of traditional cultural or religious importance. The policy requires consultation with federally recognized tribes for proposed activities that could significantly affect tribal resources or interests.

The California NAHC maintains a Native American Contact List for the state of California. No federally recognized Native American tribes have been identified in Monterey County by the NAHC. To date, no federally recognized tribe has asserted cultural affiliation with, or past occupancy of, the POM or the OMC.

### 3.17.3 Recreation

Except for Huckleberry Hill Preserve and Lower Presidio Park, recreation facilities on the POM are available only for military personnel. Public access to the Huckleberry Hill Preserve is gained through Veteran's Memorial Park in the City of Monterey. The public cannot enter the preserve legally by crossing Army property. The Proposed Action would not change public access to the nature preserve. Construction activities would not affect recreation at the Lower Presidio Park, which is leased to the City of Monterey. There would be no effect on the public's use of, or access to, the park as a result of the Proposed Action. The Proposed Action would not affect any existing public recreation facilities.

Construction activities under the Proposed Action would not affect existing recreation facilities at the POM. A new indoor swimming pool is proposed at the Price Fitness Center, which would be a benefit to recreation for military personnel and families; it would not be open to the public.

The OMC does not have formal outdoor recreation areas. Land on the former Fort Ord adjacent to the OMC does provide public recreational opportunities including golfing, hiking, mountain biking, horseback riding, and nature study. Construction would not affect the use of the recreation areas because they are outside of the OMC, away from construction activities. A teen center is proposed for construction at the OMC, which would be a benefit to military families; it would not be open to the public.

There would be negligible effects on public recreation facilities; therefore, recreation is not further evaluated.

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# 4. ENVIRONMENTAL CONSEQUENCES AND MITIGATION

This section presents the assessment of environmental impacts of the RPMP for each of the alternatives. The environmental consequences represents the culmination of scientific and analytic analysis of potential effects arising from the implementation of the Proposed Action. As required by NEPA and Army implementing regulations, this EIS addresses impacts associated with the No Action Alternative and the two action alternatives—Alternatives 1 and 2. Mitigation measures for potential adverse impacts, when applicable, are also discussed. Mitigation measures, per the Army NEPA regulations and 40 CFR 1508.20, may include avoidance of effect; minimization of effect; repair, rehabilitation, or restoration of effect; reduction of effect; and/or compensation for effect.

## 4.1 WATER SUPPLY

This section describes the environmental consequences of the RPMP development alternatives on the water supply. Effects on the potable water supply would be considered significant if the proposed projects created a total demand that exceeded the available supply. Projected water needs compared to the available supplies under each alternative are discussed here, with additional details provided in Appendix D, Revised Water Impact Analysis.

### 4.1.1 No Action Alternative

Under the No Action Alternative, construction would not occur. After the FY11 GIB, which is currently under construction, is brought online, the POM would still have an annual water use less than the average use of water during 2005 to 2010. Water demand under the No Action Alternative is summarized in Table 4.1-1. Construction would not occur at the OMC under the No Action Alternative so water demand would be unchanged from the existing conditions.

Under the No Action Alternative, the overall water demand would be unchanged at the POM and the OMC. Due to water conservation measures, the water demand at the POM would be about 19 AFY less than the average (166 AFY) for the 2005 to 2010 time period. Because of the existing available water supply, water conservation measures, and the lack of demand for new sources, this alternative would have less-than-significant effects on the potable water supply.

| Table 4.1-1. No Action Alternative – Water Availability Summary | | |
|---|---|---|
| Type | POM (AFY) | OMC (AFY) |
| Water usage, existing conditions (2010) | 147.1 | 1,220.4 |
| New demand: | | |
| Short-range construction | 0 (1) | 0 |
| Long-range construction | 0 | 0 |
| Total new water demand, No Action Alternative | 0 | 0 |

*(1) FY11 GIB will be brought online during this period, but water demand was permitted prior to 2011 as shown in Table 3.1-1.*

Table 3.1-1 shows a water use credit (a demand reduction) of 13.9 AFY, which is the net amount of water use credits minus the water use permits at the POM since 2000, as granted by the MPWMD (MPWMD, 2011 and 2012b). This net credit is due to extensive water conservation measures taken by the POM from 2000–2012, including those listed in Section 3.1.3.3.

In addition to those water conservation projects that have resulted in an original 6.8 AFY water use credit, the POM has aggressively enacted additional water conservation measures that have resulted in an additional 7.1 AFY of water demand reduction. These recent water conservation measures consist of the replacement of 1,115 toilets and 55 urinals across the POM with new, dual flush and/or low-flow toilets and waterless urinals. The POM received this additional water use credit for this reduction from the MPWMD in 2012.

### 4.1.2 Alternative 1: POM-Centric

Alternative 1 places all future primary and support facilities for the DLIFLC within the POM boundaries to maintain a central campus-like atmosphere. The new buildings would include barracks, classrooms, and training facilities. Over the 20-year planning horizon for the RPMP, the new facilities would increase the total new construction demand at the POM by 33.7 AFY, as shown in Table 4.1-2. This 33.7 AFY is for the long-range projects only because the water demand for the short-range project (14.4 AFY) has already been permitted. This 33.7 AFY value also reflects the elimination of a GIB (PN 68883) and the Joint Services Headquarters Building (PN 70943) from the list of long-range projects in the Draft EIS and the Revised Water Impact Analysis in Appendix D. The permitted amount of 14.4 AFY for the short-range project also includes water demand for the Barracks Complex Phase IV. This project was originally listed as a short-range project but now is listed as a long-range project. Approximately 23 AFY of water demand reduction would occur after existing outdated barracks are razed at the POM to provide needed space for the new buildings. This reduction, along with water use credits of 13.9 AFY, would provide 36.9 AFY to meet the needs of the long-range construction projects.

Construction at the OMC under Alternative 1 would be made up of long-range projects that consist of community and other support centers. The new development would increase the projected water demand at the OMC to 1,223 AFY (1,220 AFY from Table 3.1-2 plus 2.8 AFY net new demand). Approximately 329 AFY of the OMC water rights would remain available after the projects are completed (Table 3.1-2). Table 4.1-2 summarizes current water use and projected new demand under Alternative 1.

Table 4.1-2. Alternative 1 (POM-Centric) – Water Use and Demand Summary

| Type | POM (AFY) | OMC (AFY) |
|---|---|---|
| Baseline usage, No Action Alternative | 147.1 | 1,220.4 |
| New demand: | | |
| Short-range construction and Barracks Complex Phase IV (1) | 0 | 0 |
| Long-range construction | 33.7 (2) | 27.2 |
| Demand reduction, facility demolition (3) | (22.6) | 0 |
| Demand reduction (water savings) (4) | (13.9) | 0 |
| Total new water demand, Alternative 1 | (2.8) | 27.2 |

*Note: Parentheses indicate negative values.*

*(1) Water use for the short-range project would be 14.4 AFY, but this water use was previously permitted by MPWMD in 2009 as shown in Table 3.1-1.*

*(2) This does not include water demand for the Barracks Complex Phase IV, which has already been permitted.*

*(3) Includes reduction for barracks Buildings 622 and 627, and 627 dining hall. Does not include original reduction for barracks Building 629 shown in Appendix D as this building is no longer slated for demolition.*

*(4) Water use credits for the POM from MPWMD for water conservation efforts (MPWMD, 2011 and 2012b).*

Alternative 1 would result in a net new construction water demand at the POM and the OMC of -2.8 AFY and 27 AFY, respectively, as compared to the No Action Alternative. These estimates were determined from a programmatic level analysis using conceptual designs of the new buildings. Detailed project level analyses would be required to determine the final water demand under this alternative. Under Alternative 1, the projected total demand at the POM would not exceed the available water credits for new construction. Therefore, there would be no significant water supply effect under Alternative 1. The POM is within the area that is covered under the SWRCB-issued Cease and Desist Order for water use in the MPWMD. However, current demand is permitted, and any additional future demand could be offset by the potential issuance of future water conservation measures or by development of future water supplies in the region.

Projected water demand at the OMC under this alternative would not exceed the site's available supply, so the effects would be less than significant. Transfer of water rights from the OMC to the POM is probably not feasible because such a transfer of water rights would involve interbasin transfer of water in an area that is under regulatory restrictions as a result of the Cease and Desist Order and the Seaside Groundwater Basin Adjudication Decision.

### 4.1.3 Alternative 2: POM and OMC

Under Alternative 2, the short-range project planned for the POM would be unchanged from Alternative 1, but some long-range buildings would be relocated. Barracks Phases II and III and three long-range GIBs located at the POM under Alternative 1would be transferred to the OMC. This redistribution would allow the Army to take advantage of the available water use credits at the OMC and use them to meet a larger portion of the future water demand, as shown in Table 4.1-3. Fewer existing buildings would be razed at the POM because of the reduced space requirements under Alternative 2, so only about 8 AFY of demand reduction would occur. The Joint Services Headquarters Building (PN 70943) has been eliminated from the list of long-range projects in the Draft EIS and the Revised Water Impact Analysis in Appendix D. Combined, these changes allow for the water demand to be met for the projected needs of the POM under this alternative.

Shifting future buildings to the OMC would increase the projected demand by about 37 AFY compared to Alternative 1. The OMC water use credits would be sufficient to absorb this increase and still retain about 357 AFY for development beyond the RPMP planning horizon (Table 3.1-2). Table 4.1-3 summarizes current water use and projected new demand under Alternative 2.

Table 4.1-3. Alternative 2 (POM and OMC) – Water Use and Demand Summary

| Type | POM (AFY) | OMC (AFY) |
|---|---|---|
| Baseline usage, No Action Alternative | 147.1 | 1,220.4 |
| New demand: | | |
| Short-range construction and Barracks Complex Phase IV (1) | 0 | 0 |
| Long-range construction | 4.7 | 63.9 |
| Demand reduction, facility demolition(2) | (8.0) | 0 |
| Demand reduction (water savings) (3)) | (13.9) | 0 |
| Total new water demand, Alternative 2 | (17.2) | 63.9 |

*Note: Parentheses indicate negative values.*

*(1) Water use for the short-range project will be 14.4 AFY but was previously permitted by MPWMD in 2009 as shown in Table 3.1-1.*

*(2) Includes reduction for barracks Building 622. Does not include original reduction for barracks Building 629 as this building is no longer slated for demolition.*

*(2) Water Use Credits for POM from MPWMD for water conservation efforts (MPWMD, 2011 and 2012b).*

*(3) The POM has applied to the MPWMD for an additional Water Use Credit for this reduction and that application is pending.*

Alternative 2 would result in net new construction water demand at the OMC of an estimated 64 AFY, compared to the No Action Alternative. Due to reduced demand at the POM, and building demolition and water use credits, net new construction water demand at the POM would be less than zero for Alternative 2. Because supply would be sufficient to meet the projected Alternative 2 water demand for both short-range and long-range projects, the effects were considered less than significant. These programmatic level

estimates, however, were based on conceptual building designs, so exact water demand may change once detailed, project-specific water analyses are completed. Implementing the mitigation measures described in Section 4.1.5, though not required to avoid a significant impact, could reduce the possibility of future significant effects.

### 4.1.4 Comparative Analysis of the Alternatives

Table 4.1-4 lists the effects of each of the alternatives and compares them to the No Action Alternative. The effects of Alternative 2 on the potable water supply were considered to be less than Alternative 1, but effects under both alternatives would be less than significant because water demand for the projects has been met. Enough water would be available to meet the estimated demand of the short-range and long-range projects at the POM Installation. The implementation of additional conservation measures could result in additional water credits for the POM Installation.

Future developments concerning the Cease and Desist Order and the March 2011 moratorium could affect water supply in the Monterey Region. Mitigation measures to reduce future water demand are described in Section 4.1.5.

Table 4.1-4. Water Supply – Comparative Analysis of Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Projected water demand exceeds available supply at the POM | Less than Significant | Less than Significant | Less than Significant |
| Projected water demand exceeds available supply at the OMC | Less than Significant | Less than Significant | Less than Significant |

### 4.1.5 Mitigation Measures

The following mitigation measures would be implemented to reduce effects on the potable water supply:

**WS-1** – Water conservation measures and BMPs identified in the 2004 POM and OMC Water Management Plan and further refined since that time would be implemented in all new facilities. These measures would include using water saving devices, such as waterless urinals and low-flow toilets, and landscaping with drought tolerant native vegetation. Implementation of these conservation measures would reduce the water needs associated with the new buildings.

**WS-2** – Rainwater collection systems would be installed in all new buildings. Runoff from the roofs and courtyards would be stored in cisterns for use in the buildings' low-flow toilets. Reusing stormwater would offset a portion of the potable water demand from the new buildings.

**WS-3** – Purple piping for recycled water would be installed in all new buildings in anticipation of a future recycled water supply for the POM and the OMC. Recycled water availability is independent of drought conditions and represents one of the few "new" water sources available in the Monterey area. Recycled water could be used to meet non-potable water demand, such as landscape irrigation and toilet flushing, thereby decreasing potable water demand. Implementing this measure would prepare the OMC and the POM for a potential future water source; however, this measure would not affect the identified water supply effects until a recycled water source becomes available.

The following are possible measures that can be considered by the Army as part of its efforts to ensure a long-term water supply for the POM and the OMC. These measures are possibilities for the future and are not currently available mitigation measures. In addition, the Army would follow guidelines for improving water use efficiencies and management as specified in the Executive Order 13514 released on October 5, 2009, that include reducing potable water use by 2 percent annually through the end of FY20. Further details are provided in Appendix D, Revised Water Impact Analysis.

**Water Transfer** – Because water rights above the projected need at the OMC are available, the Army could explore the feasibility of transferring a portion of the OMC's water rights to the POM to reduce the POM's projected supply shortfall under Alternative 1. A water transfer could involve reassigning a portion of the Army's water rights with MCWD (purveyor to the OMC) to Cal-Am (purveyor to the POM). A water transfer would increase the supply of water available to the POM without disrupting the supply/demand balance at the OMC, thereby potentially reducing the water supply effects under Alternative 1 to less-than-significant levels. However, the MPWMD, in its comments on the Draft EIS, stated that this might not be feasible because the transfer of water rights would involve an interbasin transfer of water in an area that is under restrictions associated with the Cease and Desist Order and the Seaside Groundwater Basin Adjudication Decision.

**Water Trade** – One water trade option depends on the fact that Cal-Am serves both the City of Seaside and the POM. A portion of the OMC water rights would be traded to the City of Seaside to augment the City of Seaside's water supply. In turn, the City of Seaside would trade a portion of its Cal-Am water supply allocation to the POM.

**Regional Water Project Buy-In** – The Army could consider contracting additional water from its current water purveyors. Regional water supply projects are being developed that could potentially provide future new water supplies to the POM and the OMC if and when the regional projects are brought online. Many of these projects have had environmental documentation submitted or they are in the construction stage. This measure, however, would be effective only after a regional water supply project is realized.

**Additional Metering and Measures at the La Mesa Military Housing Facility** – The La Mesa Military Housing Complex consists of housing, an elementary school and other facilities operated by the Army on behalf of the U.S. Navy. According to Cal-Am, the Army could consider installing water meters, implementing water conserving measures to claim water use credits, and employing water conservation measures for the proposed development at the POM. Unlike the OMC, which is served by the MCWD, the La Mesa Military Housing Complex is serviced by the MPWMD and the transfer of water credits would be more feasible. Currently, the facility uses about 200 AFY and consumption has been increasing by about 10 percent per year, and the facility has only one master meter, which limits the ability to assess water use and potential water saving measures.

## 4.2 WATER QUALITY

As described in Sections 3.1 and 4.1, drinking water supplies are scarce on the Monterey Peninsula. Surface water resources are important for fish and wildlife habitat, urban and agricultural water supply, and conveying floodwaters. Groundwater is also an important source of urban and agricultural water supply.

This section evaluates potential effects on water quality from the RPMP alternatives. Effects are evaluated based on whether RPMP actions would increase the quantity of stormwater running off-site and potentially discharging to the Monterey Bay during construction and following completion of the proposed projects. No effects on surface water, groundwater, or wetlands are expected as a result of the proposed projects, and no effects on drinking water supplies would occur. Potential effects on stormwater discharges to Monterey Bay are discussed below.

Original development of the POM and OMC properties and the subsequent construction of additional facilities and support structures altered the properties' natural hydrology by installation of buildings, parking areas, etc. Additional alterations to stormwater flow at the POM and OMC would result from the proposed projects, including increasing the amount of impervious surface by the addition of buildings proposed under Alternatives 1 and 2. The effects of these changes would be mitigated via BMPs during and following construction.

Construction projects can affect hydrology and water quality, principally by: (1) operating vehicles from which constituents, such as metals from braking and wheel wear and petroleum hydrocarbons from oils and other lubricants, are deposited on the ground where they can infiltrate the ground or be washed off in stormwater runoff; (2) covering portions of land surfaces with pavement and other impervious surfaces, e.g., for parking, which then exacerbates stormwater runoff that can carry pollutants deposited on paved surfaces to streams and other water bodies and increase peak flows in streams during storm events; and

(3) disturbing soil, which increases soil erosion and sediment transport during storms, increasing turbidity and pollutant levels in downstream water bodies. Typical pollutants in stormwater runoff from impervious surfaces include total suspended solids, nutrients, pesticides, particulate metals, dissolved metals, pathogens, litter, biochemical oxygen demand, and total dissolved solids.

### 4.2.1 No Action Alternative

No construction would occur at the POM or the OMC. Therefore, effects related to water quality under the No Action Alternative would be less than significant.

### 4.2.2 Alternative 1: POM-Centric

#### 4.2.2.1 Short-range Project

The short-range project would occur on the POM. Under Alternative 1, the short-range improvements would consist of construction of the Barracks Complex Phase I.

The proposed Barracks Complex Phase I project has the potential to result in direct effects on stormwater. This project involves construction of new buildings on existing parking lots adjacent to Buildings 829 and 629; however, the parking lots associated with this project would be on undeveloped forested property. This project would require some excavation and grading for the new buildings and parking lots. The Phase I barracks building footprint would be approximately 31,000 square feet with construction on previously developed land. Some of the Barracks Complex Phase I parking areas would be built on impervious surfaces. A slight net increase of approximately 3 acres in disturbed, non-vegetated lands would be associated with the proposed short-range project at the POM, representing an approximate increase of about 3 percent in impervious surface from the current 97 acres to 100 acres. These calculations of impervious surface were based on POM DPW digital data and are an approximation. Minor impervious features including sidewalks, concrete slabs, and some utility features were excluded from existing impervious surface calculations due to lack of available data.

The effect of the barracks projects on surface waters and stormwater quality would be measurable or perceptible but small and localized. With mitigation, changes to water quality would be expected to be small, of little consequence, and localized. Effects would quickly become undetectable. State water quality standards as set forth would not be exceeded. Design consideration would be given to implementation of appropriate soil erosion and sediment control techniques during construction activities to minimize any potential temporary effects on water quality. The POM is also required to comply with the California Stormwater Construction General Permit for all construction sites 1 acre or larger. In addition to protective measures for surface water, the proposed barracks construction project and estimated changes in areas of

impervious surface are not expected to affect the quality and quantity of groundwater underlying the POM due to the additional stormwater management controls described in Section 4.2.5, Mitigation Measures.

#### 4.2.2.2 Long-range Projects

Long-range projects would include additional barracks, GIBs, parking garages, and other improvement projects as listed in Table 2.2-1. There would be short-term water quality effects related to construction and permanent effects related to potential increase of impervious surfaces from long-range projects at the POM. Although most of these projects would be built within the footprint of existing buildings, a net increase of approximately 15 acres in disturbed, non-vegetated lands would be associated with the combined proposed short-range (3 acres) and long-range (12 acres) projects at the POM, representing an approximate increase of about 15 percent total in impervious surface from the current 97 acres to 112 acres at the POM. These calculations of impervious surface were based on POM DPW digital data provided by the POM and are an approximation. Minor impervious features including sidewalks, concrete slabs, and some utility features were excluded from existing impervious surface calculations due to lack of available data.

### 4.2.3 Alternative 2: POM and OMC

#### 4.2.3.1 Short-range Project

Effects on water quality associated with the short-range project under Alternative 2 would be the same as Alternative 1.

#### 4.2.3.2 Long-range Projects

Under Alternative 2, specific long-range projects proposed for the POM under Alternative 1 would instead be constructed at the OMC. Three GIBs and two barracks complexes (Barracks Complex Phase II and Phase III) would be shifted to the OMC. New construction projects at the OMC under Alternative 2 would include the following:

- Emergency Services Center (33,141 square feet)
- Barracks Complex Phase II (165,971 square feet)
- Barracks Complex Phase III (139,160 square feet)
- Three GIBs (110,000 square feet x 3 = 330,000 square feet)

Additional OMC facilities would be renovated under Alternative 2; however, no change in impervious surface area would result from these renovations. Construction of a new VA Clinic and associated parking described in the Draft EIS has been removed from the proposed project.

### 4.2.4 Comparative Analysis of the Alternatives

Table 4.2-1 lists the effects of each of the alternatives and compares them to the No Action Alternative. Alternatives 1 and 2 would have similar effects on water quality.

| Table 4.2-1. Water Quality Resources – Comparative Analysis of Alternatives | | | |
|---|---|---|---|
| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
| Potential for increased stormwater pollution during construction | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Potential for increased stormwater pollution following project completion | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |

### 4.2.5 Mitigation Measures

Stormwater mitigation measures intended to address environmental concerns would include measures taken during and following construction. Short-range construction and demolition activities would result in increased soil disturbance and potential for runoff of sediments into surface waters. Design consideration would be given to implementation of appropriate soil erosion and sediment control techniques during construction activities to minimize any potential temporary effects. Mitigation measures would be put in place to remove pollutants of concern (e.g., solids and oil and grease). The measures would be incorporated into the final engineering design or landscape design of the project and would take into account expected runoff from the new and reconstructed impervious surfaces created by the project. Among such measures to be considered, consistent with the California Stormwater Construction General Permit, are evapotranspiration, infiltration and/or rainwater harvesting and reuse. If these treatment types are determined to be infeasible, landscaped-based treatment measures within underdrains may be used. To that end, the site-specific determination for the preferred BMPs would require detailed geotechnical and design studies that would be completed during the design phase in coordination with the regulatory agencies.

**WQ–1** – The proposed improvements would be constructed in ways that would not exacerbate flooding conditions downstream and would maximize stormwater infiltration and/or storage and minimize stormwater runoff and sediment erosion. The California Stormwater Construction General Permit has developed specific BMPs to achieve strict compliance with federal technology-based and water quality-based standards. The minimum BMPs required by the permit are contingent on the applicable sediment risk level as described by the permit and would include erosion control and sediment control BMPs. Other measures to improve stormwater quality would include good housekeeping practices, non-stormwater management on-site, run-on and run-off control, inspection, maintenance and repair measures, and implementation of a Rain Event Action Plan.

During construction, engineering controls that may be used include hay bales, silt fencing, and inspection, and monitoring would be implemented. Detailed construction plans would be developed at the time of project

design and implementation. The details of each of these measures would be site-specific and described in the SWPPP for construction.

**WQ–2** – As part of the site design, BMPs would include non-structural controls as described in the California Stormwater Construction General Permit, such as green rooftops, impervious pavements, vegetated swales, setbacks and buffers that filter and settle out pollutants and provide for infiltration and/or storage at the POM and the OMC. Designs for the proposed projects may also include elongated trench drains, use of porous pavers in some existing and proposed areas of impervious surface, bio-retention cells, and chamber storage of stormwater (underground stormwater collection systems) in low elevation areas. Selection of a combination of these controls would be made during design of the proposed projects. By implementing these increases in storage, the peak runoff to Monterey Bay would be reduced to being either equal to preconstruction levels or lower as in compliance with the California Stormwater Construction General Permit.

**WQ–3** – Changes from construction can result in increased erosion and sediment transport capacity. Post-construction stormwater performance standards in the California Stormwater Construction General Permit specifically address water quality and channel protection events. Post-construction BMPs for water quality improvement include structural and non-structural controls that detain, retain, or filter the release of pollutants to receiving waters after final stabilization is attained. Examples include downspout disconnection, soil quality preservation/enhancement, and interceptor trees. Specific post-construction BMPs would be selected during project design and would comply with the post-construction runoff requirements of the California Stormwater Construction General Permit.

## 4.3 GEOLOGY, SOILS, AND MINERAL RESOURCES

This section evaluates potential effects on geology, soils, and mineral resources from the RPMP alternatives. Effects are evaluated based on whether RPMP actions would increase risks to human health and safety from seismic events or increase soil erosion. As described in Section 3.3, the POM or OMC are not at risk to liquefaction and landslides. In addition, mineral resources are not being mined at the POM and construction activities would not occur near the known mineral resources sites. There are no known mineral resources at the OMC. This section does not evaluate further the effects related to liquefaction, landslides, or mineral resources.

### 4.3.1 No Action Alternative

Under the No Action Alternative, no construction would occur at the POM or the OMC. Therefore, there would be no effects related to erosion and loss of topsoil under the No Action Alternative. The POM is in a

seismically active area, and people living there are at risk from earthquakes. Population growth at the POM Installation under the No Action Alternative would put more people at risk to earthquake damages. Existing buildings would remain the same, some of which may not meet current seismic design guidelines. Under the No Action Alternative, these buildings would not be retrofitted to prevent seismic damages and would increase risks to public safety from earthquakes. This effect would be significant.

### 4.3.2 Alternative 1: POM-Centric

#### 4.3.2.1 Short-range Project

The short-range project is proposed to begin construction by 2013 and would occur on the POM.

The Barracks Complex Phase I would be constructed on the parking area adjacent to Building 829. This project would likely require some excavation and grading for the new buildings and parking lots. The Barracks Complex Phase I project would require some tree removal as described in Section 4.5. Removed trees would be replaced using in-kind, native trees as described in Section 4.5.2. The Barracks Complex Phase I project barracks building footprint would be approximately 31,000 square feet with construction on previously developed land. Some of the Barracks Complex Phase I parking areas would be built on impervious surfaces. A net increase of approximately 3 acres in disturbed, non-vegetated lands would be associated with the proposed short-range project at the POM. Construction activities on undeveloped lands would result in a greater loss of topsoil than on developed areas, resulting in exposed soil subject to wind and water erosion. The FY11 Barracks would be constructed on a relatively flat surface. The potential for soil erosion for this project would be moderate. Mitigation measure GS-1 (as discussed in Section 4.3.6) includes BMPs to minimize and reduce effects on soil erosion to less-than-significant levels. Adherence to the California Stormwater Construction General Permit and Section 438 of the EISA, combined with the required SWPPP and soil protection BMPs to minimize effects, would reduce the potential effect to less than significant.

Construction of the new barracks would conform to current DoD building codes and standard design guidelines for seismic hazards. Many of the existing barracks were built more than 40 years ago and do not meet existing seismic standards. Replacing the old barracks with modern barracks that increase seismic safety would reduce risks from earthquakes to military personnel living at the POM. This would be a beneficial effect compared to the No Action Alternative.

#### 4.3.2.2 Long-range Projects

Detailed planning and construction of long-range projects would depend on funding availability. Because building details are not available, this EIS analyzes effects of long-range projects at a programmatic level of detail. This section describes general effects on geology and soil resources of proposed construction

associated with the long-range projects. The POM Installation would need to complete supplemental environmental documentation as the planning and design of the projects progresses.

General construction activities that could increase erosion include demolishing existing pavement, removing trees, excavating, grading, removing existing utilities, landscaping, and installing new site utilities. In general, construction on undeveloped areas would result in greater soil erosion potential than redevelopment or new construction in developed, or paved, areas. Soil erosion and fugitive dust effects would be temporary and could be reduced by using common dust suppression techniques, such as spraying the ground with water or using non-toxic soil binders. Water-induced erosion can be reduced similarly by implementing stormwater pollution prevention BMPs.

Building renovations would result in no soil erosion effects. The renovation would occur within the buildings; no excavation or stockpiling of soil would be necessary.

Under Alternative 1, the majority of long-range projects would occur at the POM, and several would be constructed at the OMC. All of the proposed long-range projects at the POM would occur on already developed lands; therefore, the potential for soil erosion during construction would be relatively lower than if all construction were to occur on undeveloped parcels. Several of the proposed long-range projects occurring at the OMC would occur on vacant, undeveloped parcels, and the increased potential for soil erosion at these sites would be considered potentially significant. Mitigation measure GS-1 would reduce this effect to a less-than-significant level.

Construction of the new barracks and GIBs would conform to current DoD building standards and standard design guidelines for seismic hazards. Replacing the old buildings with modern buildings that meet current seismic standards would reduce risks from earthquakes to the military population and visitors at the POM Installation, resulting in a beneficial effect compared to the No Action Alternative.

### 4.3.3 Alternative 2: POM and OMC

#### 4.3.3.1 Short-range Project

Effects from soil erosion and seismic risks associated with the short-range project under Alternative 2 would be the same as Alternative 1.

#### 4.3.3.2 Long-range Projects

Under Alternative 2, the majority of long-range projects would occur at the OMC. Several of the proposed long-range projects at the OMC would occur on vacant, undeveloped parcels. Construction activities that could increase erosion include demolishing existing pavement, removing trees, excavating, grading, removing the existing utilities, landscaping, and installing new site utilities. In general, construction on undeveloped

areas would result in greater soil erosion potential than redevelopment or new construction in developed or paved areas. The potential for soil erosion would be considered significant. Mitigation measure GS-1 would reduce this effect to a less-than-significant level.

Building renovations would result in no effects on soil erosion. The renovations would occur within the buildings and would not require excavation or stockpiling of soil.

Construction of the new barracks and GIBs would conform to current DoD building codes and standard design guidelines for seismic hazards. Replacing the old buildings with modern buildings that meet current seismic standards would reduce risks from earthquakes to the military population and visitors at the POM Installation. This would be a beneficial effect compared to the No Action Alternative.

### 4.3.4 Comparative Analysis of the Alternatives

Table 4.3-1 lists the effects of each of the alternatives and compares them to the No Action Alternative. Alternatives 1 and 2 would have similar effects on geology and soils.

Table 4.3-1. Geology, Soils, and Mineral Resources – Comparative Analysis of Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Potential for increased soil erosion during construction | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Potential for adverse effects from seismic activity | Significant Effect | Beneficial Effect | Beneficial Effect |

### 4.3.5 Mitigation Measures

**GS–1** – The California Stormwater Construction General Permit requires the use of specific BMPs to achieve strict compliance with federal technology-based and water quality-based standards, as described in Mitigation measure WQ-1. For each construction project, Permit Registration Documents would be prepared for submission to the SWRCB and would include a Notice of Intent, Risk Assessment, site map, SWPPP, a signed certification statement, post-construction documentation, and payment of fees. The findings of the Risk Assessment would determine the hazards associated with the site conditions and establish the specific compliance conditions of the permit. A SWPPP is required to be developed prior to construction to address the control of pollutant discharges using BMPs selected for the specific project and to address stormwater monitoring. The BMPs would include but not be limited to the following:

- Schedule construction sequences to minimize land disturbance during rainy and dry seasons
- Provide soil stabilization to steep slope areas

- Provide sediment controls to intercept and slow down stormwater flows
- Cover stockpiled soil
- Use dust suppressants, such as watering soils and unpaved roadways
- Preserve existing vegetation where no construction activities are planned and wherever possible
- Replant/revegetate all exposed disturbed areas immediately upon completion of construction

Following the completion of the development project, the site must meet the conditions for Termination of Coverage by certifying the site has been stabilized and there is no potential for construction-related stormwater discharges. On September 2, 2012, the new post-construction standards went into effect, and post-construction BMPs and long-term maintenance plans are required.

**GS–2** – Military installations are now required to apply EISA requirements to projects that are larger than 5,000 square feet. Construction activities at the POM Installation would adopt LID practices per Section 438 of the EISA. LID techniques would be applied to the extent practical in replicating the pre-development natural hydrology of an area by using small-scale stormwater management design measures that mimic natural processes that slow, filter, infiltrate and detain runoff. These measures would help ensure that receiving waters are not negatively affected by changes in runoff temperature, volumes, durations, and flow rates. Several LID BMPs would include but be not limited to the following:

- Permeable pavement
- Rain gardens, bioretention, and infiltration planters
- Vegetated swales
- Green roofs
- Integration of native riparian buffers
- Rain water harvesting or reuse where permissible

## 4.4 AIR QUALITY

This section evaluates the air quality effects analysis conducted for the RPMP alternatives. Significant air quality effects would occur if any of the predicted emissions from the alternatives exceed applicable federal, state, or local air quality thresholds. Emissions were evaluated for project construction and included construction vehicle exhaust, worker trips, delivery and haul truck trips, fine site grading, paving, and architectural coating activities. Natural gas combustion for heating, landscaping activities, use of consumer products, architectural coating, and vehicular trips were evaluated for project operations. These operational emissions were not considered for existing buildings that are scheduled for renovation because there would be no net change in emissions. The assumption is that trips taken by additional residents are a maximum of 5 miles each way. The URBEMIS 2007 version 9.2.4 air quality model was used to quantify all construction and operational emissions.

The USEPA's final general conformity regulations (40 CFR Part 93, Subpart B) apply to all federal actions, with the exception of those covered under transportation conformity in a non-attainment or maintenance area. If the total of direct and indirect emissions of the relevant criteria pollutants and precursor pollutants caused by the federal action equal or exceed certain *de minimis* rates, then the federal agency is required to make a determination of general conformity. The NCCAB is in attainment for all criteria pollutants at the federal level. No statement of general conformity is required. If the location where the action is to occur has not been designated an NAAQS non-attainment or maintenance area, then no further scrutiny is required and no documentation is required (U.S. Army, 2003b).

The MBUAPCD has established the emissions thresholds listed in Table 4.4-1 to evaluate the significance of a project's air quality effects. The thresholds are based on daily emission rates from both construction and operations. If any of the thresholds are exceeded, than the project would be considered significant for that pollutant. The MBUAPCD has not adopted a significance threshold for GHGs. The CEQ lists 27,558 tons (25,000 metric tons) per year, not necessarily as a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the related NEPA analysis. As stated, this annual indicator may provide a useful, presumptive threshold for discussion and disclosure of GHG emissions because it has been used and proposed in other rulemakings.

Table 4.4-1. MBUAPCD Significance Thresholds

| Pollutant | Pounds per Day |
|---|---|
| Construction | |
| Inhalable particulate matter ($PM_{10}$) | 82 |
| Operations | |
| Carbon monoxide (CO) | 550 |
| Volatile organic compound (VOC) | 137 |
| Nitrogen oxide ($NO_X$) | 137 |
| Sulfur oxide ($SO_X$) | 150 |
| Inhalable particulate matter ($PM_{10}$) (1) | 82 |

*Source: MBUAPCD, 2008b*

*(1) The MBUAPCD's 82 pound/day operational phase threshold of significance applies only to onsite emissions and project-related exceedances along unpaved roads.*

### 4.4.1 No Action Alternative

Under the No Action Alternative, no construction would occur at the POM or the OMC. No effects on air quality are expected.

### 4.4.2 Alternative 1: POM-Centric

#### 4.4.2.1 Short-range Project

The emissions calculations for short-range projects originally analyzed in the Draft EIS included Barracks Phase I, Barracks Phase IV, and Weckerling Center rehabilitation. Subsequent to the project scope and schedule changes, the calculations were revised to those from the single remaining short-range project, Barracks Complex Phase I.

All calculations associated with project construction and operations are listed in Appendix G, Air Quality Emissions. When the emissions calculations were made, the short-range period was defined as 2010–2015, but this period has since been changed by the POM to 2013–2018. The nature of the short-range and long-range projects and the reasonably foreseeable environmental impacts would remain the same despite this change in timing. Therefore, the modeling and emissions calculations in Appendix G were maintained with the original date ranges.

The short-range project construction emissions are summarized in Table 4.4-2. $PM_{10}$ emissions from construction of the short-range project would range between 3 and 64 pounds per day and would not exceed MBUAPCD significance thresholds for $PM_{10}$; therefore, construction air quality effects from this project would be less than significant.

Table 4.4-2. Unmitigated Construction Emissions from Short-range Project

| Project Year[1] | CO | ROG/VOC | NOx | SOx | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ |
|---|---|---|---|---|---|---|---|
| Peak Daily Emissions (pounds per day) | | | | | | | |
| 2010 | 55 | 9 | 68 | 0 | 64 | 16 | 8,613 |
| 2011 | 46 | 96 | 38 | 0 | 3 | 3 | 5,038 |
| MBUAPCD Threshold | NA | NA | NA | NA | 82 | NA | NA |
| Annual Emissions (tons per year) | | | | | | | |
| 2010 | 2 | <1 | 3 | 0 | 2 | <1 | 347 |
| 2011 | 3 | 3 | 2 | 0 | <1 | <1 | 347 |
| CEQ | NA | NA | NA | NA | NA | NA | 27,558[2] |

Notes: Project analyzed includes Barracks Complex Phase I construction and demolition. Demolition emissions are overestimated due to the reduction in demolition that will be required with changes in project scope that occurred after air emissions calculations.

CO = carbon monoxide, ROG/VOC = reactive organic gas/volatile organic compound, NOx = nitrogen oxide, SOx = sulfur oxide, $PM_{10}$ = inhalable particulate matter, $PM_{2.5}$ = fine particulate matter, $CO_2$ = carbon dioxide, NA = not applicable.

*(1) Project year was year used in air quality emissions calculations. Although the project schedule has changed the original project years were kept in data tables to be consistent with information presented in Appendix G.*

*(2) The CEQ does not necessarily propose this level as a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the related NEPA analysis; however, as stated, this annual indicator (27,558 tons [25,000 metric tons]) may provide a useful, presumptive, threshold for discussion and disclosure of GHG emissions because it has been used and proposed in other rulemakings.*

Construction-related activities would result in short-term project-generated emissions of diesel particulate matter (DPM) from the exhaust of off-road heavy-duty diesel equipment for site preparation and construction activities. These emissions would be intermittent, vary through the site area, and be of a relatively short duration. DPM was identified as a TAC by the CARB in 1998. According to the CARB, the potential cancer risk from the inhalation of DPM is a more serious risk than the potential non-cancer health effects (CARB, 2003). Consequently, for the purposes of this analysis, the discussion below focuses on cancer rather than non-cancer risks.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TACs to be compared to applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual (MEI). Thus, the risks estimated for a MEI are higher if a fixed exposure occurs over a longer period.

According to the authoritative agencies that provide guidance on this subject (e.g., Office of Environmental Health Hazard Assessment, California Air Pollution Control Officers Association [CAPCOA]), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the actual period/duration of activities in question (e.g., short and sporadic nature of construction activities). Consequently, it is important to consider that the use of off-road heavy-duty diesel equipment would be limited to the construction period, which would be substantially less than 70 years, the total exposure period for which health risk is based upon. Also, studies show that DPM is highly dispersive (e.g., decrease of 70 percent at 500 feet from source) (CARB, 2005; Zhu et al., 2002). A majority of the total construction activities would occur more than 500 feet from the nearest sensitive receptors. In addition, if said activities were to occur within 500 feet, such activities would be temporary in duration. Thus, because the use of mobilized equipment would be temporary in comparison to the total exposure period for which risk is based upon in combination with the dispersive properties of DPM (Zhu et al., 2002) and that project construction activities would not be atypical in comparison to similar development-type projects (i.e., no excessive material transport or associated truck travel), short-term construction activities would not result in the exposure of sensitive receptors to substantial TAC concentrations. Thus, this effect would be less than significant.

Table 4.4-3 lists the operational emissions from the short-range project in peak pounds per day and tons per year. All operational-related trips are assumed to be a maximum of 5 miles each way, and default assumptions in the URBEMIS model were used to estimate operational emissions. Only project-related emissions are presented in Table 4.4-3, or the increment between the No Action Alternative and the action

alternatives. If a specific phase of the project included the construction of a new building in conjunction with the demolition of an existing building, then only the difference between operational emissions of the demolished building and the new construction were determined. Increases in vehicular emissions were determined for the additional military personnel housed in new barracks; it was assumed that current military personnel are already making trips to existing buildings and the addition of buildings would not increase their vehicle emissions. Additionally, if a proposed phase only included the renovation or other improvements to an existing building that did not include the addition of any new building space, then it was assumed that no net increase in vehicular trips or other project operations would occur.

| Table 4.4-3. Unmitigated Operational Emissions from Short-range Project | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Year[1] | CO | ROG/VOC | $NO_X$ | SOx | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ |
| Peak Daily Emissions (pounds per day) | | | | | | | |
| 2011 | 42 | 9 | 6 | 0 | 4 | 1 | 3,254 |
| MBUAPCD Threshold | 550 | 137 | 137 | 150 | 82 | NA | NA |
| Annual Emissions (tons per year) | | | | | | | |
| 2011 | 45 | 10 | 7 | 0 | 5 | 1 | 3,624 |
| CEQ | NA | NA | NA | NA | NA | NA | 27,558[2] |

Notes: Project analyzed includes Barracks Complex Phase I construction and demolition. Demolition emissions are overestimated due to the reduction in demolition that would be required from changes in project scope that occurred after air emissions were calculated.

CO = carbon monoxide, ROG/VOC = reactive organic gas/volatile organic compound, NOx = nitrogen oxide, SOx = sulfur oxide, $PM_{10}$ = inhalable particulate matter, $PM_{2.5}$ = fine particulate matter, $CO_2$ = carbon dioxide, NA = not applicable.

*(1) Project year was year used in air quality emissions calculations. Although the project schedule has changed the original project years were kept in data tables to be consistent with information presented in Appendix G.*

*(2) The CEQ does not necessarily propose this level as a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the related NEPA analysis; however, as stated, this annual indicator (27,558 tons [25,000 metric tons]) may provide a useful, presumptive, threshold for discussion and disclosure of GHG emissions because it has been used and proposed in other rulemakings.*

Operational emissions from the short-range project would not exceed MBUAPCD significance thresholds for criteria pollutants or the CEQ's indicator for GHGs; therefore, operational air quality effects from the short-range project would be less than significant. Operations emissions calculated for the short-range project and long-range projects under Alternative 1 are considered conservative because the assumed trip rates do not fully account for the compact nature of the POM. Operational emissions from vehicle trips are likely overestimated and may be less during actual project operations.

Because the use of mobilized equipment would be temporary in comparison to the total exposure period for which risk is based upon in combination with the dispersive properties of DPM (Zhu et al., 2002) and because project construction activities would not be atypical in comparison to similar development-type projects (i.e., no excessive material transport or associated truck travel), short-term construction activities

would not result in the exposure of sensitive receptors to substantial TAC concentrations. Thus, this effect would be less than significant.

#### 4.4.2.2 Long-range Projects

Detailed planning and construction of long-range projects would begin between 2019 and 2030, depending on funding availability. Because building details are not available, this EIS analyzes effects of long-range projects at a programmatic level of detail. The air emissions analysis utilizes the former long-range term project years of 2016 through 2030 as previously described. Further, long-range projects analyzed include the Barracks Phase IV project that was originally analyzed as a short-range project as shown in the data tables in Appendix G. The project years used for the Barracks Phase IV Complex are 2014-2015 in Appendix G and this section, although the actual construction dates would occur after 2019. This section describes general effects on air quality from proposed construction associated with the long-range projects. The POM Installation would need to complete supplemental environmental documentation as the planning and design of the projects progress.

Information on building projects construction start and end dates are not available at this time; therefore, for analysis purposes, it is assumed that long-range projects are constructed at the beginning of the currently proposed construction schedule. This is a conservative assumption made for the purposes of analyzing potential air quality effects and may not represent the actual construction schedule of the long-range projects that would be constructed, depending on available funding and other considerations. The only exception to this assumption is the construction of Barracks Complex Phase III, which was assumed to occur after the construction of the Barracks Complex Phase II.

Construction emissions were quantified for the long-range projects. Table 4.4-4 lists the peak daily and total annual emissions from construction of these long-range projects. All projects and the calculations associated with construction and operation are listed in Appendix G, Air Quality Emissions. Construction emissions that would occur in the early part of the long-range period would exceed the MBUAPCD threshold of significance for $PM_{10}$ and would need to be mitigated.

Table 4.4-5 lists the operational emissions from the long-range projects in peak pounds per day and annual tons. All operations-related trips are assumed to be a maximum of 5 miles each way, and new construction is assumed require additional landscaping, heating, and VOC-containing product needs. Only project-related emissions are included in the analysis, or the increment between the No Action Alternative and the proposed project. If a specific phase of the project included the construction of a new building in conjunction with the demolition of an existing building, then only the difference between operational emissions of the demolished building and the new construction were determined. Increases in vehicular emissions were determined for

the additional military personnel housed in new barracks; it was assumed that current military personnel are already making trips to existing buildings and the addition of buildings would not increase their vehicle emissions. Additionally, if a proposed phase only included the renovation or other improvements to an existing building that did not include the addition of any new building space, then it was assumed that no net increase in vehicular trips or other project operations would occur.

| Table 4.4-4. Unmitigated Construction Emissions from Long-range Projects | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Year[1] | CO | ROG/VOC | $NO_X$ | SOx | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ |
| Peak Daily Emissions (pounds per day) | | | | | | | |
| 2014 | 63 | 10 | 67 | 0 | 63 | 16 | 12,126 |
| 2015 | 47 | 150 | 32 | 0 | 2 | 2 | 6,630 |
| 2016 | 87 | 242 | 111 | 0 | 125 | 30 | 19,525 |
| 2017 | 45 | 117 | 55 | 0 | 71 | 16 | 14,186 |
| 2018 | 22 | 15 | 13 | 0 | 43 | 9 | 3,537 |
| 2019 | 22 | 101 | 12 | 0 | 1 | 1 | 3,626 |
| 2020 | 29 | 320 | 22 | 0 | 85 | 18 | 5,501 |
| 2025 | 26 | 205 | 23 | 0 | 48 | 11 | 6,644 |
| MBUAPCD Threshold | NA | NA | NA | NA | 82 | NA | NA |
| Annual Emissions (tons per year) | | | | | | | |
| 2014 | 2 | 0 | 3 | 0 | 2 | 0 | 450 |
| 2015 | 6 | 4 | 2 | 0 | 0 | 0 | 385 |
| 2016 | 6 | 5 | 5 | 0 | 3 | 1 | 1,039 |
| 2017 | 3 | 3 | 2 | 0 | 2 | <1 | 573 |
| 2018 | 3 | 1 | 2 | 0 | 1 | <1 | 432 |
| 2019 | 1 | 2 | 1 | 0 | <1 | <1 | 211 |
| 2020 | 2 | 4 | 2 | 0 | 1 | <1 | 414 |
| 2025 | 2 | 3 | 2 | 0 | 1 | <1 | 488 |
| CEQ | NA | NA | NA | NA | NA | NA | 27,558[2] |

*Notes:* Values shown in **bold** exceed the threshold of significance.

Projects analyzed includes Barracks Complex Phase IV construction and demolition.

CO = carbon monoxide, ROG/VOC = reactive organic gas/volatile organic compound, NOx = nitrogen oxide, SOx = sulfur oxide, $PM_{10}$ = inhalable particulate matter, $PM_{2.5}$ = fine particulate matter, $CO_2$ = carbon dioxide, NA = not applicable.

*(1) Project year was year used in air quality emissions calculations. Although the project schedule has changed the original project years were kept in data tables to be consistent with information presented in Appendix G.*

(2) The CEQ does not necessarily propose this level as a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the related NEPA analysis; however, as stated, this annual indicator (27,558 tons [25,000 metric tons]) may provide a useful, presumptive, threshold for discussion and disclosure of GHG emissions because it has been used and proposed in other rulemakings

| Table 4.4-5. Unmitigated Operational Emissions from Long-range Projects | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Year[1] | CO | ROG/VOC | $NO_X$ | SOx | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ |
| Peak Daily Emissions (pounds per day) | | | | | | | |
| 2015 | 15 | 11 | 4 | 0 | 7 | 2 | 5,484 |
| 2016 | 5 | 1 | 1 | 0 | <1 | <1 | 945 |
| 2017 | 61 | 15 | 9 | 0 | 9 | 2 | 7,754 |
| 2018 | 61 | 15 | 9 | 0 | 9 | 2 | 7,754 |
| 2019 | 61 | 15 | 9 | 0 | 9 | 2 | 7,754 |
| 2020–2030 | 67 | 18 | 13 | 0 | 9 | 2 | 12,009 |
| MBUAPCD Threshold | 550 | 137 | 137 | 150 | 82 | NA | NA |
| Annual Emissions (tons per year) | | | | | | | |
| 2015 | 41 | 10 | 6 | 0 | 5 | 1 | 3,030 |
| 2016 | 1 | <1 | <1 | 0 | <1 | <1 | 172 |
| 2017 | 10 | 3 | 2 | 0 | 2 | <1 | 1,410 |
| 2018 | 10 | 3 | 2 | 0 | 2 | <1 | 1,410 |
| 2019 | 10 | 3 | 2 | 0 | 2 | <1 | 1,410 |
| 2020–2030 | 11 | 3 | 2 | 0 | 2 | <1 | 2,186 |
| CEQ | NA | NA | NA | NA | NA | NA | 27,558[2] |

*Notes: CO = carbon monoxide, ROG/VOC = reactive organic gas/volatile organic compound, NOx = nitrogen oxide, SOx = sulfur oxide, $PM_{10}$ = inhalable particulate matter, $PM_{2.5}$ = fine particulate matter, $CO_2$ = carbon dioxide, NA = not applicable.*

*(1) Project year was year used in air quality emissions calculations. Although the project schedule has changed the original project years were kept in data tables to be consistent with information presented in Appendix G.*

*(2) The CEQ does not necessarily propose this level as a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the related NEPA analysis; however, as stated, this annual indicator (27,558 tons [25,000 metric tons]) may provide a useful, presumptive, threshold for discussion and disclosure of GHG emissions because it has been used and proposed in other rulemakings.*

Operational emissions from long-range projects do not exceed MBUAPCD significance thresholds for criteria pollutants or the CEQ's indicator for GHGs; therefore, operational air quality effects from long-range projects would be less than significant.

Because the use of mobilized equipment would be temporary in comparison to the total exposure period for which risk is based upon in combination with the dispersive properties of DPM (Zhu et al., 2002) and because project construction activities would not be atypical in comparison to similar development-type projects (i.e., no excessive material transport or associated truck travel), short-term construction activities would not result in the exposure of sensitive receptors to substantial TAC concentrations. Thus, this effect would be less than significant.

Annual GHG emissions from construction and operations would be well below the 27,558 tons listed by the CEQ as an indicator of a minimum level of GHG emissions that may warrant some description in the related NEPA analysis. GHG emissions from the short- and long-range projects would not have a significant effect on the climate as a whole.

#### Fugitive Dust from Construction

Alternative 1 has the potential to exceed existing air quality thresholds for fugitive dust ($PM_{10}$ and $PM_{2.5}$) from construction vehicles and equipment and soil disturbance. Due to the proximity of the POM to neighborhoods, this effect would be potentially significant. Mitigation measure AIR-1 would reduce this effect to a less-than-significant level.

### 4.4.3 Alternative 2: POM and OMC

#### 4.4.3.1 Short-range Project

Construction and operations-related air quality effects associated with the short-range project under Alternative 2 would be the same as Alternative 1. Effects would be less than significant.

#### 4.4.3.2 Long-range Projects

Under Alternative 2, the same long-range projects would occur at the OMC rather than at the POM under Alternative 1. The same level of construction activity is expected at the OMC under Alternative 2 as would occur at the POM under Alternative 1. The emissions from long-range project construction and operations in Table 4.4-4 and Table 4.4-5 would be the same as under Alternative 2. Air quality effects for the long-range projects would be less than significant.

#### Fugitive Dust from Construction

Similarly to Alternative 1, the Alternative 2 long-range projects could exceed existing air quality thresholds for $PM_{10}$ from construction vehicles and equipment. Mitigation measure GS-1 would reduce this effect to a less-than-significant level.

### 4.4.4 Comparative Analysis of the Alternatives

Table 4.4-6 lists the effects of each of the alternatives and compares them to the baseline emissions, which are assumed to be zero. All alternatives would be below the existing air quality thresholds established by the MBUAPCD for construction and operation after mitigation. Construction would generate a substantial amount of fugitive dust, and both alternatives would have potentially significant fugitive dust effects, but these effects would be mitigated to less-than-significant levels with the mitigation measure GS-1.

The long-range construction projects under both Alternative 1 and 2 were analyzed at a programmatic level. For purposes of analysis, the long-range constructions projects were spread out over a period of 11 years in order to bring emissions below the MBUACPD air quality thresholds. The schedule for construction of the long-range projects is currently unknown and would depend on funding and other considerations. If the construction of the long-range projects (Alternative 1 or 2) occur in less than 11 years, there may be

substantial air quality effects. Additional environmental analysis would be required for the long-range projects when construction schedules are known to determine potential air quality effects.

There would be additional vehicle trips between the POM and OMC under Alternative 2, but the additional vehicle emissions would not be significant.

| Table 4.4-6. Air Quality – Comparative Analysis of the Alternatives | | | |
|---|---|---|---|
| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
| Construction effects would exceed applicable air quality thresholds | No Effect | Less than Significant | Less than Significant |
| Operation effects would exceed applicable air quality thresholds | No Effect | Less than Significant | Less than Significant |
| Construction effects would result in substantial fugitive dust | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |

### 4.4.5 Mitigation Measures

Construction emission effects from the No Action Alternative and long-range projects could be reduced to below the significance threshold by the following mitigation measures (Table 4.4.-7).

| Table 4.4-7. Mitigated Construction Emissions from Long-range Projects | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Year[1] | CO | ROG/VOC | $NO_X$ | SOx | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ |
| Peak Daily Emissions (pounds per day) | | | | | | | |
| 2014 | 63 | 10 | 67 | 0 | 48 | 13 | 12,126 |
| 2015 | 47 | 150 | 32 | 0 | 2 | 2 | 6,630 |
| 2016 | 87 | 242 | 111 | 0 | 73 | 19 | 19,525 |
| 2017 | 45 | 117 | 55 | 0 | 71 | 16 | 14,186 |
| 2018 | 22 | 15 | 13 | 0 | 17 | 4 | 3,537 |
| 2019 | 22 | 101 | 12 | 0 | 1 | 1 | 3,626 |
| 2020 | 29 | 320 | 22 | 0 | 34 | 8 | 5,501 |
| 2025 | 26 | 205 | 23 | 0 | 20 | 5 | 6,644 |
| MBUAPCD Threshold | NA | NA | NA | 150 | 82 | NA | NA |
| Annual Emissions (tons per year) | | | | | | | |
| 2014 | 2 | 0 | 3 | 0 | 1 | 0 | 450 |
| 2015 | 3 | 4 | 2 | 0 | 0 | 0 | 385 |
| 2016 | 6 | 5 | 5 | 0 | 2 | 1 | 1,039 |
| 2017 | 3 | 3 | 2 | 0 | 2 | <1 | 573 |
| 2018 | 3 | 1 | 2 | 0 | <0.01 | <0.01 | 432 |
| 2019 | 1 | 2 | 1 | 0 | <1 | <1 | 211 |

| Table 4.4-7. Mitigated Construction Emissions from Long-range Projects | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project Year[1] | CO | ROG/VOC | $NO_X$ | SOx | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ |
| 2020 | 2 | 4 | 2 | 0 | 1 | <1 | 414 |
| 2025 | 2 | 3 | 2 | 0 | 1 | <1 | 488 |

*Notes: CO = carbon monoxide, ROG/VOC = reactive organic gas/volatile organic compound, NOx = nitrogen oxide, SOx = sulfur oxide, $PM_{10}$ = inhalable particulate matter, $PM_{2.5}$ = fine particulate matter, $CO_2$ = carbon dioxide, NA = not applicable.*

*(1) Project year was year used in air quality emissions calculations. Although the project schedule has changed the original project years were kept in data tables to be consistent with information presented in Appendix G.*

**AIR-1** – This mitigation measure would include the implementation of the following BMPs stated in GS-1 in Section 4.3.6:

- Schedule construction sequences to minimize land disturbance during rainy and dry seasons
- Provide soil stabilization to steep slope areas
- Cover stockpiled soil
- Use dust suppressants such as watering soils and unpaved roadways
- Preserve existing vegetation where no construction activities are planned and wherever possible
- Replant/revegetate all exposed disturbed areas immediately upon completion of construction

This mitigation measure also would include specifying some of the following BMPs/construction controls:

- Apply water to surfaces three times a day
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days)
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations, and hydro-seed areas
- Haul trucks shall maintain at least 2 feet of freeboard (the empty space below top of the trailer)
- Cover all trucks hauling dirt, sand, or loose materials
- Locate construction equipment and staging areas away from sensitive receptors and fresh air intakes to buildings and air conditions
- Reduce use, trips, and unnecessary idling from heavy equipment
- Maintain and tune engines per manufacturer's specifications to perform at the CARB- and USEPA-certification levels and at verified standards applicable to retrofit technologies
- Limit idling for all vehicles
- Prohibit tampering with engines and require continuing adherence to manufacturer's recommendations
- If practicable, lease new, clean equipment meeting the most stringent of applicable federal and state standards

If practicable, use USEPA-registered particulate traps and other appropriate controls, where suitable, to reduce emissions.

Implementation of AIR-1 would reduce effects from construction-generated emissions to less-than-significant levels.

No new construction is planned at the OMC other than that proposed under the RPMP alternatives. There would be no cumulative effects on air quality.

## 4.5 VEGETATION AND WILDLIFE

This section describes the environmental consequences of the RPMP alternatives on vegetation and wildlife. A Biological Assessment for federally listed species has been prepared and submitted to the USFWS in accordance with Section 7 of the federal ESA (ICF International, 2013). The USFWS will continue to be consulted as necessary as biological issues arise on long-term and future projects included in the RPMP. If unanticipated effects on special status species not included in the original assessment occur, or if new species information becomes available, additional consultation with the USFWS may be reinitiated. This EIS contains the proposed conservation measures included in the Biological Assessment. The Army expects to receive a Biological Opinion from the USFWS on the RPMP in 2013.

This vegetation and wildlife analysis assumes all areas disturbed during construction and not covered with impermeable surface as a result of construction would be returned to pre-project conditions or better after construction is complete in accordance with the NPDES stormwater construction requirements and the INRMP. As discussed in Section 3.5.3, limited wetland resources occur along intermittent streams/drainages that are located along the southern boundary of the POM. Wetlands associated with the original siting of the FY18 Barracks, as described in the Draft EIS, would no longer be affected at the POM as a result of relocation of the barracks. No wetlands exist at the OMC; therefore, there would be no effects on wetlands, and they are not discussed further in this section. Effects on vegetation and wildlife would be considered significant if the Proposed Action would:

- Substantially cause direct or indirect effects on individuals or populations of species listed or proposed for listing as threatened or endangered under federal or state endangered species legislation
- Substantially diminish a regionally or locally important fish or wildlife species
- Result in the substantial incidental loss or disturbance of fertile eggs or nestlings of migratory birds, including raptors, or any activities resulting in a substantial nest abandonment
- Result in a substantial infusion of exotic plant or animal species

### 4.5.1 No Action Alternative

Under the No Action Alternative, no construction would occur, and there would be no effects on vegetation and wildlife at the POM and the OMC.

### 4.5.2 Alternative 1: POM-Centric

#### 4.5.2.1 Short-range Project

The new barracks for the Barracks Complex Phase I project would be located on the parking lot north of Building 829. The Phase I dining and administrative facilities, and associated parking and supporting infrastructure, would be located within existing developed areas (e.g., parking, existing buildings, and landfill area). Minimal effects on some trees and landscaped areas would occur and would be replaced in accordance with the INRMP.

The short-range project no longer requires moving the Huckleberry Hill Nature Preserve fence line, which would have resulted in decreasing the size of the nature preserve as originally presented in the Draft EIS. Redesign and planning have resulted in a reduction in vegetation disturbance in these previously described areas.

The preferred site for the Barracks Phase I, building has been relocated to use the existing footprint of the parking lot north of Building 829. Barracks would no longer be constructed within the forested areas east of Building 829, thereby avoiding tree removal at these sites and effects on wetlands. The selected area has been previously disturbed and is of sufficient size to allow sensitive placement of the building so that effects on natural resources would be considerably reduced.

Associated parking lots would be constructed within both undeveloped and developed areas and would require tree removal to varying extent. The parking areas associated with the FY11 Barracks building would require some tree removal. Tree removal would be avoided or minimized as much as possible during construction through the implementation of mitigation measures BIO-3, BIO-4, BIO-8, BIO-10, and BIO-12 and in accordance with the INRMP and tree mitigation plan objectives.

**Yadon's Piperia** – The Barracks Complex Phase I footprint and associated parking areas would require the direct removal of approximately 8 Yadon's piperia plants; however, more may be affected by the excavation, slope stabilization, and access roads that would be necessary to construct these facilities. Under the current scenario, approximately 3.5 acres of potential Yadon's piperia habitat would be removed instead of 10 acres as discussed in the Draft EIS. Habitat modification associated with the project (e.g., required fuel modification and force protection around buildings) could trigger further effects on Yadon's piperia. As noted in Chapter 3, Affected Environment, Yadon's piperia is a federally endangered plant species that occurs in several locations at the POM as determined from numerous on-site surveys (Figure 3.5-1). This effect would be potentially significant, and removals and habitat modification would be conducted in consultation with the USFWS. Mitigation measures BIO-1, BIO-2, BIO-8, and BIO-10 would be required to reduce this

effect to a less-than-significant level. Adherence to the INRMP and ESMP would provide further protection of this species during construction and operation of the Barracks Complex Phase I project.

**Native Monterey Pine Forest** – Monterey pine, which is listed as rare or endangered in California on the CRPR, occurs mainly in the Huckleberry Hill Nature Preserve and surrounding areas. The Barracks Complex Phase I project has the potential to adversely affect Monterey pine through the removal of the trees or through damage to the root system during construction.

Approximately 3.5 acres of Monterey pine forest would be impacted by the Barracks Complex Phase I project. The number of native trees and horticultural landscape trees to be removed would be approximately 550, including at the barracks site and associated parking lots and walkways. Tree removal at the POM Installation has been minimized through the relocation of the Barracks Complex Phase I building. The new building site would use the footprint of the existing parking lot north of Building 829. This relocation would preserve existing forested habitat and would avoid the removal of approximately 875 trees from the former location immediately adjacent to Huckleberry Hill Nature Preserve as identified in the Draft EIS. Tree removal would be minimized as much as possible during the site design process and would be ultimately offset by the mitigation replanting at a ratio of 2:1 in accordance with the INRMP and tree mitigation plan objectives.

Overall, site relocation and reconfiguration would reduce intact forest tree removals associated with the Barracks Complex Phase I project within the POM Installation by more than 50 percent from what was originally presented in the Draft EIS. While the specific number of trees that would be affected is not known at this point, potential removal of and disturbance to trees associated with forested areas within the project area would be avoided or minimized during construction through the implementation of mitigation measures BIO-3, BIO-4, BIO-8, BIO-10, and BIO-12.

**Hooker's Manzanita** – Hooker's manzanita is listed as rare or endangered in California on the CRPR and a Species at Risk by the DoD. This species occurs primarily in the understory of the Monterey pine forest on Huckleberry Hill Nature Preserve and has been planted in median strips and other landscaped areas (POM, 2008a; Figure 3.5-4). Adverse effects may occur to a number of Hooker's manzanita plants during construction of the Barracks Complex Phase I project, which would require the removal of approximately 1.7 acres of documented Hooker's manzanita habitat. This effect would be potentially significant. Mitigation measures BIO-1, BIO-7, and BIO-8 would be required to reduce this effect to a less-than-significant level. No effects are expected to Hooker's manzanita habitat near the ravine site during activities related to the Barracks Complex Phase IV project due to the relocation of the site.

**Small-leaved Lomatium** – Small-leaved lomatium, listed on the CRPR as a plant of limited distribution, occurs at the POM primarily in the understory of the Monterey pine forest on Huckleberry Hill Nature Preserve (Figure 3.5-3). The Barracks Complex Phase I project would not encroach on small-leaved lomatium habitat.

**Other Special Status Plant Species** – In addition to those special status plants discussed above, there is potential for other special status plant species to occur at the POM (Table 3.5-1). A potentially significant effect could occur if previously unknown special status plants are removed or disturbed during construction of the short-range project under Alternative 1. Mitigation measures BIO-1, BIO-8, and BIO-10 would be required to reduce this effect to a less-than-significant level.

**Special Status Wildlife Species** – There is potential for several special status wildlife species to occur at the POM (Table 3.5-1). Potentially significant effects could occur during construction of the short-range project under Alternative 1 if special status wildlife species are harmed or disturbed. Mitigation measures BIO-1, BIO-8, and BIO-10 would be required to reduce this effect to a less-than-significant level.

**Migratory Birds** – More than 100 species of migratory birds are known to occur at the POM, including sensitive species such as the sharp-shinned hawk and olive-sided flycatcher. All native migratory birds are protected under the MBTA and Sections 3500–3705 of the California Fish and Game Code. Potential effects could occur during construction of Alternative 1 if active nests are present in or near construction areas. This effect would be potentially significant. Mitigation measures BIO-8, BIO-10, and BIO-11 would be required to reduce this effect to a less-than-significant level. Activities that would likely result in taking of birds protected under the MBTA would require CDFG and USFWS coordination.

Additional lighting that would be installed under Alternative 1 could also affect migratory birds nesting at the POM, particularly in the Huckleberry Hill Nature Preserve. Although this additional visual disturbance could cause some birds to relocate from the area, this effect is not anticipated to be significant.

**Introduction of Exotic Species** – The introduction of exotic species, particularly invasive plant species, would have an adverse effect on native and sensitive plant species at the POM and the OMC because invasive plants quickly out-compete native species. There is potential for the introduction of invasive plant seeds or plant parts during construction of Alternative 1 in areas where sensitive species occur. Measures would be taken to prevent the introduction of exotic or invasive plant species, such as inspection of clothing, vehicles, and equipment for invasive plant seeds or plant parts prior to entering the project area. In compliance with Executive Order 13112 and the conservation objectives of the ESMP and INRMP, mitigation measure BIO-5 would be implemented to reduce this effect to a less-than-significant level.

Harmful, non-native plant pathogens (e.g., Sudden Oak Death) could be potentially introduced through landscaping efforts through infected nursery stock. Bark mulch can also contain organisms that cause or vector tree and other plant diseases (e.g., Pine Pitch Canker). Disturbed vegetated areas would be restored using primarily site-specific native plants and a select number of other appropriate species from the POM Installation's approved plant list. Implementation of mitigation measure BIO-5 would reduce potential effects to less-than-significant levels.

#### 4.5.2.2 Long-range Projects

Under Alternative 1, construction would occur in many areas of the POM as well as a small number of locations at the OMC. Although most long-range projects are located in developed areas, there is potential for effects on special status plants occurring within construction areas located in undeveloped lands and to some special status species that can occur in disturbed areas. Effects could occur through clearing and grading, and the disturbance of areas for staging of construction equipment, and other activities.

In addition, there could be short-term, temporary adverse effects on wildlife during construction. Construction noise would displace wildlife that can move away from the area, such as deer and birds. Disturbance may alter feeding, nesting, and resting habits of wildlife, particularly birds. Potential effects on less mobile species would include contact with construction vehicles that may injure or kill wildlife, reducing local population numbers. The proposed long-range projects may also result in the permanent loss of habitat for some wildlife species.

Potential effects are discussed for each special status species below.

##### POM

The Barracks Complex Phase IV was analyzed as part of the short-range projects in the 2011 Draft EIS, but was moved to the long-range projects due to changes in construction scheduling. The Barracks Complex Phase IV project would entail construction of a 6-story barracks building immediately east of Rifle Range Road and a multi-level parking structure. The new barracks and parking lot for the Barracks Complex Phase IV project would be located primarily in areas where there is existing development (paved and parking areas). This barracks complex was relocated from the ravine site, eliminating the need for removal of approximately 300 native trees from the ravine site, thus preserving existing forested habitat.

Construction of the barracks building would require the removal of 20 native trees, all within fragmented landscape islands. The multi-level parking structure associated with the FY18 Barracks would be located on top of existing parking, west of Building 660. Construction of this structure would require the removal of 40 native trees and 12 non-native trees.

The Draft EIS described a new State Highway 68 gate and ACP that was to be constructed over the northwest corner of the existing Huckleberry Hill Nature Preserve. The project footprint would have been approximately 6 acres, and construction would have required moving the nature preserve fence and reducing acreage of the nature preserve. Potentially significant effects on special status plant species located within the project footprint were anticipated. However, the Highway 68 gate project has since been retracted and relegated to a conceptual level. Therefore, this project would have no effect on forest resources and is not assessed in this document. The project would, however, be analyzed in detail if it becomes a viable future project.

**Yadon's Piperia** – As currently proposed, there would be no known impacts to Yadon's piperia related to the Barracks Complex Phase IV project. Approximately 15 plants were found during the Army's May 2010 biological plant survey that would no longer be adversely affected during construction of the Highway 68 gate footprint due to its retracted status. If this project becomes a viable consideration in the future, potential effects would be reassessed with the new project scope. Effects associated with the indoor swimming pool would be potentially significant and removal would be conducted in consultation with the USFWS. Although the indoor swimming pool project is within a developed area, clearing and grading, and the disturbance of areas for staging of construction equipment and other activities associated with the project, would require the removal of approximately 45 Yadon's piperia plants. The security fence upgrade also may have the potential to impact Yadon's piperia. Mitigation measures BIO-1, BIO-2, BIO-8, and BIO-10 would be required to reduce this effect to a less-than-significant level. Adherence to the INRMP and ESMP would provide further protection of this species during construction.

**Native Monterey Pine Forest** – Construction of the Highway 68 gate would no longer entail removal of approximately 1.7 acres of Monterey pine habitat and approximately 575 trees due to its retracted status. If this project becomes a viable consideration in the future, potential effects would be reassessed with the new project scope.

There is potential for effects on Monterey pine habitat associated with the construction activities associated with the indoor swimming pool. The project would require the removal of approximately 0.5 acre of Monterey pine habitat. Mitigation measures BIO-3, BIO-4, BIO-8, BIO-10, and BIO-12 would be required to reduce this effect to a less-than-significant level. Adherence to the INRMP and ESMP would provide further protection of this species during construction. The security fence upgrade also may have the potential to impact the native Monterey pine forest.

**Hooker's Manzanita** – Construction of the Highway 68 gate would no longer entail removal of approximately 1.6 acres of Hooker's manzanita plants due to its retracted status. If this project becomes a viable consideration in the future potential effects would be reassessed with the new project scope.

**Maritime Chaparral** – Maritime chaparral is a sensitive vegetation community, in which many endemic and special status plant species occur including rare plants of the genus *Arctostaphylos* (manzanita). This vegetation community is severely threatened by development. Construction of the Highway 68 gate would no longer require the removal of approximately 0.1 acre of maritime chaparral due to its retracted status. If this project becomes a viable consideration in the future potential effects would be reassessed with the new project scope.

**Other Special Status Plant Species** – In addition to those special status plants discussed above, there is potential for other special status plant species to occur at the POM. A potentially significant effect could occur if previously unknown special status plants are removed or disturbed during construction of long-range projects associated with Alternative 1. Mitigation measures BIO-1, BIO-8, and BIO-10 would be required to reduce this effect to a less-than-significant level.

**Special Status Wildlife Species** – There is potential for several special status wildlife species to occur at the POM (Table 3.5-1). Potentially significant effects could occur during construction of long-range projects under Alternative 1 if special status wildlife species are harmed or disturbed. Mitigation measures BIO-1, BIO-8, and BIO-10 would be required to reduce this effect to a less-than-significant level.

**Migratory Birds** – More than 100 species of migratory birds are known to occur at the POM, including sensitive species such as the sharp-shinned hawk and olive-sided flycatcher. All native migratory birds are protected under the MBTA and California Fish and Game Code Sections 3500–3705. Potential effects could occur during construction of Alternative 1 if active nests are present in or near construction areas. This effect would be potentially significant. Mitigation measures BIO-8, BIO-10, and BIO-11 would be required to reduce this effect to a less-than-significant level. Activities that would likely result in taking of birds protected under the MBTA would require CDFG and USFWS coordination.

**Introduction of Exotic Species** – The introduction of exotic species, particularly invasive plant species, would have an adverse effect on native and sensitive plant species at the POM and the OMC because invasive plants quickly out-compete native species. There is potential for the introduction of invasive plant seeds or plant parts during construction of long-range projects associated with Alternative 1 in areas where sensitive species occur. In compliance with Executive Order 13112 and the conservation objectives of the ESMP, mitigation measure BIO-5 would be implemented to reduce this effect to a less-than-significant level.

### OMC

As discussed in Section 3.5.3, the Army was directed by the USFWS to develop and implement an Installation-Wide Multispecies HMP (USACE, 1997) to reduce the incidental take of listed species and species of concern in response to the closure and reuse of the former Fort Ord. OMC lands are designated as developable with no restrictions and are managed in accordance with the HMP and the accompanying Biological and Conference Opinions and amendments. Development is allowable, but it requires identification of sensitive biological resources, as identified in the HMP, that may be salvaged, transplanted, or relocated for use in restoration activities within reserve areas when considered feasible. OMC lands are managed for development, and, as such, special status plant and wildlife species habitat may be disturbed. All efforts would be made to salvage and relocate special status plant and wildlife species prior to and during construction activities.

Except for the cantonment fence, long-range projects that would occur at the OMC under Alternative 1 are proposed for areas where special status plants are not known to occur. Construction of the cantonment fence around the perimeter of the OMC could adversely affect special status species, as described below.

**Monterey Spineflower** – Small populations of Monterey spineflower, a federally threatened species, occur at the OMC (Figure 3.5-5). Effects on Monterey spineflower could occur during construction of the cantonment fence in the three locations along the perimeter of the OMC where this species occurs. This is a potentially significant effect. Mitigation measures BIO-1, BIO-8, and BIO-9 would be required to reduce this effect to a less-than-significant level.

**Monterey Ceanothus** – Monterey ceanothus, a federal species of concern, also occurs behind housing units along the perimeter of the southeast portion of the OMC (Figure 3.4-6). Effects on Monterey ceanothus could occur during construction of the cantonment fence in this location. This is a potentially significant effect. Mitigation measures BIO-1, BIO-8, and BIO-9 would be required to reduce this effect to a less-than-significant level.

**Sandmat Manzanita** – Sandmat manzanita is a federal species of concern that occurs behind the Fitch Park Housing Area along the perimeter of the southeast portion of the OMC (Figure 3.4-7). Potentially significant effects on sandmat manzanita could occur during construction of the cantonment fence in this location. Mitigation measures BIO-1, BIO-8, and BIO-9 would be required to reduce this effect to a less-than-significant level.

**Virgate Eriastrum** – Virgate eriastrum, which is listed as a species of limited distribution on the CRPR, occurs in three locations along the eastern perimeter of the OMC (Figure 3.4-8). Effects on virgate eriastrum could occur during construction of the cantonment fence in these locations. This is a potentially significant

effect. Mitigation measures BIO-1, BIO-8, and BIO-9 would be required to reduce this effect to a less-than-significant level.

**Michael's Rein Orchid** – This plant also is listed as a species of limited distribution on the CRPR and has been identified on the eastern perimeter of OMC (Figure 3.4-8). Construction of the cantonment fence could affect this species, and this effect is potentially significant. Mitigation measures BIO-1, BIO-8, and BIO-9 would be required to reduce this effect to a less-than significant level.

**California Tiger Salamander** – The California tiger salamander, a federally threatened species, has the potential to occur in upland habitat at the OMC, especially within the Joe Lloyd Way area. There is the potential for adverse effects on this species during construction of the cantonment fence in this area. Injury or mortality could occur to salamanders migrating through the construction area. Further, permanent loss of upland habitat for the salamander would occur. These effects would be potentially significant. Mitigation measures BIO-6, BIO-7, BIO-8, and BIO-10 would reduce these effects to less-than-significant levels.

**Other Special Status Plant Species** – In addition to those special status plants discussed above, there is potential for other special status plant species to occur at the OMC (Table 3.5-1), although none were found during recent surveys (ICFJ&S, 2009). A potentially significant effect could occur if previously unknown special status plants are removed or disturbed during construction of long-range projects associated with Alternative 1. Mitigation measures BIO-1, BIO-8, and BIO-9 would be required to reduce this effect to a less-than-significant level.

**Special Status Wildlife Species** – There is potential for several special status wildlife species to occur at the OMC (Table 3.5-1). Potentially significant effects could occur during construction of long-range projects under Alternative 1 if special status wildlife species are harmed or disturbed. Mitigation measures BIO-1, BIO-8, and BIO-9 would be required to reduce this effect to a less-than-significant level.

**Migratory Birds** – Migratory birds, including sensitive species such as the loggerhead shrike, the California horned lark, and the burrowing owl, may use the OMC for foraging and breeding. Under the MBTA and California Fish and Game Code Sections 3500–3705, migratory birds and their nests are protected. Although unlikely due to the developed nature of the proposed construction areas under Alternative 1, potential effects could occur if active nests are present. This effect would be potentially significant. Mitigation measures BIO-8, BIO-10, and BIO-11 would be required to reduce this effect to a less-than-significant level. Activities that would likely result in taking of birds protected under the MBTA would require CDFG and USFWS coordination.

**Introduction of Exotic Species** – The introduction of exotic species, particularly invasive plant species, would have an adverse effect on native and sensitive plant species at the POM and the OMC because invasive

plants quickly out-compete native species. There is potential for the introduction of invasive plant seeds or plant parts during construction of Alternative 1 in areas where sensitive species occur. Measures would be taken to prevent the introduction of exotic or invasive plant species, such as inspection of clothing, vehicles, and equipment for invasive plant seeds or plant parts prior to entering the project area. In compliance with Executive Order 13112 and the conservation objectives of the INRMP and ESMP, mitigation measure BIO-5 would be implemented to reduce this effect to a less-than-significant level.

Harmful, non-native plant pathogens (e.g., Sudden Oak Death) could be potentially introduced through landscaping efforts through infected nursery stock. Bark mulch can also contain organisms that cause or carry tree and other plant diseases (e.g., Pine Pitch Canker). Disturbed vegetated areas would be restored using primarily site-specific native plants and a select number of other appropriate species from the POM Installation's approved plant list. Implementation of mitigation measure BIO-5 would reduce potential effects to less-than-significant levels.

### 4.5.3 Alternative 2: POM and OMC

#### 4.5.3.1 Short-range Project

Short-range project effects would be the same as those described under Alternative 1. Mitigation measures would reduce effects to less-than-significant levels.

#### 4.5.3.2 Long-range Projects

Under Alternative 2, the effects of the long-range projects at the POM would be the same as those described above for Alternative 1. In the same manner, construction of long-range projects at the OMC under Alternative 2 would occur within existing developed areas and/or within areas where special status plant species are not known to occur. Therefore, effects of the long-range projects at the OMC would be the same as those described above for Alternative 1.

### 4.5.4 Comparative Analysis of the Alternatives

Table 4.5-1 lists the effects of each of the alternatives and compares them to the No Action Alternative.

| Table 4.5-1. Vegetation and Wildlife – Comparative Analysis of the Alternatives | | | |
|---|---|---|---|
| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
| Effects on special status species | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Effects on migratory birds | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Introduction of exotic species | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |

### 4.5.5 Mitigation Measures

Mitigation measures would be required to address effects on vegetation and wildlife at the POM and the OMC under both Alternative 1 and Alternative 2. Mitigation measures include:

**BIO-1** – Focused biological surveys would be conducted by qualified biologists to identify the presence and location of individual special status with potential to occur within construction areas at the POM and the OMC. For any special status wildlife species encountered, the CDFG and the USFWS would be contacted to determine the appropriate course of action. Botanical surveys would include but not be limited to Yadon's piperia, Hooker's manzanita, small-leaved lomatium, Monterey spineflower, Monterey ceanothus, sandmat manzanita, and virgate eriastrum. If present, plants should be enumerated, photographed, and conspicuously flagged and/or fenced to maximize avoidance and determine the total number of individuals affected. Timing of field surveys and flagging should correspond with the blooming period when this species is most conspicuous and easily recognizable.

**BIO-2** – Complete consultation with the USFWS regarding effects on Yadon's piperia and implement Biological Opinion recommendations, as required. Employ biological monitors at all construction sites prior to any soil disturbance or excavation. To reduce impacts to Yadon's piperia habitat, construction designs would incorporate selective Monterey pine tree removal as a first choice as opposed to complete clear cutting the forest in undeveloped areas. Consult with the USFWS, as necessary, if unanticipated observance of these species occurs at construction sites. Establish Conservation Areas, as described in the Biological Assessment, to protect large populations of Yadon's piperia in undeveloped areas such as west of Building 630 at the POM (MACTEC, 2005) and north of Mason Road across from Building 829. Relocate Yadon's piperia into appropriate receptor sites using methods and monitoring protocols acceptable to the USFWS or when permissible, donate individual bulbs to organizations conducting research condoned by the USFWS on the species. Receptor sites should be chosen as to minimize spore drift outside of the nature preserve.

**BIO-3** – The contractor would adhere to the Tree Protection Procedures that have been adapted by the POM Installation from the City of Monterey:

- All cut, fill and/or building foundations shall be located a minimum of 3.0 times the diameter at breast height (DBH) of the tree away from the outside edge of the trunk of all trees scheduled for preservation. However, the minimum distance permitted shall be 6 feet, 0 inches away from the outside edge of the trunk for all trees of a trunk diameter less than 2 feet, 0 inches. The DBH of a tree shall be measured at 4 feet, 6 inches above the surrounding grade.
- All trees scheduled for preservation shall be temporarily fenced during construction. Fencing shall be installed prior to any construction-related activities at the site. Generally, fencing shall be located at the edge of the root zone. The root zone is determined to be that area located out a distance 15 times the DBH in all directions. If that is not feasible, the fence may be installed just outside the perimeter of the drip line. At no time shall the fencing be located closer than 3 times the DBH away from the outside edge of the trunk. Fencing shall consist of chain link or plastic link fence. Fencing shall be rigidly supported and maintained during all construction periods at a minimum height of 4 feet, 0 inches, above grade. Fenced areas shall not be used for material stockpile, equipment storage, vehicle parking or pedestrian or vehicle access. Dumping of materials, chemicals, or garbage shall be prohibited within the fenced area. Fenced areas shall be maintained in a natural condition and not compacted. All trees required to be fenced shall be clearly marked with a spot of paint. The paint marking is required to alert government inspectors that the subject tree or tree(s) are to be fenced at all times during construction. Removal of fencing shall be approved by the U.S. Army Garrison, DPW-Environmental Division.
- Prior to the start of construction, all Monterey pine trees scheduled for preservation within 100 feet of the project area will be treated for bark beetles using standard practices recommended by the Installation's International Society of Arboriculture-certified arborist and in accordance with the Installation's Integrated Pest Management Plan. Unseasoned lumber or newly cut pine trees give off a fragrance that attracts the beetles to the site.
- Utility and drain lines shall be located outside the root zone of all trees scheduled for preservation. In cases where alternative routes are not available, utility conduit, pipe, wire and drain lines shall be tunneled under major roots. Major roots are determined to be those that exceed 2 inches in diameter. In no case shall utility lines be permitted within 6 feet of the trunk.
- All approved construction work within the root zone of trees scheduled for preservation shall observe the following minimum tree protection practices:
  - Hand trenching at point or line of grade cuts closest to the trunk to expose major roots 2 inches in diameter or larger. In cases where rock or unusually dense soil prevents hand trenching, mechanical equipment may be approved by the DPW-Environmental Division, provided that work inside the drip line is closely supervised by the applicant to prevent tearing or other damage to major roots.
  - Exposed major roots shall be cut with a saw to form a smooth surface, minimize exposed surface area, and avoid tears or jagged edges.
  - Absorbent tarp or heavy cloth fabric shall be placed over new grade cuts where roots are exposed and secured by stakes. Two to four inches of compost or woodchip mulch shall be spread over the tarp to prevent soil moisture loss. The tarp should be thoroughly wetted at least twice per week to insure constant moisture levels until backfilling occurs. In very dry climate conditions, additional watering may be required to maintain a constant moisture level. This program of watering shall be maintained through all phases of construction including delays and other periods of inactivity.
  - Decks located within the root zone of trees scheduled for preservation shall be of post and beam construction to eliminate any need for root pruning or removal.
  - On-grade patios or paving that cover more than one-third of the feeder zone of pine trees or oak trees shall be constructed of permeable materials that allow aeration and water penetration. Patios

and paving shall be combined with any other non-permeable surface or structure for purposes of calculating the one-third coverage standard. A maximum 80 percent compaction for permeable surfaces shall be allowed. The paving design shall specify this restriction.

- Planting beneath trees scheduled for preservation shall take into consideration watering requirements of the tree to prevent damage from over or under watering. Planting beneath native oak trees is of special concern and should be avoided. At a minimum, all new irrigation should be directed away from the trunks of oak trees as they are susceptible to root rot disease. Over-watering may also damage native Monterey pines.

**BIO-4** – All native trees scheduled for removal would be clearly flagged. Native trees at both the POM and the OMC must be replaced at a 2:1 ratio in accordance with the INRMP. Trees at the POM would include, but not be limited to, Monterey pine, coast live oak, and Monterey cypress. Coast live oaks are native trees at the OMC. All trees not scheduled for removal would be protected as described in mitigation measure BIO-2. Replacement trees, particularly Monterey pines, would be of appropriate genetic stock for the Monterey peninsula as determined by the most up to date research.

**BIO-5** – Measures would be taken to avoid the introduction of exotic or invasive plant species. Prior to entering the project area, workers should inspect their clothing, including shoes, all vehicles, and equipment for invasive plant seeds or plant parts. If found, compressed water or air should be used within a designated containment area to remove pathogens, invasive plant seeds, or plant parts. Any invasive plant seeds or plant parts found in the containment area would be gathered, placed in plastic bags and taken to an appropriate disposal facility.

Restoration and revegetation of disturbed areas would be conducted using primarily site-specific native plants and a select number of other appropriate species from the POM Installation's approved plant list. To avoid or reduce the potential introduction of harmful, non-native plant pathogens and organisms, all nursery stock and other landscape components would be consistent with INRMP and require review and approval by Army Environmental staff prior to its use.

**BIO-6** – On the OMC prior to the implementation of construction activities, a qualified biologist would conduct surveys to determine the presence/absence of California tiger salamander within the construction zone. If California tiger salamanders are present, the USFWS would be consulted before construction begins to determine what measures should be implemented to avoid effects on these species.

**BIO-7** – To prevent effects on California tiger salamander, temporary exclusion fencing would be installed around the proposed project boundaries (including access roads and staging areas) prior to the start of construction activities. The fencing would be made of suitable material, buried at the bottom to be effective, and installed with oversight by a qualified biologist monitor. The fencing would be continuously maintained until all construction activities are completed. After construction is complete, the exclusion fencing would be removed.

**BIO-8** – Work within habitat occupied by special status plant and wildlife species would be limited to existing access roads and to the minimal area practical. Staging areas, spoils storage, and equipment/vehicle parking should occur on existing hardscape in designated areas outside of occupied habitat if feasible.

**BIO-9** – In order to comply with the HMP and associated Biological Opinions and amendments, all efforts would be made to salvage, transplant, or relocate special status plant and wildlife species encountered prior to or during construction activities, when considered feasible. Training of construction personnel for special status species identification would be facilitated through mitigation measure BIO-10.

**BIO-10** – Construction personnel would be trained prior to the commencement of construction regarding the biological resources present at the proposed project site. The training would be developed and provided by a qualified biologist familiar with the sensitive plant and wildlife species that may occur in the project area and would provide educational information on the natural history of these species, required mitigation measures to avoid effects, and penalties for not complying with biological mitigation requirements. All project personnel would be required to receive training before they start working.

**BIO-11** – To avoid violations of federal and state migratory bird protections and prevent effects on migratory bird species, project construction would be timed to occur outside the breeding bird season, which occurs generally from February 1 through August 31. If construction must occur during the migratory bird nesting season, two biological surveys shall be conducted, one 15 days prior to and a second 72 hours prior to the commencement of construction activities that could impact local breeding birds. The surveys shall be performed by a biologist with experience conducting local breeding bird surveys. The biologist shall prepare survey reports documenting the presence or absence of any protected native bird in the habitat to be removed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors). If a protected native bird is found, surveys would be continued in order to locate any nests. If an active nest is located, construction within 300 feet of the nest (500 feet for raptor nests) would be halted until the USFWS and the CDFG are notified, and guidance from these agencies is received and proper procedures are implemented. The USFWS and the CDFG would be contacted to confirm the size of the buffer zone and provide guidance on the required avoidance measures per individual species.

**BIO-12** – A Tree Mitigation Plan would be implemented that includes measures such as replanting native tree species at a ratio of 2:1 in accordance with the INRMP. Restoration plantings would focus on site-specific native plants and adhere to landscape design standards outlined in the IDG and INRMP, including the selection, placement, and maintenance of plant material on the installation.

# 4.6 LAND USE

This section describes the environmental consequences for land use in the study area. Effects on land use would be considered significant if the RPMP alternatives resulted in conflicts with adjacent and surrounding land uses by generating degradation or disturbances that diminish the quality of adjacent land uses or cause conflicts with existing land use plans, policies, or regulations.

## 4.6.1 No Action Alternative

Under the No Action Alternative, land uses at the POM Installation would continue to follow the existing master plan developed in 1983. No construction would occur at the POM Installation. The No Action Alternative would not conflict with any existing land uses or planning documents. There would be no effects on land use under the No Action Alternative.

## 4.6.2 Alternative 1: POM-Centric

The RPMP provides the direction for the orderly development and maintenance of the real property assets of the POM Installation, including land, facilities, and infrastructure. The planning process follows the professional practice of community planning as implemented by all DoD services and agencies and provides the POM with the vision and framework for long- and short-range real property development. The vision of the RPMP for the POM with respect to land use is to increase building density in already developed areas, avoid effects on undeveloped property through the reuse of already developed areas, and implement measures to limit sprawl within the POM. The specifics of site design will follow the POM IDG and be determined through a design and planning process that will consider the existing topography. The final design will incorporate ways to minimize the visual effects as much as possible given budgetary constraints while meeting the mission objective of achieving necessary capacity.

### 4.6.2.1 Short-range Project

The Barracks Complex Phase I project would include replacing existing parking lots with new barracks and dining facilities and constructing new parking lots. The Barracks Complex Phase I project area is zoned as Troop. The Troop land use category includes on-post unaccompanied personnel housing with related support facilities and activities, which is consistent with the new barracks projects. The proposed projects are located outside of the boundaries of the Huckleberry Hill Nature Preserve based on the current fence line. The potential visual effects of the proposed barracks buildings are described in Section 4.15.

The Army has submitted a coordination letter to the California Coastal Commission Federal Consistency Coordinator describing the proposed action in accordance with 35 CFR 930.35 (Appendix E). The short-term project, Barracks Complex Phase I, is outside of and not visible from the coastal zone. This proposed

barracks complex will not affect coastal use or resources. The Coastal Commission replied with a Negative Determination letter dated December 20, 2012, concurring with this negative determination with respect to coastal resources based on the proposed Barracks Phase I buildings' location inland of the coastal zone boundary. The Army will continue to coordinate with the Coastal Commission on the proposed long-range projects.

#### 4.6.2.2 Long-range Projects

Detailed planning and construction of long-range projects would begin between 2018 and 2030, depending on funding availability. Because building details are not available, this EIS analyzes effects of long-range projects at the programmatic level of detail, and this section describes general effects on land use associated with long-range projects. Supplemental environmental documentation would need to be completed as the planning and design of the projects progresses.

Construction of all long-range projects under Alternative 1 would occur on federal property within the POM Installation. Coordination with other government agencies regarding land use policies would be required. Specific projects, such as the Highway 68 gate, would require additional technical studies and environmental documentation to analyze potential environmental impacts from realigning the fence line of the Huckleberry Hill Nature Preserve. The precise realignment of the fence line would be determined during the design and engineering phases of the project. Altering the location of the fence line would reduce the size of the area currently open to the public under the lease agreement with the City of Monterey. Additionally the EA completed for the 1983 POM Master Plan indicated no new construction would occur on the remainder of Presidio Knoll. Long-range project information on the future location of the fence line is only conceptual at this planning phase, but if it is determined that the fence line needs to be moved, the size of the nature preserve would be reduced, resulting in less-than-significant effects on recreational use and open space, as well on alterations to the current land use plans and lease agreements. The proposed projects comply with land use designations at the POM and the OMC, as guided by Army Regulation 210-20 and the Real Property Master Planning Technical Manual.

### 4.6.3 Alternative 2: POM and OMC

This section describes the environmental consequences of Alternative 2 on land use.

#### 4.6.3.1 Short-range Project

Effects on land use associated with the short-range project under Alternative 2 would be the same as Alternative 1.

#### 4.6.3.2 Long-range Projects

Effects on land use associated with the long-range projects under Alternative 2 would be the same as Alternative 1.

### 4.6.4 Comparative Analysis of the Alternatives

Table 4.6-1 lists the effects of each of the alternatives and compares them to the No Action Alternative.

Table 4.6-1. Land Use – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Changes to existing or planned land uses | No Effect | Less than Significant | Less than Significant |
| Conflicts with local land use policies | No Effect | No Effect | No Effect |

### 4.6.5 Mitigation Measures

No mitigation measures would be necessary for land use.

## 4.7 POPULATION AND HOUSING

This section evaluates potential effects on population and housing from the RPMP alternatives. Effects are evaluated based on the potential for the alternatives to increase the population and/or create a new demand for housing. Because military personnel are stationed at the POM Installation to receive foreign language training, the population projections represent the maximum number of military personnel the POM Installation must be able to accommodate each year. The students require housing during their training. Each quarter, the DoD assigns baseline population projections that are derived from the Structure and Manpower Allocation System, the Army Authorization Document System, and other sources. The installation must provide services for this population.

### 4.7.1 No Action Alternative

#### 4.7.1.1 Population

Military personnel stationed at the POM Installation are there to be trained in foreign languages. Most military personnel are stationed between 6 weeks and 24 months, depending on the language training that is required. It is difficult to determine an exact population for the POM and the OMC because the population fluctuates monthly depending on the language training classes offered and the number of accompanying family members.

Under the No Action Alternative, the population would continue to be that which is reflected in Table 2.6-1. The DLIFLC, the main tenant at the POM, provides foreign language instruction in support of national security requirements. The POM Installation must provide adequate facilities for all service members sent to the DLIFLC. Attendance at the DLIFLC and the overall installation population are determined by the DoD. PEP for foreign language training, as mandated by the DoD, requires a reduction in student-to-teacher ratios. This ratio at the DLIFLC is being reduced from 10:2 to 6:2 to meet the PEP requirement. More teachers would be required at the POM to support a growing student population. The POM population including military, Army civilian, Army family members, and contractors, anticipated to be assigned under the No Action Alternative, would total 17,800 by 2030 (Table 2.6-1). The DoD assigns the installation a maximum population for each FY and the installation must provide services for this population. Because the installation is mandated to provide these services to the population, such obligations would be fulfilled, and as a result, there would be no adverse effects on the population at the POM and OMC under Alternative 2.

#### 4.7.1.2 Housing

No new housing facilities would be constructed under the No Action Alternative. Barracks capacity and the number of housing units at the POM and the OMC would not change from the affected environment (refer to Section 3.6.3). Under the No Action Alternative, housing would not be adequate to accommodate the expected increases of student population and families. The existing barracks and dining facilities would not have the capacity to accommodate the projected increase in student population. Because of limited housing and inadequate facilities, military personnel would need to find housing off-post. Neighborhoods in the surrounding areas already have high occupancy rates, limited housing availability, and expensive rental prices. Some of the military population may not be able to afford nearby housing and would need to move to areas farther away from the POM Installation. Under the No Action Alternative, housing demand would increase in the local communities surrounding the POM Installation. As a result, there would be significant adverse effects on housing under the No Action Alternative. The expected residency numbers at the POM, OMC, and off-post under the No Action Alternative are shown in Table 2.6-2.

### 4.7.2 Alternative 1: POM-Centric

#### 4.7.2.1 Population

Population on the POM Installation under Alternative 1 would be the same as the No Action Alternative (see Table 2.6-1). Construction of the projects would not increase population above the No Action Alternative. The DoD establishes the number of military personnel assigned to the DLIFLCD. The DoD assigns the POM Installation a maximum population for each FY and the installation must provide services for this population. Because the installation is mandated to provide these services to the population, such obligations

would be fulfilled, and as a result, there would be no effects on the population at the POM or OMC under Alternative 1.

#### 4.7.2.2 Housing

Specific housing improvements are proposed in the short- and long-range projects that would affect housing at the POM under Alternative 1, the effects of which are detailed below. Under Alternative 1, the POM Barracks Complex Phase I project would be constructed at the preferred sites (see Section 2.2). Alternative 1 would place future development of primary and support facilities for the DLIFLC at the POM. Barracks Complex Phases II and III, and IV projects and three additional GIBs would be sited to preserve the centralized location of the DLIFLC. Because no housing projects are planned at the OMC under this alternative, however, existing housing at that location would be unchanged from the No Action Alternative.

Effects on housing at the POM from the short-range project would stem from the construction of Barracks Complex Phase I buildings in the existing parking lot of POM Building 829. The Barracks Complex Phase I project would provide a total of 320 beds, as shown in Table 4.7-1. The new barracks would have modern facilities and provide an upgraded living environment for the military personnel. The new barracks would be a beneficial effect on housing at the POM.

Table 4.7-1. Barracks Capacity under Alternative 1

| Location | Barracks | Status under Alternative 1 | Capacity under No Action Alternative (beds) | Capacity under Alternative 1 (beds) |
|---|---|---|---|---|
| POM | Building 630 | Existing | 202 | 202 |
| POM | Building 629 | Existing | 197 | 197 |
| POM | Other barracks (1) | Existing | 1,339 | 1,339 |
| Short-range project | | | | |
| POM | Phase I | New | Not applicable | 320 |
| Long-range projects | | | | |
| POM | Phase IV | New | Not applicable | 400 |
| POM | Building 622 | Demolished | 199 | 0 |
| POM | Building 627 | Demolished | 150 | 0 |
| POM | Phase II | New | Not applicable | 360 |
| POM | Phase III | New | Not applicable | 320 |
| | | TOTAL | 2,087 | 3,138 |

*Notes: Barracks are not currently located at the OMC, and none are proposed under Alternative 1.*
*(1) Other barracks include Buildings 645, 647–652, 829, 831–833, 835, 836, 840 and 841.*

Detailed planning and construction of the long-range projects would begin after funding becomes available. Because detailed plans are not available, this EIS analyzed effects of long-range projects at a programmatic level of detail and only general effects on housing resources from the proposed construction are described. Complete supplemental environmental documentation would be needed as the planning and design of the projects progress.

Four long-range projects would affect housing at the POM. The Barracks Complex Phase II and Phase III projects would require demolition of existing barracks Building 627, while existing barracks Building 622 would be demolished and replaced with the multi-level parking structure at Rifle Range Road. The new Barracks Complex Phase II and Phase III barracks would provide a total of 680 beds and demolition of Buildings 622 and 627 would remove 349 beds (Table 4.7-1). The new barracks would have modern facilities and provide an improved living environment for military personnel, which would be a beneficial effect on housing at the POM.

After implementation of Alternative 1, the barracks at the POM would have a total of 3,138 beds. Many existing barracks, with capacity totaling 2,087 beds, would remain the same as the No Action Alternative. Two barracks would be demolished and four new ones built, resulting in a net increase of bed spaces designed to the proper living-space standards compared to the No Action Alternative. Alternative 1 would benefit housing conditions at the POM.

Single-family housing at the POM and the OMC under Alternative 1 is expected to be the same as the No Action Alternative. The expected housing numbers at the POM, the OMC, and off-post under Alternative 1 are shown in Table 2.6-3. Alternative 1 would provide new housing at the POM Installation and reduce demands for housing in nearby communities, which would be a beneficial effect. Construction of the new barracks combined with the existing housing would meet the demand as projected by the population figures.

### 4.7.3 Alternative 2: POM and OMC

#### 4.7.3.1 Population

Population under Alternative 2 would be the same as the No Action Alternative. Construction of the projects would not increase population above that of the No Action Alternative. As mentioned earlier, the DoD establishes the number of military personnel assigned to the DLIFLC. The DoD assigns the installation a maximum population for each FY, and the installation must provide services for this population. Because the installation is mandated to provide these services to the population, such obligations would be fulfilled, and as a result, there would be no adverse effects on population at the POM and the OMC under Alternative 2.

### 4.7.3.2 Housing

Housing improvements are proposed for the POM and the OMC in the short- and long-range projects. Short-range housing effects under Alternative 2 would be the same as Alternative 1. Under Alternative 2, new housing would be constructed at the POM as part of the short-range project, but none would be constructed under the long-range projects. Demolition of Building 622 would still occur to make space for the multi-level parking structure. Total barracks capacity at the POM Installation under this alternative would support 3,138 military personnel (Table 4.7-2).

The Barracks Complex Phase II and Phase III projects would be built at the OMC under Alternative 2. Demolition of barracks Building 627 would make way for a GIB or additional parking. The OMC would have new barracks with 680 beds for military personnel (Table 4.7-2). Under Alternative 2, there would be a net increase of bed spaces compared to the total barracks capacity under the No Action Alternative. The new barracks would have modern facilities and provide an upgraded living environment for military personnel, which would result in beneficial effects on housing resources.

Table 4.7-2. Barracks Capacity under Alternative 2

| Location | Barracks | Status under Alternative 2 | Capacity under No Action Alternative (beds) | Capacity under Alternative 2 (beds) |
|---|---|---|---|---|
| POM | Building 630 | Existing | 202 | 202 |
| POM | Building 629 | Existing | 197 | 197 |
| POM | Other barracks (1) | Existing | 1,339 | 1,339 |
| Short-range project | | | | |
| POM | Phase I | New | Not applicable | 320 |
| Long-range projects | | | | |
| POM | Phase IV | New | Not applicable | 400 |
| POM | Building 622 | Demolished | 199 | 0 |
| POM | Building 627 | Demolished | 150 | 0 |
| OMC | Phase II | New | Not applicable | 360 |
| OMC | Phase III | New | Not applicable | 320 |
| | | TOTAL | 2,087 | 3,138 |

*Notes: Barracks not currently located at the OMC, and none are proposed in the short-range under Alternative 2.*

*(1) Other barracks include Buildings 645, 647–652, 829, 831–833, 835, 836, 840 and 841.*

Single-family housing at the POM and the OMC under Alternative 2 is expected to be the same as the No Action Alternative. The expected housing numbers at the POM, the OMC, and off-post under Alternative 2 are shown in Table 2.6-4. This alternative would provide new housing at the POM Installation and reduce demands for housing in nearby communities in the long-range, which would be a beneficial effect on

housing. The new barracks combined with the existing housing would meet the projected demand from the increased population. As a result, Alternative 2 would benefit housing conditions at the POM Installation.

### 4.7.4 Comparative Analysis of the Alternatives

Table 4.7-3 lists the effects of each of the alternatives and compares them to the No Action Alternative. Population growth would be the same under all alternatives. Alternatives 1 and 2 would improve housing conditions compared to the No Action Alternative.

Table 4.7-3. Population and Housing – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Improved housing facilities at the POM and the OMC | Significant Effect | Beneficial Effect | Beneficial Effect |
| Reduced demand for housing off-post | Significant Effect | Beneficial Effect | Beneficial Effect |

### 4.7.5 Mitigation Measures

No mitigation measures are necessary.

## 4.8 TRAFFIC AND TRANSPORTATION

This section presents the potential long-term and construction-related effects of the project alternatives on the transportation system. A discussion of the analysis methodology for each alternative is provided that includes detailed analyses of trip generation and LOS analyses. In general, construction-related effects would be temporary and could include increased truck traffic, increased construction worker traffic, decreased parking availability due to staging areas, and possible road detours. The proposed actions in Alternative 1 and Alternative 2 were compared to the No Action Alternative, which acted as the baseline for the traffic analysis. The significance criteria used to determine if the potential effects of the alternative would be significantly different from the baseline were whether the alternative would:

- Cause an increase in traffic that would be substantial in relationship to the existing load and capacity of a roadway
- Cause an increase in safety hazards on area roadways
- Cause substantial deterioration of the physical condition of area roadways

Mitigation measures to be considered in response to the potential effects are also provided. Additional details on the potential traffic effects are provided in Appendix F, Revised Traffic Impact Study.

### 4.8.1 No Action Alternative

No new facilities are scheduled to be constructed under the No Action Alternative. The POM is expected to experience a slight decrease in the overall population between 2012 and 2015 (see Table 2.6-1), which would result in traffic conditions being the same or less in comparison to current conditions. The estimated LOS values shown in Tables 3.8-5 and 3.8-6 would remain unchanged under the No Action Alternative. The Revised Traffic Impact Study in Appendix F reflects an increase to all roadways and intersection volumes. The Traffic Impact Study was based on projections that population at the POM would be increasing; however, current Army projections indicate the opposite is true as described in Section 2.6.

For intersections outside of the POM, the estimated LOS, summarized in Table 4.8-1, is based on growth estimates presented in the City of Monterey General Plan 2005 (Gannett Fleming and Military Surface Deployment and Distribution Command, Transportation Engineering Agency, 2010). Intersections that show a decrease in LOS without any mitigation are indicated within the table.

Only the Fremont Street/Aguajito Road intersection is shown to be performing at an unacceptable LOS. This intersection was noted in the City of Monterey General Plan 2005 (City of Monterey, 2005) as needing mitigation in order to accommodate Year 2020 traffic.

Under the No Action Alternative, internal roadway circulation, intersection capacity, and roadway capacity would not be adversely affected. Definable safety hazards, or deterioration of roadway surfaces, would not be present as a result of the No Action Alternative.

Table 4.8-1. Future Intersection LOS – Locations outside the POM

| A. Intersection | AM Peak Hour LOS | B. PM Peak Hour LOS |
|---|---|---|
| C. Lighthouse Avenue / Washington Street / Del Monte Avenue | B | B |
| Foam Street / Reeside Avenue | A | B |
| Lighthouse Avenue / Reeside Avenue | B | B |
| Private Bolio Road / Lighthouse Avenue | B | C |
| Prescott Avenue / Taylor Street | A | B |
| Prescott Avenue / Lighthouse Avenue | NA | B |
| Franklin Street / High Street | C | D (1) |
| Franklin Street / Pacific Street | C | C |
| Franklin Street / Van Buren Street | A | B (1) |
| Munras Avenue / Soledad Drive | B | C |
| Fremont Street / Aguajito Road | C | E (1) |

| Table 4.8-1. Future Intersection LOS – Locations outside the POM | | |
|---|---|---|
| A. Intersection | AM Peak Hour LOS | B. PM Peak Hour LOS |
| Fremont Street / Abrego Street | B | C |

*Source: Gannett Fleming and Military Surface Deployment and Distribution Command, Transportation Engineering Agency, 2010*
*Note: LOS = level of service; NA= not available*
*(1) Indicates a decrease in LOS as compared to existing LOS.*

### 4.8.2 Alternative 1: POM–Centric

Long-term traffic impacts under Alternative 1 would remain unchanged as compared to the No Action Alternative. New barracks would be constructed at the POM in the short- and long-range to replace existing outdated barracks with upgraded facilities. New support facilities and parking structures are also planned for the long-range. Combined, these projects would potentially affect the traffic flow within the POM during construction by temporarily increasing delays associated with internal POM intersections, adding additional traffic on the internal POM roadway system, and changing the internal distribution of traffic flow. During construction, construction vehicles would transport construction materials using local roadways both within and outside the POM and using available ACPs. When compared to the No Action Alternative, effects on the transportation system would be less than significant.

Because the short-range project is not planned at the OMC, traffic conditions would be unchanged from the No Action Alternative. Long-range projects would occur at the OMC, but effects on traffic conditions would be similarly less than significant. Under Alternative 1, less than significant impacts resulting from temporary construction activities would occur on the rate of deterioration of the physical roadway.

#### 4.8.2.1 Short-range Project

The short-range project is not expected to result in significant long-term traffic increases compared to the No Action Alternative. This construction project would not change the number of students and faculty. Overall, the population at the POM Installation would stay the same or slightly decrease. Therefore, the effects would be less than significant.

Based on the LOS of existing roadways outside of the POM (see Table 3.8-6), additional construction traffic could result in temporary significant effects, depending on the roadways used. Construction traffic would increase the wait times at ACPs as construction vehicles are transporting materials to and from the POM. Depending on the ACP used, the effect could be significant. Roads within the POM generally have high LOS ratings, and increased construction traffic may not result in a significant effect. Construction staging could occur in existing parking lots, reducing parking availability during construction. Because of the already limited parking at the POM, this could result in a significant effect. Construction routes or the number of

trucks needed per building have not been identified, thus a quantitative analysis of construction effects is not possible at this point. However, all construction effects would be temporary and could be mitigated. Overall, traffic impacts from temporary construction activities are expected to be less than significant with mitigation.

#### 4.8.2.2 Long-range Projects

The environmental analyses for potential effects from long-range projects are prepared at a programmatic level based upon a minimal change in the overall future population at the POM Installation. Details for projects are developed during and after the design phase. Assessing all the potential effects of the long-range projects on the area transportation system, the trip generation, distribution, assignment and effects analyses cannot be undertaken at the project level. Many of the long-range projects have the potential to alter traffic patterns. Future parking structures where none currently exist change traffic distribution and patterns by creating locations for vehicle congregation. Accordingly, access to individual parking structures must be convenient and planned to allow continuous, unimpeded traffic circulation. More detailed study is required of traffic circulation associated with multiple parking structures.

Construction effects of the long-range projects would be similar to those described above for the short-range project. Construction effects would be temporary and can be mitigated.

The Draft EIS assessed potential construction of an ACP located at the intersection of State Highway 68 and S.F.B. Morris Drive. Evaluation of this long-range project was done at a programmatic level of analysis. Construction of an ACP requires adherence to specific design and operational standards as prescribed in the *Standard Definitive Design for Access Control Points* developed by the DoD. Strict AT/FP requirements apply in conjunction with approved design features that must include a gate house/guard booth; visitor center; active/passive barriers; over-watch position canopies; closed-circuit television; traffic control features, such as lighting, sensors, signs, and signals; and an electrical backup generator. Supporting construction/facilities involve site preparation, grading, parking area, storm drainage, curbing and utility (electricity and natural gas) lines.

A traffic survey and two separate traffic studies have been conducted relevant to determining the potential need for a gate (or ACP) off State Highway 68. In 2007, a survey was conducted among POM employees and students that asked respondents to identify the route(s) and gate(s) normally used during their daily commute (POM, 2007). This survey concluded that less than 20 percent of the work force lived in areas where accessing the POM via the Holman Highway portion of State Highway 68 appeared likely. The results suggested that a gate off State Highway 68 would not be heavily used and therefore would not be cost effective. In 2009, a traffic analysis that was conducted by the United States Military Academy, West Point, Department of Engineering Systems concluded that opening the Artillery Street gate was a much better, cost-

effective alternative to creating a new gate off State Highway 68 (POM, 2009b). This analysis found that operation of a new gate off State Highway 68 would not substantially reduce vehicle traffic at the other ACPs on the POM. (The Draft EIS did not discuss either the 2007 survey or the 2009 traffic analysis, but the Army believes it provides important background information in this Final EIS.) In 2010, the potential long-term effects on traffic distribution at State Highway 68 from the addition of a new primary Highway 68 ACP was assessed in the Comprehensive Transportation Engineering Study for the POM (Gannett Fleming and Military Surface Deployment and Distribution Command, Transportation Engineering Agency, 2010). This study included a table of the projected traffic demand for a new ACP off State Highway 68 (refer to Table 4.7-3 in the Draft EIS). Upon re-evaluation of existing conditions, the Army believes the projected traffic demand in that table was grossly overestimated for potential traffic diversions from the existing ACPs. This overestimate was the result of two assumptions. The first was that the overall POM Installation population would increase; a condition no longer supported by the 2012 ASIP, wherein the Army expects a slight decrease in overall population. The second assumption was that up to 50 percent of the traffic from the Franklin Street and Taylor Street ACPs might be diverted to a new ACP off State Highway 68. This rough approximation was never substantiated by any empirical field data and conflicts with the prior traffic survey and study. The Army now questions that assumption and, as a result, acknowledges that additional study of the potential need for a gate at Highway 68 is necessary. The Army can make a determination regarding the cost effectiveness and viability of a new gate off State Highway 68 only after conducting further study, but it does recognize a beneficial effect of providing emergency access and egress for first responders. After further consideration and meetings with technical subject matter experts, the Army determined this site cannot support an ACP. The Army decided to consider construction of a gate as a long-range project to facilitate accessibility by emergency response vehicles.

In addition to outstanding questions about quantification of traffic demand, there is the need for a detailed environmental impact analysis, additional NEPA documentation, extensive coordination with several other critical stakeholders, and approvals from governmental transportation agencies. Furthermore, a number of improvements to State Highway 68 and supporting infrastructure must be completed by the other stakeholders before the Army could justify construction of this gate. Specifically, Caltrans, in conjunction with the Transportation Agency of Monterey County, must finish the planned improvements to widen State Highway 68, including but not limited to, constructing a roundabout and/or upgrading the traffic intersection at State Highway 1 and State Highway 68. Additionally, improvements at the intersection of State Highway 1, State Highway 68, and S.F.B. Morris Drive must be completed by the Pebble Beach Company for its development in the Del Monte Forest area. The Army can re-evaluate the need for the new gate along State Highway 68 only after these other improvements are completed.

The Army also has to evaluate and program for long-term staffing or manpower for any additional gates. Currently, budgetary cutbacks are resulting in reduced hours of operation at the existing ACPs. An existing trend in declining budgets is a serious factor.

Support facilities are planned at the OMC under Alternative 1. The potential security fence upgrade and development of ACPs may result in the diversion of traffic and a re-distribution of existing traffic flows. In addition to this re-distribution of traffic, vehicle queuing at ACP locations may spill back onto adjacent access roads.

Potential traffic effects from the long-range projects at the OMC would result in a minor increase in traffic volumes on the OMC roadway system because of the potential introduction of delay to OMC intersections, and the overall re-distribution of traffic due to parking, new support facilities, and ACPs. Internal OMC roadways, and associated intersections, may exhibit an increase in traffic volumes due to the re-location of existing facilities and the construction of new facilities.

When compared to the No Action Alternative, effects on the transportation system would be less than significant.

### 4.8.3 Alternative 2: POM and OMC

As the majority of the projects proposed under Alternative 1 in the short- and long-range are identical to that proposed under Alternative 2, the potential traffic effects would be the same. The only differences would be that traffic effects would be alleviated at the POM under this alternative because the Barracks Complex Phase II and Phase III projects would now be constructed at the OMC instead. The traffic conditions at the OMC would be affected by those new buildings and also by construction of the new security fence upgrade, which would make the OMC a closed facility like the POM.

Under Alternative 2, less than significant impacts resulting from temporary construction activities and increased traffic volumes would occur on the rate of deterioration of the physical roadway.

#### 4.8.3.1 Short-range Project

The short-range project under Alternative 2 is the same as under Alternative 1. The future LOS anticipated for intersections outside of the POM would also be the same as under the No Action Alternative.

When compared to the No Action Alternative, effects on the transportation system would be less than significant.

#### 4.8.3.2 Long-range Projects

Similar to Alternative 1, insufficient details were available to assess the potential effects of the long-range projects on the area transportation system, so trip generation, distribution, assignment and effects analyses could not be undertaken at the project level. Additional traffic studies may need to be undertaken at the time of project development once detailed plans are completed for the long-range projects. On a qualitative level, potential traffic effects become greater at the OMC due to the placement of the Barracks Complex Phase II and Phase III buildings and three GIBs that were previously identified at the POM. In this scenario, traffic effects would be reduced at the POM and elevated at the OMC.

The potential traffic effects under Alternative 2 and would include ACP gate queuing, traffic volume increases, and traffic re-distribution activities. During project development and design, details would be needed for lane configuration, ACP locations, ingress and egress to parking facilities, and updates to baseline traffic conditions.

Construction effects of the long-range projects under Alternative 2 would be temporary and could be mitigated. Effects on the transportation system would be less than significant if mitigated.

### 4.8.4 Comparative Analysis of the Alternatives

Table 4.8-2 lists the effects of each of the alternatives and compares them to the No Action Alternative. As shown, Alternatives 1 and 2 would have similar effects on traffic and transportation.

Table 4.8-2. Traffic and Transportation – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Increased traffic volumes on internal POM and OMC roadways | No Effect | Less than Significant with Mitigation (1) | Less than Significant with Mitigation (1) |
| Increased delay on internal POM and OMC intersections | No Effect | Less than Significant with Mitigation (1) | Less than Significant with Mitigation (1) |
| Increased vehicle queuing at ACP locations | No Effect | Less than Significant with Mitigation (1) | Less than Significant with Mitigation (1) |
| Substantial deterioration of physical roadway conditions | No Effect | Less than Significant | Less than Significant |

*(1) Mitigation would be required for temporary effects resulting from construction, not for long-term effects from project implementation.*

### 4.8.5 Mitigation Measures

Mitigation measures were identified to reduce the temporary effects from construction. These measures would reduce the effects of the environmental consequences presented in Table 4.8-2 to less than significant. These mitigation measures are presented below. Funding and scheduling would be coordinated with the project(s) for which they are providing necessary mitigation, which may be based upon additional traffic studies conducted during project development.

**T-1** – Continue the ongoing partnership with the MST to expand/refine the service routes connecting the POM and OMC to encourage use of alternative transportation.

**T-2** – Reconfigure parking and roadways within the POM Installation to be more receptive to bicycle and pedestrian accessibility.

**T-3** – Provide sidewalk and bicycle trail connectivity throughout the POM Installation to encourage non-vehicular travel within the POM.

**T-4** – Implement, as appropriate, the short-, medium-, and long-term recommendations provided in the 2010 Comprehensive Transportation Study (Gannett Fleming and Military Surface Deployment and Distribution Command, Transportation Engineering Agency, 2010) to mitigate effects associated with the proposed POM projects. These improvements range from simple signing and pavement marking improvements to intersection lane expansion and additions, and, in some cases, removal of unnecessary intersection legs. Due to the extensive number of projects recommended, the reader is referred to the actual 2010 Comprehensive Transportation Study for further details.

Traffic mitigation necessary for the development of a gate at Highway 68 may be extensive. Because access to the POM would be from State Highway 68, Caltrans involvement and approval would be required. This type of project would require an environmental impact report or EIS. Additionally, the right-of-way along State Highway 68 would potentially require a deceleration lane in the northwesterly direction, and a left-turn deceleration lane in the southeasterly direction. If the Highway 68 gate moves beyond a conceptual level, the Army anticipates that the following mitigation measures may be necessary:

**T-5** – Prepare an EIR or EIS to comply with CEQA or NEPA, respectively, and other environmental requirements to develop the new ACP.

**T-6** – As part of the EIS or EIS, develop a detailed traffic engineering study and a micro-simulation model to identify operational issues with the new potential ACP.

**T-7** – Negotiate with Caltrans to acquire new right-of-way for ingress and egress needs to serve the new ACP.

The following mitigation measures are recommended for construction-related traffic effects:

**T-8** – Encourage alternative modes of transportation (MST bus, carpool, parking at the OMC) during periods of extensive construction.

**T-9** – Develop a staging plan for each project that evaluates the possible use of nearby vacant land for staging and/or temporary parking to offset construction effects on existing parking facilities.

## 4.9 NOISE

This section addresses potential noise effects associated with construction and operation of the RPMP alternatives. There are two principal criteria for evaluating noise effects of a project: (1) evaluating the increase in noise levels above the existing ambient levels as a result of the project, and (2) complying with relevant standards and regulations. Noise effects from construction activities would be considered significant if noise levels extending off-post exceed those allowed by neighboring communities as identified in Section3.9.2.2.

### 4.9.1 No Action Alternative

Under the No Action Alternative, no construction would occur at the POM and the OMC. There would be no short-term noise effects. Long-term noise effects could occur from increased travel to and from the POM Installation due to population growth. Because housing availability would remain the same at the POM Installation, military personnel and families would need to find alternative housing off-post, which could increase commutes and associated noise levels in nearby areas. In order to project an appreciable noise level increase of 3 dBA or greater, traffic volumes would need to double compared to existing traffic volumes. Expected population growth would not result in doubling of traffic volumes; therefore, noise increases from traffic would not increase substantially over ambient levels.

### 4.9.2 Alternative 1: POM-Centric

#### 4.9.2.1 Short-range Project

Construction activities would increase noise levels at and in the vicinity of the construction sites. Construction noise would only occur during the period of construction. Although construction noise effects would be temporary for the construction period, the construction period would last several years and thus without appropriate mitigation, noise disruptions to the educational mission of the POM would be possible at any time during construction. Construction noise would be audible in proximity to the POM central campus, including instruction buildings, barracks, and neighborhoods immediately adjacent to the POM Installation. However, these temporary increases in noise levels would be most noticeable for those on-base receptors in

the immediate vicinity of the construction site; off-base effects on the community would be negligible and limited to daytime construction actions.

The Barracks Complex Phase I project requires partial demolition of an existing building and construction of new barracks. Equipment required for demolition and construction generally includes, but is not limited to, small and large bulldozers, backhoes, scraper, paver, loaders, and loaded trucks. Construction noise could disturb military personnel and classrooms located adjacent to construction sites. Noise mitigation would be necessary to reduce noise levels during construction activities. Mitigation measures N-1, N-2, N-3, and N-4 would reduce the short-term noise effects to less-than-significant levels.

Long-term noise effects could occur from increased travel to and from the new barracks. In order to project an appreciable noise level increase of 3 dBA or greater, traffic volumes would need to double compared to traffic volumes under the No Action Alternative. The new barracks would not result in doubling of traffic volumes; therefore, noise increases from traffic would not increase substantially over ambient levels.

#### 4.9.2.2 Long-range Projects

This section describes general effects on noise of proposed construction associated with the long-range projects. Implementation of long-range projects would depend on funding availability. Because building design details are not available, this EIS analyzes effects of long-range projects at a programmatic level of detail. The POM Installation would need to complete supplemental noise analyses as the planning and design of the projects progresses.

Demolition and new construction of buildings would temporarily increase noise levels at the POM Installation. Because of the high building density at the POM, noise associated with demolition and new construction projects at the POM would affect nearby sensitive receptors. Construction noise would occur only during the construction period. Larger buildings, such as the proposed new GIBs, would require more construction and would likely generate noise for a longer period than smaller construction or renovation projects. Noise mitigation would be necessary to reduce noise levels during construction activities.

Minor construction noise would occur during building renovations, but these type of activities would not require mitigation.

Security fence upgrades involve replacing portions of the existing fences around the perimeter of the POM. The fence upgrades could affect residential areas outside the POM because of their proximity to the POM. Construction activities associated with the fence upgrades would not be major and likely include a small backhoe, a bobcat, and primarily manual labor. Noise mitigation measures would be employed to ensure the effects are less than significant.

Alternative 1 includes construction of long-range projects at the OMC that would increase noise levels. The OMC area is less dense than the POM, and most of it is residential with low ambient noise levels. Equipment required includes, but is not limited to, small and large bulldozers, backhoes, scraper, paver, loaders, and loaded trucks. Noise mitigation would be necessary to reduce the short-term noise effects during construction activities.

The cantonment fence could affect sensitive noise receptors both inside and outside the OMC property. Construction would include installation of 10 miles of a new perimeter fence around the OMC. Activities would require some excavation and dozing and transport of fence materials to the site. Construction is not expected to involve major equipment because the fence would be installed in portions. Houses along the perimeter of the fence would be adversely affected by noise levels during the construction period. Noise mitigation would be necessary to reduce noise levels during construction activities. Mitigation measures N-1, N-2, N-3, and N-4 would reduce noise effects to less-than-significant levels. Some stretches of the fence would not have adjacent sensitive receptors and noise mitigation would not be necessary in those areas.

Long-term noise effects could occur from increased travel to and from the POM and the OMC. In order to project appreciable noise level increase of 3 dBA or greater, traffic volumes would need to double compared to traffic volumes under the No Action Alternative. Alternative 1 is not expected to result in doubling of traffic volumes; therefore, noise increases from traffic would not increase substantially over ambient levels.

### 4.9.3 Alternative 2: POM and OMC

#### 4.9.3.1 Short-range Project

Noise effects associated with the short-range project under Alternative 2 would be the same as Alternative 1.

#### 4.9.3.2 Long-range Projects

Noise effects from implementation of long-range projects under Alternative 2 would be similar to Alternative 1. Under Alternative 2, the new GIBs and Barracks Complex Phase II and III projects would be constructed at the OMC. Sensitive noise receptors adjacent to construction projects would be adversely affected by construction noise. As with Alternative 1, construction of the cantonment fence could affect sensitive noise receptors both inside and outside the OMC property. Houses along the perimeter of the fence would be adversely affected by noise levels during the construction period. Construction noise effects would be temporary and occur during the construction period. Noise mitigation would be necessary to reduce the short-term noise effects during construction activities.

Traffic noise levels could increase from construction workers' vehicles and haul trucks. Construction traffic would be temporary. Long-term traffic effects could occur from increased travel to and from the POM and the OMC. In order to project appreciable noise level increase of 3 dBA or greater, traffic volumes would

need to double compared to traffic volumes under the No Action Alternative. Alternative 2 is not expected to result in doubling of traffic volumes; therefore, long-term noise effect increases from traffic would not increase substantially over ambient levels

### 4.9.4 Comparative Analysis of the Alternatives

Table 4.9-1 lists the effects of each of the alternatives and compares them to the No Action Alternative. Noise effects under Alternatives 1 and 2 would be similar, because both alternatives involve the same general construction activities that generate noise. Under Alternative 1, short-term construction noise would be centralized at the POM, which has more nearby sensitive receptors susceptible to noise effects than the OMC because of the higher building density of the area. Noise effects from construction would be mitigated under each alternative.

Table 4.9-1. Noise – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Temporary noise increases from construction activities | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Long-term noise increases from increased travel to and from the POM and the OMC | Less than Significant | Less than Significant | Less than Significant |

### 4.9.5 Mitigation Measures

The following mitigation measures would reduce noise effects from the project alternatives.

**N-1** – Appropriate level of sound attenuation would be used or constructed to meet local ordinances, whenever possible. A potential sound attenuation measure that could be considered is temporary sound barriers near the construction activity noise source.

**N-2** – The construction contractor would be responsible for ensuring that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators, intact and operational. All construction equipment should be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding).

**N-3** – Construction would take place during weekday, daytime hours (Monday through Friday from 7:00 A.M. to 5:00 P.M.). In addition to the above mitigation measure, the POM currently promotes quiet hours during the normal work week for some construction projects. This could include quiet hours between 6:00 A.M. and 10:00 A.M. on specific work days, if requested by affected staff.

**N-4** – Provision of public notification of the project to local area neighborhoods and posting of signage that provides a phone number for the public to call to register complaints about construction-related noise problems.

## 4.10 UTILITIES, ENERGY, AND PUBLIC SERVICES

This section evaluates potential effects on utilities and public services from the RPMP alternatives. Effects are evaluated based on the potential for the RPMP to increase the demand on existing utilities and public services and/or create a new demand for utilities and public services. Utilities and public services evaluated in this section include stormwater, wastewater, solid waste, energy (electricity and natural gas), communications, and public schools. Effects on water services are discussed in Section 4.1.

Impacts would be considered significant if the POM Installation's needs exceed the ability of a utility or public service providers to supply required services.

### 4.10.1 No Action Alternative

Under the No Action Alternative, no construction would occur at the POM or the OMC. Utility systems at the POM and the OMC are privately owned. All operation and maintenance activities are the sole responsibility of the utility providers.

Facilities are deteriorating with age at both the POM and the OMC. Many of the utilities and HVAC systems require upgraded technology for better efficiency.

Due to the anticipated decrease in overall military personnel at the POM Installation under all alternatives, demands on public schools are not expected to intensify. The POM Installation, through its Army student enrollment liaison officer, would coordinate with the MPUSD to support potential increases in school enrollment of military children.

### 4.10.2 Alternative 1: POM-Centric

#### 4.10.2.1 Short-range Project

The short-range project would occur on the POM.

The Barracks Complex Phase I project would include demolition of existing buildings, including barracks, and construction of new barracks with a total capacity of 164,960 square feet. Construction would involve removal of the existing utilities and installation of new site utilities. Supporting facilities for all structures would be utilities, exterior lighting, walks, curbs, gutters, parking, storm drainage, and information and entry surveillance systems. New sewer lines and storm drains would improve existing utilities. New laterals would be connected to existing main sewer lines and drainage channels at the POM Installation. At this level of

analysis, these infrastructure facilities have the capacity to support Barracks Complex Phase I, because most new construction would replace aged and deteriorated infrastructure. There would be an increase in impervious cover that would increase stormwater runoff quantity and reduce stormwater quality without mitigation measures. The effect on wastewater and stormwater would be less than significant.

This short-range project would be metered per the Army Metering Implementation Plan, which was approved in September 2006. The Army plans to meter buildings meeting specific criteria: estimated utility cost of $35,000 or more; buildings over 29,000 square feet if the actual utility cost is unknown; buildings with Utility Monitoring and Control Systems; and significant size reimbursable tenant facilities.

PG&E would provide electric and gas services to the new barracks using the 21-kilovolt line. New construction would be designed to LEED Silver standards; therefore, it is expected that energy demands would decrease or remain similar to existing conditions. Because new construction would be designed to LEED standards, it is expected that energy demands would decrease from existing conditions. The new barracks would be significantly more energy efficient than existing barracks. USACE Engineering Construction Bulletin No. 2010-14 pertaining to Army LEED requirements mandates that new buildings be constructed to use at least 40 percent less energy than baseline comparisons. Specific energy conservation measures will be finalized during the project design. Per the Army's Sustainable Design and Development Policy Update (U.S. Army, 2010), the POM is required to achieve the LEED Silver Certification standard or higher. The LEED Silver standard includes designing for 30 percent less energy usage per square foot than California Building Standards (CCR, Title 24). Additionally, the DoD Sustainable Buildings Policy of October 25, 2010, reinforces the LEED Silver standard mandate and requires that 40 percent of the LEED points come from energy and water efficiency credits.

The new buildings would be designed with a number of energy and water efficient products, such as dual pipe plumbing, so that toilets can be supplied with collected rain water or "purple pipe" tertiary water, dual-flush toilets and waterless urinals, day-lighting and photo-cell controlled lights to reduce electrical consumption, and Energy Management Control Systems to monitor and track energy usage. Specific energy conservation measures would be finalized during the project design.

Current providers would continue to provide telephone and internet services. Effects on electric, gas, and communication services would be less than significant.

During the construction and demolition phases, solid waste in varying quantities would be generated by the demolition and building of structures, utilities, and parking areas. The disposal of construction-derived wastes would be in accordance with local and state requirements and is not anticipated to affect adversely solid waste collection and disposal services currently provided in the region. Efforts would be made to

remove scrap metal and other recyclable materials from the construction and demolition waste stream. Waste that is considered hazardous waste cannot be recycled and must be disposed as discussed in Section 4.11 Hazardous, Toxic, and Radioactive Substances. Increased population at the new barracks would also result in increased solid waste; however, the net increase of beds in the Barracks Complex Phase I project is not expected to cause a significant increase in solid waste.

Military personnel in the barracks are typically at the POM by themselves without families. Therefore, the new barracks would not result in any increased demands for local schools.

#### 4.10.2.2 Long-range Projects

Detailed planning and construction of long-range projects would begin between 2018 and 2030, depending on funding availability. Because building details are not available, this EIS analyzes effects of long-range projects at the programmatic level. This section describes general effects on utilities and public services of proposed construction associated with the long-range projects.

Construction of new buildings under the long-range projects would involve installation of new utilities, such as electricity, gas, communications, sewer, and storm drainage. The POM Installation would coordinate with utility companies and other relevant agencies before construction to locate existing utilities, coordinate on new utilities, and provide notification of any interruptions in services. Projects would be constructed to LEED Silver standards and would have reduced energy demands. Because new construction would be built to LEED standards, it is expected that energy demands would decrease or remain similar to existing conditions. Specific energy conservation measures will be finalized during the project design. In addition to energy conservation measures for the proposed projects, there would be ongoing renewable energy and energy efficiency improvement projects at the POM during the long-range projects period (2018–2030).

Per the Army Metering Implementation Plan approved in a September 2006 memo, the Army plans to meter buildings meeting specific criteria: estimated utility cost of $35,000 or more; buildings over 29,000 square feet if the actual utility cost is unknown; buildings with Utility Monitoring and Control Systems; and significant size reimbursable tenant facilities.

PG&E is expected to have capacity to provide gas and electric services. There would be increased demand for communication services, including telephone, internet, and cable. The current utility providers are expected to meet this additional demand.

Renovations of existing buildings under the long-term projects would not change demands to existing utilities. Some utility infrastructure would be replaced with new components, which would be a benefit.

LEED features would be incorporated into renovations where possible, which would reduce energy demands.

Further analysis would need to be completed on the existing capacity of wastewater and storm drain systems and the new demands under the long-range projects. The Army recently completed an Infrastructure Capacity Assessment (ICA), which assessed the capacity of the sewer lines and all the other utility systems, except communications, at the POM. This ICA was completed in July 2012. Potential adverse effects include additional stormwater runoff from increased impervious surface area, overuse of existing facilities, or storm drain overflows. The City of Monterey, which owns the wastewater system, is currently renovating and retrofitting existing, problematic sewer lines. The POM Installation has a contracted amount for wastewater flows to the local wastewater treatment plan. Further analysis may indicate that the POM Installation must renegotiate contracts in the long term. Replacing aged infrastructure that has leaks or limited capacity could reduce potential long-term effects on wastewater services.

In 2011, the Army retrofitted more than 1,300 toilet fixtures with 1.28-gallon dual flush toilets, 0.125-gallon flush urinals, and waterless urinals. Based upon information provided by the City of Monterey Engineer to POM officials in 2011, it was noted that much lower flow rates from water conservation measures have resulted in the need to increase power flushing in certain areas of the sewer system to remove solids. The POM has approximately 63,000 linear feet of sewer mains that are flushed twice annually. Although no historical measurements of flow exist for the POM sewer system, the need for power flushing solids indicates the system is not at capacity and, because new construction is equipped with similar water-saving technologies as mandated by the local water regulator, the existing system is expected to handle future flow. There is a weir in the sewer manhole on Lighthouse Avenue that can be used to measure the flow from the POM by the City of Monterey, which owns the POM's sewer system. Because the sewer capacity has not been reached, no infrastructure upgrades are expected to be necessary.

Construction activities would result in some solid waste during the construction period. Construction crews would dispose of or recycle construction waste in accordance with local and state requirements. Increased population would also result in increased solid waste; however, it is not expected to affect adversely solid waste management or exceed the capacity of the MRWMD's landfill. The POM Installation would coordinate with landfill staff regarding projected quantities of waste requiring disposal and recycling.

Population growth under Alternative 1 would be the same as the No Action Alternative. The long-range projects do not propose new family housing at the POM or the OMC. New barracks under Alternative 1 would support temporary residency of individual military personnel without accompanying families.

Therefore, the long-range projects would not affect demands for public schools over the baseline (No Action Alternative) demand.

### 4.10.3 Alternative 2: POM and OMC

#### 4.10.3.1 Short-range Project

Effects on utilities and public services associated with the short-range project under Alternative 2 would be the same as Alternative 1.

#### 4.10.3.2 Long-range Projects

Effects on utilities and public services associated with the long-range projects under Alternative 2 would be the same as Alternative 1.

### 4.10.4 Comparative Analysis of the Alternatives

Table 4.10-1 lists the effects of each of the alternatives and compares them to the No Action Alternative.

Table 4.10-1. Utilities and Public Services – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Increased electricity, gas, and communication service demands for the POM and the OMC | Less than Significant | Less than Significant | Less than Significant |
| Increased solid waste | Less than Significant | Less than Significant | Less than Significant |
| Increased demand on wastewater and storm drain distribution systems | Less than Significant | Less than Significant | Less than Significant |

### 4.10.5 Mitigation Measures

No mitigation measures are necessary for utilities and public services other than the design features noted. Energy conservation measures implemented at the POM and the OMC as described in this section would continue to reduce energy use and increase efficiency over the duration of the short-term and long-term projects. Further analysis of the long-term projects may indicate additional impacts. The POM Installation would work with utility agencies, such as PG&E, the MRWPCA, Monterey County Disposal Service, and the MRWMD, to coordinate relocation of, installation of new, or interruptions to utility and public services.

## 4.11 HAZARDOUS, TOXIC, AND RADIOACTIVE SUBSTANCES

This section considers the effects that proposed projects could have on existing HTRW sites within the project area. It also looks at possible effects from the introduction of new hazardous substances

(i.e., construction materials) as part of the proposed projects. Environmental effects would be significant if they present a substantial danger to public health or welfare or the environment. Mitigation measures are proposed for any aspect of the action that could affect or release hazards to the environment.

### 4.11.1 No Action Alternative

Under the No Action Alternative, there are no proposed RPMP short- or long-range construction projects at the POM or the OMC, and no new hazardous wastes would be generated at the POM or OMC.

Therefore, there would be no significant environmental consequences to or from HTRW at the POM Installation under the No Action Alternative.

### 4.11.2 Alternative 1: POM-Centric

#### 4.11.2.1 Installation Restoration Program

Two formerly contaminated sites are in proximity to the proposed short-range and long-range projects in the RPMP. The Barracks Complex Phase I (Project No. 53789) at the POM would be located immediately south of the former landfill boundary, also referred to as POM-05 (Figure 1.1-5). The structures would be constructed under the short-range project. Although one parking lot for the barracks would be placed over the POM-05 site, design and construction measures would be taken to prevent damage to the existing cap and drainage structure. The final landfill cap design included a cover layer that formed a containment and moisture barrier directly overlying the waste mass to protect the landfill contents from invasive moisture and the public from exposure to waste materials. A final layer of soil with vegetation provides erosion control and some additional moisture protection. If this structure were to be disturbed, there is the potential for emission of landfill gases and the percolation of stormwater into the landfill waste. The proposed parking lot would be designed and constructed to maintain the structural integrity of the landfill cap. Waste material within the landfill cells would not be removed or exposed. Proposed land use and any landfill cap changes would be submitted to the state and local regulatory agencies for approval.

Site 10, the former burn pit, is located north of part of the RPMP long-range projects. Site 10 is approximately 160 feet south of the Fort Ord Fire Station in the Main Garrison. The pit is no longer in use and is partially overgrown with grass. In 1996, all of the contaminated soil was removed. Site 10 no longer poses a threat to human health, the environment, or the proposed construction projects. Construction of the short-range and long-range projects would not result in any exposure of people or the environment to existing waste materials.

#### 4.11.2.2 Lead-based Paint and Asbestos

Under Alternative 1, rehabilitation of existing buildings would occur at the POM. The LBP encountered in the building rehabilitation process would follow the DoD LBP guidance and the LBP Hazard Management Plan. A hazard assessment followed by abatement measures would be completed, if necessary. After LBP control and hazard abatement measures have been completed, affected structures must undergo a clearance examination to ensure that all abatement activities have been conducted properly. Short-term minor adverse and long-term minor beneficial effects are expected if hazardous materials are present in and around the housing units, including ACM and LBP that would be removed from the housing units or encapsulated during demolition.

The ACM encountered in the renovation process would be assessed and managed in accordance with all local, state, and federal requirements including MBUAPCD Rule 424, National Emissions Standards for Hazardous Air Pollutants and the POM Installation Asbestos Management Plan. Surveys for asbestos must be conducted prior to demolition or renovation activities that would disturb ACMs. If asbestos must be handled during remodeling, demolition, or construction, the work needs to be done by workers trained and certified by the State of California in proper asbestos removal procedures.

As required by 40 CFR, Part 61, Subpart M, *National Emission Standards 736 for Hazardous Air Pollutants-Asbestos*, the facility or portion of the facility being renovated or demolished shall be thoroughly inspected to detect the presence, location, condition, and estimated quantity of ACM that may be disturbed during the renovation or demolition activity. Facility inspections would be used to obtain accurate and reliable information on the presence and condition of ACM in each facility. The inspection would be performed prior to any renovation or demolition activity and must be performed by a person who has been trained and licensed as an asbestos Building Inspector or Management Planner in accordance with state training and licensing requirements. A building inspection report would only be valid and acceptable if performed within three years prior to the renovation or demolition activity. If an inspection was performed more than three years prior to the renovation or demolition activity, the previous inspection must be confirmed and verified by a licensed asbestos Building Inspector or Management Planner. Non-friable materials suspected of containing asbestos shall be treated as ACM, documented, and sampled only when the materials must be disturbed, such as during maintenance activities or renovations.

Rehabilitation of existing buildings is not proposed at the OMC under the RPMP short- or long-range projects.

New construction at the POM would occur during the RPMP short- and long-range projects; new construction at OMC would occur only during the RPMP long-range projects. Similar to the No Action

Alternative, short-term generation of hazardous waste from general construction materials (e.g., paints, adhesives, and petroleum products) hazardous materials would occur and would be managed by the contractors and disposed in accordance with manufacturer's specifications and hazardous waste regulatory standards. Contractors are responsible for managing and disposing of their own hazardous waste at the POM Installation. Construction of short-range and long-range projects would not result in any exposure of people or the environment to LBP or ACM.

In addition to the above materials, potentially hazardous materials that would likely be on-site during construction and renovation include paints, asphalt, and fuels and motor oils for construction vehicles.

Essentially inert materials under normal conditions could be hazardous in specific circumstances. Wood and dry concrete can generate airborne particulates as these materials are cut or sanded. Workers would wear personal protection equipment when performing these tasks to protect against these adverse effects. Wood and other construction materials are also flammable. Dedicated smoking areas would be established and open flames would be prohibited near flammable materials to reduce the risk of fire. Adhering to these precautions would eliminate adverse effects when dealing with these materials.

The use of hazardous substances is expected during building demolition and construction; however, this temporary increase would be limited and managed in accordance with state and federal regulations. Alternative 1 would not result in significant adverse effects. Management practices would be implemented to avoid a risk or health hazard associated with hazardous materials storage and use and hazardous waste generation and disposal. Over the long-term, replacing older housing units containing potentially hazardous building materials with new units containing less hazardous materials would have beneficial effects.

### 4.11.3 Alternative 2: POM and OMC

The environmental consequences at the former landfill, POM-05, under Alternative 2 are similar to Alternative 1. The proposed parking lot for the Barracks Complex Phase I would be designed to not affect the landfill cap. Waste material within the landfill cells would not be removed or exposed and any construction activity would be conducted to avoid compromising the landfill cap.

Rehabilitation of existing buildings is proposed at the OMC under the RPMP short- and long-range projects. The Installation Restoration Program Sites 10, 11, and 21 and MRSs 24B, 24C, 24D, 24E, and 39 are located within or immediately adjacent to the OMC boundary. In the 1990s, these sites were assessed for risk to human health and the environment. During the environmental investigation, it was determined that the sites were either not contaminated with a hazardous waste or the sites were contaminated and remediated with no further risk to human health. The Installation Restoration Program Sites would not affect the future short- and long-range projects in the RPMP.

The risks to construction workers and future residents from ACM and LBP exposure during the rehabilitation of existing buildings and the use of potentially hazardous materials during construction and renovation activities would be similar to that already described in Alternative 1.

Similar to Alternative 1, potentially hazardous materials likely to be on-site for new construction and building renovation would include paints, asphalt, and fuels and motor oils for construction vehicles. Proper hazardous materials handling, worker safety precautions, and hazardous waste management practices described in Alternative 1 would also apply to Alternative 2.

### 4.11.4 Comparative Analysis of the Alternatives

Table 4.11-1 lists the effects of each of the alternatives and compares them to the No Action Alternative.

Table 4.11-1. Hazardous, Toxic, and Radioactive Substances – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Contaminant release from modified landfill cap | No Effect | No Effect | No Effect |
| Release of asbestos-containing materials or lead based paint to the environment | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Effects from using hazardous substances during construction | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |

### 4.11.5 Mitigation Measures

The following mitigation measures would be implemented to reduce effects from known HTRW:

**HW-1** – The ACM and LBP removed from building rehabilitation work would be managed according to local, state, and federal requirements. The DoD guidelines for management of LBP apply. The POM's Asbestos Management Plan to prevent human exposure to asbestos hazards would be implemented. The ACM would be managed and disposed in accordance with the MBUAPCD rules and policies.

**HW-2** – For construction projects that may affect the POM-05 landfill cap, the closure and post-closure maintenance plans would be modified. Proposed land use changes and development plans would be submitted to the local regulatory and land use agencies, the Central Coast RWQCB, and the CIWMB for approval. The plans would address the proposed parking lot design and mitigation of potential effects.

There is no proposed construction directly in the landfill area. A parking lot is proposed over the landfill; however, construction of this parking lot would be conducted in a manner that would not affect the landfill cap.

**HW-3** – Compliance with the California Stormwater Construction General Permit would be necessary from the Central Coast RWQCB. This would also require development of a SWPPP that outlines BMPs for the hazardous materials handling and hazardous waste disposal in accordance with RCRA that would be implemented to reduce water quality effects associated with stormwater runoff and erosion.

## 4.12 PUBLIC HEALTH AND SAFETY

This section evaluates potential effects on public health and safety from the RPMP alternatives. The alternatives are evaluated based on whether they would result in increased dangers of wildfires or other safety hazards to the population or if they would increase demands for emergency services and affect emergency evacuation routes. A substantial increase in either of these categories would be a significant adverse effect. Additionally, this section describes the safety aspects required for demolition and construction. Effects from seismicity are discussed under Section 4.4, Geology, Soils, and Mineral Resources.

The POM and the OMC are not within a 100-year floodplain; therefore, flooding would not be a safety hazard and is not further discussed in this section. The POM and the OMC do not contain unexploded ordnance and implementation of any of the alternatives would not result in increased dangers from unexploded ordnance; therefore, unexploded ordnance is not further evaluated.

### 4.12.1 No Action Alternative

Under the No Action Alternative, no RPMP actions would be implemented. There would not be increased risk of wildfires because no construction would occur. The POM is outside of the potential tsunami hazard zone, and the OMC is unlikely to be affected by a tsunami because of the high bluffs. There would be no effect on evacuation routes or emergency service vehicles and routes.

### 4.12.2 Alternative 1: POM-Centric

#### 4.12.2.1 Short-range Project

The Barracks Complex Phase I project would occur on the POM. During construction, only authorized personnel would be allowed within the construction site. In addition, all workers must adhere to safety standards established by the POM Installation, USACE Safety and Health Requirements Manual EM 385-1-1 (USACE, 2008), and Occupational Safety and Health Administration standards.

The Barracks Complex Phase I project would be constructed within an existing, underutilized parking lot adjacent to Building 829. Construction of the Barracks Complex Phase I project at the POM would not affect the public health and safety of local civilian residents. Because members of the general public are not allowed on the POM, construction activities would not pose risk to their public health and safety. However, construction activities, such as use of vehicles and equipment, could pose safety risks to installation personnel. Appropriate fencing, detours, and signage would be used to alert personnel of construction zones and ensure on-post safety. This effect would therefore be less than significant.

**Fire Hazard** – Construction would not require removal of trees, grading, and excavation and therefore would not increase the potential for fires and increase public safety risks from fires. No effects are expected.

**Tsunami and Emergency Evacuation** – The POM is outside the potential risk zone for a tsunami. In the event of a tsunami, the POM Installation may open roads to aid in evacuation efforts. Construction of the new barracks would not affect evacuation plans in the event of a tsunami. There would be no effects on emergency evacuation routes.

Although climate change may contribute to a rise in sea levels within the 25-year planning horizon of this EIS, sea level rise would not threaten any of the facilities at the POM or the OMC.

**Public Safety and Emergency Services** – The Barracks Complex Phase I project would result in a net increase of bed space for additional military personnel. The POM Installation provides its own emergency services and could accommodate this increase, and the additional military personnel would not result in an increase in demand for emergency services outside the POM Installation. There would be no effects on emergency services.

There would be a temporary increase in the amount of construction equipment operating on the POM Installation. Existing installation security procedures and Occupational Safety and Health Administration standards would be employed to redirect pedestrian activity and ensure public safety and control access to construction sites. Public access to the POM would continue to be restricted.

#### 4.12.2.2 Long-range Projects

This section describes general effects on public health and safety of proposed construction associated with the long-range projects. The POM Installation would need to complete supplemental environmental documentation as the planning and design of the projects progresses.

Construction activities at the POM under Alternative 1 would not affect public health and safety of local civilian residents. Because members of the general public are not allowed on the POM, construction activities would pose no risk to their public health and safety. However, construction activities, such as use of vehicles

and equipment, could pose safety risks to installation personnel. Temporary construction fencing and pedestrian controls, detours, and signage would be used to alert personnel of construction zones and ensure on-post safety. This effect would therefore be less than significant.

Construction activities at the OMC under Alternative 1 could affect public health and safety of local civilian residents. Because the OMC is an open installation, members of the public can enter the property, and construction activities, such as the use of equipment and vehicles, would pose a risk to public health and safety. Temporary construction fencing and pedestrian controls, detours, and signage would be used to alert the public of construction zones and keep them away from dangerous areas. This effect would therefore be less than significant.

**Fire Hazard** – The Huckleberry Hill Nature Preserve is undeveloped with thick vegetation and has been designated as a fire hazard area. The maintenance road along the fence line that separates the nature preserve and the POM acts as a fire break. Additionally, existing roads within the nature preserve serve as fire breaks. Most of the proposed long-range projects at the POM are at a substantial distance from the nature preserve in areas that are already developed. Construction should not increase the potential for wildfires.

Although the OMC is heavily developed, it is adjacent to the former Fort Ord, an area highly susceptible to wildfires. Because of its proximity to an undeveloped and vegetated area, construction activities could increase the potential for fires and increase public safety risks from fires.

Construction crews for all projects would follow the measures outlined in the Presidio of Monterey Fire & Emergency Services' Fire Prevention Guide and Checklist for Contractors (POM, 2012b) to reduce the potential for fires during the construction period and would keep fire suppression equipment on-site. Consequently, the risk of fire would be less than significant.

**Tsunami and Emergency Evacuation Routes** – The POM is outside of the potential tsunami hazard zone and the OMC is unlikely to be affected by a tsunami because of the high bluffs between it and Monterey Bay. In the event of a tsunami, the POM Installation may open roads to aid in evacuation efforts. Construction and operation of the long-range projects would not affect evacuation plans in the event of a tsunami. There would be no effect on these evacuation routes.

**Public Safety and Emergency Services** –Population growth under Alternative 1 is expected to be the same as the No Action Alternative. The POM Installation provides its own emergency services at the OMC. A new emergency services center at the OMC is proposed under Alternative 1. The new center would be a benefit to public health and safety at the OMC. No effects are anticipated off-post because the City of Monterey contracts separately for emergency services at the POM.

The new security fence, cantonment fence, and increased controls at the ACPs would also provide additional safety to personnel at the POM and the OMC by allowing only authorized personnel on-post.

### 4.12.3 Alternative 2: POM and OMC

#### 4.12.3.1 Short-range Project

Effects on public health and safety associated with the Barracks Complex Phase I under Alternative 2 would be the same as Alternative 1.

#### 4.12.3.2 Long-range Projects

Effects on public health and safety associated with the long-range projects under Alternative 2 would be the same as Alternative 1.

### 4.12.4 Comparative Analysis of the Alternatives

Table 4.12-1 lists the effects of each of the alternatives and compares them to the No Action Alternative.

Table 4.12-1. Public Health and Safety – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Pose a risk to public health and safety through the use of construction vehicles, equipment, and general construction activities | No Effect | Less than Significant | Less than Significant |
| Increased danger to public health and safety from wildfires or tsunamis | No Effect | No Effect | Less than Significant |
| Impediment to planned evacuation routes | No Effect | No Effect | No Effect |
| Impede emergency service vehicles and routes | No Effect | No Effect | No Effect |
| Increase in the demand for emergency services off-post | No Effect | No Effect | No Effect |
| Increased risk from unauthorized access to post | No Effect | Beneficial Effect | Beneficial Effect |

### 4.12.5 Mitigation Measures

No mitigation measures are necessary for public health and safety.

## 4.13 SOCIOECONOMICS

This section evaluates temporary and long-term socioeconomic effects of the RPMP alternatives.

### 4.13.1 No Action Alternative

Under the No Action Alternative, no new construction would take place. The teacher-to-student ratio would increase under the PEP, resulting in an increase in the number of faculty and administrative support services. The number of students would slightly increase as explained in Table 1.3-1. Nevertheless, these increases would be more than offset by a similar decrease in the overall military population, resulting in the total population at the POM Installation remaining unchanged or decreasing slightly. Despite this potential decrease, the percentage of the overall regional population accounted for by the POM Installation is so small as to have negligible regional socioeconomic impacts in the short and long term.

### 4.13.2 Alternative 1: POM-Centric

#### 4.13.2.1 Short-range Project

The short-range project proposed at the POM would result in temporary beneficial effects on the economy. Construction of the new Barracks Complex Phase I project at the POM would involve purchasing and transport of materials and hiring labor to design and construct buildings, including the employment of engineers, construction supervisors, and general construction laborers. Construction spending and hiring labor would result in economic effects, such as increased jobs, wages, and economic output in the regional economy. The estimated costs of the Barracks Complex Phase I project is $64 million. Materials purchased locally would result in direct and secondary effects within the regional economy, which would be a temporary benefit. The new barracks may also provide permanent employment by hiring staff to operate and maintain the buildings. These beneficial economic effects, however, would likely be minor.

#### 4.13.2.2 Long-range Projects

Detailed planning and construction of long-range projects would begin after funding becomes available. Because building details are not available, this EIS analyzes the effects of the long-range projects at a programmatic level of detail and only general effects on the regional economy are described. Additional environmental documentation would need to be completed as the planning and design of the projects progresses.

Construction of the long-range projects would provide regional economic benefits from construction spending and labor. Long-range projects are expected to be constructed between 2018 and 2030; however, construction would likely be periodic over the years. Output, employment, and wages would increase in the region during the construction period. Construction laborers would spend money in the region and generate economic activity.

### 4.13.3 Alternative 2: POM and OMC

Socioeconomic effects associated with the short- and long-range projects under Alternative 2 would be the same as Alternative 1.

### 4.13.4 Comparative Analysis of the Alternatives

The population at the POM Installation is anticipated to remain unchanged or decrease slightly under the No Action and both action alternatives. Despite this potential decrease, the percentage of the overall regional population accounted for by the POM Installation is so small as to have negligible regional socioeconomic impacts in the short and long term. The action alternatives both would result in a 20-year, beneficial impact of increased employment resulting from construction of the proposed facilities.

Table 4.13-1 lists the effects of each alternative and compares them to the No Action Alternative.

Table 4.13-1. Socioeconomics – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Temporary increases in economic activity from construction spending and labor | No Effect | Beneficial Effect | Beneficial Effect |
| Long-term socioeconomic impacts of population changes | No Effect | No Effect | No Effect |

### 4.13.5 Mitigation Measures

No mitigation measures are necessary because the RPMP alternatives would benefit the regional economy.

## 4.14 ENVIRONMENTAL JUSTICE

This section addresses the potential for environmental justice impacts that could result from disproportionately high and adverse human health or environmental effects on minority or low-income populations from the proposed RPMP alternatives.

According to the CEQ guidelines for environmental justice analyses, the government (U.S. Army) must demonstrate that the proposed project or alternatives under consideration would not cause impacts that are "disproportionately high and adverse," either directly, indirectly, or cumulatively (CEQ, 1997a). To make a finding that disproportionately high and adverse effects would likely fall on a minority or low-income population, three conditions must be met simultaneously:

- There must be a minority or low-income population in the affected area.

- A high and adverse impact must exist.
- The impact must be disproportionately high and adverse on the minority or low-income population.

The first step in conducting an environmental justice analysis is to define minority and low-income populations. Based on these guidelines, a minority population is present in a project study area if either of these conditions occurs (USEPA, 1998):

- The minority population of the affected area exceeds 50 percent.
- 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.

By the same rule, a low-income population exists if the study area comprises 50 percent or more people living below the poverty threshold, as defined by the U.S. Census Bureau, or is significantly greater than the poverty percentage of the general population or other appropriate unit of geographic analysis.

The second step of an environmental justice analysis is to determine if a high and adverse impact would occur. The CEQ guidance indicates that when determining whether the effects are high and adverse, agencies are to consider whether the risks or rates of impact "are significant (as employed by NEPA) or above generally accepted norms."

The final step is to determine if the impact on the minority or low-income population would be disproportionately high and adverse. Although the published guidelines did not define the term "disproportionate," for the EIS analysis, a disproportionate impact was assumed to mean an impact that would appreciably exceed the risk or rate to the general population.

Identified through the U.S. Census Bureau data, the City of Seaside has a large percentage of minorities, at 50.7 percent. The percentage of individuals living below the poverty level in this city is similar to the Monterey County value. However, the percentages within the City of Seaside are twice that of the cities of Pacific Grove and Monterey (U.S. Census Bureau, 2010d). Consequently, the population of the City of Seaside meets the definition of an area with a minority and low-income population that should be analyzed for environmental justice impacts.

The City of Seaside was thus considered to be impact zone for environmental justice considerations.

### 4.14.1 No Action Alternative

Under the No Action Alternative, the RPMP would not be approved. Although the overall military population of the POM Installation is expected to decrease slightly and stabilize, the DLIFLC student population will rise until 2016. The anticipated future population growth of DLIFLC students without additional barracks to house the service members would place greater pressure on neighboring areas to provide housing or services that are deficient at the POM and OMC. Currently, more than 200 students live

in the community because they cannot live in the barracks due to lack of space. In the absence of additional barracks, service members would compete with members of adjacent communities for housing. This competition may create an adverse effect on low income populations in Seaside; however, the effect would be less than significant. The potential effects on the environmental components, such as air quality, noise, water supply, socioeconomics, and traffic would not be appreciably more severe or greater in magnitude (disproportionately high and adverse) on the minority or low-income communities in Seaside. There would be no significant adverse effects on the populations in Seaside under the No Action Alternative.

### 4.14.2 Alternative 1: POM-Centric

The short-range project would occur at the POM. New barracks would provide housing for the projected future increases in numbers of students, thereby reducing competition with low-income residents for housing. Similar to the No Action Alternative, potential effects on the human and natural resources would not be appreciably more severe or greater in magnitude on the minority or low-income community of Seaside as a result of implementing the Alternative 1 projects. The short-range project in the RPMP would have no adverse effect on minority and low-income populations. Both construction and operation effects from the long-range projects would be beneficial, providing regional economic benefits from construction spending and labor as well as from long-term positive effects on employment and wages in the region from increases in the teacher and student populations. Because of the proximity of the City of Seaside to the OMC, potential beneficial effects on the minority or low-income populations in these cities would be more likely to result from RPMP long-range plans for the OMC than for POM.

Based on the above discussion and analyses of the environmental components throughout this EIS, Alternative 1 would not cause disproportionately high and adverse effects on any minority or low-income populations. There would be no adverse effects on the minority or low-income populations in the City of Seaside under Alternative 1.

### 4.14.3 Alternative 2: POM and OMC

Environmental justice effects associated with the short- and long-range projects under Alternative 2 would be the same as Alternative 1. Implementing Alternative 2 would also result in a positive economic effect on the region. Because several long-range projects would be located at the OMC instead of the POM under Alternative 2, OMC would be located closer to the impact zone. As a result, the increased economic activity would be more likely to occur near the City of Seaside, and it would likely experience a beneficial environmental justice impact.

Based on the above discussion and analysis, Alternative 2 would not cause disproportionately high and adverse effects on any minority or low-income populations. There would be no adverse effects on the minority or low-income populations in Seaside under Alternative 2.

### 4.14.4 Comparative Analysis of the Alternatives

Table 4.14-1 lists the effects of each of the alternatives and compares them to the No Action Alternative.

Table 4.14-1. Environmental Justice – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| D. Disproportionately high and adverse effects on a minority or low-income population | Less than Significant | Beneficial Effect | Beneficial Effect |

### 4.14.5 Mitigation Measures

No mitigation measures are necessary.

## 4.15 VISUAL, SCENIC, AND AESTHETIC RESOURCES

This section describes the environmental consequences for visual, scenic, and aesthetic resources in the study area. Effects on visual, scenic, and aesthetic resources are evaluated on whether project alternatives would affect the visual character of the area, obstruct existing views, alter scenic vistas, or result in conflict or inconsistency with any applicable visual, scenic, or aesthetic resource policy. Visual changes to the interiors of existing buildings are not considered effects; only changes visible from the exterior are analyzed. A significant impact would be one that could have substantial adverse impact on visual, scenic, or aesthetic resources.

### 4.15.1 No Action Alternative

Under the No Action Alternative, the current visual features of the area would not change. Minor impacts could result from deferred maintenance, but effects on visual, scenic, and aesthetic resources would be less than significant.

### 4.15.2 Alternative 1: POM-Centric

#### 4.15.2.1 Short-range Project

Table 4.15-1 summarizes the size and number of floors for the new barracks. During renovation, demolition, and construction of short-range project, there would be short-term adverse effects on the visual features of the sites and their surroundings. These effects would be visible from adjacent communities. Short-term adverse effects on visual resources would be limited to the duration of construction activities.

| Table 4.15-1. Alternative 1 – Proposed Building Heights and Sizes for Short-range Project | | |
|---|---|---|
| Action | Size (Square Feet) | Building Height (No. of floors) |
| Short-range Project at the POM | | |
| Barracks Complex Phase I | 164,960 | 5 |

The Barracks Complex Phase I project would replace an existing parking lot with new barracks. New parking associated with the proposed barracks includes construction of a single level terraced parking lot southeast of Building 660 to accommodate 126 spaces, a new 30-space parking lot proposed on the landfill on Mason Road, and a new 58-space parking area along the Highway 68 side of the Price Fitness Center field. In addition, one administrative facility would replace the southern portion of Building 629, and one dining facility would be located within the existing parking lot footprint southwest of Buildings 627 and 629. The new terraced parking lot would have a footprint that would cover some of the undeveloped land north of the Huckleberry Hill Nature Preserve. Parking lot construction would require the removal of trees in this area, which would change existing views at the POM. The visual effects would be minimized to the extent possible based on the design criteria for activities at the POM.

The Barracks Complex Phase I project would entail construction of a new barracks building on the parking area adjacent to Building 829. Construction on this site would require no demolition of existing buildings but would result in the permanent loss of 88 parking spaces. The vehicles displaced from the existing single-level parking lot would be parked at the parking lots described above. The barracks building would be visible from adjacent barracks and points along Mason Road. Visual effects would be minimized to the extent possible using design criteria established for the POM. As a result, effects on the visual character at the POM Installation would be less than significant.

The Barracks Complex Phase I project would not impede scenic views of Monterey Bay from neighborhoods outside the installation. The new buildings would be designed to be more compatible with the surrounding area than the existing barracks. Further, the location of the proposed barracks would not likely impede views of the coast. Effects on scenic views would be less than significant.

The proposed Barracks Complex Phase I project would be located about 250 feet away from the perimeter of the POM. A shadow analysis was performed using ArcGIS tools in conjunction with a script that provides scientific-grade astronomical computations. First, the script was used to model representative approximations of the sun's position for the following date and time combinations, representing both summer and winter times when shadows are longest:

- June 21, 2011, 5:00 P.M. (approximately 3 hours before sunset)
- December 21, 2011, 2:00 P.M. (approximately 3 hours before sunset)
- June 21, 2011, 9:00 A.M. (approximately 3 hours after sunrise)
- December 21, 2011, 10:00 A.M. (approximately 3 hours after sunrise)

The sun's azimuth and angle values are calculated from the vantage point of the centroid of all structures within the POM's boundaries. These sun positions were then used to create silhouettes for the Phase I barrack structures, for which an anticipated height of 80 feet was specified. Lastly, the silhouettes were converted to 3-dimensional shadows. The last two steps were accomplished using the skyline and skyline barrier tools contained in ArcGIS's 3-dimesional analyst toolset. The shadow analysis only considered ground elevations/surrounding slopes, sun positions, and the footprint and height of the barracks buildings themselves. It does not show tree cover and building heights adjacent to the barracks site; however, shadows from those would not be amplified by the new barracks buildings.

The results of the shadow analysis are shown in Figures 4.15-1 to 4.15-4. For the four moment-in-time shadow volumes calculated, the winter morning shadow was the only volume to extend beyond the boundary of the POM; in all other instances, the shadows that were cast were slight and affected a limited portion of the surrounding area within the POM's boundaries. On winter mornings, some residents along the western end of Bishop Road and the southern half of Forest Road immediately adjacent to the intersection with Bishop would experience some shadow effects from the Barracks Complex Phase I; however, the effect would be relatively fleeting as the sun moves higher in the sky toward the local noon time of approximately 1:00 P.M. Although a gap in the shadow is shown on Figure 4.15-1, the gap is due to a glitch in the shadow analysis software. The shadow would extend continuously from the barracks building. As the sun descends in the sky during the winter months, the shadows would again begin to extend in a northwesterly fashion but would not extend beyond the POM.

#### 4.15.2.2 Long-range Projects

Detailed planning and construction of long-range projects would depend on funding availability. Because building details are not available, this EIS analyzes effects of long-range projects at a programmatic level of detail. The Army would follow building design criteria that would factor in any potential for visual effect for the long-range projects. This section describes general visual, scenic, and aesthetic effects associated with the long-range projects. The POM Installation would need to complete supplemental environmental documentation as the planning and design of the projects progresses.

The long-range projects that could have visual effects include construction of new buildings, parking structures, fences, barracks, recreation facilities, and ACPs. During renovation, demolition, and construction, the visual features of the sites and their surroundings would experience short-term effects, which would be

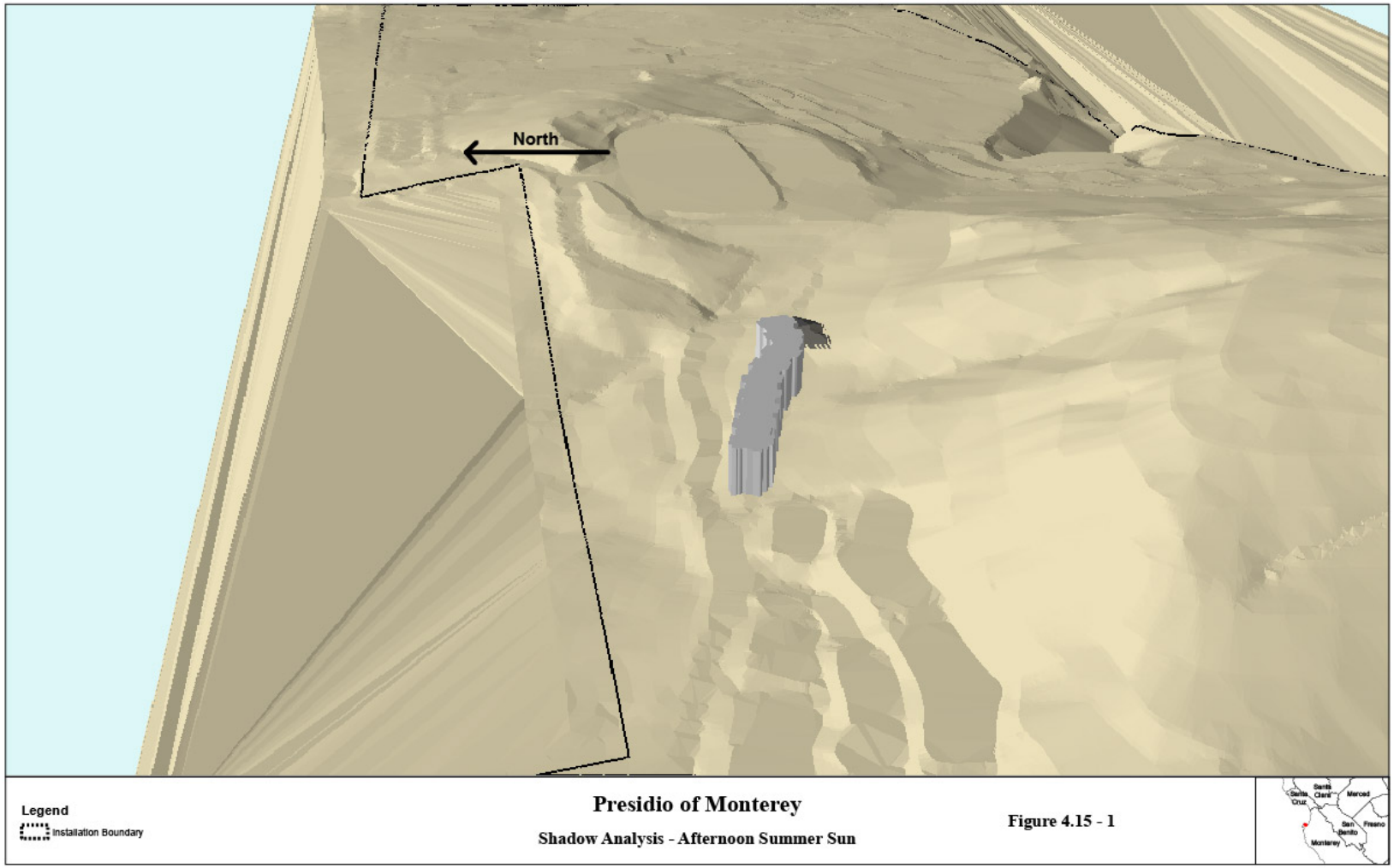


*Figure 4.15-1. Shadow Analysis for June 21, 2011, at 5:00 P.M.*

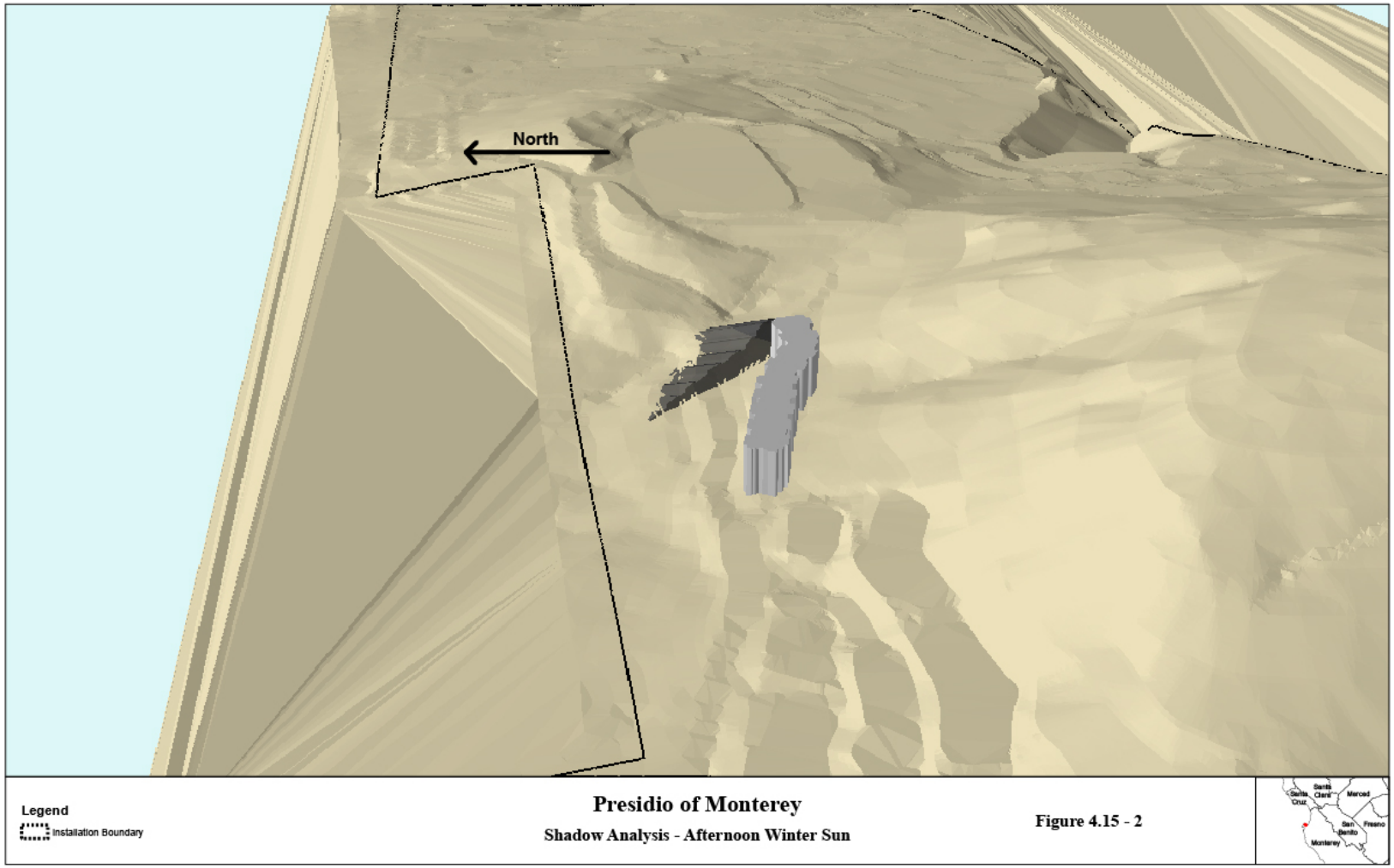


*Figure 4.15-2. Shadow Analysis for December 21, 2011, at 2:00 P.M.*

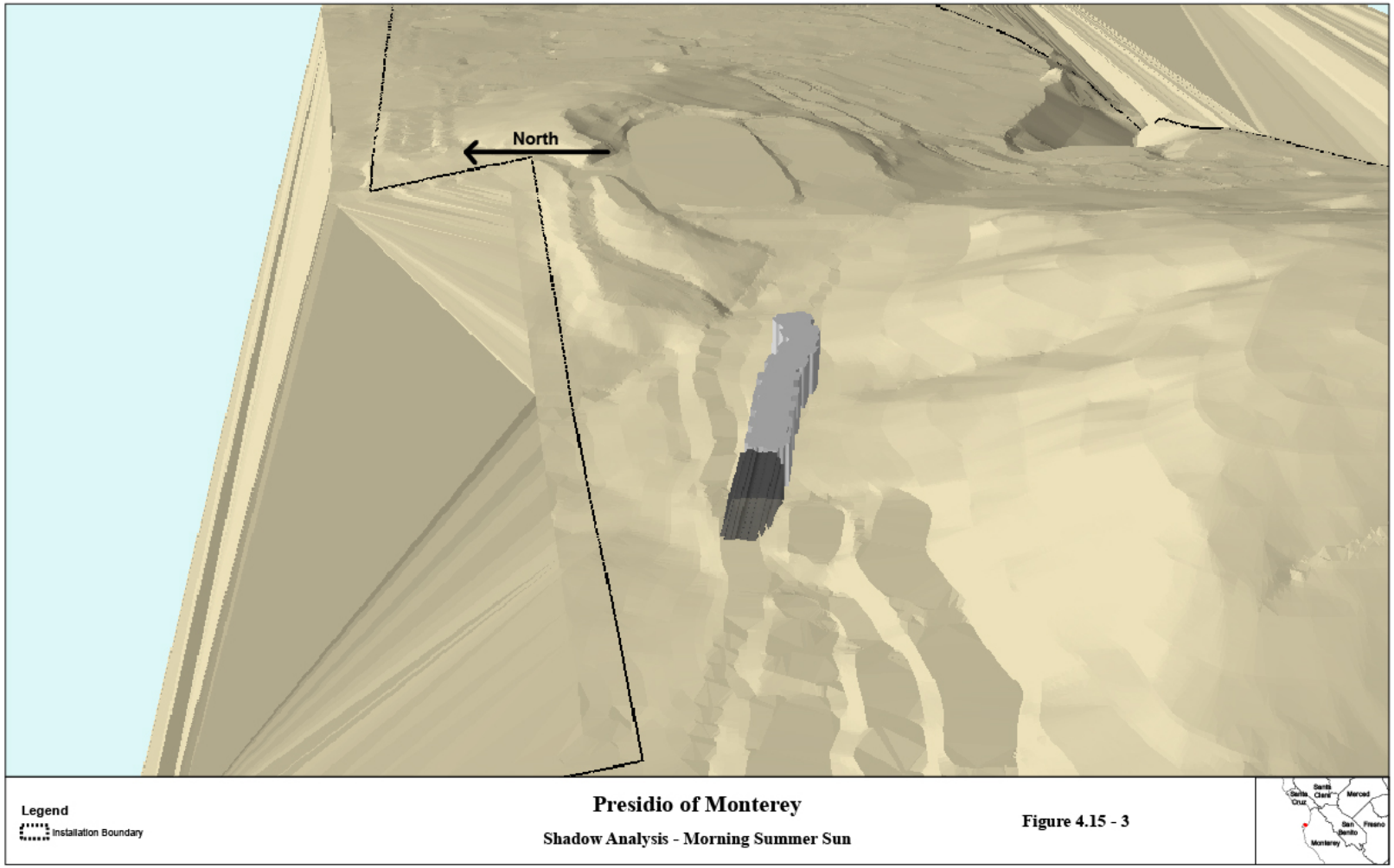


*Figure 4.15-3. Shadow Analysis for June 21, 2011, at 9:00 A.M.*

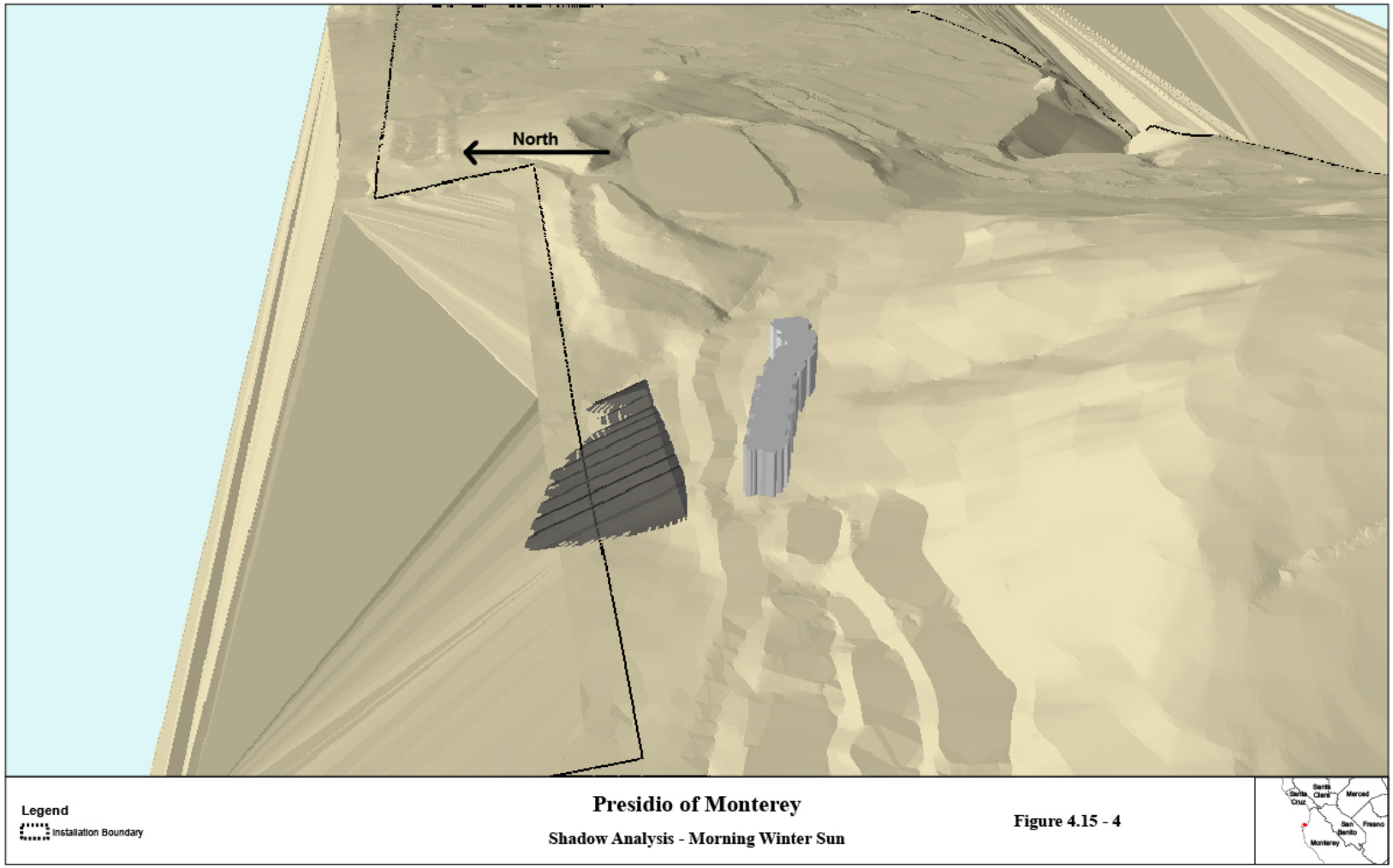


*Figure 4.15-4. Shadow Analysis for December 21, 2011, at 10:00 A.M.*

visible from adjacent communities. Short-term adverse effects on visual resources would be limited to the duration of construction activities.

Table 4.15-2 lists proposed size and number of floors for long-range projects. The new fencing would replace existing fencing currently at the POM. While it may be taller than the existing fencing, it is not expected to substantially change the visual character of the site and would not obstruct views from existing neighborhoods. New ACPs would consist of new guard stations and the reconfiguration of the road and barriers, slightly changing the visual character of the area as new structures would be built. Demolition of existing buildings may occur to make space for new classrooms and barracks. In most cases, new buildings would replace old buildings in the same general location. There would be some changes to the visual appearance of the area. Visual effects would be minimized to the extent possible using design criteria established for the POM. Effects on the visual character at the POM Installation would be less than significant.

New parking structures could be several stories high; new GIBs could be up to 6 floors. Depending on their size and location, multi-level buildings at the POM might obstruct views of the ocean from surrounding neighborhoods. Buildings would be designed to fit into the existing visual character of the proposed location; however, because of the high-density of buildings in the area, buildings may need to be constructed with multiple stories to accommodate the necessary size. In the design phase of the new buildings, the POM Installation would consider, to the extent possible, potential visual effects and visual obstructions of the surrounding neighborhoods. New buildings at the POM could permanently detract from existing views and scenic vistas from areas outside the POM; therefore, at a preliminary level of analysis, visual effects on existing vistas are considered potentially significant. When additional building details and locations are available, supplemental environmental analysis will be required to further analyze visual effects.

Views from the OMC would not be affected by the long-range projects planned at the OMC, because the OMC area is level and does not provide scenic views of the Pacific Ocean. No neighborhoods surrounding the proposed construction sites would have views obstructed by the long-range projects. Consequently, no visual effects would occur due to construction at the OMC.

Alternative 1 would be implemented according to the IDG. The IDG outlines goals and objectives that shape standards and general guidelines for the design issues of site planning, architectural character, colors and materials, vehicular and pedestrian circulation, and landscape elements, including plant material, seating, signage, lighting, and utilities. These design guidelines incorporate sustainable design, quality of design, anti-terrorism measures, low maintenance measures, historical and cultural considerations, durability, safety, and compatibility. To the degree possible, given the constraints generated by the Army's IDG requirements

and available funding, these concerns would be taken into consideration as a part of project design. Alternative 1 is not anticipated to result in any conflict or inconsistency with the IDG.

Table 4.15-2. Alternative 1 – Proposed Building Heights and Sizes for Long-range Projects

| Action | Size (Square Feet) | Building Height (No. of floors) |
|---|---|---|
| Long-range Projects at the POM | | |
| Classroom renovation I | 76,634 | 3 |
| Highway 68 gate | NA | NA |
| Access control point (Private Bolio Road) | NA | NA |
| Access control point (Taylor Street) | NA | NA |
| Access control point (High Street) | NA | NA |
| Access control point (Franklin Street) | NA | NA |
| Security fence upgrade | 24,000 linear feet | NA |
| Water diversion | NA | NA |
| Install elevators | NA | NA |
| Joint Services Training Center | 12,600 | Unavailable |
| Multi-level parking structure (Lawton Road) | Unavailable | 3 |
| Barracks Complex Phase IV | 155,200 | 6 |
| Barracks Complex Phase II | 165,971 | 4 |
| Barracks Complex Phase III | 139,160 | 4 |
| General Instructional Building | 25,000 | 1 |
| General Instructional Building | 110,000 | 6 |
| General Instructional Building | 110,000 | 6 |
| Multi-level parking structures (Corporal Evans Road) | Unavailable | 3 |
| Multi-Level Parking Structure (Private Bolio Road) | Unavailable | 3 |
| Multi-Level Parking Structure (Rifle Range Road) | Unavailable | 3 |
| Classroom renovation II | 75,320 | 3 |
| Indoor swimming pool | 10,000 | 1 |
| Long-range Projects at the OMC | | |
| Cantonment area fence | 52,800 Linear Feet | NA |
| Emergency Services Center | 33,141 | Unavailable |
| Administrative Support Center | 88,567 | Unavailable |
| Replacement Child Development Center | 23,530 | Unavailable |

### 4.15.3 Alternative 2: POM and OMC

This section describes the environmental consequences of Alternative 2 on visual, scenic, and aesthetic resources.

#### 4.15.3.1 Short-range Project

Effects on visual, scenic, and aesthetic resources associated with the short-range project under Alternative 2 would be the same as Alternative 1.

#### 4.15.3.2 Long-range Projects

While Alternative 2 has similar projects as Alternative 1, many long-range projects would be constructed at the OMC rather than the POM. Table 4.15-3 lists proposed number of floors for new buildings. New buildings would be designed to fit into the visual character of the OMC. Because the OMC is more spread out than the POM, new buildings may not be designed to have as many floors as their counterparts located at the POM. The proposed GIBs at the OMC would have up to 3 floors, as currently planned. Further in contrast to the POM, there are not scenic views from neighborhoods within and surrounding the OMC. Therefore, new buildings would not obstruct existing scenic views of the Pacific Ocean, Monterey Bay, or other areas of high scenic value. Visual effects at the OMC under Alternative 2 would be less than significant.

Remaining long-range project constructed at the POM under Alternative 2, including ACPs, security fence, parking structures, and other building renovations, would have the same visual effects as Alternative 1. Depending on the size and location of the new parking structures, views from surrounding neighborhoods may be obstructed, which would be a potentially significant effect. When additional building details and locations are available, supplemental environmental analysis would be required to further analyze visual effects.

| Table 4.15-3. Alternative 2 – Proposed Building Heights and Sizes for Long-range Projects | | |
|---|---|---|
| Action | Size (Square Feet) | Building Height (No. of floors) |
| Long-range Projects at the POM | | |
| Classroom renovation I | 76,634 | 3 |
| Highway 68 gate | NA | NA |
| Access control point (Private Bolio Road) | NA | NA |
| Access control point (Taylor Street) | NA | NA |
| Access control point (High Street) | NA | NA |
| Access control point (Franklin Street) | NA | NA |
| Security fence upgrade | 24,000 linear feet | NA |
| Water diversion | NA | NA |
| Install elevators | NA | NA |
| Joint Services Training Center | 12,600 | Unavailable |
| Multi-level parking structure (Lawton Road) | Unavailable | 3 |
| General Instructional Building | 25,000 | 1 |
| Multi-level parking structures (Corporal Evans Road) | Unavailable | 3 |
| Multi-Level Parking Structure (Private Bolio Road) | Unavailable | 3 |
| Multi-Level Parking Structure (Rifle Range Road) | Unavailable | 3 |
| Classroom renovation II | 75,320 | 3 |
| Indoor swimming pool | 10,000 | NA |
| Long-range Projects at the OMC | | |
| Cantonment area fence | 52,800 linear feet | NA |
| Emergency Services Center | 33,141 | Unavailable |
| Administrative Support Center | 88,567 | Unavailable |
| Barracks Complex Phase IV | 155,200 | 6 |
| Barracks Complex Phase II | 165,971 | 4 |
| Barracks Complex Phase III | 139,160 | 4 |
| General Instructional Building | 110,000 | 3 |
| General Instructional Building | 110,000 | 3 |
| General Instructional Building | 110,000 | 3 |
| Replacement Child Development Center | 23,530 | Unavailable |

## 4.15.4 Comparative Analysis of the Alternatives

Table 4.15-4 lists the effects of each of the alternatives and compares them to the No Action Alternative. Implementation of the long-range projects at the POM could result in significant effects on scenic views, depending on the location and size of the proposed buildings and structures. Building design details are not

completed; effects on scenic views could be significant. Additional environmental analysis would be required to address the visual effects of the long-range projects.

Table 4.15-4. Visual, Scenic, and Aesthetic Resources – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Short-range project would affect scenic vistas from surrounding neighborhoods | Less than Significant | Less than Significant | Less than Significant |
| Short-range project would substantially alter the existing visual character of an area | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Long-range projects at the POM would affect scenic vistas from surrounding neighborhoods | No Effect | Less than Significant with Mitigation | Less than Significant |
| Long-range projects at the OMC would affect scenic vistas from surrounding neighborhoods | No Effect | Less than Significant | Less than Significant |
| Long-range projects at the POM would substantially alter the existing visual character of an area | No Effect | Less than Significant with Mitigation | Less than Significant |
| Compliance with existing Installation Design Guide | Less than Significant | Less than Significant | Less than Significant |

### 4.15.5 Mitigation Measures

There would be some visual effects on adjacent residences from construction of the proposed alternatives. These effects cannot be avoided, but they would be minimized to the extent practicable. Mitigation measures include, but are not limited to, minimizing the removal of mature healthy Monterey pines, using aesthetically attractive landscaping, planting additional native vegetation to serve as a visual buffer, selecting natural exterior colors more compatible with the surrounding area, and installing decorative fencing. Outdoor utility equipment would be shielded to the maximum extent practicable to minimize visual and aesthetic effects.

Mitigation measures may be available to reduce effects, but at this time not enough details are known regarding the design and location of projects. Additional environmental analysis would be required to address the visual effects of the long-range components.

## 4.16 CULTURAL RESOURCES

This section describes the environmental consequences for historic and cultural resources in the study area. Effects on historic and cultural resources are evaluated for alterations of a historic property or archaeological resource in a way that adversely affects the characteristics that could qualify the resource for inclusion in the NRHP. Impacts on cultural resources are described differently in the NHPA than in the NEPA. Under the

NHPA, impacts are designated as no effect, no adverse effect, or adverse effect. An effect or impact is considered adverse, in all cases, when it diminishes the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association. The threshold for significant impacts to cultural resources includes those adverse impacts that are substantial and cannot be completely mitigated.

### 4.16.1 Methodology

Standard procedures under NEPA require the conclusion of the Section 106 consultation process under the NHPA before a ROD can be issued for an EIS. However, the RPMP does not equate to a single "undertaking" under Section 106 regulations but rather a series of undertakings. The short-range project in RPMP has been placed in a funding cycle by the Army, while the long-range projects are unfunded. The short-range project has greater definition or even conceptual design, while long-range projects have only a title, brief description, estimated cost, and tentative site.

The NHPA requires federal agencies to consider the effects of their actions upon historic properties at the earliest possible planning stage so as to preserve a full range of alternatives to avoid, minimize, or mitigate adverse effects on historic properties, but it also allows a more programmatic approach when the effects are not reasonably foreseeable. Therefore, in this section, the effects on cultural resources from the short-range project can be more closely analyzed while those from long-range projects can only be assessed in more general terms.

#### 4.16.1.1 Overarching Agreements that Affect Cultural Resources Management at the POM and the OMC

Several existing interagency agreements have a major effect on the treatment of historic properties at POM. They are:

- Programmatic Agreement (PA) Among the United States Army, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer Regarding Routine Maintenance of Historic Properties at the POM
  - A PA allows a federal installation to consolidate its Section 106 compliance for certain routine undertakings. The POM's PA, executed in 1993, allows the Army to complete routine maintenance and repair of contributing structures in the historic district without further Section 106 consultation, if all requirements in the PA are adhered to. Actions not covered in the PA require separate Section 106 consultation. The PA also requires an archaeologist meeting the Secretary of Interior Standards per 36 CFR Part 61 to monitor all ground-disturbing activities in the POM Historic District. All federal actions completed under the terms of the PA and under separate Section 106 consultation are further documented in an annual report submitted to the SHPO and the ACHP.
- Program Comment for Cold War Era Unaccompanied Housing (1946–1974), Advisory Council on Historic Preservation, 2006
  - An Advisory Council Program Comment usually addresses the need to document and selectively preserve certain types of historic properties that are very numerous but standardized and no longer meet a federal agency's functional needs. The effect of this Program Comment is that because the

Army has completed certain historic surveys and preserved selected examples of this housing type elsewhere, the USAG-POM has no further obligation to identify, evaluate, treat, or consult on buildings of this category.

- Program Comment on Army Capehart and Wherry-Era Family Housing (1949–1962), Advisory Council on Historic Preservation, 2002
  - The effect of this Program Comment is similar to that of the Program Comment on Cold War Era Unaccompanied Housing. The USAG-POM has no further obligation to identify, evaluate, treat, or consult on buildings of this category. In 2003, the USAG-POM prepared an EA of planned participation in the Army's RCI. At that time, it was clear that the Army's compliance with the Program Comment in terms of recordation, documentation, and selective preservation was to be focused on installations other than POM Installation so that the privatization of the numerous units of Capehart Wherry housing at OMC could proceed with no further Section 106 consultation (USACE, 2003).

#### 4.16.1.2 Native American Interest

As noted in Section 3.16.4, the NAHC has identified no federally recognized tribes affiliated with the POM Installation. The NAHC's review of the Sacred Lands Inventory in the location of the short-range project identified in the EIS failed to indicate the presence of cultural resources in the project area; however, the NAHC provided a list of 13 non-federally recognized Native American contacts in Monterey County. On November 30, 2011, the 13 non-federally recognized Native American individuals and/or organizations were contacted via letter to discern whether they had locations of concern in the project area (Appendix E). No response was received from any of the individuals and/or organizations contacted.

### 4.16.2 No Action Alternative

Under the No Action Alternative, the existing deteriorated wooden buildings that are contributing elements of the POM Historic District would continue to deteriorate without the water diversion project (PN 55996).

### 4.16.3 Alternative 1: POM-Centric

#### 4.16.3.1 Short-range Project

The short-range project would occur on the POM.

No historic structures or known archaeological sites are located on the sites of the proposed Barracks Complex Phase I project, with one exception: a proposed parking lot would be built atop a capped historic landfill (1902–1947) that constitutes archaeological site CA-MNT-1888/H (as discussed in Section 3.16). The proposed parking lot would be created by layering permeable fill material on top of the site. LID techniques would be implemented to create a flat, permeable, and durable surface to allow parking for an estimated 39 vehicles. Ground disturbance is not permissible in the historic landfill due to the protective cap that prevents leaching of potentially hazardous substances. The proposed LID techniques would not adversely affect, either directly or indirectly, any of the characteristics that might qualify the historic landfill site for inclusion in

the NRHP. On October 8, 2012, the California SHPO concurred with the USAG POM's No Adverse Effect determination, per 36 CFR 800, for the Barracks Complex Phase I project (Appendix E).

The principal barracks structure would be constructed in the parking lot of Building 829 in the western portion of POM, outside of the existing POM Historic District. Although the administrative facility would require the alteration of Building 629 (and the dining facility would be built in its parking lot), this building is a Cold War Era barracks exempted from the further purview of the National Historic Preservation Act by the ACHP's *Program Comment for Cold War Era Unaccompanied Personnel Housing (1946–1972)*, as described in Appendix E. The design features of the barracks projects would comply with the U.S. Army's IDG and ICRMP. Section 3.17 describes the IDG and ICRMP as they relate to cultural and historic resources. Surface parking lots at the western half of POM, outside the historic district would be included in this project. Given the planned compliance with the U.S. Army's IDG and ICRMP, the new barracks projects would not result in any adverse effect on historic or cultural resources in the study area. Excavation during construction could result in the discovery of unknown archaeological resources in the study area. Implementation of archaeological standard operating procedure dealing with archaeological discoveries in the ICRMP would reduce this impact to a less than significant level.

#### 4.16.3.2 Long-range Projects

Detailed planning and construction of long-range projects would be implemented in 2019 through 2030, depending on funding availability. Because building details are not available, this EIS analyzes effects of long-range projects at a programmatic level. This section describes general effects on cultural resources of proposed construction associated with the long-range projects. The USAG-POM would need to complete supplemental environmental documentation and, in certain cases, Section 106 consultation as the planning and design of the projects progresses. Individual Section 106 consultations would not be needed on those projects that affect no historic properties, affect historic properties but fall under the routine maintenance provision of the PA, or affect historic properties that fall under purview of the two ACHP Program Comments cited above. In particular, the POM received written confirmation from the California SHPO by letter dated July 14, 2010, that Buildings 622, 627, 629, and 630 fell under the purview of the Program Comment for Cold War Era Unaccompanied Personnel and that POM had "no further requirements to identify, evaluate, treat, mitigate or consult regarding these buildings" (COHP, 2010).

Procedures for archaeological monitoring, where monitoring is warranted, and inadvertent discoveries would be followed.

The following long-range projects may affect cultural resources. Once a design is available for review, and it is determined that cultural resources may be impacted, the regulatory compliance procedures outlined in Section 106 will be implemented.

**Barracks Complex Phase IV (Project 61222), FY18** – The construction of the barracks would require the demolition of some or all of a group of buildings originally constructed in 1967 as the Russian Village. The historic importance of these buildings is described in Section 3.16.3.1. As they would have attained the threshold of 50 years of age, they would require DOEs to determine their eligibility for the NRHP. At the request of the USAG-POM, the California SHPO visited the Russian Village on October 20, 2012, to initiate informal consultation regarding the complex's eligibility for listing in the NRHP. The informal consultation was requested for project planning purposes such that a broad range of alternatives may be considered, including alternatives to avoid, minimize, or mitigate any future undertaking that may impact the Russian Village. Based on discussions during the site visit, demolition of all the buildings would eliminate characteristics that might qualify the district for inclusion in the NRHP; therefore, there is the potential for significant adverse effects on cultural resources if the Barracks Complex Phase IV were to be built in this location. Mitigation would be determined through the Section 106 consultation process. Potential mitigation measures are suggested in Section 4.16.5.

The proposed structures are being constructed outside of the existing POM Historic District and at a distance that would not affect the historic district's setting. Ground-disturbing activities associated with the construction of the barracks could result in an inadvertent discovery of archaeological deposits. Inadvertent discoveries would require implementation of procedures set out in the POM's ICRMP and Army Regulation 200-1, which include the consultation and planning requirements in Section 106 of the NHPA.

**Access Control Points, Security Fence Upgrade (Projects 58441, 57898, 67807, and 57949)** – The setting of the POM Historic District and its traditional gates, such as at Private Bolio Road and High Street, would be especially affected by new security features, such as fencing and ACPs. Archaeological, cultural landscape, and viewshed issues may arise. These projects may have an effect upon the city's historic resources, notably the Old Town Monterey National Historic Landmark District.

**Multi-level Parking Structures (Projects 70937and 70942)** – The setting of the POM Historic District may be affected by these tall, massive structures that would hug the perimeter of the historic district.

**General Instruction Buildings (Projects 68730 and 68882)** – The setting of the POM Historic District may be affected by these structures that would hug the perimeter of the district. Implementation of the IDG would modify the impact by maintaining consistency with surrounding buildings.

**Renovation of Buildings 620 and 624 (Projects 25091 and 4134)** – The rehabilitation of these classroom buildings, built in 1965 and 1957, may require DOEs.

**Water Diversion (Project 55996)** – This project would divert groundwater that periodically floods basements of several historic buildings in the heart of the POM Historic District. Implementation of this action would require archaeological monitoring.

### 4.16.4 Alternative 2: POM and OMC

#### 4.16.4.1 Short-range Project

The short-range project is the same as under Alternative 1. Therefore, there would be no adverse effect on cultural resources.

#### 4.16.4.2 Long-range Projects

Because certain projects would be relocated from the POM to the OMC under this alternative, there can only be a lesser potential for effects on cultural resources at the POM.

Because no known historic properties or recorded archaeological sites are located at the OMC, the effects on cultural resources from the implementation of the RPMP's long-range projects at the OMC under Alternative 1 is more speculative than that of the short-range projects at the POM. All of the Standard Operating Procedures of the ICRMP would apply to the OMC.

The effects on cultural resources at OMC under Alternative 2 would be the same as Alternative 1, except that two barracks and three GIBs would be built, displacing housing units at the Marshall Park neighborhood. The housing units that would be demolished are Capehart/Wherry Era housing that is exempt from further consideration under the NHPA in light of the Program Comment on Army Capehart and Wherry-Era Family Housing (USACE, 2003). There would be no adverse effects on cultural resources.

### 4.16.5 Comparative Analysis of the Alternatives

Table 4.16-1 lists the effects of each of the alternatives and compares them to the No Action Alternative.

Table 4.16-1. Cultural Resources – Comparative Analysis of the Alternatives

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Effects on historic or cultural resources | Less than Significant | Significant Effect | Significant Effect |

### 4.16.6 Mitigation Measures

The analysis of the effects on cultural resources has not identified adverse effects from the short-range project that would require mitigation measures under the NEPA. Future long-range projects, however, if implemented, would require further compliance analyses under the existing PA or under Section 106 of NHPA and may result in determinations of adverse effects on cultural resources. These potential adverse effects would be resolved through the USAG-POM's adherence to the procedures in the ICRMP, the PA, and further Section 106 consultation to avoid, minimize, or mitigate the adverse effects.

Mitigation measures have been identified for both action alternatives. Mitigation measure CR-1 identifies procedures to follow after inadvertent discoveries of cultural resources during project work. Mitigation measure CR-2 describes procedures that would be required for the Russian Village if the long-range Barracks Complex Phase IV buildings would be built at the Rifle Range Road site.

**CR-1** – Construction activities associated with implementation of the RPMP have the potential to expose unknown subsurface cultural resources. If cultural resources were inadvertently discovered, work shall be halted within 30-meters of the find until it can be evaluated by a qualified professional archaeologist (per 36 CFR Part 61) and the USAG-POM Cultural Resource Manager. Inadvertent discoveries require implementation of procedures set forth in the POM's ICRMP and Army Regulation (AR 200-1), which includes consultation procedures and planning requirements in Section 106 of the NHPA (16 U.S.C. 470f; 36 CFR Part 800).

If an inadvertent discovery of human remains were to occur, work shall cease within 30 meters of the find and immediate notification must be made to the USAG-POM Cultural Resource Manager. The Cultural Resource Manager would preliminarily determine if the remains are from a recent crime scene (50 years old or less) or are of Native American descent and would immediately notify the Garrison Commander. If the remains appear recent, a 30-meter radius would be declared off limits to everyone except authorized personnel and the Army's Criminal Investigation Command would assume control of the crime scene. If the remains appear to be of Native American descent, the Monterey County Coroner's Office and the Oholone Coastanoan Esselen Nation will be contacted.

**CR-2** – If Barracks Complex Phase IV were to be built on the Rifle Range Road site, it could involve the demolition of some or all of the buildings that constitute the Russian Village classrooms. The Section 106 consultation process would seek ways to avoid, minimize, or mitigate the adverse effects. Mitigation of adverse effects might include at minimum, a Memorandum of Agreement and recordation of the Russian Village to Historic American Buildings Survey standards.

## 4.17 COMPARISON OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVE WITH MITIGATION

This section focuses on the potential effects on each of the resource areas from the No Action Alternative and the action alternatives—Alternative 1 and Alternative 2. A summary of the potential effects is provided in Table 4.17-1. The effect summary is the arithmetic total of resource areas in each category. The details for each resource are shown in Table 4.17-2. The Army color-coded reporting system was used to provide a quick reference guide of the potential human and environmental effects. Olive green reflects alternatives with beneficial effects, light green indicates no effect or less-than-significant effect, yellow indicates areas with significant effects that can be reduced using mitigation, and red indicates effects that are significant.

Table 4.17-1. Comparison of Alternatives: Effect Summary

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Beneficial Effect | 0 | 6 | 6 |
| No Effect | 26 | 7 | 6 |
| Less than Significant | 15 | 14 | 17 |
| Less than Significant with Mitigation | 0 | 16 | 14 |
| Significant Effect | 3 | 1 | 1 |

Table 4.17-2. Comparison of Alternatives: Effects by Resource Area

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Water Supply<br>Projected water demand exceeds available supply at the POM | Less than Significant | Less than Significant | Less than Significant |
| Water Supply<br>Projected water demand exceeds available supply at the OMC | Less than Significant | Less than Significant | Less than Significant |
| Water Quality<br>Potential for increased stormwater pollution during construction | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Water Quality<br>Potential for increased stormwater pollution following project completion | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Geology, Soils, and Mineral Resources<br>Potential for increased soil erosion during construction | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Geology, Soils, and Mineral Resources<br>Potential for adverse effects from seismic activity | Significant Effect | Beneficial Effect | Beneficial Effect |
| Air Quality<br>Construction effects would exceed applicable air quality thresholds | No Effect | Less than Significant | Less than Significant |

| Table 4.17-2. Comparison of Alternatives: Effects by Resource Area | | | |
|---|---|---|---|
| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
| Air Quality<br>Operation effects would exceed applicable air quality thresholds | No Effect | Less than Significant | Less than Significant |
| Air Quality<br>Construction effects would result in substantial fugitive dust | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Vegetation and Wildlife<br>Effects on special status species | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Vegetation and Wildlife<br>Effects on migratory birds | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Vegetation and Wildlife<br>Introduction of exotic species | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Land Use<br>Changes to existing or planned land uses | No Effect | Less than Significant | Less than Significant |
| Land Use<br>Conflicts with local land use policies | No Effect | No Effect | No Effect |
| Population and Housing<br>Improved housing facilities at the POM and the OMC | Significant Effect | Beneficial Effect | Beneficial Effect |
| Population and Housing<br>Reduced demand for housing off-post | Significant Effect | Beneficial Effect | Beneficial Effect |
| Traffic and Transportation<br>Increased traffic volumes on internal POM and OMC roadways | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Traffic and Transportation<br>Increased delay on internal POM and OMC intersections | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Traffic and Transportation<br>Increased vehicle queuing at ACP locations | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Traffic and Transportation<br>Substantial deterioration of physical roadway conditions | No Effect | Less than Significant | Less than Significant |
| Noise<br>Temporary noise increases from construction activities | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Noise<br>Long-term noise increases from increased travel to and from the POM and the OMC | Less than Significant | Less than Significant | Less than Significant |
| Utilities and Public Services<br>Increased electricity, gas, and communication service demands for POM and the OMC | Less than Significant | Less than Significant | Less than Significant |
| Utilities and Public Services<br>Increased solid waste | Less than Significant | Less than Significant | Less than Significant |
| Utilities and Public Services<br>Increased demand on wastewater and storm drain distribution systems | Less than Significant | Less than Significant | Less than Significant |
| Hazardous, Toxic, and Radioactive Substances<br>Contaminant release from modified landfill cap | No Effect | No Effect | No Effect |
| Hazardous, Toxic, and Radioactive Substances<br>Release of asbestos-containing materials or lead-based paint to the environment | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |

| Table 4.17-2. Comparison of Alternatives: Effects by Resource Area | | | |
|---|---|---|---|
| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
| Hazardous, Toxic, and Radioactive Wastes<br>Effects from using hazardous substances during construction | No Effect | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Public Health and Safety<br>Pose a risk to public health and safety through the use of construction vehicles, equipment, and general construction activities | No Effect | Less than Significant | Less than Significant |
| Public Health and Safety<br>Increased danger to public health and safety from wildfires or tsunamis | No Effect | No Effect | Less than Significant |
| Public Health and Safety<br>Impediment to planned evacuation routes | No Effect | No Effect | No Effect |
| Public Health and Safety<br>Impediment of emergency service vehicles and routes | No Effect | No Effect | No Effect |
| Public Health and Safety<br>Increase in the demand for emergency services off-post | No Effect | No Effect | No Effect |
| Public Health and Safety<br>Increased risk from unauthorized access to post | No Effect | Beneficial Effect | Beneficial Effect |
| Socioeconomics<br>Temporary increases in economic activity from construction spending and labor | No Effect | Beneficial Effect | Beneficial Effect |
| Socioeconomics<br>Long-term socioeconomic impacts of population changes | No Effect | No Effect | No Effect |
| Environmental Justice<br>Disproportionately high and adverse effects on a minority or low-income population | Less than Significant | Beneficial Effect | Beneficial Effect |
| Visual, Scenic, and Aesthetic Resources<br>Short-range project would affect scenic vistas from surrounding neighborhoods | Less than Significant | Less than Significant | Less than Significant |
| Visual, Scenic, and Aesthetic Resources<br>Short-range project would substantially alter the existing visual character of an area | Less than Significant | Less than Significant with Mitigation | Less than Significant with Mitigation |
| Visual, Scenic, and Aesthetic Resources<br>Long-range projects at POM would affect scenic vistas from surrounding neighborhoods | No Effect | Less than Significant with Mitigation | Less than Significant |
| Visual, Scenic, and Aesthetic Resources<br>Long-range projects at OMC would affect scenic vistas from surrounding neighborhoods | No Effect | Less than Significant | Less than Significant |
| Visual, Scenic, and Aesthetic Resources<br>Long-range projects at the POM would substantially alter the existing visual character of an area | No Effect | Less than Significant with Mitigation | Less than Significant |
| Visual, Scenic, and Aesthetic Resources<br>Compliance with existing Installation Design Guide | Less than Significant | Less than Significant | Less than Significant |
| Cultural Resources<br>Effects on historic or cultural resources | Less than Significant Effect | Significant Effect | Significant Effect |

# 5. CUMULATIVE EFFECTS AND OTHER DISCLOSURES

## 5.1 CUMULATIVE EFFECTS

CEQ regulations require that cumulative effects of a proposed project be addressed as part of an EIS (40 CFR Part 1508.25 (c)). Cumulative impact is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR Part 1508.7). Cumulative effects are an important part of the environmental analysis because understanding the extent of cumulative effects allows decision makers to look not only at the effects of an individual proposed action but also at the overall effects on a specific resource, ecosystem, or human community over time from many different projects. The alternatives are evaluated for incremental impacts when considering the past, present, and reasonably foreseeable actions within the POM Installation and the adjacent communities.

### 5.1.1 Methodology

This cumulative effects analysis has been prepared in accordance with CEQ's *Considering Cumulative Effects under the National Environmental Policy Act* and considers past, present, and reasonably foreseeable future actions that may affect the ecosystems, resources, or human communities in and around the project area (CEQ, 1997b). The cumulative effects analysis evaluates the incremental effects of implementing the no action and action alternatives when added to past, present, and reasonably foreseeable future Army actions at the POM Installation and the actions of other parties in the surrounding area, where applicable. Table 5.1-1 presents a list of such actions considered for cumulative effects in the EIS analysis. The timeframe for the cumulative effects analysis extends to Year 2030 because the actions proposed in the RPMP are all expected to be constructed and in operation by this time. The geographic scope of this analysis includes the POM Installation, and for certain resource areas, the cities adjacent to the POM or the OMC.

| Table 5.1-1. Cumulative Actions | | |
|---|---|---|
| Project / Action | Description | Timeframe |
| *On-Post* | | |
| FY08, FY09, and FY11 General Instruction Buildings at the POM | General instructional buildings and associated parking lots construction during 2008, 2009, and 2011 at the POM. Additional project details provided in Section 1.2. | Ongoing |
| Residential Communities Initiative Program | New and replacement housing and support facilities for military personnel at the OMC. | Ongoing |
| *Off-Post* | | |
| Fort Ord Reuse Authority, Fort Ord Reuse Plan and Capital Improvement Program | The comprehensive Fort Ord Reuse Plan was adopted in 1997 and included development of commercial, residential, recreation, and open space areas. The Capital Improvement Program identified projects to be implemented through 2020, including transportation, storm drain, habitat, public facilities, building removal, and water and wastewater projects. | Ongoing |
| Seaside Project at Main Gate (1) | This mixed-use project would include a resort-style, open-air retail environment with walkways and public space. The proposed project would encompass approximately 56 acres of former Fort Ord land just east of Highway 1, north of Lightfighter Drive, and adjacent to the California State University Monterey Bay campus. Other project components would include a 250-room hotel/conference center with spa. | Date not set |
| City of Monterey city-wide sewer upgrade | The City of Monterey is rehabilitating its aging sewer infrastructure, which also serves the POM Installation. | 2012–2014 |
| Seaside West Broadway Urban Village (1) | Mix of residential (market rate and affordable for sale and rental) units with ground-floor retail and commercial uses to create a new downtown. The study area includes West Broadway Avenue between Del Monte Boulevard and Fremont Boulevard and is approximately bounded by Olympia Avenue, Elm Avenue, Imperial Street, Canyon Del Rey, and Harcourt Avenue. | Date not set |
| Seaside Surplus II Planning Area (1) | This area would consist of approximately 90 acres of vacant and underused properties just south of California State University Monterey Bay on former Fort Ord. A specific plan would be prepared to help guide the site's development. Potential uses under exploration would include mixed-used, educational-serving development. | Date not set |
| City of Seaside Del Monte Blvd Reconstruction Project (1) | Reconstruction of the north- and south-bound lanes of Del Monte Boulevard. | 2009–2010 |
| Seaside General Plan (1) | planned circulation, intersection, roadway, pedestrian and regional roadway improvements and Jim Moore Blvd Connection, and residential and mixed-use development in the Seaside East area. | 2004 |
| Cal-Am Seaside Water Mains Replacement Program (1) | Evaluate entire Monterey Distribution System, replace 4–inch steel pipe with 8-inch PVC pipe, repair leaks. | 2009 |
| City of Monterey State Highway 68 (Holman Highway) Widening and Upgrade Project (2) | Widen and upgrade State Highway 68 from two lanes to three/four lanes, beginning approximately 0.2 kilometers (0.1 mile) west of the Community Hospital of Monterey Peninsula entrance to State Highway 1 and State Highway 68 junction. Improvements to State Highway 1 southbound off-ramp and on-ramp are also included. | 2009 |
| Street Resurfacing (Slurry/Cape Seal) 2009 for City of Monterey and Presidio Municipal Services Agency (2) | Project consists of crack sealing, placing of slurry seal and/or cape seal, associated striping removal and replacement of painted street markings on a number of streets and parking lots in the City of Monterey, POM, OMC, and SATCOM. | 2009 |

| Table 5.1-1. Cumulative Actions | | |
|---|---|---|
| Project / Action | Description | Timeframe |
| City of Monterey Street Reconstruction 2009 [2] | Street segments to be reconstructed on Abrego, Munras, Soledad, and Eldorado Streets. Also included is the installation and rehabilitation of sewer mains, storm drain catch basin reconstruction, and street lighting. | 2009 |
| David/Prescott Corridor Improvement Traffic Study [2] | Measures to address traffic speed and pedestrian safety on these streets. | 2009 |
| City of Monterey Neighborhood Improvement Projects [2] | Small-scale projects throughout the City of Monterey, including maintenance, replacement, safety repairs, erosion control measures, and drainage improvements. | 2009 |
| City of Monterey Capital Improvement Projects [2] | Multiple projects, including underground utility upgrades, storm drains, sewer line replacements, seismic upgrades, walkway construction, efficiency upgrades, and traffic and parking improvements. | 2009 |
| Central Coast Veterans Cemetery [2] | This proposed project would include a 178-acre site comprising a 78-acre cemetery serving Monterey, Santa Cruz, Santa Clara, and San Benito counties; a habitat restoration area; and a development parcel. | Date not set |
| Coastal Water Project [3] | This project would comprise multiple projects to provide additional water to Cal-Am customers. Three project alternatives: Moss Landing Project, North Marina Project, or Monterey Regional Water Supply Project, would include some combination of a new seawater desalination plant, surface water treatment plant, pipelines, storage facilities, and an aquifer storage and recovery system. | 2015 |
| Seaside Basin Aquifer Storage and Recovery [3] | Excess surface water flows from the Carmel River during the rainy season would be diverted and injected via two aquifer storage and recovery injection/extraction wells into the Seaside Area Subbasin for storage and later recovery. Phase I (920 AFY) is complete; remainder was added to Coastal Water Project (380 AFY). | Date not set |
| Sand City Desalination [3] | Brackish water from beach collector well would be treated with reverse osmosis and the brine injected into the Seaside Area Subbasin. Project supply expected to offset current demands and to meet future demands. | 2009 |
| Pebble Beach Recycled Water Project Expansion [3] | An existing recycled water project provides an average of 664 AFY for irrigation. Expansion project would increase supply by a total of 136 AFY to 800 AFY. | Date not set |
| Unaccounted-for Water Recovery [3] | System improvements would be implemented to reduce average unaccounted-for water within Cal-Am system by 2 percent of total production. | Date not set |
| Salinas Valley Water Project [4], [5] | The goal of this project was to reduce groundwater demand with designs to improve flood protection, halt seawater intrusion, improve water release and storage, and allow use of combined river and recycled water for farm irrigation. Project includes modifications to Nacimento Dam spillway and installation of rubber dam and diversion facility on Salinas River near City of Marina. | 2010 |
| Regional Urban Water Augmentation Project [4] | Project to develop an augmentation water supply of recycled and/or desalinated water for the Marina Coast Water District (2,400 AFY for the former Fort Ord, 300 AFY to replace idle desalination plant supply) and Monterey Peninsula (300 AFY). Three project alternatives included: 100 percent recycled wastewater, 100 percent desalinated water, or 50 percent of each. | 2010 |

| Table 5.1-1. Cumulative Actions | | |
|---|---|---|
| Project / Action | Description | Timeframe |
| Del Monte Forest Area Land Plan Amendments and Zoning Changes (6) | Pebble Beach Company proposes to build out remaining vacant land in the Pebble Beach area of the Del Monte Forest (Pebble Beach Lot Program). The original proposal was for 403 residential units on 685 acres, an 18-hole golf course, and the expansion of an existing driving range. Under the new proposal, a new 100-room hotel and restaurant would be constructed at an old quarry site, new Spyglass Hill Golf course would be constructed; 140 rooms was be added to the Lodge at Pebble Beach and Inn at Spanish Bay, 90 new residential units was be constructed, and 635 acres of rare Monterey pines would be permanently protected. | 2012 |

*Note: AFY = acre-feet per year*
*(1) City of Seaside, 2009*
*(2) City of Monterey, 2009*
*(3) ESA, 2009*
*(4) Byron Buck & Associates, 2005*
*(5) The Herald, 2009*
*(6) Monterey County, 2005, 2012*

### 5.1.2 Analysis of Potential Cumulative Effects under the No Action Alternative

The No Action Alternative would not involve construction of any of the proposed new and upgraded facilities and therefore would not result in any cumulative effects on the following resources: water supply; water quality; geology, soils and mineral resources; air quality; vegetation and wildlife; land use; noise; hazardous, toxic, and radioactive substances; public health and safety; socioeconomics; visual, scenic and aesthetic resources; and cultural resources.

However, by not implementing certain upgrades, there would be effects on traffic (no gate upgrades), housing and population, utilities and public services, and environmental justice under the No Action Alternative. Potential cumulative effects on these resources are described below.

#### 5.1.2.1 Traffic and Transportation

Under the No Action Alternative, the student/teacher population at the POM Installation would increase; however, the overall installation population would decrease, resulting in no projected increased traffic volumes on, and adjacent to, the POM. Potential traffic effects under the No Action Alternative would be similar to those under the RPMP project alternatives, and potential cumulative effects on traffic from Alternatives 1 and 2 are described in Section 5.1.3.8.

#### 5.1.2.2 Population and Housing

Under the No Action Alternative, barracks conditions at the POM and the OMC for military personnel would not improve to meet demands. Military personnel assigned to the POM Installation for training are determined by the DoD and the student population at the POM Installation would increase regardless of

construction of new housing. The No Action Alternative would result in adverse cumulative effects on population and housing in the community due to increased need for student housing.

#### 5.1.2.3 Utilities and Public Services

Under the No Action Alternative, the student and faculty population at the POM Installation would increase, resulting in some increased demand in energy and other utility services. However, because energy conservation measures have been implemented and continue to be implemented at the POM and the OMC, as described in Section 4.10.2, energy and utilities services demands are not expected to increase under the No Action Alternative, and no cumulative effects on utilities and public service would occur.

#### 5.1.2.4 Environmental Justice

Under the No Action Alternative, a substantial number of DLIFLC students who would otherwise be in the barracks would be given allowance to live in the local community and would compete with lower-income populations for housing. This could have a cumulative effect on housing costs and availability in the lower-incomes areas on the Monterey Peninsula.

### 5.1.3 Analysis of Potential Cumulative Effects under Alternatives 1 and 2

The action alternatives would include construction, demolition, and renovation work and these projects combined with others in the Monterey area could result in cumulative effects. Potential cumulative effects for all of the resource areas discussed in Chapter 3 and analyzed in Chapter 4 are described below, and a summary of cumulative effects is provided in Table 5.2-1.

#### 5.1.3.1 Water Supply

Cal-Am and MCWD, the water purveyors to the POM and the OMC, respectively, also provide potable water to other customers within the Monterey area, such as the cities of Monterey, Seaside, and Pacific Grove. Agreements are in place that outline the existing water rights and allotments, but actual available water supply depends on legal and physical availability, i.e., in order for development to continue at the POM and other portions of the Monterey peninsula, the water companies have to first generate that additional water. Cal-Am and MCWD are fully aware of the current and projected demands of their customers and are involved in developing regional water supply projects aimed to provide water to meet those anticipated demands. Additionally, Cal-Am must also replace current water diversions above its legal right and allocation, as mandated in SWRCB Order 95-10, SWRCB Cease and Desist Order WR 2009-0060, and the Seaside Area Subbasin Adjudication (Section 3.1).

The combined water demand from the OMC, the POM, and the other Cal-Am and MCWD customers would result in cumulative effects on water supply, affecting the size, scope, and implementation schedule of future

water supply projects and affecting the overall availability of water in the Monterey region. Because Cal-Am and MCWD have determined their customers' projected water needs, the regional water supply projects currently in development by the purveyors and cooperating agencies are already taking into account the cumulative water demand of the region. Each water project is responsible for determining and mitigating any significant water supply effects resulting from the project so that substantial cumulative effects would not occur. Many of the water projects summarized in Table 5.1-1 are either in the construction or environmental documentation preparation stages.

Construction of the Barracks Complex Phase I project would have potential cumulative effects for water supply. The long-range projects would also have the potential for cumulative adverse water supply effects. However, water supply conservation and planning efforts, discussed in Sections 3.1.3 and 4.1.5 would minimize the potential for adverse water supply effects.

#### 5.1.3.2 Water Quality

The Alternatives 1 and 2 projects would have minor cumulative effects on stormwater runoff or water quality. Construction of the Barracks Complex Phase I and long-range projects would have the potential to cause water quality effects. These effects are considered insignificant because of the mitigation that would be incorporated into construction design as required by the NPDES permitting requirements discussed in Section 4.2.

#### 5.1.3.3 Geology, Soils, and Mineral Resources

The Alternatives 1 and 2 projects would have minor cumulative effects on geology, soils, and mineral resources. Construction of the Barracks Complex Phase I and long-range projects would have the potential to cause soil erosion. Construction design of the new buildings under the action alternatives would include BMPs to reduce potential erosion effects and would include engineering controls to reduce potential seismic damages. Insignificant effects on geology and soils would occur from the RPMP alternatives at the POM Installation.

#### 5.1.3.4 Air Quality

The CEQA Air Quality Guidelines (MBUAPCD, 2008b) state that if a project is consistent with the current Air Quality Management Plan, then cumulative effects would not occur. This EIS adopts that logic. To ensure consistency with the most applicable air quality plan (e.g., comparison of growth assumptions), the common practice is to coordinate with the local air quality management or control district. The MBUAPCD CEQA Air Quality Guidelines specifically state that the MBUAPCD will provide consistency determinations for projects based on established criteria. As determined by MBUAPCD, the projects proposed under the RPMP would be consistent with the population growth and emissions trends in the current Air Quality

Management Plan; therefore, cumulative effects on air quality would not be significant from implementation of the RPMP.

#### 5.1.3.5 Vegetation and Wildlife

In conjunction with other actions occurring in the region, Alternative 1 and Alternative 2 would have a less-than-significant effect on vegetation and wildlife at the POM and OMC with the implementation of appropriate mitigation measures and consultation with the USFWS. For instance, the locations of Barracks Phases I and IV buildings were selected to avoid special status plants to the extent possible. Eleven alternate sites at the POM were reviewed for the Barracks Complex Phase IV before the Rifle Range Road site was identified. Removal or replacement of Monterey pine trees would be minimized during construction at the selected sites compared to other available sites on the POM. The proposed new chapel and joint services training center were considered but eliminated from the RPMP to avoid potential biological effects at potential construction locations.

There are other projects in the Monterey area that would have similar impacts on vegetation, primarily the Pebble Beach Company's Del Monte Forest Project. That proposed project would result in the removal of up to 41 acres of Monterey pine forest. The project would incorporate mitigation measures, including the preservation of 598 acres of Monterey pine forest; however, the losses from removal would be permanent. Similarly, the proposed Pebble Beach project would result in the removal of up to 6 acres of Yadon's piperia habitat and indirect impacts on 3 acres of habitat. The proposed project would result in the preservation of 125 acres of Yadon's piperia habitat (Monterey County, 2005).

Although there would be an initial cumulative effect on vegetation and habitat from the RPMP projects, the mitigation measures described herein would reduce the effects to less than significant. Other ongoing and future construction projects would be required to implement mitigation measures to address any potential effects on biological resources. For example, upgrades to the POM's current water supply system in the future to comply with fire regulations may require disturbance within an area of existing Yadon's piperia habitat, which would require mitigation measures. Therefore, with the use of proper mitigation measures no significant cumulative effects from Alternative 1 or Alternative 2 on vegetation and wildlife are expected.

#### 5.1.3.6 Land Use

Future planned projects at the POM Installation would comply with land use guidelines for the Federal property. All proposed projects would follow land use designations as defined within the Army Regulation 210-20, *Real Property Master Planning for Army Installations*. There would be no cumulative effects on land use because there would be no changes to Army land use designations and there would be nothing to cause neighboring land uses to change.

#### 5.1.3.7 Population and Housing

The population of military personnel and family members at the POM Installation is anticipated to total 17,800 from 2016 to 2030 decreasing from 18,400 in FY11. The RPMP alternatives would improve housing by constructing new buildings with modern technology and improved housing services and accommodations. Projects under construction and recently completed at the OMC include housing development that supports increased population at the OMC. Housing at the OMC has been improved over existing conditions, which is a cumulative benefit. RPMP alternatives would contribute beneficial cumulative effects to improve housing as new barracks are constructed. Recently completed housing projects at the OMC have reduced the need for military personnel and families to seek housing in nearby cities, which is also a cumulative benefit.

#### 5.1.3.8 Traffic and Transportation

Past, present, and future projects related to transportation resources also include the City of Seaside Del Monte Boulevard Reconstruction Project and the City of Monterey State Highway 68 (Holman Highway) Widening and Upgrade Project. The Del Monte Reconstruction Project would improve road conditions from the OMC to the POM through the City of Seaside. The State Highway 68 project would improve traffic on Highway 68 near Highway 1. The cities have also identified several projects to improve traffic conditions in the Capital Improvement Programs and General Plan that are in preliminary planning stages. City of Seaside projects include improvements at the following intersections: Second Avenue/First Street; Second Avenue/Light Fighter Drive; General Jim Moore Boulevard/Light Fighter Drive; General Jim Moore Boulevard/Gigling Road; General Jim Moore Boulevard/Normandy Road; General Jim Moore Boulevard/Coe Avenue/Eucalyptus Road; and General Jim Moore Boulevard/Broadway Avenue. City of Monterey projects propose improvements to Lighthouse and Foam Avenues and David and Prescott Avenues. These projects would help alleviate traffic delays in areas surrounding the POM Installation. Implementation of either Alternative 1 or Alternative 2 would result in less-than-significant cumulative effects on traffic and transportation.

#### 5.1.3.9 Noise

Cumulative effects are expected related to noise. Effects on noise levels on the POM would be associated with construction and renovation activities. Increased noise levels during construction would be temporary. No projects that would result in cumulative effects on noise when combined with temporary construction noise from Alternative 1 or Alternative 2 have been identified.

#### 5.1.3.10 Utilities and Public Services

Past, present, and future projects on the POM Installation, given considerations for energy and water use reductions and replacement of facilities, should not result in cumulative effects on public utilities and services.

The USAG-POM would work with utility agencies, such as PG&E, the MRWPCA, Monterey County Disposal Service, and the MPWMD, to coordinate the relocation of, installation of new, or interruptions to utility and public services.

Recently completed residential and commercial development projects at the OMC, that did not replace existing developments, have resulted in increased demands for utilities and public services. However, those projects have been permitted to comply with local requirements and thus have not taxed the public services. Like those at the OMC, upcoming projects at the POM are not expected to result in cumulative effects on stormwater, wastewater, electric, gas or communication services.

Increased regional population and the potential for new housing developments in the community would also increase demands for public school services from MPUSD. Additional tax revenues from residents would support school services, but budgetary concerns for public schools would remain. The RPMP alternatives propose new barracks that would support service members without accompanying families. However, some military with families with school age students would be rotated through the school systems with each military language class at the POM Installation. The overall military population of the POM Installation is declining as shown in Table 2.6-1. The Army does not expect there to be any additional students in the local public schools and, therefore, no cumulative effects are expected.

#### 5.1.3.11 Hazardous, Toxic, and Radioactive Substances

Under Alternative 1 and Alternative 2, construction of new buildings includes the use of construction materials that may contain hazardous materials. The use of hazardous materials would result in similar effects for all the alternatives. Proper hazardous materials handling, worker safety precautions, and hazardous waste management practices would apply to all the alternatives.

The use of construction materials containing hazardous materials would increase; however, the management of hazardous materials and disposal of hazardous substances in accordance with federal, state, and local requirements would minimize effects to less-than-significant levels. Cumulative effects from HTRW would occur due to the need for disposal of construction materials, including ACMs from RPMP demolition projects at the POM Installation when combined with other projects with similar construction materials disposal needs. With the implementation of necessary regulations, the RPMP projects are not expected to result in any cumulative HTRW effects.

#### 5.1.3.12 Public Health and Safety

Construction projects proposed under Alternative 1 and Alternative 2 would have the potential to result in effects on public health and safety; however, each project would have measures implemented to protect public health and safety, ensuring that effects are not significant. Other past, present, and future projects, on

the installation and off, could also result in effects on health and safety, but each of those projects would be implemented according to federal, state, and local regulations to ensure that any effects are not significant. With implementation of proper safety measures and coordination among agencies, the RPMP projects are not expected to contribute significantly to cumulative effects on public health and safety. Insignificant cumulative effects or minor increased risk of wildfires or other safety hazards would occur to on-post or off-post populations, and demand for emergency services would not be increased or affect the emergency evacuation routes.

#### 5.1.3.13 Socioeconomics

Past, present, and future projects include those projects listed in Table 5.1-1. Construction associated with these developments would have similar socioeconomic effects as the proposed RPMP alternatives, including increasing employment and spending in the region. Economic effects from construction would be temporary and would only occur during the construction period.

The population in nearby cities has not changed substantially the past few years and is expected to remain fairly static in the future. Industry output and employment also have been relatively stable over the years. The local economies in the surrounding areas are not expected to change when the effect of the proposed action occurs. Increased barracks space at the POM Installation to support the student population growth would not change socioeconomic conditions in nearby cities. Increased student population at the POM Installation would result in more spending in the region, which would benefit the local economy and result in beneficial cumulative effects.

#### 5.1.3.14 Environmental Justice

The City of Seaside, adjacent to the OMC, was identified as an area with a minority or low-income population that should be analyzed for environmental justice impacts. The potential effects on the human and natural resources would not be appreciably more severe or greater in magnitude on the minority or low-income communities. Both construction and operation effects in the long-term would be beneficial, providing regional short-term economic benefits from construction spending and labor and long-term positive effects on employment and wages in the region from the projected increases in the teacher and student populations. Alternatives 1 and 2 also would have a cumulative beneficial effect by reducing competition for housing within the low-income communities. Implementation of the action alternatives would not cause disproportionately high and adverse effects on a minority or low-income population.

#### 5.1.3.15 Visual, Scenic, and Aesthetic Resources

Future projects at the POM include a new GIB and several proposed renovations to existing buildings. All construction projects would follow the IDG and would maintain the overall visual character of the POM

Installation. No cumulative visual effects would occur at the POM or the OMC from the short- or long-range projects included in the RPMP as no other projects have been identified that would affect views in the immediate areas of the POM and OMC.

#### 5.1.3.16 Cultural Resources

Implementation of the action alternatives may generate significant effects on cultural resources. Other ongoing and future construction projects in and around the area could uncover previously unknown or affect the integrity of known cultural or historic resources. Each project proponent would be responsible for mitigating for cultural resources effects. These actions could contribute to cumulative effects. The Monterey area is very proud of its history and works hard to maintain historic sites. It is unlikely therefore that cumulative effects to this resource would be affected.

## 5.2 SUMMARY OF CUMULATIVE EFFECTS

Cumulative effects on the resource areas are summarized in Table 5.2.-1.

Table 5.2-1. Summary of Cumulative Effects

| Cumulative Effects | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Water Supply | No cumulative effects | Less than significant adverse cumulative effects | Less than significant adverse cumulative effects |
| Water Quality | No cumulative effects | Less than significant adverse cumulative effects | Less than significant adverse cumulative effects |
| Geology, Soils, and Mineral Resources | No cumulative effects | No cumulative effects | No cumulative effects |
| Air Quality | No cumulative effects | Less than significant adverse cumulative effects | Less than significant adverse cumulative effects |
| Vegetation and Wildlife | No cumulative effects | Less than significant adverse cumulative effects | Less than significant adverse cumulative effects |
| Land Use | No cumulative effects | No cumulative effects | No cumulative effects |
| Population and Housing | Less than significant adverse cumulative effects | Beneficial cumulative effects | Beneficial cumulative effects |
| Traffic and Transportation | Less than significant adverse cumulative effects | Less than significant adverse cumulative effects | Less than significant adverse cumulative effects |
| Noise | No cumulative effects | Less than significant adverse cumulative effects | Less than significant adverse cumulative effects |
| Utilities and Public Services | Less than significant adverse cumulative effects | No cumulative effects | No cumulative effects |
| Hazardous, Toxic, and Radioactive Substances | No cumulative effects | Less than significant adverse cumulative effects | Less than significant adverse cumulative effects |
| Public Health and Safety | No cumulative effects | No cumulative effects | No cumulative effects |
| Socioeconomics | No cumulative effects | Beneficial cumulative effects | Beneficial cumulative effects |
| Environmental Justice | Potential cumulative effects | Beneficial cumulative effects | Beneficial cumulative effects |

| Table 5.2-1. Summary of Cumulative Effects | | | |
|---|---|---|---|
| Cumulative Effects | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
| Visual, Scenic, and Aesthetic Resources | No cumulative effects | No cumulative effects | No cumulative effects |
| Cultural Resources | No cumulative effects | No cumulative effects | No cumulative effects |

## 5.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires discussion of the irreversible and irretrievable commitment of resources that would result from the implementation of any proposed action (42 USC 4332; 40 CFR Part 1502.16). Irreversible commitments are decisions affecting non-renewable resources, such as soils, cultural resources, wildlife species, or commitments, that cannot be reversed. The irretrievable commitment of resources refers to the loss of production or use of resources and represents lost opportunities for the period when the resource cannot be used (i.e., vegetated area that is developed).

The No Action Alternative would not involve construction or renovations at the POM or the OMC. Under Alternative 1, and similarly under Alternative 2, facility expansion at both the POM and the OMC would occur through the demolition of existing buildings and construction on developed and undeveloped parcels. None of the alternatives would conflict with the existing land use plans or policies of the POM Installation or with local land use polices.

Use of resources such as construction materials during the construction of a project is an irreversible commitment of resources because these resources cannot be recovered once they have been committed to a project. Development to LEED Silver standards for facility construction, however, would minimize the effect by employing efficient methods, including reuse or recycling of the construction materials, use of energy and water efficient systems, and improved indoor environmental quality.

Implementation of the RPMP would create short-term adverse environmental effects during construction and over the life of the proposed facilities. Construction activities would involve the consumption of natural resources, such as the earthen borrow material, concrete, and petroleum fuels, which would be a permanent commitment of non-renewable natural resources.

Development activities on the POM and the OMC would alter soil, remove vegetation cover (including Monterey pines and Yadon's piperia and their habitat), remove wildlife habitat, and potentially damage unknown archeological resources. Wildlife dependent on the affected habitats would be displaced and habitat

carrying capacity would be reduced. Irreversible and irretrievable commitment of resources associated with the Proposed Action would be the loss of vegetation and wildlife habitat, including reduced amount of suitable special status species habitat. However, much of the land to be used has been disturbed by, and partially recovered from, previous activities on the site, especially at the POM where most of the development would occur.

If Barracks Phase IV were to be built on the Rifle Range Road site, it could involve the demolition of some or all of the buildings that constitute the Russian Village classrooms. This would be an irretrievable loss, even though mitigation would occur through the Section 106 consultation process.

## 5.4 SIGNIFICANT AND UNAVOIDABLE ADVERSE EFFECTS

The term "significant and unavoidable adverse effect" refers to the environmental consequence of an action that cannot be avoided by redesigning the project, changing the nature of the project, or implementing mitigation measures. NEPA regulations require a discussion of any adverse effects that cannot be avoided (40 CFR Part 1502.16).

The effect analyses identified potentially significant effects in the alternatives with regard to multiple resource areas. Mitigation measures were identified that would reduce many of the potentially significant effects to less-than-significant levels. Significant and unavoidable effects, however, were identified for four resource areas, as summarized in Table 5.3-1.

Table 5.3-1. Significant and Unavoidable Effects

| Environmental Consequence | No Action Alternative | Alternative 1: POM-Centric | Alternative 2: POM and OMC |
|---|---|---|---|
| Geology, Soils, and Mineral Resources<br>Potential for adverse effects from seismic activity | Significant Effect | Beneficial Effect | Beneficial Effect |
| Population and Housing<br>Improved housing facilities at the POM and the OMC | Significant Effect | Beneficial Effect | Beneficial Effect |
| Population and Housing<br>Reduced demand for housing off-post | Significant Effect | Beneficial Effect | Beneficial Effect |
| Cultural Resources<br>Effects on historic or cultural resources | Less than Significant | Significant Effect | Significant Effect |

The projected population under the action alternatives would be the same as under the No Action Alternative. The military population is projected to decrease from a high of 9,866 in 2012 to 9,400 through 2030, and the number of family members and civilian employees would correspondingly level out. New

housing would not occur under the No Action Alternative, so there would potentially be pressures on off-post communities to provide additional housing and community services for the increasing student population. Because new housing and support facilities would be constructed under the action alternatives, the effects on population would be potentially beneficial as these off-post pressures would be alleviated. Replacing outdated barracks with modern facilities would increase the quality of life of the military personnel. New buildings would also meet current seismic building standards and decrease the potential for adverse seismic effects.

## 5.5 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

This section describes the relationship between short-term and long-term environmental effects, such as short-term adverse effects that would result in long-term beneficial effects, and vice versa (40 CFR Part 1502.16). At issue is whether short-term effects would be counterbalanced by the long-term effects. The discussion includes effects that may narrow the range of beneficial uses of the environment or pose long-term risks to health and safety.

### 5.5.1 No Action Alternative

The No Action Alternative would not involve the development, construction, or renovation of any facilities. Existing undeveloped areas would remain open parcels. Additionally, improvements to traffic flow and construction of new parking structures would not take place under the No Action Alternative.

### 5.5.2 Alternative 1: POM-Centric

Alternative 1 would involve the construction of new facilities on undeveloped parcels and the replacement of underused or older facilities at the POM and the OMC. This alternative would include short-term uses of capital, labor, fuels, and construction materials. Long-term productivity of the resources would be achieved through construction to LEED standards, which would include the reuse or recycling of construction materials, use of energy and water efficient systems, and improved indoor environmental quality.

Designs of new facilities for the POM and the OMC would fully implement the AT/FP measures. Fencing, hardened construction (explosive resistance), and security measures would be incorporated into the building and infrastructure designs.

Personnel and family housing and the fulfillment of the primary mission of the DLIFLC would be met and a sustainable, and culturally based foreign language education, training, and evaluation program would be provided, ensuring the success of the defense language program and enhancing national security.

For both the short- and long-range projects, soil erosion from the construction activities would result in a greater loss of topsoil on undeveloped parcels than on already developed areas. Bare soils would be temporarily exposed and subject to wind and water erosion. These short-term effects could be mitigated, while still providing the facilities needed to meet the long-term needs of the POM Installation.

Short-term construction noise could disturb military personnel and the activities occurring in the barracks and classrooms. Noise would adversely affect residents during the construction period. Noise mitigation (e.g., engineering controls and limited construction hours) would be necessary during construction and building renovation activities. Sensitive noise receptors would be within 1,200 feet of the new Barracks Complex Phase I project and would be adversely affected by the construction noise. Because of the existing walls acting as noise barriers, noise would likely attenuate more than construction occurring outdoors. Sensitive noise receptors within 500 feet could be significantly affected by noise levels from renovations.

### 5.5.3 Alternative 2: POM and OMC

Similarly to Alternative 1, Alternative 2 would involve construction of new facilities and the demolition and replacement of underused or older facilities at the POM and the OMC. Some construction would occur on undeveloped areas. This alternative would include short-term uses of capital, labor, fuels, and construction materials. Long-term productivity of the resources would be achieved through construction to LEED standards, such as the reuse or recycling of construction materials, use of energy and water efficient systems, and improved indoor environmental quality.

Designs for the new facilities at the POM and the OMC would fully implement the AT/FP measures. Fencing, hardened construction (explosive resistance), and security measures would be incorporated into the building and infrastructure designs.

Personnel and family housing demands and the fulfillment of the primary mission of the DLIFLC would also be met under Alternative 2. The continuance of a sustainable defense language program at the POM Installation would be achieved.

Similar to Alternative 1, soil erosion from the construction activities would result in a greater loss of topsoil on undeveloped parcels than on already developed areas because bare soils would be temporarily exposed and subject to wind and water erosion. These short-term effects could be mitigated, while still providing the facilities needed to meet the long-term needs of the POM Installation.

Short-term noise effects from implementing the long-range projects under Alternative 2 would be similar to Alternative 1. Sensitive noise receptors at the new Barracks Complex Phase I and IV projects would be within 1,200 feet of the new Barracks Complex Phase II and III construction projects and would be adversely affected by the construction noise. Noise levels from renovations could significantly affect sensitive noise receptors within 500 feet. Noise mitigation (e.g., engineering controls and limited construction hours) would be necessary during construction activities).

# 6. COMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS

## 6.1 APPLICABLE LAWS AND REGULATIONS

The statutes in NEPA establish a specific environmental effect analysis process and require a public review and disclosure. Early scoping with other agencies identified various environmental review and consultation requirements that may apply to the Proposed Action. The early scoping led to the integration of other regulatory processes into this document. Along with the scoping process, the EIS is required to list all the federal permits, licenses, and other entitlements that must be obtained in implementing the proposal (40 CFR Part 1502.25.b). In addition, the Army identified several applicable state and local statutes, regulations, ordinances, and plans.

Table 6.1-1 lists potentially applicable laws, regulations, and executive orders and their methods of compliance. The applicable federal permits are summarized in Section 6.2.

Table 6.1-1. Potentially Applicable Laws and Regulations

| Laws and Regulations | Method of Compliance |
|---|---|
| Federal | |
| National Environmental Policy Act of 1969 | EIS |
| Clean Air Act of 1970 | EIS |
| Clean Water Act of 1972 | NPDES Permit |
| Noise Control Act of 1972 | EIS |
| Endangered Species Act of 1973 | Section 7 Consultation with the USFWS |
| Migratory Bird Treaty Act of 1918 | EIS, Mitigation Monitoring Plan |
| National Historic Preservation Act of 1966 | Section 106 Consultation with the SHPO |
| Archaeological Resources Protection Act of 1979 and the Antiquities Act of 1906 | Consultation with the SHPO |
| Coastal Zone Management Act of 1972 | California Coastal Commission Consistency Determination |
| Section 438 of the Energy Independence and Security Act of 2007 | Project Design |
| Executive Order 11514 Protection and Enhancement of Environmental Quality | EIS |
| Executive Order 13112, Invasive Species and Landscaping | EIS, Mitigation Monitoring Plan |
| Executive Order 11990, Protection of Wetlands | EIS |
| Executive Order 12898, Environmental Justice | EIS |
| Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management | EIS |

| Table 6.1-1. Potentially Applicable Laws and Regulations | |
|---|---|
| Laws and Regulations | Method of Compliance |
| Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition | EIS |
| Executive Order 13123, Greening the Government through Efficient Energy Management | EIS |
| Executive Order 13148, Greening the Government through Leadership in Environmental Management | EIS |
| Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds | EIS |
| Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use | EIS |
| Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance | EIS |
| Army Regulation 200-2, Environmental Analysis of Army Actions (32 CFR Part 651) | EIS |
| Army Regulation 210-20, Real Property Master Planning for Army Installations | EIS |
| State | |
| California Clean Air Act | EIS |
| Monterey Bay Unified Air Pollution Control District Rules and Regulations | EIS |
| Porter-Cologne Water Quality Control Act (California Water Code) | EIS, Waste Discharge Requirements |
| Alquist-Priolo Earthquake Fault Zoning Act | EIS |
| Seismic Hazards Mapping Act | EIS |
| California Endangered Species Act | EIS, Mitigation Monitoring Plan |
| California Fish and Game Code – Migratory Bird Protection | EIS, Mitigation Monitoring Plan |
| Local | |
| Monterey County Preservation of Oak and Other Protected Trees | EIS, Mitigation Monitoring Plan |
| City of Seaside General Plan | EIS |
| Monterey County General Plan | EIS |
| City of Seaside Noise Regulations (Municipal Code 9.12) | EIS |
| City of Pacific Grove Unlawful Noise Code (Municipal Code 10.60) | EIS |
| Monterey County Noise Ordinances (MCC 10.60.030) | EIS |

## 6.2 PERMITS AND COORDINATION REQUIRED

This section describes the potential federal environmental permits the project may require. These requirements may be revised as supplemental documentation is completed and project details are further developed.

### National Pollutant Discharge Elimination System, General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (NPDES No. CAS000002)

The NPDES program is a part of the federal CWA. California is federally authorized to implement the CWA. The NPDES permit regulates point source discharges to waters of the U.S. and nonpoint stormwater discharges including stormwater from construction activities. California has developed a construction general permit for projects exceeding 1 acre or more of disturbed soil. Stormwater discharges and non-stormwater discharges are prohibited unless authorized in this general permit. The Army will prepare and submit a Permit Registration Document for submission to the SWRCB that will include a Notice of Intent, Risk Assessment, Site Map, SWPPP, a signed certification statement, and fees. The findings of the Risk Assessment will determine the hazards associated with the site conditions (i.e., Risk Level 1, 2, or 3) and establish the specific compliance conditions of the permit. Development of the SWPPP is required prior to construction to address the control of pollutant discharges using BMPs selected for the specific project and address stormwater monitoring. Beginning in September 2012, the new post-construction standards will be in effect, and post-construction and long-term maintenance plans will be required.

### Endangered Species Act, Section 7 Consultation

Formal consultation is required under Section 7 of the ESA for federal projects where the project is likely to jeopardize the continued existence of any proposed or listed species or result in the destruction or adverse modification of critical habitat. The lead agency (Army) will consult with the USFWS for terrestrial and freshwater species. Procedures for interagency cooperation concerning endangered species are found in 50 CFR Part 402. The USFWS is required to conclude formal consultation within 90 days, although it can be extended by mutual consent of the agencies involved. Within 45 days of the conclusion of formal consultation, a Biological Opinion must be completed. The Biological Opinion would find either that the project: (1) is not likely to jeopardize or adversely affect the species/critical habitat and that no further action is required and the proposed project can proceed (i.e., No Jeopardy Opinion); or (2) is likely to jeopardize or adversely affect an endangered species or critical habitat and the project must be stopped unless alternatives to avoid or mitigate any effect can be found or an exemption is granted by the Endangered Species Committee through formal consultation procedures (i.e., Jeopardy Opinion).

### National Historic Preservation Act, Section 106 Consultation

The NHPA of 1966, as amended, is the principal law that governs federal agencies, including the U.S. Army, in the treatment of historic properties. It also is closely linked with the evaluation of effects on cultural resources under the NEPA.

Section 106 of the NHPA requires federal agencies to consider the effects of federally funded, regulated, or licensed undertakings on cultural resources (also termed historic properties) listed on or eligible for inclusion in the NRHP; moreover, the federal agency must afford the ACHP the opportunity to comment in the event that an undertaking will have an adverse effect on a cultural resource that is eligible for or listed in the NRHP. Under the ACHP's regulations in 36 CFR 800, the federal agency consults with the cognizant SHPO or Tribal Preservation Officer and the public under the oversight of the ACHP.

Section 110 of NHPA requires federal agencies to survey their land holdings to identify historic properties eligible for the NRHP. Eligibility for the NRHP is established according to the official Criteria of Evaluation (36 CFR 60.4) issued by the Department of the Interior.

For the purposes of this EIS, cultural resources include either recorded or potential historic archaeological sites, prehistoric sites, and standing architectural structures, historic districts, cultural landscapes, and memorials. The identification of significant cultural resources depends upon professional cultural resource surveys carried out by qualified professionals and with reference to established contexts and regulatory protocols. Although a federal agency may formally nominate a property for listing on the NRHP, it is usually more efficient, for planning purposes, that the agency submit a DOE to the cognizant SHPO. For some broad classes of historic property, for which many repetitive examples exist, such as certain types and periods of barracks, compliance has been structured under a "Program Comment," which effectively removes them from Section 106 consultation after service-wide documentation and selective preservation requirements have been met.

The Army completed its Section 106 obligations on those projects that are classified as short-range, as evidenced by correspondence to and from the California SHPO (Appendix E). Long-range projects will carried out in compliance with the NHPA and may require future DOEs to establish the NRHP eligibility of affected properties as well as Section 106 consultation on potential adverse effects.

### Coastal Zone Management Act

The federal Coastal Zone Management Act authorizes the National Oceanic Atmospheric Administration to make grants to states to develop coastal zone management programs in order "to preserve, protect, develop and where possible, to restore or enhance the resources of the nation's Coastal Zone...." Each coastal

management plan must identify coastal zone boundaries, define permissible land and water uses within the coastal zone, inventory and designate areas of particular concern within the coastal zone, identify means by which the state proposes to exert control over land and water uses, establish guidelines for priorities of uses with particular areas, and describe the organizational structure proposed to implement the management program.

Consequently, California promulgated the California Coastal Act requiring each local coastal jurisdiction to prepare a local coastal program, consisting of a land use plan and an implementation program. The Monterey County Coastal Implementation Plan was certified on January 12, 1988.

Federal lands are excluded from the Coastal Zone Management Act. Under the federal Coastal Zone Management Act, "The boundary of a State's coastal zone must exclude lands owned, leased, held in trust… [by the Federal Government]" (15 CFR Part 923.33.a). However, federally conducted activities on excluded lands that have spillover effects on non-excluded lands, water use, or natural resources of the coastal zone will require a consistency determination. The requirements for consistency determinations are established in the National Oceanic Atmospheric Administration regulations (15 CFR Part 930 et seq.).

#### American Indian Religious Freedom Act (42 U.S. Code Section 1996)

The American Indian Religious Freedom Act established federal policy to protect and preserve the rights of Native Americans to believe, express, and exercise their traditional religions, including providing access to sacred sites.

#### Native American Graves Protection and Repatriation Act (25 U.S. Code Sections 3001–3013)

The NAGPRA requires consultation with Native American Tribes prior to excavation or removal of human remains and certain objects of cultural importance. This act requires that if a discovery occurred in connection with an activity including, but not limited to, construction, the person shall cease the activity in the area of discovery, make a reasonable effort to protect the items discovered before resuming such activity, and provide notice under this subsection. The head of the appropriate agency must then locate the appropriate federally recognized Indian tribe and determine the appropriate next course of action.

In the event that human remains are discovered during of this undertaking, the Army is responsible for complying with applicable laws, regulations, and standards pertaining to such discoveries. Such laws and standards include the NAGPRA and its implementing regulation 43 CFR Part 10; the ACHP's Policy Statement Regarding Treatment of Burial Sites, Human Remains and Funerary Objects; California Health and Safety Code Section 7050.5; and CPRC 5097.98.

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# 7. CONSULTATION AND COORDINATION

## 7.1 PUBLIC INVOLVEMENT

Public involvement activities that have occurred during the development of this document are described in Section 1.4.3.

## 7.2 AGENCY COORDINATION

The Army solicited coordination early in the EIS process from various agencies and the public. Early coordination is considered to provide the best opportunity for meaningful input from other agencies, and it allowed the Army to provide the public and agencies with essential project information and inform them of future opportunities for input. Additionally, some agencies have cooperative agreements to work closely with the functional groups within the POM Installation.

The following list presents the agencies involved in development of the EIS. Coordination efforts are ongoing and additional agencies may be consulted during project implementation.

- California State Historic Preservation Officer
- City of Monterey, Office of the Mayor
- City of Pacific Grove
- City of Seaside, Resource Management Services/Planning Division
- Monterey Bay Unified Air Pollution Control District, Planning and Air Monitoring Division
- U.S. Environmental Protection Agency, Region IX, Environmental Review Office
- U.S. Fish and Wildlife Service, Pacific Southwest Office

## 7.3 DISTRIBUTION LIST

The following lists comprise federal, state, local, non-governmental organizations, and businesses that were notified of the proposed federal action.

### 7.3.1 Federal, State and Local Agencies

The following federal, state, and local agencies and federal cooperating agencies and public representatives were notified of the Proposed Action and will receive a copy of the document or a notice of the availability of the document (Table 7.3-1).

| Table 7.3-1. Public Agencies Notified of Proposed RPMP Action | |
|---|---|
| Department of the Army, Presidio of Monterey | Monterey Bay Unified Air Pollution Control District |
| Army, Installation Management Command | Monterey County Health Department |
| 17th Congressional District, Office of Congressman Sam Farr | Monterey County Water Resources Agency |
| 15th Senate District | Monterey Peninsula Unified School District |
| Association of Monterey Bay Area Governments | Monterey Peninsula Water Management District |
| California Coastal Commission | Monterey Regional Water Pollution Control Agency |
| California Department of Fish and Game, Central Coast Region | Monterey-Salinas Transit Agency |
| California Department of Parks and Recreation | Naval Post Graduate School, Director of Engineering |
| California Regional Water Quality Control Board | California State Historic Preservation Office |
| City of Del Rey Oaks | Transportation Agency of Monterey County |
| City of Marina | U.S. Army Corps of Engineers |
| City of Monterey | U.S. Environmental Protection Agency, Region IX |
| City of Pacific Grove | U.S. Fish and Wildlife Service, Ventura Office |
| City of Seaside | |
| County of Monterey | |

### 7.3.2 Non-governmental Organizations and Businesses

The Army also contacted and coordinated with multiple non-governmental organizations and businesses in the preparation of this document. The following is a list of organizations that were notified of the Proposed Action and will receive notice of the availability of the document.

- California Native Plant Society
- Sierra Club, Ventana Chapter
- Pacific Gas and Electric Company, Watsonville Service Center
- San Jose Construction Co., Inc.
- California American Water Company

### 7.3.3 Document Availability

A copy of this document will also be available for review at the following public libraries:

- Monterey Public Library
  Civic Information Center
  625 Pacific Street
  Monterey, CA 93940-2821
  Telephone: (831) 646-3932

- Seaside Public Library
  550 Harcourt Avenue
  Seaside, CA 93955
  Telephone: (831) 899-2055

Additionally, the notice of availability and this document may be downloaded and reviewed at the official website for the Presidio of Monterey at: http://www.monterey.army.mil/DPW/env_assessment.html

All written comments received on the Draft EIS were considered, and this Final EIS was completed with consideration of those comments. The responses to comments are presented in Appendix C. This Final EIS is being distributed to the parties noted above.

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# 8. LIST OF PREPARERS

## 8.1 LIST OF PREPARERS

Table 8.1-1. List of Preparers

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| Table 8.2-1. List of Contributors | |
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# 10. ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| AADT | Annual Average Daily Traffic |
| AAFES | Army and Air Force Exchange Services |
| ACHP | Advisory Council on Historic Preservation |
| ACM | asbestos-containing material |
| ACP | Access Control Point |
| ADA | Americans with Disabilities Act |
| ADT | average daily traffic |
| AEWRS | Army Energy and Water Reporting System |
| AFY | acre-feet per year |
| AIRFA | American Indian Religious Freedom Act |
| AMBAG | Association of Monterey Bay Area Governments |
| Army | United States Army |
| ARPA | Archeological Resources Protection Act |
| ASIP | Army Stationing and Installation Plan |
| AST | aboveground storage tank |
| AT/FP | anti-terrorism/force protection |
| | |
| BEA | Bureau of Economic Analysis |
| BLM | Bureau of Land Management |
| BMP | Best Management Practice |
| BRAC | Base Realignment and Closure |
| | |
| CAA | Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| Cal-Am | California American Water Company |
| CalEPA | California Environmental Protection Agency |

| | |
|---|---|
| Caltrans | California Department of Transportation |
| CARB | California Air Resources Board |
| CCAA | California Clean Air Act |
| CCR | California Code of Regulations |
| CCTV | closed-circuit television |
| CDFG | California Department of Fish and Game |
| CEQ | Council on Environmental Quality |
| CEQA | California Environmental Quality Act |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act |
| CFR | Code of Federal Regulations |
| CIWMB | California Integrated Waste Management Board |
| CNEL | community noise equivalent level |
| CNPS | California Native Plant Society |
| CO | carbon monoxide |
| CO2 | carbon dioxide |
| CPRC | California Public Resources Code |
| CRPR | California Rare Plant Rank |
| CWA | Clean Water Act |
| | |
| dB | decibel |
| dBA | A-weighted decibel |
| DBH | diameter at breast height |
| DLIFLC | Defense Language Institute Foreign Language Center |
| DNL | day-night average |
| DoD | Department of Defense |
| DOE | Determination of Eligibility |
| DOL | Director of Logistics |
| DPM | diesel particulate matter |

| | |
|---|---|
| DPW | Directorate of Public Works |
| DWR | Department of Water Resources |
| EA | environmental assessment |
| EIS | environmental impact statement |
| EISA | Energy Independence and Security Act |
| ESMP | Endangered Species Management Plan |
| FAA | Federal Aviation Administration |
| FEMA | Federal Emergency Management Agency |
| FHWA | Federal Highway Administration |
| FONSI | Finding of No Significant Impact |
| FR | Federal Register |
| FTA | Federal Transit Administration |
| FY | fiscal year |
| GCC | global climate change |
| GHG | greenhouse gas |
| GIB | General Instruction Building |
| HMP | Habitat Management Plan |
| HTRW | hazardous, toxic, and radioactive substances/waste |
| HVAC | heating, ventilation, and air conditioning |
| ICA | Infrastructure Capacity Assessment |
| ICRMP | Integrated Cultural Resources Management Plan |
| IDG | Installation Design Guide |

| | |
|---|---|
| INRMP | Integrated Natural Resources Management Plan |
| IPCC | Intergovernmental Panel on Climate Change |
| ITA | Indian Trust Assets |
| kWh | kilowatt-hour |
| LBP | lead-based paint |
| Ldn | day-night energy equivalent noise level |
| LEED | Leadership in Energy and Environmental Design |
| Leq | equivalent energy level |
| Leqh | hour equivalent energy level |
| LID | Low Impact Development |
| Lmax | maximum A-weighted sound level |
| LOS | level of service |
| µg/m3 | micrograms per cubic meter |
| µm | micrometer |
| MEC | munitions and explosives of concern |
| MBTA | Migratory Bird Treaty Act |
| MBUAPCD | Monterey Bay Unified Air Pollution Control District |
| MCWD | Marina Coast Water District |
| mgd | million gallons per day |
| MMRP | Military Munitions Response Program |
| MPUSD | Monterey Peninsula Unified School District |
| MPWMD | Monterey Peninsula Water Management District |
| MRS | Munitions Response Site |
| MRWMD | Monterey Regional Waste Management District |
| MRWPCA | Monterey Regional Water Pollution Control Agency |

| | |
|---|---|
| MST | Monterey-Salinas Transit |
| NA | not available/not applicable |
| NAAQS | National Ambient Air Quality Standards |
| NAGPRA | Native American Graves Protection and Repatriation Act |
| NAHC | Native American Heritage Commission |
| NCCAB | North Central Coast Air Basin |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NO2 | nitrogen dioxide |
| NOx | nitrogen oxide |
| NPDES | National Pollutant Discharge Elimination System |
| NPL | National Priorities List |
| NRHP | National Register of Historic Places |
| O3 | ozone |
| OMC | Ord Military Community |
| PA | Programmatic Agreement |
| Pb | lead |
| PCB | polychlorinated biphenyl |
| PEP | Proficiency Enhancement Program |
| PG&E | Pacific Gas and Electric Company |
| $PM_{2.5}$ | fine particulate matter, or particulate matter with an aerodynamic diameter ≤ 2.5 μm |
| $PM_{10}$ | inhalable particulate matter, or particulate matter with an aerodynamic diameter ≤ 10 μm |
| PN | Military Construction Project Number |
| POM | Presidio of Monterey |
| POM Installation | Presidio of Monterey Installation (refers to POM and OMC collectively) |

| | |
|---|---|
| ppb | parts per billion |
| ppm | parts per million |
| PSD | Prevention of Significant Deterioration |
| RCI | Residential Communities Initiative |
| RCP | reinforced concrete pipe |
| RCRA | Resource Conservation and Recovery Act |
| REC | Record of Environmental Consideration |
| ROD | Record of Decision |
| ROG | reactive organic gases |
| ROI | Region of Influence |
| RPMP | Real Property Master Plan |
| RWQCB | Regional Water Quality Control Board |
| SHPO | State Historic Preservation Office |
| SIP | state implementation plan |
| SO2 | sulfur dioxide |
| SOx | sulfur oxide |
| SWPPP | Stormwater Pollution Prevention Plan |
| SWRCB | State Water Resources Control Board |
| TAC | toxic air contaminant |
| UFC | Unified Facilities Criteria |
| U.S. | United States |
| U.S. Army | United States Army |
| USACE | United States Army Corps of Engineers |
| USC | United States Code |

| | |
|---|---|
| USEPA | United States Environmental Protection Agency |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |
| UST | underground storage tank |
| VA | Veterans America |
| VOC | volatile organic compound |

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