Section 5.0 Environmental and Socioeconomic Consequences

5.1 INTRODUCTION

This section describes the environmental and socioeconomic consequences of implementing the proposed action at Fort Ord (described in Section 2.0, "Proposed Action") or implementing an alternative to the proposed action (described in Section 3.0 "Alternatives"). This section is organized parallel to Section 2.0 to facilitate tracking the impacts of the various segments of the proposed action.

The impact discussion is divided into five major categories as follows:

- pre-disposal actions,
- disposal process,
- establishment of Presidio of Monterey (POM) annex,
- retention of reserve center, and
- reuse alternatives.

Predisposal actions include placing the installation in a caretaker status, remediating contaminated sites, and issuing interim leases. These actions are independent of the disposal process and, except for interim uses, are exempt from National Environmental Policy Act evaluation as indicated in Section 2.0. Nonetheless, the implications of undertaking these predisposal actions are described briefly to provide the reader with an understanding of conditions that exist before disposal.

The Army's principal actions analyzed in this section are implementing the land disposal process, establishing the POM annex, and retaining the reserve center. Each of these actions is analyzed independently below, with alternatives to these actions comparatively analyzed. Mitigation is described previously when measures have been identified that may be appropriate for Army implementation. Other mitigation is described in Volume II, "Detailed Analysis of Disposal and Reuse".

Reuse of disposed land at Fort Ord will not be an Army action; however, the impacts of reuse are considered indirect effects of the Army's disposal action and are analyzed in the environmental impact statement (EIS). Land uses proposed for the POM annex and the reserve center have been included in each reuse alternative so that these analyses represent a cumulative impact analysis of establishing the POM annex and retaining the reserve center. Each of the reuse alternatives in Section 3.0, "Alternatives", is considered separately in this section so that the reader can understand the overall effect of the various reuse schemes, as well as the mitigation that has been identified as being potential mitigation for Army implementation. The reuse impacts are described in greater detail in Volume II, "Detailed Analysis for Disposal and Reuse", where the analysis is organized by resource category rather than by alternative. Detailed descriptions of potential mitigation measures are provided in these resource discussions for each alternative, including mitigation that could be implemented by other agencies, local governments, and future owners and managers of the lands. This separate appendix allows this section of the main body of the EIS to focus on the key elements of the federal action of disposal and maintain the readability of the document.

5.2 PRE-DISPOSAL ACTIONS

5.2.1 Caretaker (No Action Alternative)

Caretaker actions will include building modifications, changes in infrastructure, and alterations in land management and installation operations. These actions are necessary to account for the reduced force and availability of operation and maintenance funding at Fort Ord following movement of the 7th Infantry Division (Light) (7th IDL). The length of time parcels will be in caretaker status vary, depending on the time needed to complete remediation or certify that parcels are clean and available for disposal. Some areas of Fort Ord may be in a caretaker condition for up to 10-15 years.

Funding available for Fort Ord operation and maintenance has decreased in recent years because of the general trend in force reductions and decreased budgets throughout the Army. Decreases in funding are expected to continue through the closure and caretaker periods, reducing the Army's ability to adequately maintain all utility systems at Fort Ord. The Army is committed to a minimum level of funding and staffing that maintains safety, security, and health standards, but some system deterioration is likely.

Placing Fort Ord in caretaker status could result in the following effects: utility system deterioration, building demolition, reduced levels of security, and reduced levels of maintenance and emergency services.

5.2.1.1 Utility System Deterioration

Utility system deterioration during the caretaker period could lead to environmental damage at Fort Ord. This damage could include a decrease in drinking water quality because of stagnant water conditions in water lines, localized flooding from failure to locate and clear clogged or broken storm drain pipes, and spills of untreated wastewater where collector pipelines or pump stations are not adequately maintained. Other infrastructure systems may deteriorate during prolonged caretaker conditions, including electrical lines, gas pipelines, water supply pipelines, telephone lines, cable television lines, and paved and unpaved roadways. Deterioration of roadways could ultimately lead to unsafe driving conditions on Fort Ord. System deterioration during caretaker status will increase costs to upgrade and reestablish use of infrastructure in the future, when new uses are developed at Fort Ord.

5.2.1.2 Building Demolition

As buildings are vacated by the 7th IDL, each will be stabilized to the level appropriate for its anticipated future use. Some may be demolished rather than stabilized. The demolition process will generate waste to be disposed of in the Marina landfill. If asbestos-containing materials are present, there will be a health risk to workers and perhaps occupants of nearby structures. The asbestos materials would have to be disposed of in a properly permitted disposal site. The demolition process will also temporarily increase noise levels in the area; noise impacts on humans could occur if occupied structures or recreational areas are adjacent to the construction site.

The potential impacts on historic structures, sites, objects, and districts must be considered in placing the installation in caretaker status and of maintenance and operation of Fort Ord until disposal. If buildings are stabilized or demolished, features with historic significance could be adversely affected. Removing or damaging windows and doors, interior fixtures, and other elements of architectural style could be considered adverse effects if the structures are determined to be eligible for listing in the National Register of Historic Places. Effects on the settings of contributing elements and on supporting utilities and fire protection and police could be adverse. The amended Base Realignment and Closure (BRAC) Cultural Resource Programmatic Agreement will be followed in considering these potential effects (Appendix P in Volume III).

5.2.1.3 Reduced Levels of Security

Reduced staffing and funding for installation operations will affect land management activities and security. Although public access to the installation will be restricted during caretaker conditions, a much lower military presence will be on the undeveloped and unused portions of the installation. Increased illegal entry by off-road vehicle users, especially in the grassland areas of the southern portions of the installation, could increase soil erosion, visual blight, and loss of sensitive vegetation. Illegal access in other areas could result in vandalism of structures (including vandalism of historically significant structures, sites, and districts), illegal dumping, poaching of wildlife, and public safety risks to residents and workers in the POM annex.

5.2.1.4 Reduced Levels of Maintenance and Emergency Services

A reduced maintenance force will mean less frequent grounds maintenance in unoccupied residential and office areas, resulting in degraded views. Grounds maintenance activities such as erosion control may also be reduced, leading to increased sedimentation and loss of soil resources. Emergency medical services, including ground ambulance service and helicopter medical evacuation, will be lost or reduced in the caretaker condition at Fort Ord. Fire protection services will also decline, leading to a reduced ability to respond to wildland and structural fires on Fort Ord and a reduced ability to respond to calls for mutual aid in areas surrounding Fort Ord.

The Army recognizes these potential effects associated with reducing forces and placing lands in a caretaker status and is committed to minimizing effects to the extent funds and staff are available during the period between closure and disposal of excess land. An environmental planning guide is being prepared for Fort Ord as a directory for Garrison personnel with the responsibility to properly maintain the facility in this interim period. This guide will identify legal and regulatory programs and environmental requirements that must be considered as the land is managed in the future. The guide will also identify staffing and equipment needs to fulfill the Army's land stewardship responsibilities.

5.2.1.5 Effects on Monterey Bay National Marine Sanctuary

Runoff. The existing storm drain system at Fort Ord was designed to convey runoff from urban areas to outfalls located in the dune and beach area of Monterey Bay and into agricultural fields located along the Salinas River. Impacts on the Monterey Bay National Marine Sanctuary (sanctuary) associated with urban runoff from Fort Ord occur at intermittent intervals that are related mostly to meteorological events. Rainfall events that are preceded by long dry periods are known as the "first flush" and generally deliver a pulse of urban pollutants that could affect water quality in the receiving bodies of water. Urban pollutants vary considerably but generally include pesticides and fertilizers, petroleum byproducts, metals, animal wastes, and erosion and siltation during and after construction. Raw sewage overflows from pump stations on Fort Ord also have contributed to urban runoff pollutant loads in the past. As the urban population on Fort Ord decreases, it is expected that a parallel trend in urban pollutants will also occur, reducing the impact on the sanctuary.

Erosion. The existing condition of severe soil erosion occurring on the Aromas and Paso Robles formations in the southeast quadrant of Fort Ord may also indirectly affect the sanctuary. Several small streams in Impossible, Wildcat, Barloy, Picnic, and Pilarcitos Canyons flow from this region toward the Salinas River and empty into Monterey Bay. Runoff from slopes along the southeast boundary of Fort Ord flow into El Toro Creek and into the Salinas River. The incremental contribution of sediment from Fort Ord lands to the Salinas River and Monterey Bay, relative to similarly eroding lands in the El Toro Creek watershed south and east of Fort Ord and the Salinas River watershed as a whole, are not known at this time.

Biological Resources. Fort Ord's property line extends out approximately 3,000 feet into the Monterey Bay. Sensitive biological species found in this area off the coast of Fort Ord could potentially lose federal protection as a result of the federal government's decreased presence in the area. This situation, however, may not be considered significant because even with a loss of federal protection, any species in the area have, since January 1993, gained protection under the sanctuary Management Plan, protecting the species and their respective aquatic habitats.

5.2.2 Contaminated Sites

Cleanup of contaminated sites is an ongoing process at Fort Ord, independent of the decision to close and dispose of the property. Evaluation of the extent of contamination has been underway since before the U.S. Environmental Protection Agency (EPA) placed Fort Ord on the National Priorities List on February 21, 1990. Efforts are now proceeding to identify the appropriate remedial actions necessary to clean up land for future use. The cleanup process, described in Section 2.0, is dictated by the Comprehensive Environmental Response Compensation and Liability Act; the process includes its own public involvement program and environmental review. The following discussion indicates the range of remedial measures likely to be used at Fort Ord and generally describes the environmental implications of the cleanup process. A more specific analysis of impacts will be possible after the full extent of contamination has been documented and remedial measures are selected.

5.2.2.1 Potential Remedial Measures

The selection of remedial measures will consider cost and anticipated future use of the land. Level of unexploded ordnance will be commensurate with the level of reuse of the property. The Army is already undertaking cleanup where sites are fully characterized and remedial measures have been determined. Specific cleanup measures for other sites will be selected after the remedial investigation/feasibility study is complete and more is known about future uses. In some cases, remediation may proceed to the level needed to fully protect human health and the environment before a future use or disposal action has been determined. Additional measures may be needed after a particular reuse is established. As proposed in the Fort Ord Environmental Restoration Acceleration Action Plan, a remedial technology screening document will be prepared to evaluate potential remedial measures that may be applicable for contaminated soil or groundwater. The following measures are typical of what is expected to remediate sites at Fort Ord.

Potential remedial measures to treat contaminated soils include four general alternatives: no action, excavation and onsite treatment, *in situ* treatment, and encapsulation with impermeable high-density polyethylene liners (primarily used in landfill areas). Specific proven remedial options will be selected to sufficiently remediate the different types and combinations of contaminants present at Fort Ord.

Under no action, a screening-level risk evaluation would be required to ensure that concentrations of contaminants remaining in the soil do not pose unacceptable risks to human health or the environment.

Excavation and onsite treatment may involve bioremediation to enhance microbial degradation of organic matter and soil aeration or low-temperature thermal treatment to volatilize organic compounds. Bioremediation involves placing microorganisms in the groundwater treatment system effluent and applying the effluent to contaminated soil stockpiles to enhance biodegradation. Stockpiles are then tilled periodically to ensure thorough microorganism distribution. To enhance volatilization through aeration, stockpiled soil is distributed into uniform lifts and left uncovered; low-temperature thermal treatment enhances volatilization by thermal oxidation. *In situ* treatment may occur by extracting and treating soil vapors, *in situ* bioremediation (injecting nutrients into the unsaturated soil), or injecting steam to thermally oxidize volatile organic compounds or petroleum hydrocarbons.

The proposed treatment location for petroleum hydrocarbon-contaminated soils excavated during remediation activities is the existing treatment facility in the Fritzsche Army Airfield fire drill area. The Army will upgrade the existing facility to meet regional water quality control board requirements for a Class II waste treatment facility (U.S. Army Corps of Engineers, Sacramento District 1992e). The amount of soil excavated from each location and treated in this area could be up to several thousand cubic yards; the size of excavations will be determined by the extent of contamination and the level of remediation, which will be commensurate with possible land reuse.

Soils contaminated with pesticides or dissolved metals generally cannot be treated using bioremediation, aeration, or other volatilization techniques. Soils containing these types of contaminants would likely be excavated and disposed of offsite, excavated and incinerated onsite or offsite, or encapsulated to prevent leaching or future contact with other soils.

Soils in training ranges and other sites containing spent ammunition would likely be excavated, screened to remove spent projectiles, and treated for dissolved compounds associated with ordnance explosive waste.

Potential remedial actions for contaminated groundwater at Fort Ord include three alternatives: no action, pump and treat, and containment. A screening-level risk evaluation to ensure the protection of human health and the environment would be required under no action; continued groundwater monitoring also may be required. Pump and treat remediation involves pumping groundwater into onsite treatment systems that may include carbon filtration, ultraviolet oxidation, use of bioreactors, or use of air strippers. Containment methods include installing a slurry wall or collection trenches to prevent migration of contaminated groundwater.

Implementation of pump and treat groundwater systems involves installing one or more groundwater extraction wells to pump contaminated groundwater into an onsite treatment system. Carbon filtration treats water through a series of granular-activated carbon filters in aboveground holding tanks; ultraviolet oxidation uses mercury vapor lamps to inactivate organic compounds; and air strippers force streams of clean air through streams of contaminated groundwater in a series of cooling towers and basins. As the air and water come in contact, volatile compounds are removed from the groundwater.

Groundwater remediation will occur in several areas at Fort Ord, requiring several onsite treatment systems. The locations and design specifications of groundwater treatment systems will be determined after the type of remedial action has been selected for each contaminated area. The Army will continue to use the existing groundwater treatment system in the Fritzsche Army Airfield fire drill area (U.S. Army Corps of Engineers, Sacramento District 1992b).

U.S. Department of Defense (DOD) Standard 6055.9-STD addresses land disposal of former impact areas to non-DOD agencies. Chapter 12 of this standard contains policies to reduce human health and safety risks caused by the presence of unexploded ordnance.

Surface clearance of unexploded ordnance may involve conducting selective vegetation removal, possibly including the burning of vegetation to clear the ground surface (dense vegetation in some areas of the inland range area may render burning infeasible); locating unexploded ordnance by visual and electromagnetic means (metal detectors); identifying unexploded ordnance; and disposing of any unexploded ordnance located. During the location process, inert ordnance and ordnance scrap will be collected and properly disposed of. Identification and disposal may require excavating soil from around the unexploded ordnance. Excavations could range in size from a single square foot to several square feet, depending on the type of unexploded ordnance, its location, and its position. The preferred method of disposal of unexploded ordnance is *in situ* detonation, which would increase the amount of soil disturbed.

Subsurface investigation and clearance activities may be conducted in areas that historical record reviews and interviews indicate the possible presence of buried ammunition or in impact areas where the velocity, trajectory, and momentum of munitions are likely to cause them to penetrate the ground's surface. Subsurface unexploded ordnance is located by using metal detectors, ground-penetrating radars, or other appropriate methods, and then excavating to determine the source of the magnetic anomaly. Depending on the type and means of delivery, excavations could reach depths in excess of 10 feet and have surface areas ranging in size from several square feet to tens of square feet. The preferred method of disposal of unexploded ordnance is *in situ* detonation, which would increase the amount of soil disturbed.

During caretaker status, the Army would take appropriate action to protect safety and property. Considering the urban vicinity of the installation, it is likely that a surface clearance would be done to remove unexploded ordnance. The unexploded ordnance clearing process involves reviewing historical records and interviewing installation officials; conducting representative site investigations to confirm the existence of and types and densities of unexploded ordnance; performing computer modeling to estimate the quantities, densities, and distribution of unexploded ordnance in various areas; conducting surface clearances of unexploded ordnance; and possibly conducting subsurface clearances. The unexploded ordnance clearance process would be conducted throughout the installation to ensure that no unexploded ordnance remains outside designated areas.

Predisposal remediation in the beach firing ranges could involve straining soils for lead and excavating soil otherwise contaminated with chemicals for proper disposal. Predisposal remediation at the Main Garrison and Ord Village Sewage Treatment Plants could involve only pumping and treating of contaminated groundwater. Structures at these two sites would not be demolished during predisposal remediation.

5.2.2.2 Environmental Considerations

Predisposal remediation activities at Fort Ord are likely to have substantial effects on the following:

- vegetation and wildlife resources,
- soil erosion rates,
- soil quality and fertility,
- surface water quality,
- air quality,
- noise-sensitive activities, and
- possibly cultural resources.

Removal of Unexploded Ordnance. Surface and subsurface clearance of unexploded ordnance poses the greatest threat to vegetation and wildlife resources. Surface clearance from the inland range area and other live fire areas could result in the loss of portions of sand gilia and Monterey spineflower populations. Sand gilia and Monterey spineflower plants would be removed by vegetation burning and cutting, whole plant excavation, crushing or trampling from movement of excavation equipment and removal team foot traffic, and onsite ordnance detonation. The maritime chaparral habitat that supports these species would be removed by burning and cutting.

Surface clearance of unexploded ordnance could occur in areas supporting approximately 75% of the occupied habitat of sand gilia and Monterey spineflower at Fort Ord. The number of individuals and amount of habitat affected cannot be determined because the locations and amount of unexploded ordnance is not known. Fort Ord covers approximately 50-70% of the entire range of sand gilia and about 75-95% of the entire range of Monterey spineflower.

Removal of individuals or populations of sand gilia is prohibited by the Federal Endangered Species Act. If the Monterey spineflower becomes federally listed as threatened or endangered, its removal would also violate the Endangered Species Act.

A habitat management plan (HMP) could be developed and implemented to preserve and restore populations and habitat of sand gilia and Monterey spineflower affected by removal of unexploded ordnance. An HMP would reduce impacts on all affected species in sand gilia and Monterey spineflower habitat, by preserving populations and habitat. As part of the HMP, a vegetation management plan could be developed. The vegetation management plan would be implemented in conjunction with ordnance clearing.

Controlled burning of maritime chaparral could be conducted in a random pattern of patches ranging from 25 to 75 acres. The amount of maritime chaparral burned in remediation sites each year would be large enough to complete ordnance clean-up within a 20-year period.

Removal of sand gilia and Monterey spineflower, if Monterey spineflower becomes listed as threatened or endangered, would require consultation with U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act. A habitat conservation plan could be developed and implemented to preserve and restore populations and habitats of these plant species.

California linderiella occur in ephemeral, freshwater aquatic habitats, such as vernal pools, swales, and ponds. Eggs laid by adults when water bodies are full remain in the soil after vernal pools and ponds have dried until the following rainy season. The excavation necessary for removal of subsurface unexploded ordnance could fill or severely disrupt six ponds and 10 vernal pools considered California linderiella habitat. If unexploded ordnance is found inside a vernal pool or pond, in situ detonation of the ordnance may disrupt a significant portion of the soil in the area and potentially destroy habitat and eggs in the soil. Soil disruption during excavation or in situ detonation could also cover California linderiella eggs with sufficient soil to prevent them from hatching, resulting in direct mortality. California linderiella have been proposed for federal listing as threatened or endangered. If this species becomes listed before remediation is complete, direct mortality or loss of habitat would be prohibited by the federal Endangered Species Act.

Disturbance of occupied California linderiella habitat (if the California linderiella is listed as threatened or endangered under the federal Endangered Species Act) may result in take and would require Section 7 consultation with the U.S. Fish and Wildlife Service.

Habitat restoration plans would be developed and implemented for California linderiella to compensate for losses of habitat. A habitat restoration plan for California linderiella could involve restoration of ponds and vernal pools onsite after removal of subsurface unexploded ordnance. Restored ponds and vernal pools could comprise the same acreage and provide the same functions as they did before clearing of ordnance. Topsoil at affected sites in the vernal pools could be set aside during excavation and replaced during restoration to salvage California linderiella eggs.

The six ponds and 10 vernal pools described above constitute wetland habitat. Unexploded ordnance that must be detonated onsite could adversely alter the hydrological functioning of these wetlands. The exact amount of surface clearing that will occur in wetlands is unknown. Vernal pools and freshwater marshes potentially are jurisdictional wetlands regulated under the Clean Water Act. Placing dredged or fill material in wetlands would require a permit from the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

If avoidance of wetlands is infeasible, a plan to restore wetlands onsite could be developed and implemented. After restoration, wetlands could comprise the same acreage and provide the same functions as they did before surface clearance of unexploded ordnance.

Surface clearance of unexploded ordnance could result in the loss of portions of populations and habitat of federal candidate plant species occurring at Fort Ord. Potential impact mechanisms are the same as those described above for federally protected species. Surface clearance could result in the loss of individual plants and reduction of suitable habitat for Seaside bird's-beak, Eastwood's ericameria, coast wallflower, wedge-leaved horkelia, Toro manzanita, sandmat manzanita, Monterey ceanothus, and Hickman's onion. The amount of loss of these species cannot be estimated because the amount of buried ordnance has not been determined. Large reductions in numbers and habitat for Seaside bird's-beak, Eastwood's ericameria, Toro manzanita, sandmat manzanita, and Monterey ceanothus could result in their eligibility for federal listing as threatened or endangered.

The HMP and vegetation management described above regarding federally protected plants would reduce effects on the candidate plants listed above.

Surface clearance of unexploded ordnance in the inland range area and other live firing areas could result in adverse effects on the habitat of special-status wildlife species at Fort Ord, and direct mortality to terrestrial and burrowing species. The loss of habitat associated with intensive remediation of the inland range area and other areas of Fort Ord suspected of containing unexploded ordnance, and direct mortality during remediation could result in substantial losses of known populations of and habitat for the black legless lizard and Monterey dusky-footed woodrat.

The black legless lizard is present in areas of loose sandy soils supporting native dune, coastal scrub, or maritime chaparral vegetation. The range of the black legless lizard is restricted to the Monterey Bay region. Intergrades between black and silvery legless lizards have been found elsewhere along the California coast from the east side of San Francisco Bay to San Luis Obispo County, but the status and distribution of these varieties are not resolved.

Monterey dusky-footed woodrats are present at Fort Ord in maritime chaparral and coast live oak woodlands. The range of the species is limited to Monterey County and northern San Luis Obispo County; Fort Ord is in the northern limits of its range.

Because of the limited ranges of the black legless lizard and the Monterey dusky-footed woodrat and the scarcity of suitable habitat in northern Monterey County and the Monterey Bay region, loss of habitat and individual animals at Fort Ord would substantially reduce the range of both species and could result in state or federal listing as threatened or endangered.

The initial burning or removal of vegetation before ordnance removal in maritime chaparral habitat could cause Monterey dusky-footed woodrats to temporarily abandon affected areas and could reduce direct mortality during remediation. In areas of black legless lizard habitat (i.e., dunes, coastal scrub, and maritime chaparral) legless lizards could be trapped and relocated to restored or enhanced habitat areas before remediation occurs to prevent mortality to individual animals.

Surface clearance of unexploded ordnance could result in the long-term loss of extensive areas of habitat occupied by maritime chaparral. Approximately 80% of the maritime chaparral on Fort Ord may contain unexploded ordnance. The amount of vegetation removed for surface clearing, however, cannot be estimated because the specific location and amount of ordnance in the ground is not known.

The HMP described above would also reduce the effects of ordnance clearing on maritime chaparral.

Ground disturbance and burning of vegetation needed to clear ordnance could accelerate both wind- and water-induced soil erosion. The sandy soils with weak aggregation, characteristics of the range areas, are highly susceptible to wind erosion if sufficiently large areas have vegetation removed. Where the

soil is underlain by the sandstone of the Aromas formation, as is the case in most of the inland range area, severe runoff-induced gullying will occur on disturbed and unprotected soil. This problem is especially severe in the eastern part of the inland range area. Portions of training areas J and K would have the same susceptibility. Accelerated erosion not only results in loss of the soil resource but also causes sedimentation in drainages and increased suspended solids in surface waters. Streams that could potentially be affected are the streams in Impossible, Wildcat, and Barloy Canyons tributary to the Salinas River and Monterey Bay.

Establishing a program for vegetation burning or removal that would limit the size of the area denuded at any one time will minimize erosion. Mulching and reseeding excavated sites will also limit the amount of soil loss and offsite sedimentation.

Soil quality or fertility may be affected by the depletion of soil organic matter from burning; erosion; and the disruption, mixing, and displacement of the surface horizon (or topsoil) upon excavation. As the fertility of the sandy soil types is dependent on the organic matter content primarily found in the surface horizon, its depletion or displacement may retard or limit vegetation growth.

Where excavation is required, the careful initial removal of the surface horizon, separate treatment, and replacement on the surface will reduce the loss of soil fertility. Remedial measures that limit the loss of soil organic matter should be selected wherever possible. Upon replacement, the soil surface should be mulched with coarse organic matter and revegetated to retard erosion and restore the natural organic litter layer of the surface.

Ordnance clearing by detonation has a potential for noise impacts. If clearance activities extend over a number of years, interim uses and perhaps even longer term reuse could place noise-sensitive receptors near the inland range or training area J or K. This concern does not exist for present land uses surrounding the ranges because they have been exposed to detonation of explosive rounds for many years.

As the Army receives and considers requests for interim leasing or long-term reuse, it will consider the potential for noise conflicts with ordnance removal in the inland range areas.

Ground disturbance for ordnance clearing has a low potential for disturbing unrecorded archeological resources. Excavations could encounter buried resources, but the archeological sensitivity of the inland range areas is considered low. Professional archaeologists can be consulted if cultural materials are unearthed during remediation.

Contaminated Soils Treatment. Remediation of soils contaminated with hydrocarbons, pesticides, or dissolved metals could have similar but less extensive effects on vegetation and wildlife resources, soil erosion rates, and water quality. Most of the soil contamination is located in the developed Main Garrison area where natural vegetation has been mostly removed, slopes are more gentle and most of the land has been previously disturbed. The biggest risk to sensitive plant species exists at the Fritzsche Army Airfield soil remediation site, where contaminated soils are spread and aerated to remove organics. Significant populations of sand gilia and Monterey spineflower exist in this area. The sand gilia is a federally protected plant and the Monterey spineflower is proposed for federal protection.

If the area used for soil remediation requires further expansion, a plant survey can be conducted to determine the presence of protected plant species or sensitive wildlife species. Treatment sites can be located to avoid populations of protected plant species or sensitive wildlife species.

Excavation to remove contaminated soils in the Main Garrison area has some potential for disturbing unrecorded archeological resources and damaging historic structures, landscapes, or related features. This

potential is greatest in the northwest portion of the Main Garrison, which is dominated by wood structures from the World War II era.

Contaminated Groundwater Treatment. Treatment of contaminated groundwater is already occurring at Fort Ord. Additional pump and treat facilities may be needed. These facilities would be constructed in the Main Garrison area, so the potential for loss of sensitive biological resources is small. The major concern with this remediation process is release of volatile organics to the atmosphere. Volatile organics are a precursor to the formation of ozone and a concern for the maintenance of local air quality. Air stripping facilities used to remove volatile organics are also a source of high noise levels. Constructing these facilities, therefore, could affect noise-sensitive land uses, depending on their location and design.

Site selection of pump-and-treat facilities can consider adjoining land uses to avoid adverse noise impacts. Similar consideration can be made when issuing interim leases or outgrants or disposing of property in the vicinity of a treatment facility. Air quality concerns will be addressed through the remedial investigation/feasibility study process; new treatment facilities could be subject to Monterey Bay Unified Air Pollution Control District requirements and all applicable regulations.

Landfill Remediation. Remediation for Fort Ord's main landfill site in the northern portion of the Main Garrison has the potential to affect sensitive plants. Capping the landfill at the west end of Inter-Garrison Road would result in the loss of populations of sand gilia and Monterey spineflower. Placing fill material would bury sites supporting medium- and low-density occupied habitat of these two plant species. Vehicle traffic bringing fill to the site could remove individuals of sand gilia and Monterey spineflower at sites adjacent to the landfill. Loss of sand gilia would be a violation of the Federal Endangered Species Act. If the Monterey spineflower becomes federally listed, its loss would also violate this act. Consultation with the U.S. Fish and Wildlife Service would be required under Section 7 of the Endangered Species Act before undertaking the landfill remediation.

To reduce the effects of remediating the landfill, capping could begin in midsummer following seed production of sand gilia and Monterey spineflower. Seeds could be collected from mature plants and stored. Topsoil could be salvaged at sites supporting dense populations of these plants to recover part of the soil seed bank. After landfill capping, a sandy top layer could be added and the seeds and soil containing seeds be redistributed over the landfill site.

Additionally, remediation activities would have beneficial effects on the local economy. Substantial temporary increases would occur in economic activity during the remediation by direct and indirect expenditures for the contracts for remediation actions (up to $750 million) and by the remediation crews spending money on lodging, meals, recreation, and other services. This could lessen the adverse economic impacts. The construction of the infrastructure changes needed for disposal would also have positive effects on the local economy.

Removal of Lead and Other Heavy Metals. Lead and other heavy metals may need to be removed at the beach firing ranges. In locations where these remediation measures are conducted, Monterey spineflower, Smith's blue butterfly, western snowy plover, and black legless lizard may be adversely affected through direct mortality and long-term loss of habitat.

Removal of heavy metal-contaminated sands could occur in areas supporting approximately 5% of the occupied habitat of Monterey spineflower at Fort Ord. The number of individuals and amount of habitat affected cannot be determined because the extent of lead removal is not known. Fort Ord represents approximately 75-90% of the entire range of Monterey spineflower.

Should Monterey spineflower become federally listed, its removal would be prohibited by the federal Endangered Species Act.

If removal of lead and other heavy metals is required at the beach firing ranges, populations of Monterey spineflower in the coastal dunes could be fenced and avoided where possible during excavation. Seed could be collected from populations in areas of excavation and redistributed into suitable habitat following remediation actions. Because of their special status, the disturbance of these species and loss of their habitat would be inconsistent with Section 30240 of the California Coastal Act of 1972. This disturbance and loss could be minimized. If, however, loss of special-status species habitat is unavoidable, the habitat could be replaced through implementation of an HMP and restoration plan for the habitat affected.

Similarly, removal of lead in the beach firing ranges may disturb soil across large areas of land within the coastal zone. This process may denude the soil of vegetation, change the landform, and create splotches of disharmonious soil coloration. These visual changes could adversely affect the aesthetic qualities of the coastal zone, which would be inconsistent with Section 30250 of the California Coastal Act of 1972. Soil of a color consistent with that of surrounding soils could be imported and placed over disturbed areas. Vegetation could also be replanted in disturbed areas in patterns consistent with those of the surrounding area.

Smith's blue butterfly requires seacliff or coast buckwheat as host plants. If remediation of the beach firing ranges is required, remediation activities could involve soil excavation and removal of host plants used by the Smith's blue butterfly. Removal of host plants could also result in direct mortality to adults, larvae, or pupae depending on the time of year remediation takes place. Direct mortality and the loss of host plants would be prohibited by the federal Endangered Species Act.

An HMP, incorporating a habitat restoration plan, could be developed and implemented to preserve and restore populations and habitat of Smith's blue butterfly affected by lead removal activities. Such a plan could involve enhancing habitat and creating new habitat by planting host plants in suitable areas not affected by remediation. New host plants could be monitored to ensure that sufficient densities of individual plants and flowering heads develop to support Smith's blue butterfly. Once habitat enhancement sites are developed, host plants could be removed from remediation sites and transferred to enhanced sites to salvage as many butterfly larvae or pupae as soon as possible. The timing of excavating dunes for heavy metal remediation could be coordinated with U.S. Fish and Wildlife Service (USFWS) to result in the least disturbance to the butterfly.

Coastal populations of western snowy plovers nest on Pacific coast beaches above the high tide line. If lead removal is required on the beaches at Fort Ord, disturbance from remediation activities could cause nest failures for western snowy plovers, resulting in direct mortality. Coastal populations of western snowy plovers are federally listed as threatened. Actions resulting in direct mortality would be prohibited by the federal Endangered Species Act.

Lead removal could be avoided during the western snowy plover breeding season. Removal activities could be conducted between October and February, when snowy plovers are not nesting.

The black legless lizard occurs in areas of loose, sandy soils supporting native dune, coastal scrub, or maritime chaparral vegetation. The range of the black legless lizard is restricted to the Monterey Bay region. Intergrades between black and silvery legless lizards have been found elsewhere along the California coast from the east side of the San Francisco Bay to San Luis Obispo County, but the status and distribution of these varieties are not resolved.

Because of the limited range of the black legless lizard and the scarcity of suitable habitat in the Monterey Bay region, loss of habitat and individual animals at Fort Ord would substantially reduce the range of the species and could result in state or federal listing as threatened or endangered.

Before remediation of dun areas (if required), black legless lizard habitat could be created, restored, or enhanced in areas where remc al of lead is not required. In areas of black legless lizard habitat, legless lizards could be trapped and relocated to these new habitat areas before remediation takes place to prevent mortality to individual animals.

5.2.3 Interim Use

Interim use is the use of real property through real estate documentation, such as leases, licenses, and permits (outgrants), before disposal is accomplished. Interim uses could include new leasing of office space, storage space, housing, other developed facilities and training facilities and continued leasing of schools, infrastructure facilities, and grazing land by non-Army entities. Use permits are also possible for scientific and cultural uses. Additional information on Interim use is contained in Section 2.0, "Proposed Action". After the Army signs the record of decision, interim leasing could occur until the land is disposed.

Potential impacts resulting from interim use include many of the impacts described in detail for reuse, except that no major development would be associated with interim use. Minor modifications to buildings, facilities, and utilities systems may be needed to accommodate users.

Interim uses could result in the following effects:

- land use incompatibilities,
- ground-disturbing activities,
- public service infrastructure modifications,
- need for public safety and emergency services,
- traffic accessibility and security conflict,
- air quality effects,
- noise effects,
- socioeconomic effects,
- cultural resources effects, and
- effects on the Monterey Bay National Marine Sanctuary.

5.2.3.1 Land Use Incompatibilities

Land use incompatibilities could result from remediation action occurring before disposal and in the absence of land use planning when determining interim uses. Remediation activities could expose adjacent land uses to hazardous materi s, noise, or other elements associated with cleanup.

Granting leases, licenses, or permits for new uses without recognition of existing uses could result in incompatible adjacent land uses, such as a noise-generating land use next to a noise-sensitive land use. Additionally, building modifications or new construction could have a negative effect on existing resources or be incompatible with existing land uses. For example, constructing parking facilities to support an interim use could conflict with existing land uses or biological resources.

The compa bility of proposed interim uses and associated building or ground modifications with existing remediation activities and existing/proposed adjacent uses could be considered on a case-by-case basis to ensure land use compatibility. The reme al investigation/feasibility study will consider compatibility of the construction activities during remediation with adjacent land uses.

5.2.3.2 Ground-Disturbing Activities

Minor ground-disturbing activities could be associated with preparing lands and facilities for interim use and conducting the interim use. Ground disturbance could result from modifying utility connections, installing meters, and changing access and parking to interim uses separate from Army uses. Grazing uses could continue in the open undeveloped portions of the installation. Construction and modification activities on undisturbed ground could have impacts similar to the impacts described in detail for the reuse alternatives in Volume II. Interim leases would be limited to uses that are compatible with existing structures and facilities without significant disturbance of undisturbed ground or disturbance of facility assets.

5.2.3.3 Public Service System and Infrastructure Modifications

Interim use could result in inadequate provision and maintenance of services, effects on available utilities, potential modifications to present utility systems, need for new utility systems or connections to utilities outside Fort Ord.

Public service infrastructure would remain intact during interim uses. The infrastructure would be maintained through interim use and would not deteriorate in those buildings and areas that have been leased by the Army. If the Army were to lease substantial amounts of the developed portion of the installation, the infrastructure would continue to be used and reduce operation and maintenance costs. The existing infrastructure, except for the existing Fort Ord telephone system, would be adequate to provide services to most of the potential interim uses. This telephone system could be inadequate to provide service to interim uses because of the system's poor condition.

In some cases, tenants may be required to supply their own utilities. This could occur with the Army metering available utilities from existing systems, or by the tenants arranging for municipal and commercial utilities. Construction and modification of utilities could have impacts similar to the impacts described in detail for the reuse alternatives in Volume II.

In areas that have not been leased or outgranted, the infrastructure could deteriorate from lack of use and periodic maintenance. The lack of use of portions of the water distribution system may result in water quality problems. The water remaining in unused portions of the system could stagnate in these distribution lines and lead to water quality problems if these lines are used again for reuse.

A utilities study is currently being conducted to identify the problems of abandoning or modifying services and related infrastructure to serve the POM annex. This study will also look at the existing infrastructure and systems to determine whether these systems could continue to provide services to interim uses as well as eventual reuse with the current system configuration.

To mitigate these effects, the telephone facilities could be upgraded or replaced as needed to provide adequate telephone service for interim uses.

5.2.3.4 Need for Public Safety and Emergency Services

The Army provides law enforcement, emergency medical services, and fire protection for the entire installation. These services will be downsized dramatically, increasing the potential for trespassing and vandalism and the need for law enforcement and fire protection for the interim uses.

Law enforcement, emergency medical services and fire protection for interim use could be provided by maintaining security patrols in all areas supporting interim uses until the property is transferred to non-Army entities; arranging for municipal or contract provision of these services; or establishing cooperative

or mutual-aid agreements with local jurisdictions, until the land is disposed. Conditions for law enforcement, emergency medical services, and fire protection should be considered and written into the lease. Additionally, abandoned buildings could be sealed and appropriate signs posted to discourage access.

5.2.3.5 Traffic Accessibility and Security Conflict

Security and accessibility conflicts could occur from the need to provide security for continuing Army (POM annex) uses and the need to provide convenient access to interim civilian uses. Closing or blocking access points and roadways could result in inaccessibility to interim uses and circulation problems at and around the interim uses.

There would be a need to define which access points and roadways would be abandoned or blocked to prevent unwanted encroachment, determine which access points and roadways would be required to serve the interim uses, and to ensure that no direct conflicts occur.

5.2.3.6 Air Quality Effects

Minor amounts of air emissions would be associated with the preparation of real estate for interim use. Operation of interim uses and related traffic would also result in air emissions, although the extent would be less than under existing conditions. Some permitted air emission sources may not be required during interim periods. Traffic and population levels would be lower and would result in temporarily lower emissions as lands are being made ready for transfer and long term reuse.

5.2.3.7 Noise Effects

Continued use of the firing and training areas could occur on an interim basis from other DOD, other federal, state, and local agencies and organizations, such as local law enforcement agencies. Noise impacts would be similar to existing conditions but frequency of events would be much less than under Army use. Noise would also be associated with traffic and construction activities related to the interim uses.

5.2.3.8 Socioeconomic Effects

Beneficial effects would occur as a result of employment and business activities related to interim uses, facilities made available to public and private interests, and vacant housing units used by non-Army residents. Interim use would have some economic benefit to the military and surrounding communities because the property would be used, and some employment and income could be generated by interim uses. The cost to the Army for maintenance and operation of vacant facilities would be reduced by having tenants provide some of these requirements or participate in paying for these costs. The lands would remain off the local tax roles and no real property taxes would be generated.

5.2.3.9 Cultural Resources Effects

Effects to potentially eligible National Register historic buildings, archeological resources, and Native American traditional cultural properties could occur through the inappropriate use or maintenance of these properties during this interim period.

Effects to National Register-eligible buildings could be avoided or minimized by providing appropriate levels of maintenance during the interim period, or by leasing the structures with appropriate clauses to ensure the continued maintenance of the historic character and materials. Recordation of structures to document the historic character may be used as a partial mitigation of effects to historic buildings (PA Stipulation V and Attachment 4).

Effects to potentially eligible archeological sites could be minimized through preservation covenants on deeds or leases or partial data recovery. Appropriate measures to take into account the effects of these actions will be developed in consultation with the California SHPO, the Advisory Council, and appropriate other interested persons during the Section 106 consultation process.

Effects to sites important to Native American groups could be avoided or minimized through consultation with the affected groups. Efforts to determine if such sites exist on Fort Ord are in progress.

5.2.3.10 Effects on Monterey Bay National Marine Sanctuary

The impacts to the sanctuary as a result of interim use would be similar to those identified for caretaker. However, increased interim use populations will contribute to heavier urban pollutant loadings in stormwater runoff that may affect the sanctuary. In addition, the potential increase in interim population may result in an increase in wastewater generation, resulting in an increase in the wastewater discharge into the sanctuary. The Monterey Regional Water Pollution Control Agency's (MRWPCA's) treatment plant in Marina currently discharges into the Monterey Bay as part of an national pollutant discharge elimination system (NPDES) Permit obtained from the State Water Resources Control Board (SWRCB). This permit may be revised based on sanctuary Management Plan regulations, but protocols are not yet in place between the state board and the National Oceanic and Atmospheric Administration (NOAA). During the interim period, the wastewater discharge into the Monterey Bay may increase if the population on the installation increases beyond existing levels.

5.3 DISPOSAL PROCESS

Disposal of Fort Ord property would entail the transfer of land and the change from exclusive federal legislative jurisdiction to state and local jurisdiction. For interim uses and leases, concurrent legislative jurisdiction may be used until the segment of Fort Ord that includes these lease and outgrant areas are permanently disposed, and state and local legislative jurisdiction is established.

Disposal could result in the following effects:

- public service infrastructure modifications,
- need for public safety and emergency services,
- traffic accessibility and security conflict,
- hazardous and toxic waste remediation effects,
- biological resources effects,
- visual effects,
- socioeconomic effects, and
- cultural resources effects.

5.3.1 Public Service Infrastructure Modifications

Disposal could result in public service systems and infrastructure effects, including inadequate provision and maintenance of services, effects on available utilities, potential modifications to present utility systems, and need for new utility systems or connections to utilities outside Fort Ord.

Disposal has the potential to adversely affect public service systems and infrastructure by creating inadequate access to maintain facilities and the need to expand local services and utility systems. The Army will provide for public utilities easements and is working with local communities and service providers to prepare for reuse of lands being disposed. Refer to Section 5.6, "Reuse Preliminary Final EIS Alternatives", and Volume II, "Public Services and Utilities."

5.3.2 Need for Public Safety and Emergency Services

The burden of providing services (e.g., law enforcement, fire protection, and emergency medical services) would become the responsibility of the state and local agencies. The impacts and mitigation for these potential impacts are described under the reuse impact descriptions. Refer to Section 5.6, "Reuse Alternatives", and Volume II, "Public Health and Safety".

5.3.3 Traffic Accessibility and Security Conflict

Disposal has the potential to change existing traffic and circulation by making portions of Fort Ord that are now restricted to entry as part of the security for the closed post, open to use by new owners and the public. A comprehensive safety, security, and access study could address these issues after the configuration of the POM annex is available.

5.3.4 Hazardous and Toxic Waste Remediation Effects

The investigation and remediation of hazardous and toxic material sites or ordnance explosive waste is an ongoing activity at Fort Ord that will continue after the installation is closed as an active installation and placed into a caretaker status. In some locations, the activity will continue up to and beyond disposal of property.

Toxic and hazardous materials cleanup may be required beyond the remediation appropriate to protect the human health and the environment under caretaker status where the Army chooses to dispose of property for non-Army uses. The remedial investigation/feasibility study process will identify specific alternatives for clean up and will include impact analyses and a public involvement program.

Air quality may be temporarily affected by remedial actions leading to disposal. Asbestos emissions during demolition and emissions of particulate matter less than or equal to 10 microns in diameter (PM_{10}) and hazardous air pollutants are possible. These impacts would be avoided or mitigated by implementing EPA asbestos cleanup procedures to limit public exposure to asbestos and by implementing dust-reducing measures during preparations for disposal to limit PM_{10} emissions.

Portions of the installation would remain in a caretaker status while remediation actions are completed for them and other portions of the installation are available for disposal. The potential incompatibility of remediation action with leases of property or with adjacent property to remediation sites would be considered in determining the appropriate parcels to be made available for disposal and the sequence of actions needed to complete the remediation of all sites and disposal of the lands in excess of DOD requirements. Disposal may result in parcels being used by people who would be subjected to air and noise impacts from nearby construction and remediation actions. Implementing the remediation actions will include consideration of noise-reducing practices that could be used to avoid remediation-related noise impacts, including the following:

- Determine noise levels generated by remediation activities and establish minimum operating distances between remediation activities and noise-sensitive land uses. The minimum operating distance should be defined as the distance the activity must be so that noise from the activity is equal to the existing ambient noise level.

- Restrict noise-generating remediation activities located in the minimum operating distance of residences to daytime hours. No remediation activities should be performed within the minimum operating distance of an occupied dwelling unit on Sundays or legal holidays, or after 8:00 p.m. and before 8:00 a.m. on other days.

- Require equipment to have sound-control devices no less effective than those provided on the original equipment. No internal combustion engine should have an unmuffled exhaust.

- Require equipment to comply with pertinent equipment noise standards set by federal, state, and local agencies.

- Require the remediation contractor to implement appropriate additional noise mitigation measures, including changing the location of stationary equipment, shutting off motors or idling equipment, rescheduling the remediation activity, notifying adjacent residents before remediation work, installing acoustic barriers around stationary remediation noise sources, or rerouting circulation patterns of heavy trucks to avoid roads with nearby noise-sensitive land uses.

The federal government will retain responsibility for any hazardous toxic waste or ordnance explosive waste remediation that was caused by military use of the property even if it is not discovered by the intensive investigation and remediation actions and is discovered after disposal.

5.3.5 Biological Resources Effects

Disposal could result in the loss of federal protection for biological resources. The Army could develop cooperative agreements among the Army, local governments, resource agencies, and the future land managers or include reservations in the real estate transfer documents in the format of an HMP to avoid and mitigate these effects. Refer to Section 5.6, "Reuse Alternatives", and Volume II, "Vegetation, Wildlife, and Wetland Resources".

5.3.6 Socioeconomic Effects

Positive effects of disposal on the local communities could include placing real estate disposed to private interests into the state and local tax base. A substantial temporary increase would result in economic activity during the hazardous toxic waste remediation actions in the area by the direct expenditures for the contracts for remediation actions and remediation crews spending money on lodging, meals, recreation, and other services, which would lessen the adverse economic impacts. The construction of the infrastructure changes needed for disposal would also have positive effects on the local economy.

The disposal of large areas of land would have the potential negative effect on the local economy of placing real estate on the market in greater quantities than the market could absorb or at rates that may temporally saturate some segments of the local market and temporarily reduce sale prices. The Army real estate disposal plan will consider these factors in determining how to dispose of Fort Ord property.

The disposal could result in the loss of Monterey Peninsula College's lower division general education program facilities. To avoid or mitigate these impacts, the Army could assist Monterey Peninsula College in relocating their programs.

5.3.7 Cultural Resources Effects

Effects to potentially eligible National Register historic buildings, archeological resources, and Native American traditional cultural properties could occur through the loss of federal protection when buildings and lands are sold and by splitting of proposed National Register districts. However, if lands possessing National Register-eligible properties are transferred to other federal agencies, these agencies will have the same obligation as the Army to be responsible stewards of these properties.

Effects to National Register-eligible buildings could be avoided or minimized by documenting the buildings and by working with all parties concerned, including the recipients, to develop appropriate reuse

scenarios that will preserve the historic character of the area. Such measures may include preservation covenants on deeds, leases, and articles of transfer or development of preservation plans to provide guidelines for compatible redevelopment.

Effects to any National Register-eligible archeological sites located during the inventory could be avoided, minimized, or mitigated in a number of ways, including preservation covenants, redesign, or data recovery. Appropriate treatment will be determined through the Section 106 consultation process.

If any Native American traditional or sacred properties are identified, effects could be avoided or minimized through cooperation with the affected Native American groups and other interested parties.

5.4 ESTABLISHMENT OF PRESIDIO OF MONTEREY ANNEX

Establishing a POM annex would require approximately 1,500 of the approximately 28,000 acres of Fort Ord land. This annex would provide support services for the Presidio of Monterey and the Defense Language Institute (DLI), as well as for other military facilities and other active-duty and retired military personnel in the region. The specific requirements of the POM annex are described in Section 2.0, "Proposed Action".

5.4.1 Army's Presidio of Monterey Annex

The Army's proposed POM annex is illustrated in Figure 2-8 in Section 2.0, "Proposed Action". The Army's proposed POM annex would employ approximately 1,000 civilian employees. This would include a caretaker force of approximately 100 persons, with functions similar to the present Directorate of Engineering and Housing. Approximately 400 persons in administrative support positions would occupy offices in the POM annex. Approximately 500 other people would be employed at the POM annex, including a few military personnel. Most of these would be Army Air Forces Exchange Service and Non-Appropriated Fund employees operating the commissary, post exchange, child care center, and other facilities at the POM Annex.

Establishing the Army's proposed POM annex would not require new construction or new development in currently undeveloped areas. Major effects of establishing the annex would be:

- building modifications,
- socioeconomic effects,
- public service infrastructure modifications,
- need for public safety and emergency services,
- traffic accessibility and security conflicts,
- air quality effects,
- noise effects,
- visual effects,
- cultural resources effects,
- effects on coastal zone resources, and
- effects on Monterey Bay National Mrine Sanctuary.

5.4.1.1 Building Modifications

Although no new buildings are proposed for the POM annex, building modifications and renovations to 14 buildings would occur to upgrade buildings and accommodate other uses (i.e., classrooms). The buildings to be renovated include existing battalion classrooms, battalion headquarters, regimental headquarters, operations-supply, warehouses, and maintenance shops.

The following 14 buildings are to be renovated: 4463, 4481, 4489, 4488, 4499, 4499A, 4512A, 4512B, 4418, 4448, 4490, 4491, 4423, and 4450. These buildings range in size from 1,883 to 19,354 square feet, totaling 134,400 square feet. Major effects of building modification activities, such as demolition and construction, could include generation of noise, air emissions, and hazardous waste.

5.4.1.2 Socioeconomic Effects

The POM annex would employ approximately 1,000 persons in administrative, operations and maintenance, law enforcement, emergency medical and firefighting, and service positions. The 1,590 housing units would house a population of approximately 4,800 persons. The DLI would have space for approximately 500 students within the POM Annex and have a teaching and support staff of approximately 100 persons. Direct employment of approximately 1,000 persons with a payroll of approximately $4 million would be attributed to the POM annex.

Approximately 1,100 students from the housing units would attend local schools. Local services would be required to support the population within the POM annex, but the extent of these services would be less than existing amounts.

The renovation of 14 buildings and the modifications in the infrastructure to support the POM annex will include expenditures of several million dollars.

5.4.1.3 Public Service System and Infrastructure Modifications

With establishment of the POM annex, the Army's demand for public services and utilities would be substantially less than at present. Excess utility capacity could be transferred to new users or sold by the Army. Service providers would continue to provide necessary services. Table 5-1 presents information on the capacity, existing usage, and requirements for water, wastewater, stormwater, and other major elements of the infrastructure to support the POM annex.

Infrastructure data from three ongoing studies will be used to refine the EIS discussion as the new information becomes available. These studies will identify the services and infrastructure required to serve the POM annex. The studies are evaluating those utility systems and will evaluate how utilities should be provided to the POM annex. The Army may retain existing wells, water treatment and distribution systems, and other utility systems. The potential to obtain needed utilities from municipalities, special service districts, and private suppliers will also be evaluated. Overall, the decreased demand for public services and utilities would be a beneficial effect. There would be less demand for potable water, which is a limited resource in the region. Water demand for the Army's proposed POM annex was estimated at approximately 3,300 acre-feet per year including nonpotable water used for irrigation, or about 50% of existing water use.

There could be a need to modify the existing infrastructure facilities because of substandard conditions from age and because of the need to accommodate the decreased demand. Additionally, the decreased demand would result in less use of some infrastructure systems. The lack of use could have adverse effects on these systems, causing the infrastructure to rust and deteriorate. Infrastructure modification could generate noise, air emissions, and hazardous materials which were discussed previously in this section under "Building Modifications".

The infrastructure modifications determined as necessary by the infrastructure study and water study could be implemented to minimize adverse effects. The results of these ongoing studies will be incorporated into the final EIS.

Table 5-1 Infrastructure and Utilities Required to Serve the Presidio of Monterey Annex

Public Service or Utility	Existing Fort Ord Usage[a]	Estimate of Future Presidio of Monterey Annex Usage[b]
Water		
Supply system (potable)	6,600 acre-feet per year	Approximately 3,300 acre-feet per year
Active wells	3	3
Reservoir/trunks	13 (10.3 million gallons per day)	13 (10.3 million gallons per day)
Pump stations	6 (9,100 gallons per minute)	6 (9,100 gallons per minute)
Supply system (nonpotable)	400 acre-feet per year	400 acre-feet per year
Active well	1	1
Reservoir/trunks	1 (2 million gallons)	1 (2 million gallons)
Wastewater		
Treatment systems		
East Garrison (onsite)	30,000 gallons per day	0
Main Garrison (MRWPCA)	3,500 acre-feet per year (3.3 million gallon per day allowance)	1,800 acre-feet per year (3.3 million gallon per day allowance)
Storm Sewer	1,800 acre-feet per year	Approximately 800 acre-feet per year
Monterey Bay outfalls	4 outfalls	4 outfalls
Dune and beach outfalls	3 outfalls	3 outfalls
Salinas River area outfalls	3 outfalls	0 outfalls
Electricity	105,000 megawatts	Approximately 40,000 megawatts
Supply system	60-kilovolt system	60-kilovolt system
Main transformer	PG&E owned	PG&E owned
Distribution system	12-kilovolt system	12-kilovolt system
Natural Gas	146 thousand cubic feet per hour	Approximately 70 thousand cubic feet per hour
Telephone Service		
Trunk lines (Seaside)	405 miles of cable	Retain existing Army telephone system
Solid Waste		
Disposal	94 tons	Approximately 45 tons
Collection	94 tons	Approximately 45 tons
Cable Television	Approximately 6,500 customers	Approximately 1,600 customers

[a] Includes all of Fort Ord, including areas outside the Presidio of Monterey annex.

[b] These are approximate infrastructure and utility requirements and measures to provide infrastructure and supply utilities, based on information provided by Fort Ord. Ongoing studies are being conducted, and additional information will be included in the final EIS.

5.4.1.4 Need for Public Safety and Emergency Services

Law enforcement and fire protection services would continue to be provided within the POM annex. There would be a requirement for approximately 41 law enforcement personnel. Approximately five fire-fighters and emergency medical personnel would also be needed as part of the employees to be stationed at the POM annex. Approximately 140 fire calls and 70 emergency medical calls from the POM annex annually are anticipated. People in the POM annex would continue to be subjected to risks from seismic events.

Hazardous materials including asbestos and lead-based paint may exist in the buildings to be renovated for the POM annex. Building debris also could be classified as hazardous waste. Generation and disposal of hazardous waste would need to comply with federal laws and regulations to avoid public health impacts.

5.4.1.5 Traffic Accessibility and Security Conflict

The POM annex will need to retain access, as it will support the following traffic-generating populations:

- 1,000 civilian employees not living on the installation;
- 100 DLI teachers not living on the installation;
- 500 DLI students living on the installation;
- the residents of 1,590 family housing units most of whom would work off the installation;
- active-duty military, dependents, and military retirees who would use the commissary and post exchange; and
- two 18-hole golf course for use by active military, dependents, and retirees.

These uses are estimated to generate approximately 20,000 daily trips, 2,900 of which would occur during the p.m. peak hour. Light Fighter Drive currently has only two lanes in each direction past the guard station, providing a peak-hour capacity of approximately 3,000 vehicles in each direction. Light Fighter Drive could carry approximately 2,400 vehicles at level of service (LOS) C. Because the trips from the housing units would be inbound during the p.m. peak hour and the trips from on-installation employees would be outbound, approximately 1,600 trips would be inbound and 1,300 outbound. There would, therefore, be enough capacity to satisfy this demand at LOS C. This analysis does not consider the constraint to the entrance capacity that may occur at the intersection of Light Fighter Drive and 1st Avenue, which is signalized. No mitigation is necessary. Light Fighter Drive does not have a great deal more capacity than would be needed to support the POM annex at LOS C, and access to other portions of Fort Ord may need to be from other entrances or from additional roadway capacity established for other than POM annex traffic.

There would remain a need for more than one access route for the POM annex. Light Fighter Drive would serve as the main access route for the POM annex. The provision of a second access is needed to ensure that police, fire, and other emergency vehicles would have access to the POM annex in the event that Light Fighter Drive becomes inaccessible. The Army could undertake a study to determine the best possible second access route for the POM annex. This could be done as part of a comprehensive safety, security, and access study that needs to be undertaken once the final configuration of the POM annex is available. Candidates for a second route would include existing access points such as the 12th Street, Coe Avenue, and Broadway gates.

The need for traffic accessibility and the need for security at the POM annex could cause a conflict. The POM annex may need to be secured from open public access; however, military retirees and personnel from the Presidio of Monterey and other military facilities in the region would need to access the POM annex to use the post exchange, commissary, and other support services. The need to provide adequate access

to the POM annex versus the need to ensure security should be considered in establishing interim uses in the POM annex or uses requiring access via the annex. Measures could include establishing security gates at the POM annex, where a guard would allow only people with passes or permits to enter; establishing automated security gates with electronic cards as passes; or limiting the hours that entrances would be open if general public access without security checkpoints is desired.

The Army's proposed POM annex does not include the housing area (kidney shaped), which is located immediately south of the post exchange, commissary, and noncommissioned officers' club and north of Stilwell School. However, the configuration of the POM annex would result in no access to the housing area other than through the POM annex.

5.4.1.6 Air Quality Effects

Minor amounts of air emissions would be generated, primarily PM_{10} dust and possibly ozone precursors if heavy-duty construction equipment is used during the renovations. The measures described for reuse could be used. Refer to Section 5.6, "Reuse Alternatives", and Volume II, "Public Services and Utilities."

5.4.1.7 Noise Effects

Noise impacts would occur from renovation near noise-sensitive land uses such as the hospital, offices, and residential areas. The noise-reducing measures described for reuse could be used, especially during late evening and at night. Refer to Section 5.6, "Reuse Alternatives", and Volume II, "Public Services and Utilities."

5.4.1.8 Visual Effects

Substantial renovation of buildings and modification of infrastructure could produce short-term visual impacts. These impacts would occur from construction activities, including development of equipment storage areas and removal of vegetation. Long-term visual impacts could occur from vegetation removal and alteration of the appearances of buildings.

5.4.1.9 Cultural Resources Effects

None of the buildings proposed for renovation as part of the POM annex are considered to be eligible for listing in the National Register. Lands within the cantonment area are generally considered to be highly disturbed and are not recommended for archeological survey.

5.4.1.10 Effects on Coastal Zone Resources

Establishing the Army's POM annex could result in degradation of water quality from release of hazardous materials during construction. Water quality could also be degraded by increased urban runoff.

5.4.1.11 Effects on Monterey Bay National Marine Sanctuary

The establishment the Army's POM annex would not have any significant impacts on the sanctuary. However, the population size and the intensity of the use Army's POM annex would result in a proportionate amount of pollutant load levels with increased runoff and wastewater discharge.

5.4.2 City of Seaside's Recommended Presidio of Monterey Annex

As described in Section 2.0, "Proposed Action", the City of Seaside has proposed an alternative to the Army's proposed POM annex (Figure 3-3 in Section 3.0 "Alternatives"). Seaside's proposal would relocate the military enclave to a contiguous area east of North-South Road. This area includes some lands proposed by the Army for military enclave and other lands that the Army intends to declare excess. Seaside would assume ownership of the lands west of North-South Road, remove most of the existing structures, and redevelop the area. Funds for redevelopment would be used to construct replacement facilities for the Army, including military family housing, the commissary, post exchange, and other facilities. Seaside would retain a master developer to design and develop the area. The development of new facilities for the Army would occur over approximately 15 years in a phased transition. Approximately 700 acres of undeveloped land would be modified in the process.

Establishing Seaside's recommended POM annex would require new construction and new development in currently undeveloped areas. Major effects of establishing the annex would be:

- socioeconomic effects,
- public service infrastructure modifications,
- need for public safety and emergency services,
- traffic accessibility and security conflict,
- air quality effects,
- noise effects,
- biological resources effects,
- visual effects,
- soils, geologic, and seismic effects,
- recreation effects,
- cultural resources effects,
- effects of coastal zone resources, and
- effects on Monterey Bay National Marine Sanctuary.

5.4.2.1 Socioeconomic Effects

The number of people employed and the number of families and students housed in the POM annex would not change from the Army's proposal; only the locations would change. Also, the need to renovate existing structures to support the POM annex students would remain. Therefore, the economic implications would be similar. The principal difference would be that the construction of new facilities and demolition of old Army structures would provide a number of additional local jobs during the POM annex development phase. This effect is beneficial.

5.4.2.2 Public Service System and Infrastructure Modifications

Establishment of Seaside's recommended POM annex would reduce the demand for most local services as described for the Army's proposed annex. Existing systems would likely need modification because of the smaller size and altered configuration of the military annex. The biggest difference between the Army and Seaside proposals is that the Seaside plan requires an extension of all infrastructure into undeveloped land. The extension of sewer, water, gas, electrical, and telephone systems could have major implications because these systems would be extended into an undeveloped area. There would also be impacts from trying to connect older systems to newer ones. The feasibility of extending these older systems has not been investigated.

Another significant problem could arise as individual parcels of Army land west of North-South Road are turned over to Seaside through the phased transition process. This transition of ownership would also require a transition of infrastructure provision, operation, and maintenance. Without careful planning, the

potential for interrupted or inefficient service due to a checkerboard pattern of responsibility would exist. The Army's ongoing studies of providing service to the POM annex are not considering solutions to the Seaside's recommended POM annex configuration.

Water demand for Seaside's recommende POM annex would be less than the 3,300 acre-feet predicted for the Army POM annex because the go courses would no longer be a part of the annex. This change would reduce the Army's demand by about 400 acre-feet annually (this demand is for nonpotable water only). The regiona demand would not be altered, however, because the City of Seaside would continue to irrigate the golf courses.

The potential for infrastructure problems as Seaside's recommended POM annex is established could be reduced by conducting a thorough facilities master planning effort. Detailed information on the condition of existing Army infrastructure would need to be collected and the long-term needs of both the Army and the surrounding communities would have to be addressed. This study would have to be undertaken by the City of Seaside.

5.4.2.3 Need for Public Safety and Emergency Services

Seaside's recommended POM annex would generate the same general level of demand for public safety and emergency services as would the Army's annex, including police and fire protection and emergency medical services. The location of the demand would be slightly different, and the military community might be slightly more fragmented during the phased transition from its current configuration to the Seaside configuration. The fragmentation might cause occasional confusion over responsibility for responding to emergency calls.

The construction of new homes and service facilities further to the east in steeper terrain creates a similar risk of fire damage than would exist for the Army's proposed POM annex. The coastal oak woodland and coastal scrub vegetation on this portion of the installation would create a significant fire hazard, especially in areas of steep slopes.

Establishment of Seaside's recommended POM annex would involve construction in previously developed areas of the installation with known land use and hazardous waste histories and in areas that have been investigated as part of the Superfund cleanup process. Construction also would occur in undeveloped areas or areas that may not have been characterized as part of the Superfund cleanup process at Fort Ord. The potential for development on unidentified hazardous waste or unexploded ordnance in these areas would be slight because of the cleanup and certification process required by the Army and EPA for land transfer.

Establishment of Seaside's recommended POM annex also would involve modifying existing structures and demolishing of numerous other structures. The majority of buildings at Fort Ord contain asbestos; some buildings may contain lead-based paint and other potentially hazardous materials. Infrastructure and building modifications necessary to establish the Seaside's recommended POM annex might release asbestos into the environment; building debris from these modifications could be classified as hazardous waste.

Generation and disposal of hazardous waste during building demolition would require compliance with federal and state laws and regulations regarding the handling of hazardous wastes and materials. In response to the additional fire hazard to residents along the eastern portion of the annex, the Army would have to retain structural and wildland fire fighting capabilities within the POM annex or develop cooperative agreements with existing or new fire districts to provide this protection.

5.4.2.4 Traffic Accessibility and Security Conflict

The establishment of Seaside's annex would have traffic generation impacts similar to those described above for the Army's proposed POM annex. The significant difference would be that the Seaside's recommended POM annex would be more removed from the existing Light Fighter Drive and Broadway access points. This circumstance would require additional planning to ensure adequate access for Seaside's recommended POM annex employees; it would also require different security measures to ensure at least two access and egress points for Seaside's recommended POM annex in case of fire or other emergency evacuation situations.

The current circulation system would require modification to provide access to the new construction areas east of North-South Road. Street capacities and geometrics would have to be analyzed to ensure that the new and existing systems would be compatible.

During the phased construction of the new portions of Seaside's recommended POM annex, there may be dislocations of facilities that make travel within the annex less efficient for military personnel and retirees. The checkerboard pattern of Seaside and Army property west of North-South Road will also make it more difficult and less efficient to provide security for both military and civilian residents.

It would be necessary to prepare an access, security, circulation and safety plan to anticipate the various concerns described above for establishment of Seaside's recommended POM annex. The infrastructure study recently prepared for the Army's proposed POM annex did not address the special transportation and security needs of the Seaside configuration.

5.4.2.5 Air Quality Effects

Air quality effects related to building modification would be essentially the same for Seaside's recommended and Army's proposed POM annexes. Land grading associated with new building construction, and demolition of older structures, however, would create additional impacts for the Seaside proposal. The increase in local particulate levels and ozone precursors would be greater under this option. This situation would continue throughout the 15-year transition period.

Standard construction and demolition mitigation measures designed to control dust and internal combustion engine emissions would need to be implemented to minimize air quality impacts.

5.4.2.6 Noise Effects

Noise effects associated with establishing Seaside's recommended POM annex would be substantially greater than those of establishing the Army's proposed POM annex. Construction of new buildings and demolition of old structures would create short-term impacts in the vicinity of the activity. Noise-sensitive land uses that would be affected include the golf courses, the hospital, residential areas, and possibly newly established classrooms serving DLI students. Several schools may also be affected.

Construction and demolition specifications for work on Seaside's recommended POM annex would have to include design and construction methods that reduce sound transmission. Types of equipment, hours of operation, use of temporary sound barriers, and preservation of buffer areas could be specified for areas adjacent to noise-sensitive activities.

5.4.2.7 Biological Resources Effects

Establishing Seaside's recommended POM annex would have negative effects on vegetation and wildlife resources because new construction would be required in undeveloped open space. No such open space development is required for the Army's proposed POM annex. The size of the area affected is

relatively small however, totaling approximately 700 acres. Buildout of this annex would result in the loss of coastal coast live oak woodland and coastal scrub habitats. Occupied habitat of Monterey spineflower would also be lost. Should the Monterey spineflower become listed as threatened or endangered, the loss of individuals or populations would violate the federal Endangered Species Act.

Construction for Seaside's recommended POM annex would not affect any federally listed or proposed wildlife species; however, several federal candidate wildlife species, California species of special concern, and special-interest wildlife species would be adversely affected by habitat losses and potential direct mortality during construction. Species potentially affected include the Monterey ornate shrew, Monterey dusky-footed woodrat, black legless lizard, coast horned lizard, and Salinas harvest mouse.

Construction for Seaside's recommended POM annex would also result in the loss of occupied habitat of plant species that are candidates (Category 1 or 2) for federal listing as threatened or endangered, or species for which listing packages are in preparation: sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, and wedge-leaved horkelia. Loss of habitat would also occur for two other special-status plant species: Hooker's manzanita (California Native Plant Society [CNPS] List 1b) and virgate eriastrum (CNPS List 4). Plant preserve 3 occurs near the east boundary of Seaside's recommended POM annex and could be removed under buildout. A small portion of habitat in significant natural area 040 may be lost. No wetlands would be affected by buildout of Seaside's recommended POM annex.

Mitigation for loss of vegetation and wildlife resources is described in detail in the reuse portion of this section and in Volume II, "Vegetation, Wildlife, and Wetland Resources". The City of Seaside would need to participate in a multi-species HMP to minimize impacts to sensitive plants and animals that occupy the eastern portion of the proposed annex. Loss of the oak woodland and coastal scrub habitats could be minimized through design of the newly developed area; islands of habitat could be preserved where feasible and replacement implemented as dictated by the HMP.

5.4.2.8 Visual Effects

Establishing an approximately 1,500-acre Seaside recommended POM annex east and south of the installation's main entrance could reduce the visual quality of some highly sensitive views from State Route 1, which is proposed as a state-designated scenic highway and is heavily used by recreationists and tourists. Some of the proposed annex area is visible from Monterey Bay, which receives heavy use by recreationists. Although most of the area designated for Seaside's recommended POM annex is classified as low visual quality, most of it is highly visible from important visitor-use areas and has high visual unity based on generally consistent architectural styles for buildings located there.

Specific building footprints were not included in the proposal. Creating Seaside's recommended POM annex may require construction of a substantial number of buildings, renovation of existing buildings, and modification of infrastructure. These activities would produce short-term visual impacts and could produce long-term visual impacts. Short-term visual impacts would occur from construction activities, including location of equipment storage areas, removal of vegetation, and infrastructure modifications. Long-term visual impacts could occur from removal of vegetation; construction of new buildings; alteration of the appearances of buildings and other structures; and construction of improvements such as recreation facilities, parking areas, lighting standards, and fences.

The activities described above could result in a substantial reduction in visual unity and intactness for some visually sensitive areas for views from State Route 1 and other important visitor use areas in and around Monterey Bay, which could be inconsistent with Policy 30251 of the California Coastal Act of 1976 concerning the protection of scenic and visual qualities of coastal areas.

Visual resource management standards should be developed for the portions of Fort Ord clearly visible from State Route 1 and other major public access points in the Monterey Bay area before development proceeds in the upland portions of the Seaside's recommended POM annex.

5.4.2.9 Soils, Geologic, and Seismic Effects

Implementation of Seaside's recommended POM annex proposal would create soils and geologic concerns not present with the Army's proposed POM annex. Construction of replacement buildings and infrastructure east of the existing developed Garrison area would destabilize soils and slopes in an area of relatively steep slopes (10-30%). Wind and water erosion would increase, as would resulting sedimentation in local drainages. The soil resource that supports the limited areas of coastal oak and scrub vegetation in the Monterey Bay area would also be permanently diminished. Housing construction on the steeper terrain of Fort Ord would increase the risk of property damage and create a greater public safety hazard when compared to the Army's proposed POM annex proposal.

Damage to and loss of soils and increased risk of property damage could be reduced by minimizing construction on the steeper slopes in the new construction area. Where steeper slopes are modified, significant erosion control measures should be written into construction specifications. A non-point-source pollution control permit under Section 401 of the Clean Water Act will be needed to implement the construction project. Erosion and sediment control measures must be specified in this permit.

5.4.2.10 Recreation Effects

Establishing Seaside's recommended POM annex rather than the Army's proposed POM annex would remove the two existing golf courses from Army control and, therefore, from exclusive access by military personnel. This loss of recreation opportunity is considered a significant factor by the Army. Other developed recreation facilities lost by switching to Seaside's recommended POM annex would eventually be replaced in the new construction area by the City of Seaside. These facilities include the football stadium, bowling alley, theaters, and noncommissioned officers' club.

An agreement between the Army and the City of Seaside for continued access to the golf courses by military personnel could be worked out before transfer to limit the loss of recreational opportunity for military personnel and retirees.

5.4.2.11 Cultural Resources Effects

Effects to archeological resources could occur with implementation of Seaside's POM annex. Archeological surveys may be necessary if construction projects fall within the area of moderate to high sensitivity as defined by the archeological research design that will be reviewed by appropriate agencies and tested during the BRAC process.

5.4.2.12 Effects on Coastal Zone Resources

Establishing Seaside's recommended POM annex could result in degradation of water quality from release of hazardous materials during construction. Water quality could also be degraded by increased urban runoff.

5.4.2.13 Effects on Monterey Bay National Marine Sanctuary

Establishing Seaside's recommended POM annex would not have any significant impacts on the sanctuary. However, the population size and the intensity of the use of Seaside's POM annex would result in a proportionate amount of pollutant load levels with increased runoff and wastewater discharge.

5.4.3 No Presidio of Monterey Annex

If no POM annex is established, the approximately 1,500-acre area would rem the implications are described under Section 5.2.1 "Caretaker". Eventually, the lar There would no longer be adequate support services for the Presidio of Monterey an facilities, and other active-duty and retired military personnel in the region.

The beneficial effects of having no POM annex would include a substantial re for public services and utilities (i.e., 3,300 acre-feet per year less demand for water). estimated requirements to serve the POM annex and, therefore, the amount the dem with no POM annex.

5.5 RETENTION OF RESERVE CENTER

The Army would retain the approximately 12-acre reserve center locate Reservation Road. Although it would be north of and separate from the proposed P center would remain under military control and continue its current use. The authorized to participate in the reserve program is 340; however, only a portion of th reserve center at any given time.

No new structures are proposed at the reserve center. Minor utility modifications may be required as the adjacent lands are disposed. Major effects c center could include land use incompatibilities resulting from activity at the reserve modify the existing public service systems or infrastructure because of substandarc or to acquire public services from an outside entity because the reserve center wou POM annex. Because of the proximity of the reserve center to Reservation Roac infrastructure could be located in the road right-of-way.

The infrastructure needs of the reserve center will be defined in three ongoin previously in this section under "Establishment of Presidio of Monterey Annex". Th the services and infrastructure needs of the reserve center, which could then be im of these ongoing studies will be incorporated into the final EIS.

5.6 REUSE ALTERNATIVES

This section describes the impacts or consequences of reusing Fort O alternatives analyzed in this EIS inherently includes the Army's proposed POM ann provide the cumulative effects of the Army's action with total buildout of each reu

This document analyzes the impacts of the following six reuse alternatives a As described in Section 3.0, "Alternatives", not all of the reuse alternatives include

- Alternative 1: High-Intensity Mixed Use
  - Subalternative A: No Presidio of Monterey Annex/No Reserve C
  - Subalternative B: Seaside's Recommended Presidio of Monterey A
  - Subalternative C: Partial Variation of High-Intensity Mixed Use

- Alternative 2: Medium-Intensity Mixed Use
  - Subalternative A: No Presidio of Monterey Annex/No Reserve C
  - Subalternative B: Seaside's Recommended Presidio of Monterey,

- Alternative 3: Low-Intensity Mixed Use
- Alternative 4: Institutional Use
- Alternative 5: Open Space
  - Subalternative A: No Presidio of Monterey Annex/No Reserve Center
- Alternative 6: Anticipated Reuse (Revised)

The impact analysis is organized by reuse alternative and by issue area within each alternative so that the impacts of each reuse alternative can be evaluated individually.

Following the discussion of each alternative is a discussion of the applicable subalternatives. A summary of impacts and conclusions per alternative by resource area is presented at the end of each reuse alternative.

The final EIS identifies each mitigation commitment of the Army for revised Alternative 6. These commitments are summarized in Section 5.6.7.17. Mitigation commitments have not been identified for Alternatives 1-6 because as a result of comments received on the draft EIS, these reuse alternatives were eliminated from further consideration because they would result in significant environmental or socioeconomic impacts if implemented as formulated. Therefore, no new additional analysis has been conducted or mitigation commitments identified for the final EIS.

Mitigation commitment of the Army is identified by the use of "will" in Section 5.6.7.17. Mitigation that would avoid or substantially reduce significant environmental impacts is identified by the use of "could". These measures are generally the responsibility of other federal, state, and local agencies and private entities responsible for development and are described in Section 6.0 for Alternative 6R and in Volume II, "Detailed Analysis of Disposal and Reuse". Mitigation commitment of the Army will be included in the record of decision (ROD).

A summary table is provided that quantifies the impacts of each reuse alternative and its subalternatives is provided by resource area. Although the summary table is referred to in each reuse alternative discussion, the table appears only after the first reference to it under Alternative 1. All of the other alternatives and subalternatives reference that table; the table is not duplicated within each reuse alternative.

Criteria used in determining the significance of impacts for each resource area are described in Table 5-2. The methods of comparison for the discussions of air quality and noise impacts are described under Alternative 1. However, this methodology applies to all the alternatives and subalternatives.

The summary table located at the end of this section lists all the impacts by reuse alternative for each issue area. The detailed analysis by issue area is contained in Volume II, "Detailed Analysis of Disposal and Reuse". However, the detailed analysis by issue area for the revised Alternative 6 (6R) analysis is contained in Section 6.0 of this document.

5.6.1 Alternative 1: High-Intensity Mixed Use

5.6.1.1 Land Use

Of the six reuse alternatives, the most intensive reuse of the installation is proposed under Alternative 1. Approximately 65% of the currently undeveloped portion of the installation is proposed for development under Alternative 1. The major land use impacts of Alternative 1 relate to incompatibilities between proposed and existing land uses, incompatibilities between proposed land uses, and inconsistencies with relevant state and local plans and policies.

Table 5-2. Criteria Used in Determining Significance of Impacts

Issue Area	Significance Criteria
Land Use	▪ Substantial conflicts between proposed land uses or ▪ substantial conflicts between proposed and existing adjacent land uses.
Socioeconomics	
Population	▪ Substantial change in population (increases or decreases).
Schools	▪ The need for the expansion or substantial alteration of the existing school system.
Recreation	▪ The need for substantial additional developed parks to conform to acceptable local standards or ▪ a substantially decreased quality or quantity of existing recreational opportunities.
Soils, Geology, Topography, and Seismicity	▪ Destruction of any unique soil type or geologic feature, ▪ decreased permeability and increased runoff substantially accelerating water-induced soil erosion on land surfaces and in stream channels, ▪ substantial construction in a zone of high beach or coastal erosion, ▪ substantial accelerated sedimentation of water bodies or land by transported sediment, ▪ substantial degradation of a soil type that is an ecosystem component of a critical or sensitive natural habitat, or ▪ substantial increased landscape instability or landslides through topographical or slope alterations.
Public Services and Utilities	
Wastewater	▪ Need for substantial expansion of wastewater treatment plant and collection capacity or alteration of the existing system; ▪ substantial disruption to existing wastewater service; or ▪ violation of national, state, or local wastewater standards.
Solid Waste	▪ Generation of a substantial amount of additional solid waste or ▪ substantial decrease in landfill life.
Telephone System	▪ None.

Table 5-2. Continued

Issue Area	Significance Criteria
Gas or Electrical System	▪ Substantial increase in energy consumption or energy waste.
Cable Television	▪ None.
Storm Drainage System	▪ Substantial increased runoff peaks over existing conditions because any increase in site runoff could exacerbate local or downstream flood-prone areas or ▪ location of any structures in the Federal Emergency Management Area-approved 100-year floodplain.
Water Distribution Infrastructure	▪ None.
Water Resources	
Hydrology and Water Quality	▪ Substantial degradation of water quality such that it would not meet water quality criteria or objectives identified in the basin plans of the Central Coast Regional Water Quality Control Board's Water Quality Control Plan; ▪ any substantial alteration of surface waters on the installation and in Monterey Bay, including temperature, dissolved oxygen, or turbidity, that would cause conflicts with standards as identified in federal or state law; or ▪ disturbance of existing channel banks and channel beds to the extent that erosion and siltation could occur upstream or downstream.
Water Supply and Demand	▪ Substantial interference with groundwater recharge or potential depletion of groundwater resources used for other beneficial uses.
Public Health and Safety	
Law Enforcement	▪ Need for substantial additional law enforcement staff and equipment to maintain acceptable service ratios.
Fire Protection	▪ Substantially intensified fire hazard or ▪ need for substantial additional fire protection staff and equipment to maintain acceptable service standards.
Medical Services	▪ Need for substantial expansion of or substantial alteration to the medical services system or substantial disruption of medical services.
Emergency Medical Services	▪ Need for substantial expansion of or substantial alteration to the emergency medical services system, or ▪ substantial disruption of existing services.

Table 5-2. Continued

Issue Area	Significance Criteria
Seismic Safety	▪ None.
Traffic and Circulation	▪ Generation of traffic levels requiring the expansion of existing roadways or construction of new facilities.
Air Quality	▪ Violation of any ambient air quality standard, contributes substantially to an existing or projected air quality violation, or exposed sensitive receptors to substantial pollutant concentrations; ▪ generation of emissions exceeding levels in the MBUAPCD emission thresholds contained in the 1991 MBUAPCD Air Quality Management Plan of 150 pounds per day for ROG and NO_x, and 86 pounds per day for PM_{10} (Monterey Bay Unified Air Pollution Control District 1991; Monterey Bay Air Pollution Control District pers. comm.); or ▪ conflict with the federal Clean Air Act amendments of 1990; the California Clean Air Act of 1988; or federal, state, or local air quality plans or associated guidance.
Noise	▪ Generation of noise that would conflict with applicable noise regulations, ▪ exposure of people to severe noise levels, or ▪ land uses that are incompatible because of noise.
Hazardous and Toxic Waste Site Remediation	▪ None.
Vegetation, Wildlife, and Wetland Resources	▪ The reduction of a fish or wildlife population dropping below self-sustaining levels; ▪ possible elimination of a plant or animal community; ▪ substantial affect on reduction of the number, or restriction of the range of unique, rare, or endangered species of animals or plants, or the habitat of the species; ▪ substantial interference with the movement of any resident or migratory fish or wildlife species; ▪ introduction of new species of plants or animals into an area or introduce a barrier to the normal replenishment of existing species;

Table 5-2. Continued

Issue Area	Significance Criteria
Vegetation, Wildlife, and Wetland Resources (Continued)	▪ adverse effect on riparian habitat, wetlands, or other special-status biological communities; ▪ conflict with federal or state policies, such as those regarding wetlands and oak woodland; ▪ substantial conflict with special ecological areas; or ▪ substantial conflict with special-status species as defined as follows: - plants and animals listed or proposed for listing under the federal Endangered Species Act (50 CFR 17.12 [listed plants] and 50 CFR 17.11 [listed animals] and various notices in the Federal Register [proposed species]); - plants and animals that are Category 1 or 2 candidates for possible future listing as threatened or endangered under the federal Endangered Species Act (55 FR 6184, February 21, 1990, for plants and 54 FR 554, January 6, 1989, for animals); or - plants and animals listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 CFR 670.5).
Visual Resources	▪ None.
Cultural Resources	▪ Adverse effect on properties that are on or considered eligible for the National Register of Historic Places or ▪ adverse effect on Native American traditional cultural properties.
Coastal Resources Zone	▪ Inconsistency with the California Coastal Act of 1976.
Monterey Bay National Marine Sanctuary	▪ Activities that are clearly capable of generating conflicts that could harm the resources of the Marine area (e.g., oil and gas development, dredged soil disposal, discharges of pollutants).

Several land uses are proposed that would be incompatible with existing land uses in the area. Residential areas are proposed adjacent to agricultural lands in the eastern and southeastern portions of the installation. These agricultural lands are of all classifications, including prime agricultural land, the highest classification of agricultural land.

Several land uses are also proposed that would be incompatible with other proposed land uses. These include placement of a light-industrial use adjacent to a recreational vehicle park/campground, a university, and a community park. Additional land use incompatibilities include conflicts between a proposed amphitheater and a proposed residential area, and conflicts between a proposed office park and a proposed natural area expansion.

Development patterns that would be inconsistent with relevant state and local plans and policies are also proposed under Alternative 1. These inconsistencies include creation of development patterns that are not consistent with the 1982 State Implementation Plan or the 1991 Air Quality Management Plan (AQMP); the expansion of development in areas without adequate infrastructure; development in areas not designated for growth; disregard for infill; inadequate provision of open space; land use incompatibilities; inadequate protection of sensitive environments and habitats; development in areas of 30% or greater slope; and inconsistencies with policies that relate to groundwater resources and preservation of visual resources.

5.6.1.2 Socioeconomics

Population and Housing. Implementation of Alternative 1 would directly increase the population and housing stocks of Monterey County and the Cities of Marina and Seaside. As shown in Table 5-3, the countywide population would increase by an estimated 212,200 (59%), and the housing stock would grow by 67,600 units (56%). This growth, when annualized over the assumed 50-year buildout period, would not exceed significance thresholds established for population and housing effects.

After accounting for the effects of closure, Marina's population would increase by approximately 3,000 residents, and its housing stock would increase by 1,350 units. Seaside's population would grow by about 32,000 residents, and its housing stock would increase by 8,500 units under this alternative.

The ratio of jobs to housing within Monterey County would incrementally decrease from 1.36 to 1.10. This effect is considered beneficial because it would bring the jobs/housing ratio within the 0.75-1.25 range that is generally considered to be optimal.

Regional Economy. Implementation of Alternative 1 would result in the development of employment-generating land uses that would create an estimated 69,700 direct jobs and 46,300 secondary jobs within Monterey County. Subtracting the effects of closure would result in a net increase of approximately 89,000 jobs (Table 5-3), representing a 54% increase in countywide employment. An estimated 13,000 of the direct jobs would be located in Marina, and 20,000 jobs would be located in Seaside.

After accounting for closure reductions, total output in Monterey County is estimated to increase by $7.2 billion, a 59% increase over baseline conditions. Similarly, personal income is estimated to increase by $2.4 billion in Monterey County, a 50% increase over baseline conditions.

Social Services. Economic activity generated by implementation of Alternative 1 could benefit social services programs provided by Monterey County and nonprofit organizations, including welfare services and jobs training and placement programs, by increasing employment opportunities, decreasing unemployment, and generating increased income in the county.

As currently defined, Alternative 1 would result in no housing set aside for the homeless. Based on the current need for housing for the homeless in Monterey County, implementation of Alternative 1 would increase the need for housing for the homeless and lower income households.

Table 5-3 Comparison of Net, Incremental Socioeconomic Changes at Buildout by Reuse Alternative

Reuse Alternative	Population[a]	Housing Units[b]	Jobs/ Housing Ratio[c]	Employment[d]	Output (millions of 1991 dollars)[e]	Personal Income (millions of 1991 dollars)[f]
Alternative 1	212,200	67,600	1.10	89,000	$7,170	$2,390
Subalternative A	226,900	71,000	1.08	88,000	7,230	2,430
Subalternative B	212,800	67,700	1.33	150,500	11,300	4,170
Subalternative C	252,700	79,600	1.31	167,000	12,590	4,680
Alternative 2	78,000	22,200	1.52	107,500	7,880	2,840
Subalternative A	93,600	25,800	1.50	109,400	8,130	2,934
Subalternative B	87,600	25,400	1.40	86,600	6,930	2,460
Alternative 3	48,200	14,700	1.31	35,100	3,260	860
Alternative 4	(3,770)	(1,500)	1.43	22,800	1,800	280
Alternative 5	(30,000)	(13,900)	1.32	(22,900)	(290)	(510)
Subalternative A	(30,000)	(13,900)	1.29	(26,800)	(400)	(540)
Alternative 6R	(7,000)	(4,000)	1.57	26,649	1,705	152

Notes: ( ) denotes a net, incremental decrease.

[a] Represents the direct, incremental change in population less closure effects. Monterey County population totaled 361,560 in 1991.

[b] Represents the direct, incremental change in housing units less closure effects. Monterey County's housing stock totaled 121,224 housing units in 1991.

[c] Represents the ratio of jobs to housing units within Monterey County with additions of jobs and housing under the reuse alternatives less closure effects. The estimated 1991 jobs/housing ratio in the county was 1.36.

[d] Represents the net, incremental change in direct and secondary employment less closure effects. Estimated employment in Monterey County totaled 164,900 in 1991.

[e] Represents the net, incremental change in direct and secondary industrial output less closure effects. Estimated baseline output totaled $12,250 million in Monterey County.

[f] Represents the net, incremental change in direct and secondary personal income less closure effects. Estimated baseline personal income totaled $4.8 billion in Monterey County. Please note that future reuse estimates are based on output from the IMPLAN model that incorporates national labor productivity data for individual industrial sectors. Local data was used for existing Monterey County conditions, which may have higher per capita income than the national averages indicate. The comparison of existing per capita income with reuse estimates tends to indicate a slight underestimate of reuse personal income estimates.

The availability of healthcare services for military retirees and their family members would likely be reduced under Alternative 1 with the closure of Silas B. Hays Army Community Hospital. The regional medical center developed under this alternative would presumably not be a Civilian Health and Medical Program of the Uniformed Services (CHAMPUS)-contract hospital. Population growth generated by development under Alternative 1 would increase the regional demand and competition for healthcare services in Monterey County. Military retirees and their family members could use the new medical center and other facilities in the region and could apply for partial reimbursement of costs through CHAMPUS or Medicare; however, out-of-pocket costs, and possibly travel costs, to receive healthcare would increase for military retirees and their family members.

Schools. Alternative 1 would generate the need for additional school capacity for up to approximately 54,200 students in kindergarten through 12th grade (Table 5-4). This would result in a demand for additional school facilities and staff.

Recreation. Alternative 1 proposes 2,885 acres of land for undeveloped recreational opportunities and 3,900 acres for developed recreational opportunities (Table 5-4). This would result in the loss of approximately 12,000 acres of land available for undeveloped recreational activities, including fishing and hunting. Alternative 1 would, however, result in an additional 3,400 acres of developed recreational opportunities, including parks and sports facilities.

5.6.1.3 Soils, Geology, Topography, and Seismicity

The extensive development of natural areas proposed under Alternative 1 would result in the nearly complete destruction of the soil component of the natural ecosystem. The unusual characteristics of the soil substrate covering most of Fort Ord support rare plant communities and threatened and endangered plant species. Habitats affected would be most of those formed on ancient lagoonal deposits, the Aromas formation areas, and nearly all the recent and relict sand dune areas.

Of equally severe impact would be the acceleration of existing coastal, wind, and water erosion, further affecting the natural ecosystem and threatening proposed developments. Construction of new facilities near a rapidly eroding shoreline would subject these facilities to future loss. Further development of the coastal sand dunes would be subject to wind erosion once the protective vegetation and surface soil horizon are disturbed by development activities. Water erosion could form badland-like features on the Arnold and Xerorthent soils on the steep slopes of the Aromas formation if the soils are disturbed by development and runoff is redirected and concentrated. This process would result in severe gullying in the Santa Ynez and Diablo soils on the Paso Robles formation. The latter area is also prone to landslides and is a source of sedimentation that affects Toro Creek, causing an increased flooding hazard.

Severe limitations would be encountered in the use of inappropriate soil types for engineering or agricultural and horticultural purposes. Santa Ynez and Diablo soils have severe limitations because of low strength and high shrink-swell properties. Oceano, Baywood, and Arnold soils have limitations of excavation caving, embankment piping potential, and very high water infiltration rates. Use of the same soil types for agricultural or horticultural purposes could result in increased erosion and non-point-source water pollution.

New development would increase the exposure of people and property to various seismic hazards, such as ground shaking, landslides, and liquefaction.

Table 5-4 Schools and Recreation Impacts by Reuse Alternative

Reuse Alternative	Schools	Recreational Opportunities
Alternative 1	Need for additional school capacity for approximately 54,200 students	Loss of approximately 12,000 acres of land available for undeveloped recreational opportunities. Increase of approximately 3,400 acres of developed recreational opportunities
Subalternative A	Need for additional school capacity for approximately 57,960 students	Loss of approximately 12,000 acres of land available for undeveloped recreational opportunities. Increase of approximately 3,400 acres of developed recreational opportunities
Subalternative B	Need for additional school capacity for approximately 54,600 students	Loss of approximately 12,000 acres of land available for undeveloped recreational opportunities. Increase of approximately 3,400 acres of developed recreational opportunities
Subalternative C	Need for additional school capacity for approximately 65,000 students	Loss of approximately 12,400 acres of land available for undeveloped recreational opportunities. Increase of approximately 3,500 acres of developed recreational opportunities
Alternative 2	Need for additional school capacity for approximately 19,500 students	Loss of approximately 1,930 acres of land available for undeveloped recreational opportunities. Increase of approximately 1,500 acres of developed recreational opportunities
Subalternative A	Need for additional school capacity for approximately 24,060 students	Loss of approximately 1,930 acres of land available for undeveloped recreational opportunities. Increase of approximately 1,500 acres of developed recreational opportunities
Subalternative B	Need for additional school capacity for approximately 22,440 students	Loss of approximately 1,930 acres of land available for undeveloped recreational opportunities. Increase of approximately 1,500 acres of developed recreational opportunities
Alternative 3	Need for additional school capacity for approximately 7,100 students	Increase of approximately 2,800 acres of land available for undeveloped recreational opportunities and 1,500 acres of developed recreational opportunities
Alternative 4	Need for additional school capacity for approximately 9,700 students	Loss of approximately 450 acres of land available for undeveloped recreational opportunities. Increase of approximately 1,500 acres of developed recreational opportunities
Alternative 5	No impact	Increase of approximately 4,200 acres of land available for undeveloped recreational opportunities and 1,000 acres of developed recreational opportunities
Subalternative A	No impact	Increase of approximately 4,200 acres of land available for undeveloped recreational opportunities and 440 acres of developed recreational opportunities
Alternative 6R	Need for additional school capacity for approximately 4,300 students	Increase of approximately 3,400 acres of land available for undeveloped recreational opportunities and 500 acres of developed recreational opportunities

Table 5-5 Public Services and Utilities Impacts by Reuse Alternative

Reuse Alternative	Wastewater	Solid Waste	Telephone Service	Gas Service	Electric Service	Cable Television	Water Distribution System
Alternative 1	Increased wastewater to 19.5 mgd (712%)	Increased solid waste to 1,010 tons per day (974%) Reduce landfill life by 48 yrs	Expanded existing service by 21,400 acres (425%)	Increased demand of 5,650 MCFH (3,900%)	Increased demand of 545 MW (3,100%)	Expanded existing service by 21,400 acres (425%)	Expanded existing infrastructure by 21,400 acres (425%)
Subalternative A	Increased wastewater to 18.9 mgd (686%)	Increased solid waste to 1,070 tons per day (1,038%) Reduce landfill life by 50 yrs	Expanded existing service by 21,860 acres (435%)	Increased demand of 5,850 MDFH (4,000%)	Increased demand of 550 MW (3,100%)	Expanded existing service by 21,860 acres (435%)	Expanded existing infrastructure by 21,860 acres (435%)
Subalternative B	Increased wastewater to 19.3 mgd (704%)	Increased solid waste to 1,016 tons per day (981%) Reduce landfill life by 48 yrs	Expanded existing service by 21,170 acres (420%)	Increased demand of 3,950 MCFH (2,700%)	Increased demand of 440 MW (2,500%)	Expanded existing service by 21,170 acres (420%)	Expanded existing infrastructure by 21,170 acres (420%)
Subalternative C	Increased wastewater to 19.9 mgd (730%)	Increased solid waste to 1,180 tons per day (1,156%) Reduce landfill life by 53 yrs	Expanded existing service by 22,000 acres (435%)	Increased demand of 4,120 MCFH (2,800%)	Increased demand of 440 MW (2,500%)	Expanded existing service by 22,000 acres (435%)	Expanded existing infrastructure by 22,000 acres (435%)
Alternative 2	Increased wastewater to 13.1 mgd (445%)	Increased solid waste to 460 tons per day (389%) Reduce landfill life by 27 years	Expanded existing service by 18,760 acres (370%)	Increased demand of 3,695 MCFH (2,500%)	Increased demand of 392 MW (2,200%)	Expanded existing service by 18,760 acres (370%)	Expanded existing infrastructure by 18,760 acres (370%)

Table 5-5 Continued

Reuse Alternative	Wastewater	Solid Waste	Telephone Service	Gas Service	Electric Service	Cable Television	Water Distribution System
Alternative 2 (continued)							
Subalternative A	Increased wastewater to 12.6 mgd (425%)	Increased solid waste to 527 tons per day (460%) Reduce landfill life by 31 years	Expanded existing service by 19,400 acres (385%)	Increased demand of 3,885 MCFH (2,650%)	Increased demand of 402 MW (2,250%)	Expanded existing service by 19,400 acres (385%)	Expanded existing infrastructure by 19,400 acres (385%)
Subalternative B	Increased wastewater to 13.1 mgd (445%)	Increased solid waste to 501 tons per day (433%) Reduce landfill life by 29 yrs	Expanded existing service by 18,530 acres (370%)	Increased demand of 3,730 MCFH (2,550%)	Increased demand of 366 MW (2,050%)	Expanded existing service by 18,530 acres (370%)	Expanded existing infrastructure by 18,530 acres (370%)
Alternative 3	Increased wastewater to 8.9 mgd (240%)	Increased solid waste to 252 tons per day (168%) Reduce landfill life by 14 yrs	Expanded existing service by 8,120 acres (160%)	Increased demand of 1,278 MCFH (875%)	Increased demand of 130 MW (730%)	Expanded existing service by 8,120 acres (160%)	Expanded existing infrastructure by 8,120 acres (160%)
Alternative 4	Increased wastewater to 7.7 mgd (220%)	Decreased solid waste to 132 tons per day (-41%) Reduce landfill life by 4 yrs	Expanded existing service by 9,830 acres (195%)	Increased demand of 807 MCFH (550%)	Increased demand of 141 MW (790%)	Expanded existing service by 9,830 acres (195%)	Expanded existing infrastructure by 9,830 acres (195%)
Alternative 5	Decreased wastewater to 1.7 mgd (-29%)	Decreased solid waste to 19 tons per day (-80%)	Deterioration of infrastructure	Deterioration of infrastructure	Deterioration of infrastructure	Deterioration of infrastructure	Deterioration of infrastructure

Table 5-5 Continued

Reuse Alternative	Wastewater	Solid Waste	Telephone Service	Gas Service	Electric Service	Cable Television	Water Distribution System
Alternative 5 (continued)							
		Extend landfill life by 8 yrs					
Subalternative A	Decreased wastewater to 0.02 mgd (-99%)	No impact	No impact	95% reduction of demand	96% reduction of demand	No impact	No impact
Alternative 6R	Increased wastewater to 5.0 mgd (100%)	Increased solid waste to 96 tons per day (2%)	Reduce existing service by 240 acres (-5%)	Increased demand of 740 MCFH (507%)	Increased demand of 87 MW (483%)	Reduce existing service by 1,660 acres (-32%)	Expanded existing infrastructure by 2,500 acres (50%)
		Reduce landfill life by 1 year					

Note: (%) indicates percent increase or decrease from existing conditions.

5.6.1.4 Public Services and Utilities

Table 5-5 quantifies public service and utility impacts for Alternative 1.

Wastewater. The development proposed under Alternative 1 would ger gallons per day (mgd) of wastewater. This 712% increase over the existing 2.4 mg would require 16.2 mgd of additional treatment capacity to accommodate the pro

The consistency of the reuse alternatives with the air quality management p region is discussed in Section 5.6.1.8., "Air Quality". If a project is inconsistent w treatment allocation cannot be approved.

Solid Waste. Alternative 1 would generate up to 1,010 tons per day (tp increase from the existing generation rate of 94 tons per day. This amount of solic life of the Marina Landfill by approximately 48 years.

Telephone Service. Telephone service exists only in the developed p and additional or upgraded infrastructure would be required to serve future develo require the expansion of telephone service to approximately 21,400 acres, a 425'

Gas and Electric Service. Gas and electric service exists only in the installation. Alternative 1 would result in the demand for approximately 5,650 (MCFH) of gas and 545 megawatts (MW) of electric service, an increase of 3,9 more electricity than existing levels.

Cable Television. Cable television service exists only in the installation. Alternative 1 would result in the need for additional cable televisi 21,400 acres, a 425% increase in service area.

Storm Drainage System. Alternative 1 would require new storr approximately 24,810 acres, in addition to upgrades and expansions to existing that may continue to be used with the new systems.

Water Distribution Infrastructure. Alternative 1 would requir infrastructure be upgraded or expanded to provide service to approximately : in service area.

5.6.1.5 Water Resources

Hydrology and Water Quality. Alternative 1 would convert l development, which would increase watershed runoff and peak floodflow would be converted from open space to urban land uses, which would re area over existing conditions.

Alternative 1 would not only increase watershed runoff but would al quality degradation due to the generation of additional urban pollutants ass runoff containing urban pollutants would contribute to water quality degr Monterey Bay (Table 5-6).

Water Supply and Demand. Total water demand under Alt acre-feet per year (Table 5-6). This is over six times greater than existing the safe yield of the groundwater system in the vicinity of Fort Ord.

Table 5-6 Summary of Estimated Water Demand for Each Reuse Alternative

Reuse Alternative	Water Demand[a] (acre-feet per year) Seaside	Marina	County	Presidio of Monterey Annex/ Reserve Center[b]	Total
Alternative 1	7,300	7,700	18,400	3,200	36,600
Subalternative A	9,700	7,700	18,000	0	35,400
Subalternative B	8,700	7,700	17,400	2,900	36,600
Subalternative C	9,300	7,700	20,800	0	37,700
Alternative 2	5,600	6,700	7,400	3,200	23,000
Subalternative A	7,800	6,700	7,400	0	22,000
Subalternative B	6,600	6,700	7,100	2,900	23,400
Alternative 3	2,900	7,600	3,800	3,200	17,600
Alternative 4	1,300	5,600	3,200	3,200	13,400
Alternative 5	0	0	0	3,200	3,400
Subalternative A	0	0	0	0	100
Alternative 6R	1,300	1,500	6,000	3,200	12,000

[a] Water demand estimates are in acre-feet per year (af/yr) and are subtotaled by geographic area. Totals may not add because of rounding.

[b] The estimated water demand for the Presidio of Monterey (POM) annex and reserve center was provided by Fort Ord. Supporting documentation is contained in Appendix K (Volume III, with revisions in Volume IV, Section 6.0)

5.6.1.6 Public Health and Safety

Table 5-7 quantifies the impacts of this alternative on the following services:

Law Enforcement. Alternative 1 would require up to 495 law enforcement officers and equipment to provide service to the proposed uses. This is a 244% increase over the existing Fort Ord law enforcement staff of 144.

Fire Protection. Alternative 1 would require up to 247 firefighters and equipment and approximately 62 firefighting companies to provide service to the proposed land uses. This is a 517% increase over the existing Fort Ord fire protection staff of 40.

Medical Services. Alternative 1 would result in the need for additional medical services for approximately 70,000 residents.

Emergency Medical Services. Alternative 1 would result in the need for additional emergency medical services for approximately 160,000 residents.

Seismic Safety. Alternative 1 would expose approximately 283,000 people to potential seismic events and expose coastline development to potential damage caused by tsunamis in Monterey Bay.

5.6.1.7 Traffic and Circulation

Implementation of Alternative 1 would generate approximately 1.1 million daily trips at full buildout (Table 5-8). This alternative would also generate travel demand of:

- approximately 750,000 trips between Fort Ord and the surrounding communities, creating the need for between 47 and 125 lanes of roadway;
- approximately 218,000 vehicle trips in the north-south direction on the installation, creating the need for between 14 and 36 lanes of roadway; and
- and approximately 270,000 vehicle trips in the east-west direction on and through the installation, creating the need for between 17 and 45 lanes of roadway.

By providing transit service and implementing aggressive measures to reduce single-occupant driving, the need for roadways could be reduced approximately 10%. To describe the number of lanes of roadway that would be needed to fulfill the travel demand created by this alternative, ranges are presented rather than a single number. The lower end of the range describes the number of freeway lanes needed to meet the demand, and the upper end describes the number of lanes, including arterial roadways. In reality, the capacity would likely be provided by an unknown combination of freeways, arterials, collector streets, and transit facilities.

The roadway and transit improvements needed to support Alternative 1 are not proposed in local general plans. This situation could be resolved by updating local general plans to include the roadway and transit improvements needed to accommodate the proposed reuse of Fort Ord.

Table 5-7 Public Health and Safety Impacts by Reuse Alternative

Reuse Alternative	Law Enforcement	Fire Protection	Medical Services	Emergency Medical Services	Seismic Safety
Alternative 1	Demand for up to 495 officers (244%)	Demand for up to 247 firefighters (517%)	Demand for services for 70,000 residents	Demand for additional service to 160,000 residents	Exposure of up to 283,000 people to seismic events and tsunamis
Subalternative A	Demand for up to 515 officers (257%)	Demand for up to 257 firefighters (542%)	Demand for services for 99,500 residents	Demand for additional service to 189,500 residents	Exposure of up to 250,000 people to seismic events and tsunamis
Subalternative B	Demand for up to 496 officers (244%)	Demand for up to 248 firefighters (519%)	Demand for services for 157,800 residents	Demand for additional service to 247,800 residents	Exposure of up to 240,000 people to seismic events and tsunamis
Subalternative C	Demand for up to 566 officers (293%)	Demand for up to 283 firefighters (606%)	Demand for services for 127,500 residents	Demand for additional service to 217,500 residents	Exposure of up to 275,000 people to seismic events and tsunamis
Alternative 2	Demand for up to 228 officers (58%)	Demand for up to 113 firefighters (182%)	Surplus services for 64,000 residents	Demand for additional service to 26,000 residents	Exposure of up to 124,000 people to seismic events
Subalternative A	Demand for up to 249 officers (73%)	Demand for up to 124 firefighters (209%)	Surplus services for 31,600 residents	Demand for additional service to 58,400 residents	Exposure of up to 125,000 people to seismic events
Subalternative B	Demand for up to 246 officers (71%)	Demand for up to 122 firefighters (206%)	Surplus services for 33,000 residents	Demand for additional service to 52,000 residents	Exposure of up to 120,000 people to seismic events
Alternative 3	Demand for up to 170 officers (18%)	Demand for up to 83 firefighters (107%)	Surplus services for 94,000 residents	Surplus service available for 28,000 residents	Exposure of up to 83,000 people to seismic events
Alternative 4	Demand for 65 officers (-55%)	Demand for 31 firefighters (-22%)	Surplus services for 56,000 residents	Demand for additional service to 31,000 residents	Exposure of up to 31,000 people to seismic events
Alternative 5	Demand for 13 officers (-91%)	Demand for 5 firefighters (-89%)	No impact	No impact	No impact
Subalternative A	Demand for up to 4 officers (-97%)	No impact	No impact	No impact	No impact
Alternative 6R	Demand for up to 39 officers (-73%)	Demand for up to 18 firefighters (-52%)	No impact	No impact	Exposure of up to 44,500 people to seismic events

Note: (%) indicates percent increase or decrease from existing conditions.

Table 5-8 Comparison of Traffic Impacts by Reuse Alternative

		Alternative 1		Alternative 2		Alternative 3	
	Existing Daily Trips	Daily Trips	Number of Lanes Required[a]	Daily Trips	Number of Lanes Required[a]	Daily Trips	Number of Lanes Required[a]
Daily Trips Generated	–	1,100,000	–	570,000	–	305,000	–
North-South Screenline	–	218,000	14-36	81,000	5-14	32,000	2-6
East-West Screenline	–	270,000	17-45	103,000	7-17	93,000	6-16
Encircling Screenline[b]	58,000	750,000	47-125	307,000	19-51	285,000	18-48

		Alternative 4		Alternative 5		Alternative 6R	
	Existing Daily Trips	Daily Trips	Number of Lanes Required[a]	Daily Trips	Number of Lanes Required[a]	Daily Trips	Number of Lanes Required[a]
Daily Trips Generated	–	172,000	–	15,000	–	228,000	–
North-South Screenline	–	16,000	1-3	6,000	1-2	40,000	3-7
East-West Screenline	–	50,000	3-9	24,000	2-4	22,000	2-46
Encircling Screenline[b]	58,000	188,000	12-31	48,000	12-31	131,000	9-22

Note: – == data not appropriate.

[a] Lanes required to achieve LOS C.

[b] Measures travel to and from Fort Ord.

5.6.1.8 Air Quality

The air quality analysis compares each reuse alternative using the following four methods (Table 5-9):

- **Construction emissions exceeding thresholds.** Construction emissions are a function of the acreage that would be actively disturbed by construction equipment. Construction equipment emission estimates assume that full buildout of each alternative would be completed by 2010 and that a uniform rate of construction would occur between 1995 and 2010. Emissions of reactive organic compounds, nitrogen oxide (NO_x), carbon monoxide (CO), and PM_{10} were estimated to determine whether they exceeded thresholds established by the Monterey Bay Unified Air Pollution Control District (MBUAPCD).

- **Operational emissions exceeding thresholds.** Operational emissions would be produced by motor vehicles, area sources, and stationary sources. Operational emission estimates assume that full buildout would occur by 2010. For each alternative, emissions of PM_{10}, NO_x, and volatile organic compounds were compared to existing Fort Ord emissions to determine emission increases. These net emission increases (compared to existing emissions) were then compared to the MBUAPCD thresholds.

- **CO concentrations exceeding state and federal ambient standards.** For each alternative, operational emissions of CO produced by motor vehicles were modeled to determine ambient concentrations at sensitive receptors. Those concentrations were then compared to the state and federal 1-hour and 8-hour ambient CO standards.

- **Consistency with the MBUAPCD 1991 Air Quality Management Plan and the 1982 State Implementation Plan.** The population increases associated with each alternative were compared to the population forecasts used to prepare the 1991 AQMP and the 1982 State Implementation Plan (SIP) developed jointly by the MBUAPCD and the Association of Monterey Bay Area Governments (AMBAG). Alternatives were considered consistent with the respective plans if their associated population growth was less than or equal to the population estimates used to prepare the 1991 AQMP and the 1982 SIP. Values for each comparison method under each alternative are summarized in Table 5-9.

Alternative 1 includes the construction and use of 78,751 residential units and 15,128 acres of commercial, industrial, recreational, and institutional development. Both construction and operation of these land uses would generate air emissions.

The air quality analysis assumes that construction would occur from 1995 through 2010 and that by 2010, all land uses would be fully developed. The operational emissions estimates, which assume buildout by 2010, focus on motor vehicle and residential area emission sources.

Construction and operation of Alternative 1 would result in substantial increases in PM_{10}, CO, and ozone precursors. These increases would exceed the MBUAPCD's emission thresholds for PM_{10} and ozone precursors (reactive organic gases [ROG] and NO_x) and would contribute to violations of the CO ambient standards near congested intersections.

Alternative 1 is inconsistent with the MBUAPCD's 1991 AQMP (designed to meet California's ambient ozone standards) and the MBUAPCD and AMBAG's 1982 SIP (designed to meet federal ozone standards). This inconsistency results because population growth associated with Alternative 1 exceeds the population forecasts used to prepare the respective air plans.

Table 5-9 Comparison of Air Emissions by Reuse Alternative

Reuse Alternative	Construction Emissions (lbs/day)				Operational Emissions (Compared to Existing) (lbs/day)			Maximum Predicted CO Concentrations above Standards	Consistent with Air Quality Plans?	
	ROG	NO_x	CO	PM_{10}	ROG	NO_x	PM_{10}		1991 AQMP	1982 SIP
Alternative 1	36	486	175	256	6,844	6,660	3,357	Yes	No	No
Subalternative A	35	463	166	243	7,661	7,215	3,569	Yes	No	No
Subalternative B	36	478	172	252	7,147	7,098	3,531	Yes	No	No
Subalternative C	36	471	169	247	8,578	7,186	3,531	Yes	No	No
Alternative 2	28	368	132	194	-818	729	1,209	No	No	Yes
Subalternative A	27	353	127	186	-21	1,142	1,366	No	No	Yes
Subalternative B	28	368	132	194	-327	993	1,312	No	No	Yes
Alternative 3	16	212	76	111	-4,344	-2,806	-31	No	No	Yes
Alternative 4	16	212	76	111	-7,353	-4,129	-506	No	Yes	Yes
Alternative 5	3	39	14	21	-8,135	-5,698	-1,094	No	Yes	Yes
Subalternative A	1	8	3	4	-8,229	-5,997	-1,156	No	Yes	Yes
Alternative 6R	12	157	56	83	-6,471	-2,702	-55	No	Yes	Yes

5.6.1.9 Noise

Noise-related issues for each reuse alternative are compared using aggregate comparison parameters. The following is a discussion of each comparison parameter used.

- **Acres of Construction-Related Land Disturbance.** Although the types of construction-related impacts would generally be the same for each alternative, this parameter is an indicator of the duration and extent of construction-related noise impacts.

- **Logarithmic Sum in Decibels of Calculated Day-Night Average Sound Level Values for 30 Existing Roadway Segments.** This parameter is an aggregate indicator of the relative amount of traffic noise that is occurring under existing conditions or would occur under each alternative. The value of this parameter has no absolute meaning.

- **Number of Existing Roadway Segments Where Traffic Noise Increases Are Greater than 5 Decibels or Greater Relative to Existing Conditions.** This parameter identifies the number of roadway segments where substantial traffic noise increases would occur and is an indicator of both direct and cumulative impacts.

- **Number of Existing Roadway Segments Where Traffic Noise Increases Are Greater than 0 Decibels and Less than 5 Decibels Relative to Existing Conditions.** This parameter identifies the number of roadway segments where traffic noise increases of less than 5 decibels (dB) would occur. Given that existing traffic noise levels along all existing roadway segments analyzed are close to or exceed the 60-dB day-night average sound level (L_{dn}) standard for residences, any increase in noise along these roadway segments can be considered a substantial cumulative effect. This parameter is thus an indicator of cumulative impacts.

- **Number of Existing Roadway Segments Where Traffic Noise Decreases Relative to Existing Conditions.** This parameter is an indicator of the beneficial effects of an alternative in reducing traffic noise.

- **Number of Substantial Noise-Related Land Use Compatibility Impacts Identified.** Substantial noise-related land use compatibility impacts have been identified for each alternative. This parameter is the number of substantial impacts identified and is an indicator of the relative amount of compatibility problems that may occur under each alternative.

Values for each comparison parameter under each reuse alternative are summarized in Table 5-10.

Under Alternative 1, proposed development of Fort Ord would result in approximately 23,000 acres of construction-related land disturbance and would require the construction of new major arterials and freeways within the bounds of the installation. This construction would result in increased noise levels around construction sites and along access roads to construction sites. These increased noise levels have the potential to adversely affect residences and other noise-sensitive land uses near these sites or roads. Ambient noise levels may be substantially increased or local noise standards may be exceeded.

Traffic noise levels have been evaluated along existing roadway segments and other roadway segments proposed under Alternative 1 that would be within the boundaries of Fort Ord. Noise-sensitive land uses (primarily residential uses) are adjacent to all of the existing roadway segments evaluated. Other noise-sensitive land uses adjacent to these roadways include educational, religious, and healthcare facilities. Residential land uses range from rural residential land uses with scattered houses adjacent to roadways to high-density urban residential development. Commercial, industrial, and recreational land uses also are adjacent to some of the roads. However, impacts are evaluated based on the most sensitive land use adjacent to a given roadway segment.

Table 5-10. Comparison of Reuse Alternatives Relative to Noise

Parameter	Existing	Alternative 1	Subalternative A	Subalternative B	Subalternative C	Alternative 2	Subalternative A	Subalternative B
Acres of construction related land disturbance	N/A	23,000	22,000	23,000	22,400	17,700	16,700	17,500
Logarithmic sum in dB of calculated Ldn values for 30 existing roadway segments	84.6	87.4	–	–	–	85.5	–	–
Number of existing roadway segments where traffic noise increase are 5 dB or greater	N/A	9	–	–	–	2	–	–
Number of existing roadway segments where traffic noise increases are greater than 0 dB and less than 5 dB relative to existing conditions	N/A	14	–	–	–	17	–	–
Number of existing roadway segments where traffic noise decreases relative to existing conditions	N/A	1	–	–	–	2	–	–
Number of substantial noise-related land use compatibility impacts identified	N/A	6	6	6	5	5	5	5

Parameter	Existing	Alternative 3	Alternative 4	Alternative 5	Subalternative A	Alternative 6R
Acres of construction related land disturbance	N/A	10,000	10,000	1,900	400	7,485
Logarithmic sum in dB of calculated Ldn values for 30 existing roadway segments	84.6	86.1	85.3	85.0	–	85.4
Number of existing roadway segments where traffic noise increase are 5 dB or greater	N/A	5	4	2	–	4
Number of existing roadway segments where traffic noise increases are greater than 0 dB and less than 5 dB relative to existing conditions	N/A	17	11	7	–	13
Number of existing roadway segments where traffic noise decreases relative to existing conditions	N/A	5	7	7	–	5
Number of substantial noise-related land use compatibility impacts identified	N/A	2	4	0	0	3

N/A Not applicable.
– These parameters were not quantitatively analyzed for subalternatives because differences in traffic noise levels would be small.

Under Alternative 1, the noise criterion for residential land uses of 60-dB L_{dn} would be exceeded within 100 feet of all of the existing roadway segments evaluated. In most cases, this is also true under existing conditions. However, implementing Alternative 1 would substantially increase noise (5 dB or greater relative to existing conditions) along nine of the existing roadway segments evaluated or would increase noise levels along roads where local noise standards are already exceeded. The combination of local noise standards being exceeded and substantial increases in traffic noise along several roadway segments would have a substantial adverse effect on existing residences.

Major arterials and freeways would cross or be adjacent to all of the noise-sensitive land uses proposed under Alternative 1. These noise-sensitive uses include residential, educational, wildlife park, botanical garden, and cemetery uses that would be exposed to noise levels that exceed local noise standards for these uses.

Under Alternative 1, land uses that may support activities that are sources of noise would be located adjacent to noise-sensitive land uses. Substantial noise impacts could occur as a result of these adjacent uses. The following noise-sensitive land uses are adjacent to land uses that may support noise-generating activities:

- low-density residential land use, a botanical garden, a cemetery, and a wildlife park would be located adjacent to an outdoor amphitheater;
- a high school, a trade school, a university, and an Asilomar-type facility would be located adjacent to a transit center;
- high-density residential land uses would be located adjacent to sports fields and a sports complex;
- a resort hotel would be located adjacent to a film complex and theme park;
- a police academy would be located adjacent to low-density residential land uses; noise from activities at the academy, primarily use of rifle and pistol ranges, could be incompatible with adjacent residential areas; and could adversely affect adjacent residential land uses under this alternative; and
- a commercial center would be located adjacent to an airport where Fritzsche Army Airfield is currently located.

5.6.1.10 Hazardous and Toxic Waste Site Remediation

Implementing Alternative 1 would result in high-density development on remediated toxic waste sites, formerly used trainfire ranges, and remote areas of the installation that may not be characterized as part of hazardous waste or unexploded ordnance cleanup activities. Risks to human health and safety from development on unidentified hazardous waste or unexploded ordnance would increase with development intensity.

The cleanup and certification process required by the EPA and the Army for land transfer reduces the potential for unidentified hazardous waste and unexploded ordnance to remain on the installation. In addition, under the Defense Environmental Restoration Program for Formerly Used Defense Sites, the Army is responsible for cleanup of contamination or unexploded ordnance discovered following land transfers.

Most buildings at Fort Ord would be demolished under Alternative 1. Many of these buildings contains asbestos; some may contain lead-based paint and other potentially hazardous materials. Demolition activities would release asbestos to the environment; building debris generated during these

activities could be classified as hazardous waste. Generation and disposal of hazardous waste during building demolition could affect compliance with federal and state laws and regulations regarding the handling of hazardous waste and materials.

5.6.1.11 Vegetation, Wildlife, and Wetland Resources

Common and Special Native Biological Communities. Alternative 1 would result in the removal of approximately 7,790 acres (75%) of common biological communities, including beaches, bluffs and blowouts, ice plant mats, disturbed dune, coastal scrub, coast live oak woodland and savanna, and annual grassland. The following habitat losses would occur to special native biological communities: approximately 6 acres (6%) of native coastal strand and dune scrub, 12,120 acres (95%) of maritime chaparral, 230 acres (50%) of perennial grassland, and 210 acres (90%) of riparian forest. Losses of biological communities by alternative are shown in Table 5-11.

Special-Status Plant Species. Alternative 1 would result in the loss of approximately 11,060 acres of habitat occupied by sand gilia, a federally listed endangered species, and Monterey spineflower, a species federally listed as endangered. Combined habitat losses for all special-status plant species are shown in Table 5-11.

Approximately 14,130 acres of habitat occupied by one or more plant species that are federal candidates for listing as threatened or endangered would be lost under Alternative 1. The species affected would be Seaside bird's-beak, Toro manzanita, sandmat manzanita, Hickman's onion, Monterey ceanothus, Eastwood's ericameria, coast wallflower, and wedge-leaved horkelia.

Approximately 15 acres of habitat occupied at low density by Yadon's piperia would be removed for development. This species will soon be proposed for federal listing as endangered (U.S. Fish and Wildlife Service pers. comm.). Yadon's piperia is considered rare and endangered by CNPS.

Alternative 1 would result in the loss of approximately 11,800 acres of habitat occupied by the following nine plant species that have no federal or state status but occur on CNPS List 1b or 4: Hooker's manzanita, Monterey Indian paintbrush, Douglas' spineflower, Lewis' clarkia, virgate eriastrum, small-leaved lomatium, Santa Cruz County monkeyflower, curly-leaved monardella, and purple-flowered piperia.

Implementation of Alternative 1 would result in losses of Seaside bird's-beak, Toro manzanita, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, coast wallflower, and Hooker's manzanita so extensive that these species could become eligible for federal listing as threatened or endangered.

Special-Status Wildlife Species. Alternative 1 would result in the loss of approximately 40 acres (22%) of Smith's blue butterfly habitat and 60 acres (92%) of California linderiella habitat, including five known California linderiella breeding sites. Smith's blue butterfly is federally listed as endangered, and California linderiella is federally proposed for endangered status. Nesting success of western snowy plovers, a species federally listed as threatened, would be adversely affected by activities associated with coastal development and increased public use of beaches. Increased public use of dune habitats could also degrade habitat occupied by Smith's blue butterfly and black legless lizard. Habitat losses for all special-status wildlife species are shown in Table 5-11.

Between 83% and 96% of the habitat available at Fort Ord for seven federal candidate wildlife species would be eliminated under Alternative 1: black legless lizard, Monterey dusky-footed woodrat, Monterey ornate shrew, loggerhead shrike, California tiger salamander, California red-legged frog, and southwestern pond turtle. All eight known tiger salamander breeding sites would be lost. Because of the limited ranges of the black legless lizard, Monterey dusky-footed woodrat, and Monterey ornate shrew, habitat losses under Alternative 1 could result in all three species being elevated from Category 2 federal candidate status to threatened or endangered species status. Approximately 65% of the available California

Table 5-11 Vegetation, Wildlife, and Wetland Resources Impacts by Reuse Alternative

Reuse Alternative	Loss of Common Biological Communities	Loss of Special Native Biological Communities	Loss of Habitat for Federally Listed and Proposed Plants[a]	Loss of Habitat for Candidate Plants[b]	Loss of Other Special-Status Plants[c]
Vegetation					
Alternative 1	Approximately 7,790 acres (75%)	Approximately 12,570 acres	Approximately 11,060 acres	Approximately 14,130 acres	Approximately 11,800 acres
Subalternative A	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1
Subalternative B	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1
Subalternative C	Similar to Alternative 1 but to a greater extent	Similar to Alternative 1 but to a greater extent	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1
Alternative 2	Approximately 6,350 acres (60%)	Approximately 6,710 acres	Approximately 6,620 acres	Approximately 7,680 acres	Approximately 11,950 acres
Subalternative A	Similar to Alternative 2	Similar to Alternative 2	Similar to Alternative 2	Similar to Alternative 2	Similar to Alternative 2
Subalternative B	Similar to Alternative 2	Similar to Alternative 2	Similar to Alternative 2	Similar to Alternative 2	Similar to Alternative 2
Alternative 3	Approximately 4,230 acres (40%)	Approximately 1,820 acres	Approximately 3,450 acres	Approximately 2,740 acres	Approximately 11,800 acres
Alternative 4	Approximately 3,150 acres (30%)	Approximately 1,290 acres	Approximately 2,230 acres	Approximately 1,890 acres	Approximately 1,220 acres
Alternative 5	Approximately 770 acres (10%)	Approximately 30 acres	Approximately 110 acres	Approximately 45 acres	Approximately 45 acres
Subalternative A	Similar to Alternative 5	Similar to Alternative 5	Similar to Alternative 5	Similar to Alternative 5	Similar to Alternative 5
Alternative 6R	Approximately 1,550 acres (15%)	Approximately 955 acres	Approximately 1,090 acres	Approximately 2,190 acres	Approximately 1,210 acres

Table 5-11 Continued

Reuse Alternative	Loss of Habitat for Federally Listed and Proposed Wildlife Species[d]	Loss of Habitat for Federal Candidate Wildlife Species[e]	Loss of Habitat Available for Wildlife Species that are California Species of Special Concern	Loss of Habitat Available for Special-Interest Wildlife Species with No Legal Status
Wildlife				
Alternative 1	Approximately 22% of available habitat for Smith's blue butterfly, approximately 92% for California linderiella	Approximately 83-96% for seven species and 41-65% for two species	Approximately 86-97% for four species and 67-77% for five species	Approximately 94-100%
Subalternative A	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1
Subalternative B	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1
Subalternative C	Similar to Alternative 1 but to a greater extent	Similar to Alternative 1	Similar to Alternative 1	Similar to Alternative 1
Alternative 2	Approximately 14-23%	Approximately 91% for one species, 51-70% for four species, and 23-33% for four species	Approximately 89% for two species, 51-65% for six species, and 21% for one species	Approximately 83-100% for three species and 49% for one species
Subalternative A	Similar to Alternative 2	Similar to Alternative 2	Similar to Alternative 2	Similar to Alternative 2
Subalternative B	Similar to Alternative 2	Similar to Alternative 2	Similar to Alternative 2	Similar to Alternative 2
Alternative 3	Approximately 1-6%	Approximately 50% for one species, 20-37% for four species, and 6-7% for four species	Approximately 29-44% for four species, 18-20% for two species, 3% for one species, and no loss for two species	Approximately 71% for one species, 14% for one species, and no loss for two species
Alternative 4	Approximately 8-14%	Approximately 22-33% for three species, 7-17% for five species, and 1% for one species	Approximately 26-34% for four species, 5-15% for three species, and no loss for two species	Approximately 46% for one species, 10% for one species, and no loss for two species
Alternative 5	Approximately 1%	Approximately 1-6% for six species and no impact for three species	Approximately 1-7% for seven species and no loss for two species	Approximately 1-8% for two species, and no loss for two species
Subalternative 5	Similar to Alternative 5	Similar to Alternative 5	Similar to Alternative 5	Similar to Alternative 5
Alternative 6R	Approximately 1-3%	Approximately 10-18% for three species and 3-9% for six species	Approximately 14% for one species and 3-10% for eight species	Approximately 28% for one species and 5-7% for three species

Table 5-11 Continued

Reuse Alternative	Loss of Wetlands and Other Waters of the United States	Loss of Plant and Butterfly Preserves and Significant Natural Areas	Conflict with Monterey Bay National Marine Sanctuary
Wetlands			
Alternative 1	Approximately 55 acres of wetlands and 96,400 linear feet of streams	All except preserve 2 and SNA 026 adversely affected to some extent	–
Subalternative A	Similar to Alternative 1	Similar to Alternative 1	–
Subalternative B	Similar to Alternative 1	Similar to Alternative 1	–
Subalternative C	Similar to Alternative 1	All areas lost	Construction of marina and cruise ship pier conflicts with regulations proposed for the sanctuary
Alternative 2	Approximately 15 acres of wetlands and 71,400 linear feet of streams	Similar to Alternative 1 but to a lesser extent	–
Subalternative A	Similar to Alternative 2	Similar to Alternative 1 but to a lesser extent	–
Subalternative B	Similar to Alternative 2	Similar to Alternative 1 but to a lesser extent	–
Alternative 3	Approximately 4 acres of wetlands and 4,000 linear feet of streams	Portions of preserves 3 and 7 and portion of SNA 040 lost	–
Alternative 4	Approximately 7 acres of wetlands and 10,500 linear feet of streams	Preserve 11 and portions of preserves 2 and 12 lost	–
Alternative 5	No wetlands, approximately 2,200 linear feet of streams	–	–
Subalternative A		–	–
Alternative 6R	Approximately 2 acres of wetlands and 2,250 linear feet of streams	No preserves or significant areas lost in areas designated for urban development	–

horned lark habitat and roughly 41% of the tricolored blackbird habitat at Fort Ord would also be eliminated. The one known tricolored blackbird nesting colony would be disturbed by activities associated with proposed residential land uses.

Under Alternative 1, 86-97% of the available habitat at Fort Ord for four California species of special concern would be eliminated: Cooper's hawk, yellow warbler, golden eagle, and coast horned lizard. Burrowing owl, northern harrier, sharp-shinned hawk, prairie falcon, and American badger, which are also California species of special concern, would lose 64-77% of their available habitat.

From 94% to 100% of the available habitat for four special-interest species would also be eliminated under Alternative 1: Salinas harvest mouse, greater roadrunner, Swainson's thrush, and common yellowthroat. Special-interest species have no legal status but may be rare or declining in the region.

Wetlands and Other Waters of the United States. Alternative 1 would result in the degradation or removal of all vernal pools, approximately 80% of the freshwater marsh and ponds, and about 96,400 linear feet of streams at Fort Ord. Vernal pools and freshwater marsh are potentially jurisdictional wetlands and stream channels and ponds are potentially other waters of the United States protected under Section 404 of the Clean Water Act.

Plant and Butterfly Preserves and Significant Natural Areas. Under Alternative 1, all natural habitat would be eliminated in preserves 3, 4, 5, 6, 7, 8, 9, 11, and 12, and approximately 20% of preserve 1 and 25% of preserve 10 would be removed (Figure 4.11-12). In addition, the habitat in significant natural areas 040 and 050 would be removed (Figure 4.11-13).

5.6.1.12 Visual Resources

Implementation of Alternative 1 would require construction of a substantial number of buildings, renovation of existing buildings, and modification of infrastructure. These activities would produce short-term visual impacts and could produce long-term visual impacts. Short-term visual impacts would occur from construction activities, including location of equipment storage areas, removal of vegetation, and infrastructure modifications. Long-term visual impacts could occur from removal of vegetation; construction of new buildings; alteration of the appearances of buildings and other structures; and construction of improvements such as recreation facilities, parking areas, lighting standards, and fences.

The activities described above could result in a substantial reduction in visual unity and intactness for some visually sensitive areas for views from State Route 1 and other important visitor use areas in and around Monterey Bay. The resulting visual impacts would be inconsistent with Policy 30251 of the California Coastal Act of 1976 concerning the protection of scenic and visual qualities of coastal areas.

Alternative 1 proposes extensive high-density development for the western portion of the installation, west of Barloy Canyon Road. This level of development would introduce numerous buildings, parking lots, roads, and other built elements into the Fort Ord viewshed. The forms, lines, colors, and textures of the built elements would differ substantially from those of the existing landscape, which is mostly natural in appearance. Extensive vegetation removal and regrading would occur to facilitate development.

Proposed development would substantially reduce the vividness, intactness, and unity of the region's visual resources and would result in substantial impacts on regional visual quality. This level of development would also alter the visual character and reduce the visual quality of Fort Ord's coastal area. This alternative would be inconsistent with Policy 30251 of the California Coastal Act of 1976 concerning the protection of scenic and visual qualities of the coastal area.

Views of Fort Ord from primary and secondary travel routes would be reduced in visual quality by encroaching land uses of potentially high visual impact. Viewed from State Route 1, the vividness and intact-

ness of the coastal area would be reduced. Additionally, built elements would be highly visible in areas of high visual sensitivity and quality east of State Route 1, outside the coastal area. Land uses of potentially high impact located in the middleground of views of Fort Ord from State Route 68, a state-designated scenic highway, would reduce the visual quality of this scenic corridor. Impacts on sensitive areas visible from secondary roads would also be substantial.

Viewed from Monterey Bay and other important tourist and recreation areas along the Monterey Peninsula, the vividness and intactness of Fort Ord's visual resources would be substantially reduced by proposed development.

In the northern and northeast portions of the installation, impacts resulting from development in visually sensitive areas would be visible from the Salinas Valley.

5.6.1.13 Cultural Resources

This alternative has the potential to affect National Register-eligible historic buildings by loss of federal protection and by splitting proposed National Register districts. If National Register-eligible archeological sites are found within the archeologically sensitive areas at Fort Ord, the high-intensity uses proposed by Alternative 1 have the greatest potential to affect these resources. The areas of greatest archeological sensitivity include all terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, and lands adjacent to the streams that flow through Pilarcitos and Impossible Canyons. All other installation lands are recommended as having low to medium potential for possessing archeological resources. If sites or resources important to Native Americans are found to be located on Fort Ord lands, the high-intensity land uses proposed by Alternative 1 would have the greatest potential to cause loss of access, damage to, or destruction of these properties.

5.6.1.14 Subalternative A: No Presidio of Monterey Annex/No Reserve Center

Land Use

Land use impacts of Subalternative A would be similar to those described under Alternative 1.

Socioeconomics

- **Population and Housing.** Direct population and housing growth countywide would be slightly greater under Subalternative A than under Alternative 1 (Table 5-3). Population and housing growth in Marina would be similar to levels under Alternative 1, while population and housing levels in Seaside would be higher than those under Alternative 1. The jobs/housing ratio would be similar to the ratio under Alternative 1.

- **Regional Economy.** Employment, output, and personal income growth under Subalternative A would be similar to growth under Alternative 1 (Table 5-3).

- **Social Services.** Implementation of Subalternative A would result in social services impacts similar to those described for Alternative 1, with the increased loss of military retiree benefits. Under this subalternative, the installation's commissary, post exchange, and recreational areas currently available to military retirees in the region would be closed. Loss of these services could place an additional financial burden on the region's military retirees, who rely on the commissary and post exchange for reduced retail prices for consumer products.

- **Schools.** Impacts on schools under Subalternative A would be similar to those described under Alternative 1 except that the number of students generated under this subalternative would increase by approximately 2,000 (Table 5-4).

- **Recreation.** In addition to the impacts described under Alternative 1, implementation of this Subalternative A would also result in the loss of recreational opportunities in the Main Garrison area (Table 5-4).

Soils, Geology, Topography, and Seismicity

Impacts of Subalternative A would be similar to those described under Alternative 1.

Public Services and Utilities

Table 5-5 quantifies public service and utility impacts for Subalternative A.

- **Wastewater.** Impacts on wastewater would be similar to those described under Alternative 1 except that Subalternative A would generate up to 18.9 mgd, a 686% increase over existing levels. An estimated 15.6 mgd of wastewater treatment capacity would be needed under this subalternative.

- **Solid Waste.** Impacts on solid waste would be similar to those described for Alternative 1 except that Subalternative A would generate up to 1,070 tpd, a 1,038% increase over existing levels. This would reduce the life of the Marina Landfill by 50 years.

- **Telephone Service.** Impacts on telephone service would be similar to those described under Alternative 1 except that Subalternative A would require the expansion of the telephone service area to approximately 21,860 acres, a 435% increase in service area.

- **Gas and Electric Service.** Impacts on gas and electric service would be similar to those described under Alternative 1 except that Subalternative A would require up to 5,850 MCFH of gas and 550 MW of electricity, an increase of 4,000% more gas and 3,100% more electricity than existing levels.

- **Cable Television.** Impacts on cable television service would be similar to those described for Alternative 1 except that Subalternative A would require the expansion of the cable television service area to approximately 21,860 acres, a 435% increase in service area.

- **Storm Drainage System.** Subalternative A would have the same impacts as those described under Alternative 1.

- **Water Distribution Infrastructure.** Impacts on the water distribution system would be similar to those described under Alternative 1 except that Subalternative A would require that the water distribution system's service area be expanded approximately 221,860 acres, an increase of 435% in service area.

Water Resources

- **Hydrology and Water Quality.** Subalternative A would convert land from open space to urban development, which would increase watershed runoff and peak floodflows. Subalternative A would not only increase watershed runoff but would also degrade water

quality by generating additional urban pollutants. Surface runoff containing urban pollutants would degrade water quality on the installation and in Monterey Bay.

- **Water Supply and Demand.** Water demand under Subalternative A would be about 35,386 acre-feet per year. This amount is within 9% of the water demand for Alternative 1 (Table 5-6).

Public Health and Safety

Table 5-7 quantifies the impacts of Subalternative A on the following services:

- **Law Enforcement.** Impacts on law enforcement for Subalternative A would be similar to those described under Alternative 1 except that Subalternative A would require up to 515 law enforcement officers and equipment, a 257% increase over existing levels.

- **Fire Protection.** Impacts on fire protection for Subalternative A would be similar to those described under Alternative 1 except that Subalternative A would require up to 257 firefighters and equipment and approximately 64 firefighting companies, a 542% increase over existing levels.

- **Medical Services.** Impacts on medical services for Subalternative A would be similar to those described under Alternative 1 except that Subalternative A would result in the need for additional medical services for approximately 99,500 residents.

- **Emergency Medical Services.** Impacts on emergency medical services for Subalternative A would be similar to those described under Alternative 1 except that Subalternative A would result in the need for additional emergency medical services for approximately 189,500 residents.

- **Seismic Safety.** Seismic safety impacts for Subalternative A would be similar to those described under Alternative 1 except that approximately 250,000 people would be exposed to potential seismic events.

Traffic and Circulation

The reuse impacts of Subalternative A would be similar to, but greater than, those described under Alternative 1 (Table 5-8). Subalternative A proposes land uses, such as a resort hotel and a larger central business district, to replace the POM annex and reserve center. These uses would generate more daily traffic than the POM annex and reserve center. The large-scale development proposed for each land use would mean that the difference in impacts of each proposal would be small and localized.

Air Quality

Subalternative A would result in approximately the same amount of construction emissions as those generated under Alternative 1. However, Subalternative A has moderately higher emissions of PM_{10} and ozone precursors because of a higher level of high-density residential development (Table 5-9). Like Alternative 1, Subalternative A would result in violations of the CO ambient standards and is inconsistent with both the MBUAPCD's 1991 AQMP and the 1982 SIP developed jointly by the MBUAPCD and AMBAG.

Noise

The absence of the POM annex and the reserve center would not substantially affect traffic noise levels or the degree to which proposed noise-sensitive land uses are affected by noise. Refer to Table 5-10 for a comparison of reuse alternatives relative to noise.

Hazardous and Toxic Waste Site Remediation

No additional effects on hazardous and toxic waste site remediation would be caused by implementing this subalternative.

Vegetation, Wildlife, and Wetland Resources

Under Subalternative A, impacts would be similar to those described under Alternative 1 (Table 5-11). However, without development of the POM annex and reserve center, some areas within the proposed POM annex footprint would be converted to new land uses (i.e., university and resort hotel). Small areas of native vegetation may be removed to allow for construction of new facilities associated with these land uses. Small populations or individuals of the following special-status plant and wildlife species could be affected: Monterey spineflower, sandmat manzanita, Monterey ceanothus, purple-flowered piperia, Monterey ornate shrew, Monterey dusky-footed woodrat, black legless lizard, coast horned lizard, and Salinas harvest mouse. Monterey spineflower is proposed for federal listing as endangered. Should it become listed, the loss of individuals or populations of the species would be a violation of the federal Endangered Species Act. Future land uses for the no proposed use area are unknown.

Visual Resources

Visual impacts resulting from Subalternative A would be similar to those described under Alternative 1. However, impacts would be less for some areas near North-South Road that are designated for no proposed use and golf course.

Cultural Resources

All buildings recommended for the National Register are located outside of, and will not be affected by, the Subalternative A locations proposed for the POM annex and the reserve center. Lands within the cantonment area are generally considered to be highly disturbed and are not recommended for archeological survey.

5.6.1.15 Subalternative B: Seaside's Recommended Presidio of Monterey Annex/No Reserve Center

Land Use

Land use impacts resulting from Subalternative B would be similar to those described under Alternative 1. In addition, implementation of Subalternative B would result in incompatibilities between Seaside's recommended POM annex and the existing natural habitat where this annex is proposed to be built.

Socioeconomics

- **Population and Housing.** Direct population and housing growth countywide under Subalternative B would be similar to levels that would occur under Alternative 1 (Table 5-3). Population and housing growth in Marina would be similar to levels under Alternative 1, while population and housing levels in Seaside would be lower than those under Alter-

native 1. The countywide jobs/housing ratio would be greater than the ratio under Alternative 1, but similar to the existing jobs/housing ratio within Monterey County.

- **Regional Economy**. Employment, output, and personal income growth under Subalternative would be substantially greater than those under Alternative 1 (Table 5-3).

- **Social Services**. Implementation of Subalternative B would result in social services effects similar to those described under Alternative 1.

- **Schools**. Impacts on schools resulting from Subalternative B would be similar to those described under Alternative 1 except that the number of students generated by Subalternative B would increase by a few hundred (Table 5-4).

- **Recreation**. In addition to the impacts described under Alternative 1, implementation of this subalternative would also result in the loss of recreational opportunities in the Main Garrison area (Table 5-4).

Soils, Geology, Topography, and Seismicity

Impacts for Subalternative B would be similar to those described under Alternative 1.

Public Services and Utilities

Table 5-5 quantifies public service and utility impacts for Subalternative B.

- **Wastewater**. Impacts on wastewater would be similar to those described under Alternative 1 except that Subalternative B would generate up to 19.3 mgd, a 704% increase over existing levels. An estimated, 16 mgd of wastewater treatment capacity would be needed for this subalternative.

- **Solid Waste**. Impacts on solid waste would be similar to those described under Alternative 1 except that Subalternative B would generate up to 1,016 tpd, a 981% increase over existing levels. This would reduce the life of the Marina Landfill by 48 years.

- **Telephone Service**. Impacts on telephone service would be similar to those described for Alternative 1 except that Subalternative B would require the expansion of the telephone service area to approximately 21,170 acres, a 420% increase in service area.

- **Gas and Electric Service**. Impacts on gas and electric service would be similar to those described for Alternative 1 except that Subalternative B would require up to 3,950 MCFH of gas and 440 MW of electricity, an increase of 2,700% more gas and 2,500% more electricity than existing levels.

- **Cable Television**. Impacts on cable television service would be similar to those described for Alternative 1 except that Subalternative B would require the expansion of the cable television service area to approximately 21,170 acres, a 420% increase in service area.

- **Storm Drainage System**. Subalternative B would have the same impacts as those described under Alternative 1.

- **Water Distribution Infrastructure.** Impacts on the water distribution system would be similar to those described under Alternative 1 except that Subalternative B would require that the water distribution system's service area expand approximately 21,170 acres, an increase of 420% in service area.

Water Resources

- **Hydrology and Water Quality.** Subalternative B would convert land from open space to urban development, which would increase watershed runoff and peak floodflows. Subalternative B would not only increase watershed runoff but would also degrade watershed water quality by generating additional urban pollutants. Surface runoff containing urban pollutants would degrade water quality on the installation and in Monterey Bay.

- **Water Supply and Demand.** Water demand under Subalternative B would be about 36,633 acre-feet per year. This amount is similar to the water demand for Alternative 1 (Table 5-6).

Public Health and Safety

Table 5-7 quantifies the impacts of Subalternative B on the following services:

- **Law Enforcement.** Impacts on law enforcement for Subalternative B are similar to those described under Alternative 1, except that Subalternative B would require up to 496 law enforcement officers and equipment, a 244% increase over existing levels.

- **Fire Protection.** Impacts on fire protection for Subalternative B are similar to those described under Alternative 1 except that Subalternative B would require up to 248 firefighters and equipment and approximately 62 firefighting companies, a 519% increase over existing levels.

- **Medical Services.** Impacts on medical services for Subalternative B are similar to those described under Alternative 1 except that Subalternative B would result in the need for additional medical services for approximately 157,800 residents.

- **Emergency Medical Services.** Impacts on emergency medical services for Subalternative B are similar to those described under Alternative 1 except that Subalternative B would result in the need for additional emergency medical services for approximately 247,800 residents.

- **Seismic Safety.** Seismic safety impacts for Subalternative B are similar to those described under Alternative 1 except that approximately 240,000 people would be exposed to potential seismic events.

Traffic and Circulation

The reuse impacts of Subalternative B would be similar to those described under Alternative 1 because the land uses would be similar to those described under Alternative 1 (Table 5-8). The scale and conceptual nature of the proposed land uses would obscure any differences.

Air Quality

Subalternative B would result in approximately the same amount of construction emissions as Alternative 1. However, Subalternative B would have slightly higher emissions of PM_{10} and ozone precursors because of higher levels of residential and nonresidential development (Table 5-9). Like Alternative 1, this

subalternative would result in violations of the CO ambient standards and is inconsistent with both the MBUAPCD's 1991 AQMP and the 1982 SIP developed jointly by the MBUAPCD and AMBAG (Table 5-9).

Noise

The presence of Seaside's recommended POM annex and the absence of a reserve center would not substantially affect traffic noise levels or the degree to which proposed noise-sensitive land uses are affected by noise. Refer to Table 5-10 for a comparison of reuse alternatives relative to noise.

Hazardous and Toxic Waste Site Remediation

No additional effects on hazardous and toxic waste site remediation would be caused by implementing Subalternative B.

Vegetation, Wildlife, and Wetland Resources

Under Subalternative B, impacts would be similar to those described under Alternative 1. However, buildout of Seaside's recommended POM annex would slightly increase the amount of habitat eliminated by development compared to Alternative 1 because Seaside's recommended POM annex would adversely affect areas currently designated as open space. Approximately 3% of additional coastal scrub and approximately 1% of additional coastal coast live oak woodland would be eliminated under this Subalternative B (Table 5-11). Small populations or individuals of the following special-status plant and wildlife species could be affected: Monterey spineflower, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, wedge-leaved horkelia, Hooker's manzanita, virgate eriastrum, Monterey ornate shrew, Monterey dusky-footed woodrat, black legless lizard, coast horned lizard, and Salinas harvest mouse. Monterey spineflower is proposed for federal listing as endangered. Should it become listed, the loss of individuals or populations of the species would be a violation of the federal Endangered Species Act.

Small areas of native vegetation could also be lost because of changes in land use within the Army's proposed POM annex footprint (i.e., university and hotel) proposed under Subalternative B. Small populations or individuals of the following special-status plant and wildlife species could be affected: Monterey spineflower, sandmat manzanita, Monterey ceanothus, purple-flowered piperia, Monterey ornate shrew, Monterey dusky-footed woodrat, black legless lizard, coast horned lizard, and Salinas harvest mouse.

Visual Resources

Visual impacts resulting from Subalternative B would be similar to those described under Alternative 1. However, impacts would be less for an area to the west of North-South Road that is designated for a golf course.

Cultural Resources

All buildings recommended as eligible for listing in the National Register are located outside of, and will not be affected by, the Subalternative B locations proposed for the POM annex and reserve center. Archeological surveys will be necessary for construction projects undertaken on undeveloped land areas as part of Seaside's recommended POM annex under Subalternative B.

5.6.1.16 Subalternative C: Partial Variation of High-Intensity Mixed Use

Land Use

Land use impacts of Subalternative C would be similar to those described under Alternative 1. In addition, implementation of Subalternative C would result in approximately 800 acres of proposed land uses in the coastal zone that would be incompatible with the coastal zone designation and an inconsistency with a California Coastal Act policy protecting against fuel spills.

Socioeconomics

- **Population and Housing.** Direct population and housing growth would be greater under Subalternative C than under Alternative 1 (Table 5-3), but would not exceed significance thresholds established for population and housing effects. Population and housing growth in Marina would be similar to levels under Alternative 1, while population and housing levels in Seaside would be higher than levels under Alternative 1. The countywide jobs/housing ratio would greater than the ratio under Alternative 1 but similar to the existing jobs/housing ratio in Monterey County.

- **Regional Economy.** Employment, output, and personal income growth under Subalternative C would be substantially greater than those under Alternative 1 (Table 5-3).

- **Social Services.** Implementation of Subalternative C would result in social services effects similar to those described under Alternative 1.

- **Schools.** The impacts would be similar under Subalternative C to those under Alternative 1 except that the number of students generated would be much greater, increasing by approximately 8,000 (Table 5-4).

- **Recreation.** In addition to the impacts described under Alternative 1, the implementation of Subalternative C would also result in the loss of recreational opportunities in the Main Garrison area and an additional 100-acre increase in developed recreational opportunities (Table 5-4).

Soils, Geology, Topography, and Seismicity

Impacts for Subalternative C would be similar to those under Alternative 1, with the additional potential for increased coastal effects due to shoreline and off-shore development.

Public Services and Utilities

Table 5-5 quantifies public service and utility impacts on Subalternative C.

- **Wastewater.** Impacts on wastewater would be similar to those described under Alternative 1 except that Subalternative C would generate up to 19.9 mgd, a 730% increase over existing levels. An estimated 16.6 mgd of wastewater treatment capacity would be needed for Subalternative C.

- **Solid Waste.** Impacts on solid waste would be similar to those described under Alternative 1 except that Subalternative C would generate up to 1,180 tpd, a 1,156% increase over existing levels. This would reduce the life of the Marina Landfill by 53 years.

- **Telephone Service.** Impacts on telephone service would be similar to those described for Alternative 1 except that Subalternative C would require the expansion of the telephone service area to approximately 22,000 acres, a 435% increase in service area.

- **Gas and Electric Service.** Impacts on gas and electric service would be similar to those described under Alternative 1 except that Subalternative C would require up to 4,120 MCFH of gas and 440 MW of electricity, an increase of 2,800% more gas and 2,500% more electricity than existing levels.

- **Cable Television.** Impacts on cable television service would be similar to those described under Alternative 1 except that Subalternative C would require the expansion of the cable television service area to approximately 22,000 acres, a 435% increase in service area.

- **Storm Drainage System.** Subalternative C would have impacts similar to those described under Alternative 1 except that 25,442 acres of storm drainage infrastructure would need to be upgraded or expanded.

- **Water Distribution Infrastructure.** Impacts on the water distribution system would be similar to those described under Alternative 1 except that Subalternative C would require that the water distribution system's service area expand approximately 22,000 acres, an increase of 435% in service area.

Water Resources

- **Hydrology and Water Quality.** Subalternative C would convert land from open space to urban development, which would increase watershed runoff and peak floodflows. Subalternative C would not only increase watershed runoff but would also degrade watershed water quality by generating additional urban pollutants. Surface runoff containing urban pollutants would degrade water quality on the installation and in Monterey Bay.

- **Water Supply and Demand.** Water demand under Subalternative C would be about 37,732 acre-feet per year. This amount is higher than the water demand for Alternative 1 (Table 5-6).

Public Health and Safety

Table 5-7 quantifies the impacts of Subalternative C on the following services:

- **Law Enforcement.** Impacts on law enforcement for Subalternative C are similar to those described under Alternative 1 except that Subalternative C would require up to 566 law enforcement offic and equipment, a 293% increase over existing levels.

- **Fire Protection.** Impacts on fire protection for Subalternative C are similar to those described under Alternative 1 except that Subalternative C would require up to 283 firefighters and equipment and approximately 71 firefighting companies, a 606% increase over existing levels.

- **Medical Services.** Impacts on medical services for Subalternative C are similar to those described under Alternative 1 except that Subalternative C would result in the need for additional medical services for approximately 127,500 residents.

- **Emergency Medical Services.** Impacts on emergency medical services for Subalternative C are similar to those described under Alternative 1 except that Subalternative C would result in the need for additional emergency medical services for approximately 217,500 residents.

- **Seismic Safety.** Seismic safety impacts for Subalternative C are similar to those described under Alternative 1 except that approximately 275,000 people would be exposed to potential seismic events. Also, because of the increased coastline development proposed in Subalternative C, coastline development would be exposed to increased potential for damage caused by tsunamis in Monterey Bay.

Traffic and Circulation

The reuse impacts of Subalternative C would be similar to those described under Alternative 1 because the land uses for Subalternative C would be similar to those described under Alternative 1 (Table 5-8). The scale and conceptual nature of the proposed land uses would obscure the differences.

Air Quality

Subalternative C would result in approximately the same amount of construction emissions as Alternative 1. It would have slightly higher emissions of PM_{10} and ozone precursors because of higher levels of residential development (Table 5-9). Like Alternative 1, Subalternative C would result in violations of the CO ambient standards and is inconsistent with both the MBUAPCD's 1991 AQMP and the 1982 SIP developed jointly by the MBUAPCD and AMBAG (Table 5-9).

Noise

Under Subalternative C, the reuse impacts would be similar to those described under Alternative 1 except that Subalternative C would not result in the exposure of educational facilities to noise from a transit center (Table 5-10).

Hazardous and Toxic Waste Site Remediation

No additional effects on hazardous and toxic waste site remediation would be caused by implementing Subalternative C.

Vegetation, Wildlife, and Wetland Resources

Under Subalternative C, impacts would be similar to those described under Alternative 1, except for increased impacts on coastal and marine resources (Table 5-11). Approximately 28% of additional dune habitats would be lost, including an additional 61% of native coastal strand relative to Alternative 1. The proposed golf course and weather station would also eliminate habitat preserves 2 and 10 along the coast. Approximately 45% of additional Smith's blue butterfly habitat and an additional 5% of black legless lizard habitat would also be eliminated. Disturbance to nesting western snowy plovers would also increase under Subalternative C. Smith's blue butterfly is listed as endangered and the western snowy plover is federally listed as threatened under the federal Endangered Species Act. Development of the proposed cruise ship pier and marina could disturb southern sea otters and would conflict with regulations associated with the designated Monterey Bay National Marine Sanctuary. The southern sea otter is listed as threatened under the federal Endangered Species Act.

Visual Resources

The visual impacts under Subalternative C would be similar to those described under Alternative 1. However, impacts would be less for some areas near North-South Road, greater for an area in the south part of the study area, less for some portions of the coastal area, and substantially greater for other portions of the coastal area.

Visual quality in the coastal area would be affected by the addition of a marina, cruise ship pier, weather station, hotels, and a golf course. Although a golf course is a low-intensity land use, its presence in the highly sensitive coastal area would substantially alter the existing visual character and quality by altering the natural vegetation patterns, landforms, colors, textures, and lines of the area. The intactness, vividness, and unity of the coastal area would be substantially reduced by the addition of the land uses proposed in this area as part of Subalternative C.

Cultural Resources

Subalternative C has the potential to affect National Register-eligible historic buildings by splitting proposed National Register districts. The high-intensity land uses proposed under Subalternative C are nearly identical to those under Alternative 1. If National Register-eligible archeological sites are found within the archeologically sensitive areas at Fort Ord, the high-intensity land uses proposed by Subalternative C have a great potential to affect these resources. The areas of greatest archeological sensitivity include all terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, and lands adjacent to the streams that flow through Pilarcitos and Impossible Canyons. All other installation lands are recommended as having low to medium potential for possessing archeological resources. If sites or resources important to Native Americans are found to be located on Fort Ord lands, the high-intensity land uses proposed by Subalternative C would have a great potential to cause loss of access, damage to, or destruction of these properties.

5.6.1.17 Impact Summary

- **Land Use.** Most of the approximately 23,000 acres of existing Army training areas and undeveloped open space would be converted to high-density developed urban uses. Only approximately 14% of Fort Ord would remain in open space and agricultural land uses. Approximately 60% of the 7,040 acres of residential development would be medium- and high-density residential areas, with only 2,825 acres in lower density rural, very low- and low-density residential.

  Some of the proposed urban uses would conflict with adjacent land uses, agricultural operations, or land use policies. Urban development would occur in areas that would be unsuitable for development because of physical constraints or because they contain significant habitat for rare and endangered plant and wildlife species. Proposed urban development could be inconsistent with the policy of the California Coastal Act of 1976. The resulting growth pressure could eventually jeopardize the natural resources of the Monterey Bay coastline.

  Extensive development is proposed under Alternative 1 where infrastructure is inadequate. Extensive growth in remote or peripheral areas instead of in existing urban areas may result in blighted infill areas.

- **Socioeconomics.** Alternative 1 would increase resident population by approximately 212,200 persons to a buildout population of approximately 250,000 persons and 83,100 housing units. Regional economic activity, as measured by countywide employment, personal income, and industrial output, would increase substantially over 1991 conditions, with increases of

approximately 54% in employment, 59% in direct output, and 50% in personal income. Approximately 89,000 new jobs would occur, with an increase in personal income of $2.4 billion. Total output within Monterey County also would increase by $7.2 billion. Military retirees would be affected by the loss of medical services currently available at Fort Ord. Alternative 1 would increase the need for school capacity through the 12th grade by 54,200 students. Alternative 1 would decrease the land available for undeveloped recreational opportunities by 12,000 acres, and provide 3,900 acres of developed recreational opportunities.

- **Soils, Geology, Topography, and Seismicity.** The extensive development proposed under Alternative 1 would disturb or destroy the soil component that supports rare plant communities. Development in currently undeveloped portions of the installation would remove vegetation, disturb the soil surface, and accelerate erosion and sedimentation. Developments along Toro Creek would be subjected to an increased flood hazard and to a high to very high potential for liquefaction and seismically induced landslides. Constructing facilities in the coastal zone would subject these facilities to eventual loss because of the coastal erosion in the area.

- **Public Services and Utilities.** Extensive upgrade and expansion of the utility system would be required to provide service under Alternative 1. An increase of up to 1,000% over that currently available would be required. Telephone, cable television, gas and electricity, storm drainage, and water supply infrastructure would require public or private utility companies to upgrade, replace, and expand the infrastructure to provide service to the expanded developments. Additional wastewater treatment facilities would need to be constructed and additional landfill capacity secured, and the collection and delivery systems would need to be upgraded, replaced, and expanded.

- **Water Resources.** Increases in impervious surfaces under Alternative 1 would cause additional surface runoff that could contribute to watershed flood problems. Areas within existing FEMA 100-year floodplains are particularly sensitive to flood damage from increased runoff and generally contribute to water quality degradation in the area and potentially in Monterey Bay, a designated national marine sanctuary.

  Alternative 1 would increase water demand from approximately 5,400 acre-feet at Fort Ord to about 36,626 acre-feet. The existing supply consists entirely of groundwater and already exceeds the safe yield of the groundwater basin in the vicinity of Fort Ord, as evidenced by seawater intrusion. Local groundwater could not supply the water needed for this development. Water demand could be met by constructing a desalination facility for brackish or saline water or by importing water from areas farther inland. The Salinas Valley Water Transfer Project proposed by the Monterey County Water Resources Agency would provide water to the Fort Ord area from a pipeline and wellfield to be built inland near the Salinas River. Local reservoirs could be built on Fort Ord and used to store excess runoff from the Salinas River or to store rediverted water released from Nacimiento and San Antonio Reservoirs. A dam could be built on the Arroyo Seco, a large tributary of the Salinas River, and stored water could be delivered to Fort Ord by pipeline or by the Salinas River.

- **Public Health and Safety.** Alternative 1 would require up to 495 law enforcement officers, 247 firefighters or 62 firefighting companies and equipment, and emergency medical services for many institutions and businesses and for approximately 280,000 persons. Ambulance service and related medical technician emergency response could be supplied by local government agencies or by private companies. The installation is in a seismic and tsunami risk area, and people would be exposed to these risks and to risks from buildings subjected to ground shaking.

- **Traffic and Circulation.** Alternative 1 would generate approximately 1.1 million daily trips at full buildout. To serve this demand, up to 36 lanes of north-south roadways and 45 lanes of

east-west roadways would need to be built. To serve travel between Fort Ord and surrounding communities, up to 125 lanes of roadway would need to be built. These estimates should not be combined because one roadway could satisfy both on- and off-installation travel. Providing transit service and implementing aggressive measures to reduce single-occupant driving could reduce the need for roadways by approximately 10%.

- **Air Quality.** Exposure to asbestos is possible if asbestos is not removed from buildings before demolition. Hazardous air pollutants and PM_{10} could be emitted during hazardous waste cleanup and recovery of unexploded ordnance. Construction activities during reuse would generate substantial increases in NO_x, ROG, CO, and PM_{10} emissions. Alternative 1 would create excessive levels of CO at three locations where people live or work. Substantial increases in air emissions would result in increased NO_x, ROG, CO, and PM_{10} emissions, lowering air quality and conflicting with plans to bring the air basin into compliance with state and federal air quality standards. Alternative 1 would not be consistent with the 1982 State Implementation Plan developed jointly by the MBUAPCD and AMBAG or the MBUAPCD's 1991 AQMP due to the increases in population.

- **Noise.** Noise impacts from Alternative 1 would include traffic noise impacts on existing and new noise-sensitive land uses and the noise impacts of incompatible land uses. The traffic noise impacts on existing and new noise-sensitive land uses would exceed the 60-dB L_{dn} criterion for all evaluated road segments that would have noise-sensitive land uses. Other noise sources, such as the airport, amphitheater, and police academy, would also have noise levels that exceed the criterion for noise-sensitive land uses. Sensitive land uses, such as residences, campgrounds, and resort hotels, are projected to be located adjacent to such noise-generating land uses as an amphitheater, transit center, sports fields, sports complex, film complex, theme park, police academy, and airports.

  Cumulative noise impacts would result from the intensity of the reuse development on Fort Ord combined with other noise-producing development outside Fort Ord. Approximately 29 roadway segments are projected to have noise increases with substantial cumulative effects under Alternative 1.

- **Hazardous and Toxic Waste Site Remediation.** After hazardous and toxic waste remediation activities are complete at Fort Ord, reuse of former hazardous and toxic waste sites would pose slight risks to public health and safety. Development could occur on unidentified hazardous waste or unexploded ordnance. Additional hazardous waste would be generated on the installation by demolishing buildings that may contain asbestos and other potentially hazardous materials.

- **Vegetation, Wildlife, and Wetland Resources.** Land development proposed for reuse under Alternative 1 would result in the loss of over 85% of common and special-status biological resources at Fort Ord. Impacts include the loss of large portions of the ranges of federally listed and proposed and state-listed threatened and endangered species and reduction in the ranges of numerous special-status plant and wildlife species to the point that they would likely become eligible for federal or state listing as threatened or endangered. It would result in the loss of 95% of the Fort Ord maritime chaparral, comprising of over one-half of all known central maritime chaparral habitat, and nearly complete loss of wetlands and riparian habitats at Fort Ord. Biological resources would lose federal protection if lands are transferred to nonfederal entities. Implementation of a multispecies HMP, developed under Section 7 of the federal Endangered Species Act, could be the means for mitigating impacts. However, Alternative 1 would need to be significantly modified to accommodate the HMP. The future owner of the property could implement mitigation to avoid development in Smith's blue butterfly habitat.

- **Visual Resources.** The development in important view areas under Alternative 1 would greatly decrease the amount and diversity of natural vegetation cover and distant views. Development would alter the visual character and reduce the visual quality of the coastal area of Fort Ord. Views from and toward Monterey Bay and views from state-designated scenic routes heavily traveled by tourists and recreationists would be reduced in visual quality by proposed development.

- **Cultural Resources.** All requirements for identification of historic properties under the provisions of the National Historic Preservation Act (NHPA) of 1966 have not been completed as of this writing. Therefore, the Army will adhere to the program outlined in the BRAC cultural resource programmatic agreement (1992) to meet its NHPA requirements.

  Alternative 1 would affect 35 buildings that have been identified as potentially eligible for listing in the National Register. It has the potential to split proposed National Register districts. Alternative 1 proposes development in areas considered to have potential to contain archeological resources.

  No studies have yet been conducted to determine whether culturally sensitive Native American properties are present at Fort Ord. If such properties are found to exist at Fort Ord, Alternative 1 has a high potential to affect them because of the extent of development proposed. Native American groups will be contacted about the presence of these types of properties before initiating disposal or reuse actions.

- **Conclusions.** Alternative 1 would have severe impacts on most environmental resources. The large populations, great expanse of dense urban development, large water and wastewater requirements, endangered species impacts, and conflicts in land use and transportation plans for the region would require revisions and implementation of mitigation. Changes to this alternative would be required to address physical and environmental constraints and allow for economically feasible development and operation within Fort Ord and in the region. It would need to comply with federal laws and policies concerning air quality, endangered species, and floodplains; California costal zone regulations; Monterey marine sanctuary requirements; historic preservation requirements; and noise standards.

5.6.1.18 Mitigation Summary

The following mitigation could be implemented by the Army, unless otherwise indicated. Other mitigation is available that could be implemented by other federal, state, or local agencies and private entities responsible for development; it is described in Volume II, "Detailed Analysis of Disposal and Reuse".

- Encourage additional CHAMPUS/PRIME providers.

- Disclose information on buried utilities to the underground service alert.

- Transfer infrastructure to responsible parties.

- Create a unified storm drainage and flood control district to serve existing and new development.

- Disclose information on buried water distribution infrastructure to the underground service alert.

- Implement measures during construction to minimize NO_x emissions (for establishment of the POM annex only).

- Obtain emission offsets from the emissions bank maintained by the MBUAPCD (for establishment of the POM annex only).
- Implement the transportation control alternatives included in the MBUAPCD's 1991 AQMP (Alternatives 1, 2, 3, 4, and 6).
- Avoid development in Smith's blue butterfly habitat.
- Determine whether remediation sites have been surveyed for archeological resources and conduct surveys where determined necessary and safe to do so.

5.6.2 Alternative 2: Medium-Intensity Mixed Use

5.6.2.1 Land Use

Under Alternative 2, intensive reuse of the installation is proposed. Approximately 40% of the currently undeveloped portion of the installation is proposed for development. The major land use impacts of Alternative 2 relate to incompatibilities between proposed and existing land uses incompatibilities between proposed land uses, and inconsistencies with relevant state and local plans and policies.

Several land uses are proposed that would be incompatible with existing land uses in the area. Residential areas are proposed adjacent to agricultural lands in the eastern and southeastern portions of the installation. These agricultural lands are of all classifications, including prime agricultural land, the highest classification of agricultural land.

Several land uses are also proposed that would be incompatible with other proposed land uses. These include the incompatibilities between the proposed agri-center adjacent to proposed residential areas, the habitat preserve, and the regional park.

Alternative 2 also proposes development patterns that would be inconsistent with relevant state and local plans and policies. These inconsistencies include creation of development patterns that are not consistent with the 1991 AQMP; the expansion of development in areas without adequate infrastructure; development in areas not designated for growth; disregard for infill; inadequate provision of open space; land use incompatibilities; inadequate protection of sensitive environments and habitats and inconsistencies with policies that relate to groundwater resources and preservation of visual resources.

5.6.2.2 Socioeconomics

Population and Housing. Implementation of Alternative 2 would directly increase the population and housing stocks of Monterey County, Marina, and Seaside. As shown by Table 5-3, the countywide population would increase by an estimated 78,000 (22%), and the housing stock would grow by 22,200 units (18%). This growth, when annualized over the assumed 50-year buildout period, would not exceed significance thresholds established for population and housing effects.

After accounting for the effects of closure, Marina's population would increase by approximately 7,000 residents even though its housing stock would decrease by 360 units. This seemingly contradictory effect would result from replacing group quarters on the installation with single-family housing that would support a larger population per housing unit. Seaside's population would grow by about 36,000, and its housing stock would increase by 9,510 units under Alternative 2.

The ratio of jobs to housing in Monterey County would incrementally increase from 1.36 to 1.52. This effect is considered major because it would increase the countywide ratio, which already exceeds the ratio of jobs to housing generally considered to be optimal for maintaining a jobs/housing balance.

Solid Waste. Alternative 2 would generate up to 460 tpd of solid waste, a 389% increase from the existing 94 tpd. This amount of solid waste would reduce the life of the Marina Landfill by approximately 27 years.

Telephone Service. Telephone service exists only in the developed portions of the installation, and additional or upgraded infrastructure would be required to serve future development. Alternative 2 would require the expansion of telephone service to approximately 18,760 acres, a 370% increase in service area.

Gas and Electric Service. Gas and electric service exists only in the developed portions of the installation. Alternative 2 would result in the demand for approximately 3,695 MCFH of gas and 392 MW of electric service, an increase of 2,500% more gas and 2,200% more electricity than current levels.

Cable Television. Cable television service exists only in the developed portions of the installation. Alternative 2 would result in the need for additional cable television service to approximately 18,760 acres, a 370% increase in service area.

Storm Drainage System. Alternative 2 would require new storm drainage infrastructure for approximately 22,845 acres, in addition to upgrades and expansions to existing storm drainage infrastructure that may continue to be used with the new systems.

Water Distribution Infrastructure. Alternative 2 would require that the water distribution system's infrastructure be upgraded or expanded to provide service to approximately 18,760 acres, a 370% increase in service area.

5.6.2.5 Water Resources

Hydrology and Water Quality. Alternative 2 would convert land from open space to urban development, which would increase watershed runoff and peak floodflows. Approximately 12,000 acres would be converted from open space to urban land uses, resulting in a 40% increase in urban area over existing conditions.

Alternative 2 would not only increase watershed runoff but would also degrade watershed water quality by generating additional urban pollutants. Surface runoff containing urban pollutants would degrade water quality on the installation and in Monterey Bay.

Water Supply and Demand. Total water demand under Alternative 2 would be about 23,022 acre-feet per year (Table 5-6). This is over four times greater than existing water use, which already exceeds the safe yield of the groundwater system in the vicinity of Fort Ord.

5.6.2.6 Public Health and Safety

Table 5-7 quantifies the impacts of Alternative 3 on the following services:

Law Enforcement. Alternative 2 would require up to 228 law enforcement officers and equipment to provide service to the proposed uses. This is a 58% increase over the existing Fort Ord law enforcement staff of 144.

Fire Protection. Alternative 2 would require up to 113 firefighters and equipment and approximately 28 firefighting companies to provide service to the proposed uses. This is a 182% increase over the existing Fort Ord fire protection staff of 40.

Medical Services. No impacts on medical services would result from implementation of Alternative 2.

Emergency Medical Services. Under Alternative 2, additional emergency medical services would be required for approximately 26,000 residents.

Seismic Safety. Under Alternative 2, approximately 124,000 people would be exposed to potential seismic events.

5.6.2.7 Traffic and Circulation

Implementation of Alternative 2 would generate approximately 570,000 daily trips (Table 5-8). Alternative 2 would also generate travel demand of:

- approximately 307,000 trips between Fort Ord and the surrounding communities, creating the need for between 19 and 51 lanes of roadway;
- approximately 81,000 vehicle trips in the north-south direction on the installation, creating the need for between five and 14 lanes of roadway; and
- approximately 103,000 vehicle trips in the east-west direction on and through the installation, creating the need for between seven and 17 lanes of roadway.

By providing transit service and implementing aggressive measures to reduce single-occupant driving, the need for roadways could be reduced by approximately 10%.

To describe the number of lanes of roadway that would be needed to meet the travel demand created by this alternative, ranges are presented rather than a single number. The lower end of the range describes the number of freeway lanes needed to meet the demand, and the upper end describes the total number of lanes including arterial roadways. In reality, the capacity would likely be provided by an unknown combination of freeways, arterials, collector streets, and transit facilities. The provision of this capacity would be the joint responsibility of the public and private entities that would take ownership and be responsible for development of the uses under Alternative 2.

Implementation of Alternative 2 would create an incompatibility between existing local general plans and the reuse plans for Fort Ord. This incompatibility could be resolved by updating local general plans to include the roadway and transit improvements needed to accommodate the proposed reuse of Fort Ord.

5.6.2.8 Air Quality

Alternative 2 consists of the construction and use of 35,873 residential units and 11,179 acres of commercial, industrial, recreational, and institutional development. Both construction and operation of these land uses would generate air emissions (Table 5-9).

The air quality analysis assumes that construction would occur from 1995 through 2010 and that by 2010, all land uses would be fully developed. The operational emissions estimates, which assume full buildout by 2010, focus on motor vehicle and residential area emission sources.

Construction and operation of Alternative 2 would result in substantial increases of PM_{10} and NO_x (an ozone precursor). These increases would exceed the MBUAPCD's emission thresholds for PM_{10} and NO_x, contributing to the area's air quality problems. Alternative 2 would not cause or contribute to violations of the ambient CO standards.

Alternative 2 is inconsistent with the MBUAPCD's 1991 AQMP, which is designed to bring the air basin into compliance with California ozone standards, because the population growth associated with Alternative 2 exceeds the population forecasts used to prepare the 1991 AQMP (Table 5-9). However,

Alternative 2 is consistent with the MBUAPCD and AMBAG's 1982 SIP (designed to meet federal ozone standards).

5.6.2.9 Noise

Under Alternative 2, proposed development of Fort Ord would result in approximately 17,600 acres of construction-related land disturbance and would require the construction of major arterials and freeways within the boundaries of the installation. Refer to Table 5-10 for a comparison of reuse alternatives relative to noise.

Under Alternative 2, construction would result in increased noise levels in areas around construction sites and along access roads to construction sites. These increased noise levels have the potential to adversely affect residences and other noise-sensitive land uses near these sites or roads. Ambient noise levels may be substantially increased or local noise standards may be exceeded.

Traffic noise levels have been evaluated along existing roadway segments and other roadway segments proposed under Alternative 2 that would be located within the boundaries of Fort Ord. Noise-sensitive land uses (primarily residential uses) are adjacent to all of the existing roadway segments evaluated. The noise-sensitive land uses adjacent to these roadways include educational, religious, and healthcare facilities. Residential land uses range from rural residential land uses with scattered houses adjacent to roadways to high-density urban residential development. Commercial, industrial, and recreational land uses also are adjacent to some of the roads. However, impacts are evaluated based on the most sensitive land use adjacent to a given roadway segment.

Under Alternative 2, the noise criterion for residential land uses of 60-dB L_{dn} is exceeded within 100 feet of all existing roadway segments evaluated. In most cases, this is also true under existing conditions. Although implementing Alternative 2 would substantially increase noise (5 dB or greater relative to existing conditions) along only two of the existing roadway segments evaluated, Alternative 2 would result in increased noise levels along roads where local noise standards are already exceeded.

Major arterials and freeways would cross or be adjacent to all of the noise-sensitive land uses proposed under Alternative 2. These noise-sensitive uses include residential and educational land uses. Noise-sensitive land uses would be exposed to traffic noise levels that exceed local noise standards for these uses.

Under Alternative 2, land uses that may support activities that are sources of noise would be located adjacent to noise-sensitive land uses. Substantial noise impacts could occur as a result of these adjacent uses. The following noise-sensitive land uses are adjacent to land uses that may support noise-generating activities:

- high-density residential land uses would be located adjacent to a sports fields and a sports complex;
- low-density residential land uses would be located adjacent to a police academy that could have rifle and pistol ranges;
- a high school, trade school, university, Asilomar-type facility, and RV park/campground would be located adjacent to a transit center;
- residential land uses would be located adjacent to an agri-center; and
- a high-tech business park would be located adjacent to an airport where Fritzsche Army Airfield is currently located.

5.6.2.10 Hazardous and Toxic Waste Site Remediation

Alternative 2 proposes medium-density development on remediated toxic waste sites, formerly used trainfire ranges, and remote areas of the installation that may not be characterized as part of hazardous waste or unexploded ordnance and explosive waste cleanup activities. Implementing this alternative poses slight risks to human health and safety from development on unidentified hazardous waste or unexploded ordnance.

The cleanup and certification process required by EPA and the Army for land transfer reduces the potential for unidentified hazardous waste and unexploded ordnance to remain on the installation. In addition, under the Defense Environmental Restoration Program for Formerly Used Defense Sites, the Army is responsible for cleanup of contamination or unexploded ordnance discovered following land transfers.

Under Alternative 2, most buildings at Fort Ord would be demolished. Many of the buildings contain asbestos; some may contain lead-based paint and other potentially hazardous materials. Demolition activities would release asbestos to the environment; building debris generated during these activities could be classified as hazardous waste. Generation and disposal of hazardous waste during building demolition could affect compliance with federal and state laws and regulations regarding the handling of hazardous waste and materials.

5.6.2.11 Vegetation, Wildlife, and Wetland Resources

Common and Special Native Biological Communities. Alternative 2 would result in the removal of approximately 6,350 acres (60%) of common biological communities, including beaches, bluffs and blowouts, ice plant mats, disturbed dune, coastal scrub, coast oak woodland and savanna, and annual grassland. The following habitat losses would occur to special native biological communities: approximately 5 acres (5%) of native coastal strand and dune scrub, 6,300 acres (50%) of maritime chaparral, 230 acres (50%) of perennial grassland, and 200 acres (90%) of riparian forest. Losses of biological communities by alternative are shown in Table 5-11.

Special-Status Plant Species. Alternative 2 would result in the loss of approximately 6,620 acres of habitat occupied by sand gilia, a federally listed endangered species, and Monterey spineflower, a species proposed for federal listing as endangered. Habitat losses for all special-status plant species are shown in Table 5-11.

Approximately 7,680 acres of habitat occupied by plants that are federal candidates for listing as threatened or endangered would be lost under Alternative 2: Seaside bird's-beak, Toro manzanita, sandmat manzanita, Hickman's onion, Monterey ceanothus, Eastwood's ericameria, coast wallflower, and wedge-leaved horkelia.

Alternative 2 would result in the loss of approximately 11,950 acres of habitat occupied by the following nine plant species that have no federal or state status but occur on CNPS List 1b or 4: Hooker's manzanita, Monterey Indian paintbrush, Douglas' spineflower, Lewis' clarkia, virgate eriastrum, small-leaved lomatium, Santa Cruz County monkeyflower, curly-leaved monardella, and purple-flowered piperia.

Implementation of Alternative 2 would result in substantial losses of Toro manzanita, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, coast wallflower, and Hooker's manzanita, resulting in these species potentially becoming eligible for federal listing as threatened or endangered.

Special-Status Wildlife Species. Alternative 2 would result in the loss of approximately 25 acres (14%) of Smith's blue butterfly habitat and 15 acres (23%) of California linderiella habitat at Fort Ord, including three of the five known California linderiella breeding sites. Smith's blue butterfly is federally listed as endangered, and California linderiella is federally proposed for endangered status. Nesting success

Regional Economy. Implementation of Alternative 2 would result in the development of employment-generating land uses that would create an estimated 79,600 direct jobs and 54,900 secondary jobs within Monterey County. Subtracting the effects of closure would result in a net increase of approximately 107,500 jobs (Table 5-3), a 65% increase in countywide employment. An estimated 14,000 of the direct jobs would be located in Marina, and 19,000 jobs would be located in Seaside.

After accounting for closure reductions, total output in Monterey County is estimated to increase by $7.9 billion, a 64% increase over baseline conditions. Similarly, personal income is estimated to increase by $2.8 billion in Monterey County, a 59% increase over baseline conditions.

Social Services. Economic activity generated by Alternative 2 could benefit social services programs provided by Monterey County and nonprofit organizations, including welfare services and jobs training and placement programs, by increasing employment opportunities, decreasing unemployment, and generating increased income in the county.

As currently defined, Alternative 2 would result in no housing set aside for the homeless. Based on the current need for housing for the homeless in Monterey County, implementation of Alternative 2 would increase the need for housing for the homeless and lower income households.

The availability of healthcare services for military retirees and their family members would likely be reduced under Alternative 2 with the closure of Silas B. Hays Army Community Hospital. The regional medical center developed under Alternative 2 would presumably not be a CHAMPUS-contract hospital. Population growth generated by development under Alternative 3 would increase the regional demand and competition for healthcare services in Monterey County. Military retirees and their family members could use the new medical center and other facilities within the region and apply for partial reimbursement of costs through CHAMPUS or Medicare; however, out-of-pocket costs and possibly travel costs to receive healthcare would increase for military retirees and their family members.

Schools. Alternative 2 would generate the need for additional school capacity for up to approximately 19,500 students in kindergarten through 12th grade. This would result in a demand for additional school facilities and staff (Table 5-4).

Recreation. Alternative 2 proposes 7,300 acres of land for undeveloped recreational opportunities and 1,930 acres for developed recreational opportunities (Table 5-4). This would result in the loss of approximately 7,200 acres of land available for undeveloped recreational activities including fishing and hunting. Alternative 2 would, however, result in an additional 1,500 acres of developed recreational opportunities, including parks and sports facilities.

5.6.2.3 Soils, Geology, Topography, and Seismicity

The impacts of development under Alternative 2 would be similar to those under Alternative 1. Two impacts would be eliminated: the use of unsuitable soil types for agriculture and the very high infiltration rate limitation for a water storage reservoir. A moderate increase in natural area preservation would reduce the impact of the loss of the natural soil ecosystem component. Other soil impacts would be slightly reduced as a result of slightly reduced development.

5.6.2.4 Public Services and Utilities

Table 5-5 quantifies public service and utility impacts of Alternative 2.

Wastewater. Alternative 2 would generate up to 13.1 mgd of wastewater. This 445% increase over the existing 2.4 mgd (3.3 mgd are available to the installation) would require 9.8 mgd of additional treatment capacity to accommodate the land uses.

Alternative 2 proposes extensive medium-intensity development centered primarily around the Main Garrison and extending north of Reservation Road and south to the installation's boundary. Institutional use would occupy a large portion of the base's interior, with the remainder generally proposed for open space/ parks and recreation or no proposed use. This level of development would introduce numerous buildings, parking lots, roads, and other built elements into the Fort Ord viewshed. The forms, lines, colors, and texture of the built elements would differ substantially from those of the existing landscape, which is mostly natural in appearance. Extensive vegetation removal and regrading would occur to facilitate development.

Proposed development would substantially reduce the vividness, intactness, and unity of the region's visual resources and would result in substantial impacts on regional visual quality. This level of development would also alter the visual character and reduce the visual quality of Fort Ord's coastal area. This alternative would be inconsistent with Policy 30251 of the California Coastal Act of 1976 concerning the protection of scenic and visual qualities of the coastal area.

Views of Fort Ord from primary travel routes would be reduced in visual quality by encroaching land uses of potentially high visual impact. Viewed from State Route 1, the vividness and intactness of the coastal area would be reduced. Additionally, built elements would be highly visible in areas of high visual sensitivity and quality east of State Route 1, outside the coastal area. Land uses of potentially high impact located in the middleground of views of Fort Ord from State Route 68, a state-designated scenic highway, would reduce the visual quality of this scenic corridor. Lower intensity land uses proposed for a large portion of the installation's interior would reduce impacts visible from secondary roads and portions of the Salinas Valley.

Viewed from Monterey Bay and other important tourist and recreation areas along the Monterey Peninsula, the vividness and intactness of Fort Ord's visual resources would be substantially reduced by proposed development of the coastal area.

5.6.2.13 Cultural Resources

This alternative has the potential to affect National Register-eligible historic buildings by loss of federal protection and splitting proposed National Register districts. If archeological sites or Native American traditional or sacred properties are found at Fort Ord, the medium-intensity mixed land uses proposed by Alternative 2 could result in considerably more of them being preserved in open spaces, institutional/public areas, or in parks than would occur under Alternative 1. The areas of greatest archeological sensitivity include all terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, and lands adjacent to the streams that flow through Pilarcitos and Impossible Canyons. All other installation lands are recommended as having low to medium potential for possessing archeological resources.

5.6.2.14 Subalternative A: No Presidio of Monterey Annex/No Reserve Center

Land Use

Land use impacts of Subalternative A would be similar to those described under Alternative 2.

Socioeconomics

- **Population and Housing**. Direct population and housing growth countywide would be greater under Subalternative A than under Alternative 2 (Table 5-3), but would not exceed significance thresholds established for population and housing effects. Population and housing growth in Marina would be similar to levels described under Alternative 2, while population and housing levels in Seaside would be higher than levels described under

Alternative 2. The countywide jobs/housing ratio would similar to the ratio under Alternative 2, which would exceed the existing jobs/housing ratio within the county.

- **Regional Economy.** Employment, output, and personal income growth under this Subalternative A would be slightly greater than those described under Alternative 2 (Table 5-3).

- **Social Services.** Implementation of Subalternative A would result in social services effects similar to those described under Alternative 2.

- **Schools.** Impacts on schools under this subalternative would be similar to those described under Alternative 2 except that the number of students generated under Subalternative A would increase by approximately 2,000 (Table 5-4).

- **Recreation.** In addition to the impacts described under Alternative 1, the implementation of this subalternative would also result in the loss of recreational opportunities in the Main Garrison area (Table 5-4).

Geology, Soils, Topography, and Seismicity

Impacts for Subalternative A would be similar to those described under Alternative 2.

Public Services and Utilities

Table 5-5 quantifies public service and utility impacts for Subalternative A.

- **Wastewater.** Impacts on wastewater would be similar to those described for Alternative 2 except that Subalternative A would generate up to 12.6 mgd, a 425% increase over existing levels. An estimated 9.6 mgd of wastewater treatment capacity would be needed under this subalternative.

- **Solid Waste.** Impacts on solid waste would be similar to those described for Alternative 2 except that Subalternative A would generate up to 527 tpd, a 460% increase over existing levels. This would reduce the life of the Marina Landfill by 31 years.

- **Telephone Service.** Impacts on telephone service would be similar to those described under Alternative 2 except that Subalternative A would require the expansion of the telephone service area to approximately 19,400 acres, a 385% increase in service area.

- **Gas and Electric Service.** Impacts on gas and electric service would be similar to those described under Alternative 2 except that Subalternative A would require up to 3,885 MCFH of gas and 402 MW of electricity, an increase of 2,650% more gas and 2,250% more electricity than existing levels.

- **Cable Television.** Impacts on cable television service would be similar to those described for Alternative 2 except that Subalternative A would require the expansion of the cable television service area to approximately 19,400 acres, a 385% increase in service area.

- **Storm Drainage System.** Subalternative A would have the same impacts as those described under Alternative 2.

of western snowy plovers, federally listed as a threatened species, would be adversely affected by coastal development and increased public use of beaches. Activities associated with increased public use of dune habitats could also degrade habitat occupied by Smith's blue butterfly and black legless lizard. Habitat losses for all special-status wildlife species are shown in Table 5-11.

Approximately 91% of the available black legless lizard habitat at Fort Ord would be eliminated under Alternative 2. The black legless lizard is a Category 2 federal candidate. Between 51% and 70% of the available habitat for four other federal candidate species would be eliminated under Alternative 2: Monterey dusky-footed woodrat, Monterey ornate shrew, loggerhead shrike, and California horned lark. Because of the limited ranges of the black legless lizard, Monterey dusky-footed woodrat, and Monterey ornate shrew, habitat losses under Alternative 2 could result in all three species being elevated from Category 2 federal candidate status to threatened or endangered species status. From 23% to 33% of the available habitat for tricolored blackbird, California tiger salamander, California red-legged frog, and southwestern pond turtle would also be lost under Alternative 2. Four of the eight known tiger salamander breeding ponds at Fort Ord would be eliminated, and the one known tricolored blackbird nesting colony at Fort Ord would be disturbed by activities associated with the proposed residential land uses.

Under Alternative 2, roughly 89% of the available habitat at Fort Ord for Cooper's hawk and yellow warbler would be lost. Between 51% and 65% of the available habitat for six other California species of special concern would also be eliminated: burrowing owl, northern harrier, golden eagle, prairie falcon, American badger, and coast horned lizard. Roughly 21% of the available sharp-shinned hawk habitat would be eliminated.

Between 83% and 100% of the available habitat for three special-interest species would be eliminated under Alternative 2: Salinas harvest mouse, Swainson's thrush, and common yellowthroat. Roughly 49% of the available greater roadrunner habitat would be lost. Special-interest species have no legal status, but may be rare or declining in the region.

Wetlands and Other Waters of the United States. Alternative 2 would result in the degradation or removal of approximately 5 acres (15%) of vernal pools, approximately 10 acres (40%) of ponds and freshwater marsh, and about 71,400 linear feet of streams at Fort Ord. Vernal pools and freshwater marsh are potentially jurisdictional wetlands and stream channels and ponds are potentially other waters of the United States protected under Section 404 of the Clean Water Act.

Plant and Butterfly Preserves and Significant Natural Areas. Under Alternative 2, all natural habitat in preserves 1, 6, 7, 8 and 9 would be eliminated, and approximately 30% of preserve 3 would be removed (Figure 4.11-12). Small portions of significant natural areas 040 and 050 would be removed (Figure 4.11-13).

5.6.2.12 Visual Resources

Implementation of Alternative 2 would require construction of a substantial number of buildings, renovation of existing buildings, and modification of infrastructure. These activities would produce short-term visual impacts and could produce long-term visual impacts. Short-term visual impacts would occur from construction activities, including location of equipment storage areas, removal of vegetation, and infrastructure modifications. Long-term visual impacts could occur from removal of vegetation; construction of new buildings; alteration of the appearances of buildings and other structures; and construction of improvements such as recreation facilities, parking areas, lighting standards, and fences.

The activities described above could result in a substantial reduction in visual unity and intactness for some visually sensitive areas for viewers from State Route 1 and other important visitor use areas in and around Monterey Bay. The resulting visual impacts would be inconsistent with Policy 30251 of the California Coastal Act of 1976 concerning the protection of scenic and visual qualities of coastal areas.

- **Water Distribution Infrastructure.** Impacts on the water distribution system would be similar to those described for Alternative 2 except that Subalternative A would require that the water distribution system's service area be expanded approximately 19,400 acres, an increase of 385% in service area.

Water Resources

- **Hydrology and Water Quality.** Subalternative A would convert land from open space to urban development, which would increase watershed runoff and peak floodflows. Subalternative A would not only increase watershed runoff but would also degrade watershed water quality by generating of additional urban pollutants associated with urban runoff. Surface runoff containing urban pollutants will degrade water quality degradation on the installation and in Monterey Bay.

- **Water Supply and Demand.** Water demand under this subalternative would be about 21,956 acre-feet per year. This amount is within 5% of the water demand for Alternative 2 (Table 5-6).

Public Health and Safety

Table 5-7 quantifies the impacts of Subalternative A on the following services:

- **Law Enforcement.** Impacts on law enforcement for Subalternative A would be similar to those described under Alternative 2 except that Subalternative A would require up to 249 law enforcement officers and equipment, a 73% increase over existing levels.

- **Fire Protection.** Impacts on fire protection for Subalternative A would be similar to those described under Alternative 2 except that Subalternative A would require up to 124 firefighters and equipment and approximately 31 firefighting companies; a 209% increase over existing levels.

- **Medical Services.** No impacts on medical services would result from implementation of Subalternative A.

- **Emergency Medical Services.** Impacts on emergency medical services under Subalternative A would be similar to those described under Alternative 2 except that Subalternative would result in the need for additional emergency medical services for approximately 58,400 residents.

- **Seismic Safety.** Seismic safety impacts for Subalternative A would be similar to those described under Alternative 2 except that approximately 125,000 people would be exposed to potential seismic events.

Traffic and Circulation

The reuse impacts of Subalternative A would be similar to, but greater than, those described under Alternative 2 (Table 5-8). Subalternative A proposes land uses, such as a larger marine research facility and a larger central business district, to replace the POM annex and reserve center. These uses would generate more daily traffic than the POM annex and reserve center. The large-scale development proposed for each land use would mean that the difference in impacts of each proposal would be small and localized.

Air Quality

Subalternative A would result in a slightly lower amount of construction emissions compared to those under Alternative 2. However, Subalternative A's operational emissions of PM_{10} and ozone precursors are moderately higher than those of Alternative 2 because of a higher level of high-density residential development (Table 5-9). Subalternative A, like Alternative 2, would not result in violations of the ambient CO standards and is inconsistent with the MBUAPCD's 1991 AQMP but consistent with the 1982 SIP developed jointly by the MBUAPCD and AMBAG (Table 5-9).

Noise

The absence of the POM annex and the reserve center would not substantially affect traffic noise levels or the degree to which proposed noise-sensitive land uses are affected by noise. Refer to Table 5-10 for a comparison of reuse alternatives relative to noise.

Hazardous and Toxic Waste Site Remediation

No additional effects on hazardous and toxic waste site remediation would be caused by implementing Subalternative A.

Vegetation, Wildlife, and Wetland Resources

Under Subalternative A, impacts would be similar to those discussed under Alternative 2 (Table 5-11). However, without development of the POM annex and reserve center, some areas within the proposed POM annex footprint would be converted to new land uses (i.e., university and resort hotel). Small areas of native vegetation may be removed to allow for construction of new facilities associated with these land uses. Small populations or individuals of the following special-status plant and wildlife species could be affected: Monterey spineflower, sandmat manzanita, Monterey ceanothus, purple-flowered piperia, Monterey ornate shrew, Monterey dusky-footed woodrat, black legless lizard, coast horned lizard, and Salinas harvest mouse. Monterey spineflower is proposed for federal listing as endangered. Should it become listed, the loss of individuals or populations of the species would be a violation of the federal Endangered Species Act. Future land uses for the no proposed use (NPU) area are unknown.

Visual Resources

Visual impacts resulting from Subalternative A would be similar to those described under Alternative 2. The POM annex would be replaced by high-intensity land uses, which could increase the magnitude of visual impacts.

Cultural Resources

All buildings recommended as potentially eligible for listing in the National Register are located outside of and will not be affected by the Subalternative A locations proposed for the POM annex and the reserve center.

5.6.2.15 Subalternative B: Seaside's Recommended Presidio of Monterey Annex/No Reserve Center

Land Use

Land use impacts resulting from Subalternative B would be similar to those described under Alternative 2. In addition, implementation of Subalternative B would result in incompatibilities between Seaside's recommended POM annex and the existing natural habitat where this annex is proposed to be built.

Socioeconomics

- **Population and Housing.** Direct population and housing growth would be greater under Subalternative B than growth that would occur under Alternative 2 (Table 5-3), but it would not exceed significance thresholds established for population and housing effects. Population and housing growth in Marina would be similar to levels under Alternative 2, while population and housing levels in Seaside would be lower than levels under Alternative 2. The jobs/housing ratio under Subalternative B would be lower than the ratio under Alternative 2 but would exceed the existing jobs/housing ratio in the county.

- **Regional Economy.** Employment, output, and personal income growth under Subalternative B would be lower than those under Alternative 2 (Table 5-3).

- **Social Services.** Implementation of Subalternative B would result in social services effects similar to those described under Alternative 2; however, no regional medical center would be developed under Subalternative B, which would result in much greater competition for medical services between military beneficiaries and the civilian population. Medical services available to military retirees and their family members would be further reduced relative to existing conditions.

- **Schools.** The impacts on schools resulting from Subalternative B would be similar to those described under Alternative 1 except that the number of students generated by Subalternative B would increase by about 2,000 (Table 5-4).

- **Recreation.** In addition to the impacts described under Alternative 1, implementation of Subalternative B would also result in the loss of recreational opportunities in the Main Garrison area (Table 5-4).

Soils, Geology, Topography, and Seismicity

Impacts for Subalternative B would be similar to those described under Alternative 2.

Public Services and Utilities

Table 5-5 quantifies public service and utility impacts for Subalternative B.

- **Wastewater.** Impacts on wastewater would be similar to those described under Alternative 2 except that Subalternative B would generate up to 13.1 mgd, a 445% increase over existing levels. An estimated 9.8 mgd of wastewater treatment capacity would be needed for this subalternative.

- **Solid Waste.** Impacts on solid waste would be similar to those described under Alternative 2 except that Subalternative B would generate up to 501 tpd, a 433% increase over existing levels. This would reduce the life of the Marina Landfill by 29 years.

- **Telephone Service.** Impacts on telephone service would be similar to those described under Alternative 2 except that Subalternative B would require the expansion of the telephone service area to approximately 18,530 acres, a 370% increase in service area.

- **Gas and Electric Service.** Impacts on gas and electric service would be similar to those described under Alternative 2 except that Subalternative B would require up to 3,730 MCFH of gas and 366 MW of electricity, an increase of 2,550% more gas and 2,050% more electricity than existing levels.

- **Cable Television.** Impacts on cable television service would be similar to those described for Alternative 2 except that Subalternative B would require the expansion of the cable television service area to approximately 18,530 acres, a 370% increase in service area.

- **Storm Drainage System.** Subalternative B would have the same impacts as those described under Alternative 2.

- **Water Distribution Infrastructure.** Impacts on the water distribution system would be similar to those described under Alternative 2 except that Subalternative B would require that the water distribution system's service area expand approximately 18,530 acres, an increase of 370% in service area.

Water Resources

- **Hydrology and Water Quality.** This subalternative would convert land from open space to urban development, which would increase watershed runoff and peak floodflows. Subalternative B would not only increase watershed runoff but would also degrade watershed water quality by generating additional urban pollutants. Surface runoff containing urban pollutants will degrade water quality on the installation and in Monterey Bay.

- **Water Supply and Demand.** Water demand under Subalternative B would be about 23,377 acre-feet per year. This amount is similar to the water demand for Alternative 2 (Table 5-6).

Public Health and Safety

Table 5-7 quantifies the impacts of Subalternative B on the following services.

- **Law Enforcement.** Impacts on law enforcement for Subalternative B are similar to those described under Alternative 2 except that Subalternative B would require up to 246 law enforcement officers and equipment, a 71% increase over existing levels.

- **Fire Protection.** Impacts on fire protection for Subalternative B are similar to those described under Alternative 2 except that Subalternative B would require up to 122 firefighters and equipment and approximately 31 firefighting companies, a 206% increase over existing levels.

- **Medical Services.** No impacts on medical services would result from implementation of Subalternative B.

- **Emergency Medical Services.** Impacts on emergency medical services for Subalternative B are similar to those described under Alternative 2 except that Subalternative B would result in the need for additional emergency medical services for approximately 57,000 residents.

- **Seismic Safety.** Seismic safety impacts for Subalternative B are similar to those described under Alternative 2 except that approximately 120,000 people would be exposed to potential seismic events.

Traffic and Circulation

The reuse impacts of Subalternative B would be similar to those described under Alternative 2 because the land uses would be similar to those described under Alternative 2 (Table 5-8). The scale and conceptual nature of the proposed land uses would obscure any difference.

Air Quality

Subalternative B would result in approximately the same amount of construction emissions as Alternative 2 (Table 5-9). However, Subalternative B has moderately higher emissions of PM_{10} and ozone precursors because of higher levels of residential and nonresidential development. Subalternative B, like Alternative 2, would not result in violations of the ambient CO standards and is inconsistent with the MBUAPCD's 1991 AQMP but consistent with the 1982 SIP developed jointly by the MBUAPCD and AMBAG.

Noise

The presence of Seaside's recommended POM annex and the absence of a reserve center would not substantially affect traffic noise levels or the degree to which proposed noise-sensitive land uses are affected by noise. Refer to Table 5-10 for a comparison of reuse alternatives relative to noise.

Hazardous and Toxic Waste Site Remediation

No additional effects on hazardous and toxic waste site remediation would be caused by implementing Subalternative B.

Vegetation, Wildlife, and Wetland Resources

Under Subalternative B, impacts would be similar to those described under Alternative 2. However, buildout of Seaside's recommended POM annex would slightly increase the amount of habitat eliminated by development compared to Alternative 2 because Seaside's recommended POM annex would adversely affect areas currently designated as open space. Approximately 2% of additional coastal scrub and approximately 1% of additional coastal coast live oak woodland would be eliminated under Subalternative B (Table 5-11). Small populations or individuals of the following special-status plant and wildlife species could be affected: Monterey spineflower, sandmat manzanita, Monterey ceanothus, Eastwood's ericameria, wedge-leaved horkelia, Hooker's manzanita, virgate eriastrum, Monterey ornate shrew, Monterey dusky-footed woodrat, black legless lizard, coast horned lizard, and Salinas harvest mouse. Monterey spineflower is proposed for federal listing as endangered. Should it become listed, the loss of individuals or populations of the species would be a violation of the federal Endangered Species Act.

Small areas of native vegetation could also be lost because of changes in land use within the original POM annex footprint (i.e., university and resort hotel) proposed under Subalternative B. Small populations or individuals of the following special-status plant and wildlife species could be affected: Monterey spineflower, sandmat manzanita, Monterey ceanothus, purple-flowered piperia, Monterey ornate shrew, Monterey dusky-footed woodrat, black legless lizard, coast horned lizard, and Salinas harvest mouse.

Visual Resources

Visual impacts resulting from Subalternative B would be similar to those described under Alternative 2. The magnitude of impacts would be slightly increased for an area east of North-South Road and

decreased for the area designated for a golf course.

Cultural Resources

All buildings recommended as potentially eligible for listing in the National Register are located outside of, and will not be affected by the Subalternative B locations proposed for, the POM annex and reserve center. Archeological surveys will be necessary for construction undertaken on undeveloped areas as part of the Subalternative B Seaside's recommended POM annex.

5.6.2.16 Impact Summary

- **Land Use.** Approximately 40% of the 23,000 acres of existing Army training areas and undeveloped open space would be converted to high-density developed urban uses. Only approximately 18% of Fort Ord would remain in open space and agricultural land uses. Most of the 6,239 acres proposed for residential development, 87% or over 5,400 acres, would be lower density rural, very low-, and low-density residential, compared with only 2,825 acres in these density categories under Alternative 1. Only 791 acres of high-density residential development would occur under Alternative 2.

  Some of the proposed urban uses would conflict with adjacent land uses, agricultural operations, or land use policies. Residential development adjacent to agricultural areas would cause conflicts. Conflicts would also result from the agri-center being located near residential areas, a habitat preserve and regional park. Urban development would occur in areas that contain significant habitat for rare and endangered plant and wildlife species. New development is proposed under Alternative 2 where infrastructure is inadequate. The alternative would not conform to existing policies governing urban infill, groundwater, and visual resources nor provide adequate open space.

- **Socioeconomics.** Alternative 2 would increase resident population by approximately 78,000 persons to a buildout population of approximately 112,800 persons and 36,000 housing units. Regional economic activity, as measured by countywide employment, personal income, and industrial output, would increase substantially over 1991 conditions, with increases of approximately 65% in employment, 64% in direct output, and 59% in personal income. Approximately 107,000 new jobs would be created, with an increase in personal income of $2.8 billion. Total output within Monterey County also would increase by $7.9 billion. Military retirees would be affected by the loss of medical services currently available at Fort Ord. Alternative 2 would increase the need for school capacity through the 12th grade by 19,500 students. Alternative 2 would decrease the land available for undeveloped recreational opportunities by 1,930 acres and increase developed recreational opportunities by 1,500 acres.

- **Soils, Geology, Topography, and Seismicity.** The development proposed under Alternative 2 would disturb or destroy some areas where the soil supports rare plant communities. Development in currently undeveloped portions of the installation would remove vegetation, disturb the soil surface, and accelerate erosion and sedimentation. Some unstable soils would be used for agriculture. Development would occur in a seismic hazard zone.

- **Public Services and Utilities.** Much of the utility system would need to be upgraded and expanded to provide service under Alternatives 2. An increase of over 400% of the public services and utilities currently available would be needed. Telephone, cable television, gas and electricity, storm drainage, and water supply infrastructure would require public or private utility companies to upgrade, replace, and expand the infrastructure to provide service to the expanded developments. Additional wastewater treatment facilities would need to be

constructed and additional landfill capacity secured, and the collection and delivery systems would need to be upgraded, replaced, and expanded.

- **Water Resources.** Increases in impervious surfaces under Alternative 2 would cause surface runoff that could contribute to watershed flood problems. Areas within existing 100-year floodplains of the Federal Emergency Management Agency (FEMA) are particularly sensitive to flood damage from increased runoff and generally contribute to water quality degradation in the area and potentially in Monterey Bay, a designated national marine sanctuary.

  Alternative 2 would increase water demand from the existing approximately 5,400 acre-feet at Fort Ord to about 23,022 acre-feet. Local groundwater could not supply the water needed for this development. Water demand could be met by constructing a desalination facility for brackish or saline water or by importing water from areas farther inland. The Salinas Valley Water Transfer Project proposed by the Monterey County Water Resources Agency would provide water to the Fort Ord area from a pipeline and wellfield to be built inland near the Salinas River. Local reservoirs could be built on Fort Ord and used to store excess runoff from the Salinas River or to store rediverted water released from Nacimiento and San Antonio Reservoirs. A dam could be built on the Arroyo Seco, a large tributary of the Salinas River, and stored water could be delivered to Fort Ord by pipeline or by the Salinas River.

- **Public Health and Safety.** Alternative 2 would require up to 228 law enforcement officers, 113 firefighters or 28 firefighting companies and equipment, and emergency medical services for approximately 100,000 persons in the many institutions and businesses and for approximately 26,000 residents. Ambulance service and related medical technician emergency response would be supplied by local government agencies or by private companies. People would be exposed to seismic and tsunami risks.

- **Traffic and Circulation.** Alternative 2 would generate approximately 570,000 daily trips at full buildout. To serve this demand, up to 14 lanes of north-south roadways and 17 lanes of east-west roadways would need to be built. To serve travel between Fort Ord and surrounding communities, up to 51 lanes of roadway would need to be built. These estimates should not be combined because one roadway could satisfy both on- and off-installation travel. Providing transit service and implementing aggressive measures to reduce single-occupant driving could reduce the need for roadways by approximately 10%.

- **Air Quality.** Exposure to asbestos is possible if asbestos is not removed from buildings before demolition. Hazardous air pollutants and PM_{10} could be emitted during hazardous waste cleanup and recovery of unexploded ordnance. Construction activities during reuse would generate substantial increases in NO_x and PM_{10} emissions. Reactive organic gas (ROG) emissions would be reduced. Alternative 2 would not create excessive levels of CO. Substantial increases in air emissions would result in lower air quality and would be in conflict with plans to bring the air basin into compliance with state and federal air quality standards. Alternative 2 would be inconsistent with the MBUAPCD's 1991 AQMP due to the increases in population.

- **Noise.** Noise impacts from alternative 2 would include traffic noise impacts on existing and new noise-sensitive land uses and the noise impacts of incompatible land uses. The traffic noise impacts on existing and new noise sensitive land uses would exceed the 60-dB L_{dn} criterion for all evaluated road segments that would have noise-sensitive land uses. In some cases, noise-sensitive land uses are already in locations that exceed the criterion and noise levels would substantially increase as a result of construction, traffic, and noise from Monterey Peninsula Airport and the proposed general aviation airport. Sensitive land uses, such as hospitals, schools, residences, business parks, and campgrounds, would be affected. The

locations of new development could be changed to reduce noise impacts. In addition, sound walls or berms could be constructed to mitigate traffic noise impacts.

Cumulative noise impacts would result from the intensity of the reuse development on Fort Ord combined with other noise-producing development outside Fort Ord.

- **Hazardous and Toxic Waste Site Remediation.** After hazardous and toxic waste remediation activities are complete at Fort Ord, reuse of former hazardous and toxic waste sites would pose slight risks to public health and safety. Development could occur on unidentified hazardous waste or unexploded ordnance. Additional hazardous waste would be generated on the installation by demolishing buildings that may contain asbestos and other potentially hazardous materials.

- **Vegetation, Wildlife, and Wetland Resources.** Land development proposed for reuse under Alternative 2 would result in the loss of over 60% of common and special-status biological resources at Fort Ord. Impacts include the loss of large portions of the ranges of federally listed and proposed and state-listed threatened and endangered species and reduction in the ranges of numerous special-status plant and wildlife species to the point that they would likely become eligible for federal or state listing as threatened or endangered. It would cause the loss of 50% of all known central maritime chaparral habitat and loss of 15% and 40% of vernal pools and wetlands at Fort Ord, respectively, and reduce riparian habitats at Fort Ord. Biological resources would also lose federal protection if lands are transferred to nonfederal entities.

  Implementation of a multispecies HMP, developed under Section 7 of the federal Endangered Species Act, could be the means for mitigating impacts. However, Alternative 2 would need to be significantly modified to accommodate the HMP. Development in Smith's blue butterfly habitat could be avoided.

- **Visual Resources.** The development in important view areas under Alternative 2 would greatly decrease the amount and diversity of natural vegetation cover and distant views. Development would alter the visual character and reduce the visual quality of the coastal area of Fort Ord. Views from and toward Monterey Bay and views from state-designated scenic routes heavily traveled by tourists and recreationists would be reduced in visual quality by proposed development. Institutional uses in the central portion of the installation would require many new structures that would convert open landscape views to urban and suburban views. The large portions of the installation proposed for park and open space uses would retain visual qualities.

- **Cultural Resources.** The Army will follow the provisions of the BRAC cultural resource programmatic agreement (1992) to meet its NHPA requirements before initiating land disposal or reuse actions.

  Alternative 2 could affect the buildings at Fort Ord recommended as being potentially eligible for listing in the National Register. Alternative 2 proposes development in areas considered to have potential for archeological resources. However, the development densities are less than those under Alternative 1, and the greater open space and park uses could result in fewer archeological resources being affected.

  No studies have yet been conducted to determine whether any culturally sensitive Native American properties are present at Fort Ord. If Native American traditional or sacred properties are found at Fort Ord, Alternative 2 has less potential than Alternative 1 to affect them due to the lower extent of development proposed. Native American groups will be contacted about the presence of these types of properties before initiation of disposal or reuse actions.

- **Conclusions.** Alternative 2 would have severe impacts on many environmental resources. The population increases, great expanses of new development, large water and wastewater requirements, endangered species impacts, and conflicts in land use and transportation plans for the region would require substantial revisions and implementation of mitigation. Changes to this alternative would be required to address physical and environmental constraints and allow for economically feasible development and operation within Fort Ord and in the region. It would need to comply with federal laws and policies concerning air quality, endangered species, and floodplains; California costal zone regulations; Monterey marine sanctuary requirements; historic preservation requirements; and noise standards.

5.6.2.17 Mitigation Summary

The following mitigation could be implemented by the Army, unless otherwise indicated. Other mitigation is available and is described in Volume II, "Detailed Analysis of Disposal and Reuse".

- Encourage additional CHAMPUS/PRIME providers.
- Disclose information on buried utilities to the Underground Service Alert.
- Transfer infrastructure to responsible parties.
- Create a unified storm drainage and flood control district to serve existing and new development.
- Disclose information on buried water distribution infrastructure to the Underground Service Alert.
- Implement measures during construction to minimize NO_x emissions (for establishment of the POM annex only).
- Obtain emission offsets from the emissions bank maintained by the MBUAPCD (for establishment of the POM annex only).
- Implement the transportation control measures included in the MBUAPCD's 1991 AQMP.
- Avoid development in Smith's blue butterfly habitat.

5.6.3 Alternative 3: Low-Intensity Mixed Use

5.6.3.1 Land Use

Alternative 3 proposes a less intensive reuse of the installation. Approximately 15% of the currently undeveloped portion of the installation is proposed for development. The major land use impacts of Alternative 3 relate to land use incompatibilities between proposed and existing land uses, incompatibilities between proposed land uses, and inconsistencies with relevant state and local plans and policies.

Several land uses are also proposed that would be incompatible with existing land uses in the area. Residential land uses are proposed adjacent to agricultural lands in the eastern portion of the installation. These agricultural lands are of all classifications, including prime agricultural land, the highest classification of agricultural land.

Alternative 3 also proposes several land uses that would be incompatible with other proposed land uses. These include the placement of a proposed agri-center and adjacent to proposed residential areas and

the proposed RV park/campground, and the placement of a proposed aquaculture facility in the proposed disturbed habitat zone in the coastal zone.

Alternative 3 also proposes development patterns that would be inconsistent with relevant state and local plans and p· cies. These inconsistencies include creation of development patterns that are not consistent with the 991 Air Quality Management Plan; the expansion of development in areas without adequate infrastructure; development in areas not designated for growth; disregard for infill; inadequate provision of open space; land use incompatibilities; inadequate protection of sensitive environments and habitats; and inconsistencies with policies that relate to groundwater resources.

5.6.3.2 Socioeconomics

Population and Housing. Implementation of Alternative 3 would directly increase the population and housing stocks of Monterey County, Marina, and Seaside. As shown in Table 5-3, the countywide population would increase by an estimated 48,200 (13%), and the housing stock would grow by 22,200 units (12%). This growth, when annualized over the assumed 50-year buildout period, would not exceed significance thresholds established for population and housing effects.

After accounting for the effects of closure, Marina's population would increase by approximately 7,000 residents even though its housing stock would decrease by 360 units. This seemingly contradictory effect would result from replacing group quarters on the installation with single-family housing that would support a larger population per housing unit. Seaside's population would grow by about 4,000, and its housing stock would increase by 1,200 units under Alternative 3.

The ratio of jobs to housing in Monterey County would incrementally decrease from 1.36 to 1.31. This effect is considered beneficial but would not brings the countywide jobs/housing ratio within the 0.75-1.25 range of jobs/housing ratios generally considered to be optimal.

Regional Economy. Implementation of Alternative 3 would result in the development of employment-generating ' d uses that would create an estimated 39,300 direct jobs and 22,800 secondary jobs within Monterey C .nty. Subtracting the effects of closure would result in a net increase of approximately 35,100 jobs (Table 5-3), a 21% increase in countywide employment. An estimated 17,000 of the direct jobs would be located in Marina, and 12,000 jobs would be located in Seaside.

After accounting for closure reductions, total output in Monterey County is estimated to increase by $3.3 billion, a 27% increase over baseline conditions. Similarly, personal income is estimated to increase by $860 million in Monterey County, an 18% increase over baseline conditions.

Social Services. Economic activity generated by Alternative 3 could benefit social services programs provided by Monterey County and nonprofit organizations, including welfare services and jobs training and placement programs, by increasing employment opportunities, decreasing unemployment, and generating increased income in the county.

Alternative 3 would result in no housing set aside for the homeless. Based on the current need for housing for the homeless in Monterey County, implementation of Alternative 3 would increase the need for housing for the homeless and lower income households.

The availability of healthcare services for military retirees and their family members would likely be reduced under Alternative 3 with the closure of Silas B. Hays Army Community Hospital. The regional medical center developed under Alternative 3 would presumably not be a CHAMPUS-contract hospital. Population growth generated by development under Alternative 3 would increase the regional demand and competition for healthcare services in Monterey County. Military retirees and their family members could use the new medical center and other facilities in the region and apply for partial reimbursement of costs

through CHAMPUS or Medicare; however, out-of-pocket costs and possibly travel costs to receive healthcare would increase for military retirees and their family members.

Schools. Alternative 3 would generate the need for additional school capacity for up to approximately 7,100 students in kindergarten through 12th grade (Table 5-4). This would result in a demand for additional school facilities and staff.

Recreation. Alternative 3 proposes 17,300 acres of land for undeveloped recreational opportunities and 2,000 acres for developed recreational opportunities (Table 5-4). This would result in an increase of approximately 2,800 acres of land available for undeveloped recreational activities and an additional 1,500 acres of developed recreational opportunities.

5.6.3.3 Soils, Geology, Topography, and Seismicity

Most impacts associated with Alternative 1 would be either eliminated or substantially reduced under Alternative 3. Three impacts would be eliminated entirely: the use of unsuitable soils types for agriculture, the very high infiltration rate limitation for a water storage reservoir, and the engineering limitation on the use of soil types with low strength and high shrink-swell potential. Impacts that would be substantially reduced but not eliminated are loss of the natural soil ecosystem component, loss of coastal facilities from shoreline erosion, accelerated rates of water-induced erosion, increased landslide susceptibility, increased sedimentation and flood hazard, engineering limitation on use of soil types with excavation-caving and piping potential, and susceptibility of development to seismically induced liquefaction and landslide hazards.

One minor impact under Alternative 1 would become substantial under Alternative 3: the potential loss of soil fertility from a high-temperature wildfire resulting from fire suppression and lack of a controlled burning program.

5.6.3.4 Public Services and Utilities

Table 5-5 quantifies public service and utility impacts for Alternative 3.

Wastewater. Alternative 3 would generate up to 8.9 mgd of wastewater. This 270% increase over the existing 2.4 mgd (3.3 mgd are available to the installation) would require 5.6 mgd of additional treatment capacity to accommodate the land uses.

Solid Waste. Alternative 3 would generate up to 252 tpd of solid waste, a 168% increase from the existing 94 tpd. This amount of solid waste would reduce the life of the Marina Landfill by approximately 14 years.

Telephone Service. Telephone service exists only in the developed portions of the installation, and additional or upgraded infrastructure would be required to serve future development. Alternative 3 would require the expansion of telephone service to approximately 8,120 acres, a 160% increase in service area.

Gas and Electric Service. Gas and electric service exists only in the developed portions of the installation. Alternative 3 would result in the demand for approximately 1,278 MCFH of gas and 366 MW of electric service, an increase of 2,550% more gas and 2,050% more electricity than current levels.

Cable Television. Cable television service exists only in the developed portions of the installation. Alternative 3 would result in the need for additional cable television service to approximately 8,129 acres, a 160% increase in service area.

Storm Drainage System. Alternative 3 would require new storm drainage infrastructure for approximately 17,985 acres, in addition to upgrades and expansions to existing storm drainage infrastructure that may continue to be used with the new systems.

Water Distribution Infrastructure. Alternative 3 would require that the water distribution system's infrastructure be upgraded or expanded to provide service to approximately 8,120 acres, a 160% increase in service area.

5.6.3.5 Water Resources

Hydrology and Water Quality. Alternative 3 would convert land from open space to urban development, which would increase watershed runoff and peak floodflows. Approximately 4,000 acres would be converted from open space to urban land uses, which would result in a 15% increase in urban area over existing conditions.

Alternative 3 would not only increase watershed runoff but would also degrade watershed water quality by generating additional urban pollutants associated with urban runoff. Surface runoff containing urban pollutants would degrade water quality on the installation and in Monterey Bay.

Water Supply and Demand. Total water demand under Alternative 3 would be about 17,582 acre-feet per year (Table 5-6). This is over three times greater than existing water use, which already exceeds the safe yield of the groundwater system in the vicinity of Fort Ord.

5.6.3.6 Public Health and Safety

Table 5-7 quantifies the impacts of Alternative 3 on the following services.

Law Enforcement. Alternative 3 would require up to 170 law enforcement officers and equipment to provide service to the proposed uses. This is a 18% increase over the existing Fort Ord law enforcement staff of 144.

Fire Protection. Alternative 3 would require up to 83 firefighters and equipment and approximately 21 firefighting companies to provide service to the proposed uses. This is a 107% increase over the existing Fort Ord fire protection staff of 40.

Medical Services. No impacts on medical services would result from implementation of Alternative 3.

Emergency Medical Services. No impacts on emergency medical service would result from implementation of Alternative 3.

Seismic Safety. Under Alternative 3, approximately 83,000 people would be exposed to potential seismic events.

5.6.3.7 Traffic and Circulation

Implementation of Alternative 3 would generate approximately 305,000 daily trips (Table 5-8). Alternative 3 would also generate travel demand of:

- approximately 285,000 trips between Fort Ord and the surrounding communities, creating the need for between 18 and 48 lanes of roadway;

- approximately 32,000 vehicle trips in the north-south direction on the installation, creating the need for between two and six lanes of roadway; and

- approximately 93,000 vehicle trips in the east-west direction on and through the installation, creating the need for between six and 16 lanes of roadway.

By providing transit service and implementing aggressive measures to reduce single-occupant driving, the need for roadways could be reduced approximately 10%.

To describe the number of lanes of roadway that would be needed to meet the travel demand created by this alternative, ranges are presented rather than a single number. The lower end of the range describes the number of freeway lanes needed to meet the estimated demand, and the upper end describes the total number of lanes including arterial roadways. In reality, the capacity would likely be provided by an unknown combination of freeways, arterials, collector streets, and transit facilities. The provision of this capacity would be the joint responsibility of the public and private entities that would take ownership and be responsible for developing the uses in Alternative 3.

Implementation of Alternative 3 would create an incompatibility between existing local general plans and the reuse plans for Fort Ord. This incompatibility could be resolved by updating local general plans to include the roadway and transit improvements needed to accommodate the proposed reuse of Fort Ord.

5.6.3.8 Air Quality

Alternative 3 consists of the construction and use of 19,656 residential units and 5,091 acres of commercial, industrial, recreational, and institutional development. Both construction and operation of these land uses would generate air emissions.

The air quality analysis assumes that construction would occur from 1995 through 2010 and that by 2010, all land uses would be fully developed. The operational emissions estimates, which assume full buildout by 2010, focus on motor vehicle and residential area emission sources.

Construction of Alternative 3 would cause increases of PM_{10} and NO_x emissions that exceed the MBUAPCD thresholds. Operation of Alternative 3 would, as compared to existing Fort Ord emissions, result in decreases of all pollutants, including PM_{10} and ozone precursors. These decreases would improve existing air quality with regard to PM_{10} and ozone. Alternative 3 would not result in violations of the ambient CO standards.

The population growth that would result from Alternative 3 is inconsistent with the population forecasts used to prepare the MBUAPCD's 1991 AQMP (designed to meet California ozone standards) because the population growth associated with Alternative 3 would exceed the population forecasts used to prepare the 1991 AQMP. Alternative 3 is consistent with the population forecasts used to prepare the MBUAPCD and AMBAG's 1982 SIP (designed to meet federal ozone standards) (Table 5-9).

5.6.3.9 Noise

Under Alternative 3, proposed development of Fort Ord would result in approximately 10,000 acres of construction-related land disturbance and would require the construction of major arterials within the boundaries of the installation. Refer to Table 5-10 for a comparison of reuse alternatives relative to noise.

Under Alternative 3, construction would result in increased noise levels in areas around construction sites and along access roads to construction sites. These increased noise levels have the potential to adversely affect residences and other noise-sensitive land uses near these sites or roads. Ambient noise levels may be substantially increased or local noise standards may be exceeded.

Traffic noise levels have been evaluated along existing roadway segments and other roadway segments proposed under Alternative 3 that would be located within the boundaries of Fort Ord. Noise-sensitive land uses (primarily residential uses) are adjacent to all of the existing roadway segments evaluated. The noise-sensitive land uses adjacent to these roadways include educational, religious, and healthcare facilities. Residential land uses vary from rural residential with scattered houses adjacent to roadways to high-density urban residential development. Commercial, industrial, and recreational land uses also are adjacent to some of the roads. However, impacts are evaluated based on the most sensitive land use adjacent to a given roadway segment.

Under Alternative 3, the noise criterion for residential land uses of 60-dB L_{dn} would be exceeded within 100 feet of all existing roadway segments evaluated. In most cases, this is also true under existing conditions. However, implementing Alternative 3 would substantially increase noise (by 5 dB or more relative to existing conditions) along five of the existing roadway segments evaluated or would increase noise levels along roads where local noise standards are already exceeded. The combination of local noise standards being exceeded and a substantial increase in traffic noise along several roadway segments would have a substantial adverse effect on existing residences.

Major arterials would cross or be adjacent to all of the noise-sensitive land uses proposed under Alternative 3. These noise-sensitive uses include residential and educational land uses. Noise-sensitive land uses would be exposed to traffic noise levels that exceed local noise standards for these uses.

Under Alternative 3, land uses that may support activities that are sources of noise would be located adjacent to noise-sensitive land uses. Substantial noise impacts could occur as a result of these adjacent uses. The following noise-sensitive land uses are adjacent to land uses that may support noise-generating activities:

- residential land uses and the RV park/campground would be located adjacent to an agri-center and
- a high-tech business park would be located adjacent to an airport where Fritzsche Army Airfield is currently located.

5.6.3.10 Hazardous and Toxic Waste Site Remediation

Alternative 3 proposes low-intensity development on remediated toxic waste sites and in remote undeveloped areas of the installation. Proposed land use under this alternative limits public access to and development of formerly used trainfire ranges in the southern portion of the installation. The proposed development under Alternative 3 poses very slight risks to human health and safety from development on unidentified hazardous wastes and unexploded ordnance.

The cleanup and certification process required by EPA and the Army for land transfer reduces the potential for unidentified hazardous waste and unexploded ordnance to remain on the installation. In addition, under the Defense Environmental Restoration Program for Formerly Used Defense Sites, the Army is responsible for cleanup of contamination or unexploded ordnance discovered subsequent to land transfers.

Most buildings on the installation would be demolished under Alternative 3. Many of the buildings contain asbestos; some may contain lead-based paint and other potentially hazardous materials. Demolition activities would release asbestos to the environment; building debris generated during demolition could be classified as hazardous waste. Generation and disposal of hazardous waste during building demolition could affect compliance with federal and state laws and regulations regarding the handling of hazardous wastes and materials.

5.6.3.11 Vegetation, Wildlife, and Wetland Resources

Common and Special Native Biological Communities. Alternative 3 would result in the removal of approximately 4,230 acres (40%) of common biological communities, including beaches, bluffs and blowouts, ice plant mats, disturbed dune, coastal scrub, coast oak woodland and savanna, and annual grassland. The following habitat losses would result for special native biological communities: approximately 2 acres (2%) of native coastal strand and dune scrub and 1,820 (15%) of maritime chaparral. Losses of biological communities by alternative are shown in Table 5-11.

Special-Status Plant Species. Alternative 3 would result in the loss of approximately 3,450 acres of habitat occupied by sand gilia, a federally listed endangered species, and Monterey spineflower, a species proposed for listing as endangered. Habitat losses for all special-status plant species are shown in Table 5-11.

Approximately 2,740 acres of habitat occupied by plant species that are federal candidates for listing as threatened or endangered would be lost under Alternative 3. The species affected would be Seaside bird's-beak, Toro manzanita, sandmat manzanita, Hickman's onion, Monterey ceanothus, Eastwood's ericameria, coast wallflower, and wedge-leaved horkelia.

Alternative 3 would result in the loss of approximately 2,070 acres of habitat occupied by nine plant species that have no federal or state status but occur on CNPS List 1b or 4: Hooker's manzanita, Monterey Indian paintbrush, Douglas' spineflower, Lewis' clarkia, virgate eriastrum, small-leaved lomatium, Santa Cruz County monkeyflower, curly-leaved monardella, and purple-flowered piperia.

Special-Status Wildlife Species. Alternative 3 would result in the loss of approximately 2 acres (1%) of Smith's blue butterfly habitat and 4 acres (6%) of California linderiella habitat at Fort Ord, including two of the five known California linderiella breeding sites. Smith's blue butterfly is federally listed as endangered, and California linderiella is federally proposed for endangered status. Nesting success of western snowy plovers, a federally listed threatened species, would be adversely affected by increased public use of the beaches. Public use of dune habitats could also degrade habitat for Smith's blue butterfly and black legless lizard. Habitat losses for all special-status wildlife species are shown in Table 5-11.

Approximately 37% of the available black legless lizard habitat and roughly 50% of the Monterey ornate shrew habitat at Fort Ord would be eliminated under Alternative 3. Both species are federal Category 2 candidates for threatened or endangered status. Because of the limited ranges of the black legless lizard and Monterey ornate shrew, habitat losses under Alternative 3 could result in both species being elevated to threatened or endangered species. Between 20% and 30% of the available habitat for three other federal candidate species (Monterey dusky-footed woodrat, loggerhead shrike, and California horned lark) would be eliminated under Alternative 3. From 6% to 7% of the available habitat for tricolored blackbird, California tiger salamander, California red-legged frog, and southwestern pond turtle would also be lost under Alternative 3. Three of the eight known tiger salamander breeding ponds at Fort Ord would be eliminated.

Under Alternative 3, 29% to 44% of the available habitat at Fort Ord for four California species of special concern would also be eliminated: burrowing owl, northern harrier, prairie falcon, and American badger. Golden eagle and coast horned lizard would suffer approximately 20% and 18% habitat losses, respectively. Roughly 3% of the available sharp-shinned hawk habitat would be eliminated. No habitat would be lost for Cooper's hawk and yellow warbler.

Habitat losses for special-interest species range from no loss to 71% loss under Alternative 3. Approximately 71% of the available Salinas harvest mouse habitat and 14% of the greater roadrunner habitat

views of Fort Ord from State Route 68, a state-designated scenic highway, would reduce the visual quality of this scenic corridor. Lower intensity land uses proposed for a large portion of the installation's interior would reduce visual impacts visible from secondary roads and portions of the Salinas Valley.

Viewed from Monterey Bay and other important tourist and recreation areas along the Monterey Peninsula, the vividness and intactness of Fort Ord's visual resources would be reduced by proposed development of the hills and ridges directly inland from the coast.

5.6.3.13 Cultural Resources

This alternative has the potential to affect National Register-eligible historic buildings by loss of federal protection and by splitting proposed National Register districts. If archeological sites or Native American traditional or sacred properties are found at Fort Ord, the low-intensity mixed land uses proposed by Alternative 3 would result in considerably more of them being preserved in open spaces, institutional/public areas, or in parks than would occur under Alternatives 1 and 2. The areas of greatest archeological sensitivity include all terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, and lands adjacent to the streams that flow through Pilarcitos and Impossible canyons. All other installation lands are recommended as having low to medium potential for possessing archeological resources.

5.6.3.14 Impact Summary

- **Land Use.** Approximately 15% of the 23,000 acres of existing Army training areas and undeveloped open space would be converted to high-density developed urban uses. Approximately 43% of Fort Ord would remain in open space and agricultural land uses. All of the 2,818 acres proposed for residential development would be low density. This is the only density residential development that would occur under Alternative 3.

  Some of the uses would conflict with adjacent land uses, agricultural operations, or land use policies. Residential development adjacent to agricultural areas would cause conflicts. Conflicts would also result from the aquaculture center being located in the disturbed portion of the coastal zone and from the agri-center being located near residential areas, a habitat preserve, and regional park. Urban development would occur in areas that contain significant habitat for rare and endangered plant and wildlife species. New development is proposed in Alternative 3 where infrastructure is inadequate. The alternative would not conform to existing urban infill or groundwater policies or provide adequate open space.

  Potential mitigation for these impacts includes limiting growth and directing growth to areas designated for urban development, such as already developed portions of the installation (i.e., Main Garrison area and housing areas). New residential areas could be eliminated on the eastern edge of Fort Ord next to agricultural operations. Urban reuse and development of the installation could be phased or limited to occur only in areas adjacent to urban service areas.

- **Socioeconomics.** Alternative 3 would increase resident population by approximately 48,000 persons to a buildout population of approximately 82,900 persons and 30,000 housing units. Regional economic activity, as measured by countywide employment, personal income, and industrial output, would increase substantially over 1991 conditions, with increases of approximately 21% in employment, 27% in direct output, and 18% in personal income. Approximately 35,000 new jobs would be created, with an increase in personal income of $860 million. Total output within Monterey County also would increase by $3.3 billion. Military retirees would be affected by the loss of medical services currently available at Fort Ord.

Alternative 3 would increase the need for school capacity through the 12th grade by 7,100 students. Alternative 3 would increase the land available for undeveloped recreational opportunities by 2,800 acres and increase developed recreational opportunities by 1,500 acres.

- **Soils, Geology, Topography, and Seismicity.** The development proposed under Alternative 3 would disturb or destroy some areas where the soil supports rare plant communities and slightly increase areas developed with potential for increased erosion and landslides, soil piping, and flood hazards.

- **Public Services and Utilities.** Much of the utility system would be required to be upgraded and expanded to provide service under Alternative 3. An increase of up to 140% of the public services and utilities currently available would be required. Wastewater flows would increase 240% over existing. Telephone, cable television, gas and electricity, storm drainage, and water supply infrastructure would require public or private utility companies to upgrade, replace, and expand the infrastructure to provide service to the expanded developments. Additional wastewater treatment facilities would not need to be constructed and additional landfill capacity secured, and the collection and delivery systems would need to be upgraded, replaced, and expanded.

- **Water Resources.** Increases in impervious surfaces associated with an increase in urban area of 15% under Alternative 3 would cause surface runoff that could contribute to watershed flood problems. Areas within existing FEMA 100-year floodplains are particularly sensitive to flood damage from increased runoff and generally contribute to water quality degradation in the area and potentially in Monterey Bay, a designated national marine sanctuary.

  Alternative 3 would increase water demand from approximately 5,400 acre-feet at Fort Ord to about 17,582 acre-feet. Local groundwater could not supply the water needed for this development. Water demand could be met by constructing a desalination facility for brackish or saline water or by importing water from areas farther inland. The Salinas Valley Water Transfer Project proposed by the Monterey County Water Resources Agency would provide water to the Fort Ord area from a pipeline and wellfield to be built inland near the Salinas River. Local reservoirs could be built on Fort Ord and used to store excess runoff from the Salinas River or to store rediverted water released from Nacimiento and San Antonio Reservoirs. A dam could be built on the Arroyo Seco, a large tributary of the Salinas River, and stored water could be delivered to Fort Ord by pipeline or by the Salinas River.

- **Public Health and Safety.** Alternative 3 would require up to 170 law enforcement officers, 83 firefighters or 21 firefighting companies and equipment, and emergency medical services for approximately 48,000 residents. Ambulance service and related medical technician emergency response would be supplied by local government agencies or by private companies. People would be exposed to seismic and tsunami risks.

- **Traffic and Circulation.** Alternative 3 would generate approximately 305,000 daily trips at full buildout. To serve this demand, up to 6 lanes of north-south roadways and 16 lanes of east-west roadways would need to be built. To serve travel between Fort Ord and surrounding communities, up to 48 lanes of roadway would need to be built. These estimates should not be combined because one roadway could satisfy both on- and off-installation travel. Providing transit service and implementing aggressive measures to reduce single-occupant driving could reduce the need for roadways by approximately 10%.

- **Air Quality.** Exposure to asbestos is possible if asbestos is not removed from buildings before demolition. Hazardous air pollutants and PM_{10} could be emitted during hazardous waste cleanup and recovery of unexploded ordnance. Construction activities during reuse would generate substantial increases in NO_x and PM_{10} emissions. All air emissions would be reduced during operation as compared to existing conditions. Alternative 3 would not create excessive levels of CO. Alternative 3 would not be consistent with the MBUAPCD's 1991 AQMP due to the increases in population. It would be consistent with the MBUAPCD and AMBAG's 1982 SIP.

- **Noise.** Noise impacts from Alternative 3 would include traffic noise impacts on noise-sensitive land uses and the noise impacts of incompatible land uses. The traffic noise impacts on existing and new noise sensitive land uses would exceed the 60-dB L_{dn} criterion for all road segments that have been evaluated. Sensitive land uses, such as residences, business parks, and campgrounds, would be affected.

- **Hazardous and Toxic Waste Site Remediation.** After hazardous and toxic waste remediation activities are complete at Fort Ord, reuse of former hazardous and toxic waste sites would pose slight risks to public health and safety. Development could occur on unidentified hazardous waste or unexploded ordnance. Additional hazardous waste would be generated on the installation by demolishing buildings that may contain asbestos and other potentially hazardous materials.

- **Vegetation, Wildlife, and Wetland Resources.** Land development proposed for reuse under Alternative 3 would result in the loss of over 40% of common and special-status biological resources at Fort Ord. Impacts include the loss of large portions of the ranges of federally listed and proposed and state-listed threatened and endangered species and reduction in the ranges of numerous special-status plant and wildlife species to the point that they would likely become eligible for federal or state listing as threatened or endangered. It would cause the loss of 15% of all known central maritime chaparral habitat, and a 7% loss of marshlands, 6% of vernal pools and reduce riparian habitats at Fort Ord. Implementation of a multispecies HMP, developed under Section 7 of the Federal Endangered Species Act, could be a means for mitigating impacts. However, Alternative 3 would need modifications to accommodate the HMP. Development in Smith's blue butterfly habitat could be avoided.

- **Visual Resources.** The development in important view areas the northeast portion of the installation and a small portion of the disturbed coastal portion of the installation under Alternative 3 would decrease the amount and diversity of natural vegetation cover and distant views and reduce the visual quality of a small portion of the coastal area of Fort Ord.

- **Cultural Resources.** The Army will follow the provisions of the BRAC cultural resource programmatic agreement (1992) to meet its NHPA requirements before initiating land disposal or reuse actions.

  Alternative 3 has the potential to split historic districts recommended as potentially eligible for listing in the National Register. Alternative 3 proposes low-density development in areas considered to have potential for archeological resources. However, if archeological sites are present, the Alternative 3 development densities are less than those under Alternatives 1 or 2, and the greater open space and park uses could result in fewer sites being affected.

  Studies have not yet been conducted to determine whether culturally sensitive Native American properties are present at Fort Ord. If Native American traditional or sacred properties are

at Fort Ord would be eliminated. No loss would occur for Swainson's thrush and common yellowthroat. Special-interest species have no legal status but may be rare or declining in the region.

Wetlands and Other Waters of the United States. Alternative 3 would result in the degradation or removal of approximately 2 acres (6%) of vernal pools, approximately 2 acres (7%) of freshwater marsh and ponds, and about 4,000 linear feet of streams at Fort Ord. Vernal pools and freshwater marsh are potentially jurisdictional wetlands and stream channels and ponds are potentially other waters of the United States protected under Section 404 of the Clean Water Act.

Plant and Butterfly Preserves and Significant Natural Areas. Under Alternative 3, approximately 30% of the habitat in preserve 3 and 75% of the habitat in preserve 7 would be eliminated (Figure 4.11-12). A small portion of significant natural area 040 would be removed (Figure 4.11-13).

5.6.3.12 Visual Resources

Implementation of Alternative 3 would require construction of a substantial number of buildings, renovation of existing buildings, and modification of infrastructure. These activities would produce short-term visual impacts and could produce long-term visual impacts. Short-term visual impacts would occur from construction activities, including location of equipment storage areas, removal of vegetation, and infrastructure modifications. Long-term visual impacts could occur from removal of vegetation; construction of new buildings; alteration of the appearances of buildings and other structures; and construction of improvements such as recreation facilities, parking areas, lighting standards, and fences.

The activities described above could result in a substantial reduction in visual unity and intactness for some visually sensitive areas for views from State Route 1 and other important visitor use areas in and around Monterey Bay. The resulting visual impacts would be inconsistent with Policy 30251 of the California Coastal Act of 1976 concerning the protection of scenic and visual qualities of coastal areas.

The activities described above could result in a substantial reduction in visual unity and intactness for some visually sensitive areas for views from State Route 1 and other important visitor use areas in and around Monterey Bay. The resulting visual impacts would be inconsistent with Policy 30251 of the California Coastal Act of 1976 concerning the protection of scenic and visual qualities of coastal areas.

Under Alternative 3, low-intensity development would occur principally in the northeastern portion of the installation, with limited development of the coastal area. Development would introduce numerous buildings, parking lots, roads, and other built elements into this portion of the Fort Ord viewshed. The forms, lines, colors, and textures of the built elements would differ substantially from those of the existing landscape, which is mostly natural in appearance. Extensive vegetation removal and regrading would occur to facilitate development. Existing beach firing ranges would be removed from the coastal area under this alternative. Additionally, lower intensity land uses would occupy most of the installation's interior.

Proposed development would substantially reduce the vividness, intactness, and unity of the region's visual resources and would result in substantial impacts on regional visual quality.

The visual quality of the coastal area would be improved by the removal of the beach firing ranges. As viewed from State Route 1, the vividness and intactness of this coastal viewshed would be reduced due to the high visibility of development in areas of high visual sensitivity and quality east of State Route 1, outside of the coastal area.

Views of Fort Ord from primary travel routes would be reduced in visual quality by encroaching land uses of potentially high visual impact. Land uses of potentially high impact located in the middleground of

found at Fort Ord, Alternative 3 has less potential to affect them due to the lower extent of development proposed.

- **Conclusions.** Alternative 3 would have significant impacts on many environmental resources. The population increases, location and extent of new development, new water and wastewater requirements, endangered species impacts, and conflicts in land use and transportation plans for the region would require revisions and implementation of mitigation. Changes to this alternative would be required to address physical and environmental constraints and allow for economically feasible development and operation within Fort Ord and in the region. It would need to comply with federal laws and policies concerning air quality, endangered species and floodplains; California costal zone regulations; Monterey marine sanctuary requirements; historic preservation requirements; and noise standards.

5.6.3.15 Mitigation Summary

The following mitigation could be implemented by the Army, unless otherwise indicated. Other mitigation is available that could be implemented by other federal, state, or local agencies and private entities responsible for development; it is described in Volume II, "Detailed Analysis of Disposal and Reuse":

- Encourage additional CHAMPUS/PRIME providers.
- Disclose information on buried utilities to the Underground Service Alert.
- Create a unified storm drainage and flood control district to serve existing and new development.
- Transfer infrastructure to responsible parties.
- Disclose information on buried water distribution infrastructure to the Underground Service Alert.
- Implement measures during construction to minimize NO_x emissions (for establishment of the POM annex only).
- Obtain emission offsets from the emissions bank maintained by the MBUAPCD (for establishment of the POM annex only).
- Implement the transportation control measures included in MBUAPCD's 1991 AQMP.
- Avoid development in Smith's blue butterfly habitat.
- Determine whether remediation sites have been surveyed for archeological resources and conduct surveys where determined necessary and safe to do so.

5.6.4 Alternative 4: Institutional Use

5.6.4.1 Land Use

Under Alternative 4, reuse of the installation by government and private institutions is proposed. Approximately 10% of the currently undeveloped portion of the installation is proposed for development. The major land use impacts under Alternative 4 would relate to the inconsistencies of proposed development

with relevant state and local plans and policies. These policies include those related to the expansion of development in areas without adequate infrastructure and development in areas not designated for growth, infill, protection of sensitive environments and habitats, and groundwater resources.

5.6.4.2 Socioeconomics

Population and Housing. Implementation of Alternative 4 would result in the development of limited housing associated with a university, correctional facility, and POM annex. The population residing in this housing would not offset the population loss caused by closure, resulting in a direct, net population decrease of 3,800 (Table 5-3), representing a countywide population decrease of 1%. The net housing supply would decrease by 1,500 units. Employment generated under Alternative 4, however, would generate substantial secondary population growth that would offset the direct population loss and would result in the unmet need for approximately 25,000 housing units within the county. This effect is considered major.

Implementation of Alternative 4 would result in no new, direct housing growth in Marina and Seaside. The effects of closure on population and housing levels within these communities would not be offset by development under Alternative 4.

The ratio of jobs to housing within Monterey County would incrementally increase from 1.36 to 1.43. This effect is considered major because it would increase the countywide ratio, which already exceeds the ratio of jobs to housing generally considered to be optimal for maintaining a jobs/housing balance.

Regional Economy. Implementation of Alternative 4 would result in the development of employment-generating land uses that would create an estimated 31,900 direct jobs and 17,800 secondary jobs within Monterey County. Subtracting the effects of closure would result in a net increase of approximately 22,800 jobs (Table 5-3), representing a 14% increase in countywide employment. An estimated 8,000 of the direct jobs would be located in Marina, and 13,000 jobs would be located in Seaside.

After accounting for closure reductions, total output in Monterey County is estimated to increase by $1.8 billion, representing a 15% increase over baseline conditions, under this alternative. Similarly, personal income is estimated to increase by $280 million in Monterey County, representing a 6% increase over baseline conditions.

Social Services. Economic activity generated under Alternative 4 could benefit social services programs provided by Monterey County and nonprofit organizations, including welfare services and jobs training and placement programs, by increasing employment opportunities, decreasing unemployment, and generating increased income within the county. Providing housing for the homeless would benefit homeless services and the homeless within the county.

The availability of healthcare services for military retirees and their family members would likely be reduced under Alternative 4 with the closure of Silas B. Hays Army Community Hospital. The regional medical center developed under this alternative would presumably not be a CHAMPUS-contract hospital. Population growth generated by development under Alternative 4 would increase the regional demand and competition for healthcare services in Monterey County. Military retirees and their family members could use the new medical center and other facilities within the region and apply for partial reimbursement of costs through CHAMPUS or Medicare; however, out-of-pocket costs and possibly travel costs to receive healthcare would increase for military retirees and their family members.

Schools. Alternative 4 would generate the need for additional school capacity for up to approximately 9,700 students in kindergarten through 12th grade. This would create a demand for additional school facilities and staff (Table 5-4).

Recreation. Alternative 4 proposes 14,000 acres of land for undeveloped recreational opportunities and 1,300 acres for developed recreational opportunities (Table 5-4). This would result in the loss of approximately 450 acres of land available for undeveloped recreational activities, including fishing and hunting. Under Alternative 4, however, an additional 1,500 acres of developed recreational opportunities, including parks and sports facilities, would be available.

5.6.4.3 Soils and Geology

Impacts under Alternative 4 would be similar to those described under Alternative 3.

5.6.4.4 Public Services and Utilities

Table 5-5 quantifies the public service and utilities impacts of Alternative 4.

Wastewater. Alternative 4 would generate up to 7.7 mgd of wastewater. This 220% increase over the existing 2.4 mgd (3.3 mgd are available to the installation) would require 4.4 mgd of additional treatment capacity to accommodate the land uses.

Solid Waste. Alternative 4 would generate up to 132 tpd of solid waste, a 41% increase over the existing 94 tpd. This amount of solid waste would reduce the life of the Marina Landfill by approximately 4 years.

Telephone Service. Telephone service exists only in the developed portions of the installation, and additional or upgraded infrastructure would be required to serve future development. Alternative 4 would require the expansion of telephone service to approximately 9,830 acres, a 195% increase in service area.

Gas and Electric Service. Gas and electric service exist only in the developed portions of the installation. Alternative 4 would result in the demand for approximately 807 MCFH of gas and 141 MW of electric service, an increase of 550% in gas and 790% in electricity over current levels.

Cable Television. Cable television service exists only in the developed portions of the installation. Alternative 4 would result in the need for additional cable television service to approximately 9,830 acres, a 195% increase in service area.

Storm Drainage System. Alternative 4 would require new storm drainage infrastructure for approximately 21,031 acres, in addition to upgrades and expansions to existing storm drainage infrastructure that may continue to be used with the new systems.

Water Distribution Infrastructure. Alternative 4 would require that the water distribution system's infrastructure be upgraded or expanded to provide service to approximately 9,830 acres, a 195% increase in service area.

5.6.4.5 Water Resources

Hydrology and Water Quality. Alternative 4 would convert land from open space to urban development, which would increase watershed runoff and peak floodflows. Approximately 3,500 acres would be converted from open space to urban land uses, which would result in a 10% increase in urban area over existing conditions.

Alternative 4 would not only increase watershed runoff but would also degrade watershed water quality by generating additional urban pollutants. Surface runoff containing urban pollutants would degrade water quality on the installation and in Monterey Bay.

Water Supply and Demand. Total water demand for Alternative 4 would be about 13,360 acre-feet per year (Table 5-6). This is over two times greater than existing water use, which already exceeds the safe yield of the groundwater system in the vicinity of Fort Ord.

5.6.4.6 Public Health and Safety

Table 5-7 quantifies the impact of Alternative 4 on the following services:

Law Enforcement. Alternative 4 would require up to 65 law enforcement officers and equipment to provide service to the proposed uses. This is a 55% decrease from the existing Fort Ord law enforcement staff of 144.

Fire Protection. Alternative 4 would require up to 31 firefighters and equipment and approximately eight firefighting companies to provide service to the proposed uses. This is a 22% decrease from the existing Fort Ord fire protection staff of 40.

Medical Services. No impacts on medical service would result from implementation of this alternative.

Emergency Medical Services. Under Alternative 4, additional emergency medical services would be required for approximately 31,000 residents.

Seismic Safety. Under Alternative 4, approximately 31,000 people would be exposed to potential seismic events.

5.6.4.7 Traffic and Circulation

Implementation of Alternative 4 would generate approximately 172,000 daily trips (Table 5-8). Alternative 4 would also generate travel demand of approximately 188,000 trips between Fort Ord and the surrounding communities, creating the need for between 12 and 31 lanes of roadway; approximately 16,000 vehicle trips in the north-south direction on the installation, creating the need for between one and three lanes of roadway; and approximately 50,000 vehicle trips in the east-west direction on and through the installation, creating the need for between three and nine lanes of roadway.

By providing transit service and implementing aggressive measures to reduce single-occupant driving, the need for roadways could be reduced by approximately 10%.

To describe the number of lanes of roadway that would be needed to meet the travel demand created by Alternative 4, ranges are presented rather than a single number. The lower end of the range describes the number of freeway lanes needed to meet the demand, and the upper end describes the number of arterial roadways. In reality, the capacity would likely be provided by an unknown combination of freeways, arterials, collector streets, and transit facilities. The provision of this capacity would be the joint responsibility of the public and private entities that would take ownership and be responsible for development of the uses under Alternative 4.

Implementation of Alternative 4 would create an incompatibility between existing local general plans and the reuse plans for Fort Ord. This incompatibility could be resolved by updating local general plans to include the roadway and transit improvements needed to accommodate the proposed reuse of Fort Ord.

5.6.4.8 Air Quality

Alternative 4 includes the construction and use of 6,303 acres of retail, commercial, recreational, and institutional development. Both construction and operation of these land uses would generate air emissions (Table 5-9).

The air quality analysis assumes that construction would occur from 1995 through 2010 and that by 2010 all land uses would be fully developed. The operational emission estimates, which assume full buildout by 2010, focus on motor vehicle emissions. No residential units are associated with Alternative 4.

Construction of Alternative 4 would increase PM_{10} and NO_x emissions in excess of the MBUAPCD thresholds. Operation of Alternative 4 would, as compared to existing Fort Ord emissions, result in decreases of all pollutants, including PM_{10} and ozone precursors. These decreases would improve existing PM_{10} and ozone air quality. Alternative 4 would not cause violations of the ambient CO standards. In addition, Alternative 4 is consistent with the MBUAPCD's 1991 AQMP and the 1982 SIP developed jointly by the MBUAPCD and AMBAG (Table 5-9).

5.6.4.9 Noise

Under Alternative 4, development of Fort Ord would result in approximately 10,000 acres of construction-related land disturbance and would require the construction of major arterials within the boundaries of the installation. Refer to Table 5-10 for a comparison of reuse alternatives relative to noise.

Under Alternative 4, construction would result in increased noise levels in areas around construction sites and along access roads to construction sites. These increased noise levels have the potential to adversely affect residences and other noise-sensitive land uses near these sites or roads. Ambient noise levels may be substantially increased or local noise standards may be exceeded.

Traffic noise levels have been evaluated along existing roadway segments and other roadway segments proposed under Alternative 4 that would be located within the boundaries of Fort Ord. Noise-sensitive land uses (primarily residential) are adjacent to all of the existing roadway segments evaluated. The noise-sensitive land uses adjacent to these roadways include educational, religious, and health care facilities. Residential land uses range from rural residential land uses with scattered houses adjacent to roadways to high-density urban residential development. Commercial, industrial, and recreational land uses also are adjacent to some of the roads. However, impacts are evaluated based on the most sensitive land use adjacent to a given roadway segment.

Under Alternative 4, the noise criterion for residential land uses of 60-dB L_{dn} would be exceeded within 100 feet of all of the existing roadway segments evaluated. In most cases, this is also true under existing conditions. Although implementing Alternative 4 would substantially increase noise (by 5 dB or more relative to existing conditions) along only four of the existing roadway segments evaluated, the project would increase noise levels along roads where local noise standards are already exceeded. The

combination of local noise standards being exceeded and a substantial traffic noise increase along three roadway segments would have a substantial adverse effect on adjacent existing residences.

Major arterials would cross or be adjacent to all noise-sensitive land uses proposed under Alternative 4. These noise-sensitive uses are limited to educational land uses and a cemetery located in the northern portion of Fort Ord. The following noise-sensitive land uses would be exposed to traffic noise levels that exceed local noise standards for these uses.

Under Alternative 4, land uses that may support activities that are sources of noise would be located adjacent to noise-sensitive land uses. Substantial noise impacts could occur as a result of these adjacent uses. The following noise-sensitive land uses are adjacent to land uses that may support noise-generating activities: Peace Officer Standards and Training (POST) Academy classrooms would be located adjacent to POST Academy pistol and rifle ranges; the natural resources management area would be located adjacent to the POST Academy pistol and rifle firing ranges; a university would be located adjacent to a transit center; and a high-tech business park, trade schools, cemetery, and university science offices would be located adjacent to an airport where Fritzsche Army Airfield is currently located.

5.6.4.10 Hazardous and Toxic Waste Site Remediation

Proposed land reuse patterns under Alternative 4 would be similar to existing land use patterns; reuse would occur primarily in previously developed areas of the installation with known land use and hazardous waste histories and in areas that have been investigated as part of the Superfund cleanup process. Public access to and development on the inland trainfire ranges would be limited. Risks to public health and safety from development on unidentified hazardous waste or unexploded ordnance would be slight under Alternative 4.

The cleanup and certification process required for land transfer by EPA and the Army reduces the potential for unidentified hazardous waste and unexploded ordnance to remain on the installation. In addition, under the Defense Environmental Restoration Program for Formerly Used Defense Sites, the Army is responsible for cleanup of contamination or unexploded ordnance discovered subsequent to land transfers.

Some buildings at Fort Ord would be demolished under this alternative. Most of the buildings contain asbestos; some may contain lead-based paint and other potentially hazardous materials. Demolition activities would release asbestos into the environment; building debris generated during demolition could be classified as hazardous waste. Generation and disposal of hazardous waste during building demolition could affect compliance with federal and state laws and regulations regarding the handling of hazardous wastes and materials.

Because some existing buildings would be used for housing the homeless as part of the McKinney Act, the amount of asbestos released into the environment and the amount of potentially hazardous waste generated during demolition would be less than if all buildings were demolished.

5.6.4.11 Vegetation, Wildlife, and Wetland Resources

Common and Special Native Biological Communities. Alternative 4 would result in the loss of approximately 3,150 acres (30%) of common biological communities, including beaches, bluffs and blowouts, ice plant mats, disturbed dune, coastal scrub, coast live oak woodland and savanna, and annual grassland. The following habitat losses would occur to special native biological communities: approximately 15 acres (15%) of native coastal strand and dune scrub and 1,270 acres (10%) of maritime chaparral. Losses of biological communities by alternative are shown in Table 5-11.

Special-Status Plant Species. Alternative 4 would result in the loss of approximately 2,230 acres of habitat occupied by sand gilia, a federally listed endangered species, and Monterey spineflower, a species proposed for listing as endangered. Habitat losses for all special-status plant species are shown in Table 5-11.

Approximately 1,890 acres of habitat occupied by the following federal candidates for listing as threatened or endangered would be lost under Alternative 4: Toro manzanita, sandmat manzanita, Hickman's onion, Monterey ceanothus, Eastwood's ericameria, coast wallflower, and wedge-leaved horkelia.

Alternative 4 would result in the loss of approximately 1,220 acres of habitat occupied by the following nine plant species that have no federal or state status but occur on CNPS List 1b or 4: Hooker's manzanita, Monterey Indian paintbrush, Douglas' spineflower, Lewis' clarkia, virgate eriastrum, small-leaved lomatium, curly-leaved monardella, and purple-flowered piperia.

Special-Status Wildlife Species. Alternative 4 would result in the loss of approximately 15 acres (8%) of Smith's blue butterfly habitat and 9 acres (14%) of California linderiella habitat at Fort Ord. None of the five known California linderiella breeding sites would be affected. Smith's blue butterfly is federally listed as endangered, and California linderiella is federally proposed for endangered status. Nesting success of western snowy plovers, a federally listed threatened species, could be adversely affected by activities associated with increased public use of beaches. Public use on dune habitats could also degrade habitat occupied by Smith's blue butterfly and black legless lizard. Habitat losses for all special-status wildlife species are shown in Table 5-11.

Between 22% and 32% of the available habitat at Fort Ord for three federal candidate species would be eliminated under Alternative 4. Species affected include the black legless lizard, Monterey ornate shrew, and California horned lark. Because of the limited ranges of the black legless lizard and Monterey ornate shrew, habitat losses under Alternative 4 could result in both species being elevated to threatened or endangered status. Between 7% and 17% of the available habitat for five other federal candidate species would be eliminated under Alternative 4. Species affected include the Monterey dusky-footed woodrat, loggerhead shrike, California tiger salamander, California red legged frog, and southwestern pond turtle. One of the eight known tiger salamander breeding ponds at Fort Ord would be lost. Less than 1% of the available tricolored blackbird habitat at Fort Ord would be affected.

Under Alternative 4, 26-34% of the available habitat at Fort Ord for the following four California species of special concern would also be eliminated: burrowing owl, northern harrier, prairie falcon, and American badger. The golden eagle, sharp-shinned hawk, and coast horned lizard are also California species of special concern and would lose between 5-15% of their habitat at Fort Ord. There would be no habitat loss for Cooper's hawk and yellow warbler.

Habitat losses for special-interest species range from no loss to 46% loss under Alternative 4. Approximately 46% of the available Salinas harvest mouse habitat and 10% of the greater roadrunner habitat at Fort Ord would be lost to development. There would be no loss for Swainson's thrush and common yellowthroat. Special-interest species have no legal status, but may be rare or declining in the region.

Wetlands and Other Waters of the United States. Alternative 4 would result in the degradation or removal of approximately 5 acres (20%) of the vernal pools, approximately 2 acres (7%) of freshwater marsh and ponds, and about 10,500 linear feet of streams at Fort Ord. Vernal pools and freshwater marsh are potentially jurisdictional wetlands, and stream channels and ponds are potentially other waters of the United States protected under Section 404 of the Clean Water Act.

Plant and Butterfly Preserves and Significant Natural Areas. Under Alternative 4, all natural habitat would be eliminated in preserve 11, and approximately 30% of preserve 2 and 25% of preserve 12 would be lost (Figure 4.11-12). A small portion of significant natural area 026 would be removed to construct the weather station.

5.6.4.12 Visual Resources

Implementation of Alternative 4 would require construction of a substantial number of buildings, renovation of existing buildings, and modification of infrastructure. These activities would produce short-term visual impacts and could produce long-term visual impacts. Short-term visual impacts would occur from construction activities, including location of equipment storage areas, removal of vegetation, and infrastructure modifications. Long-term visual impacts could occur from removal of vegetation; construction of new buildings; alteration of the appearances of buildings and other structures; and construction of improvements such as recreation facilities, parking areas, lighting standards, and fences.

The activities described above could result in a substantial reduction in visual unity and intactness for some visually sensitive areas for views from State Route 1 and other important visitor use areas in and around Monterey Bay. The resulting visual impacts would be inconsistent with Policy 30251 of the California Coastal Act of 1976 concerning the protection of scenic and visual qualities of coastal areas.

Under Alternative 4, institutional development would occur principally in the northeastern portion of the installation, with limited development of the coastal area. Development would introduce numerous buildings, parking lots, roads, and other built elements into this portion of the Fort Ord viewshed. The forms, lines, colors, and texture of the built elements would differ substantially from those of the existing landscape, which is mostly natural in appearance. Extensive vegetation removal and regrading would occur to facilitate development. Existing beach firing ranges would be removed from the coastal area under Alternative 4. Additionally, lower intensity land uses would occupy most of the installation's interior.

Proposed development would substantially reduce the vividness, intactness, and unity of the region's visual resources and would result in substantial impacts on regional visual quality.

The visual quality of the coastal area would be improved by the removal of the beach firing ranges. Viewed from State Route 1, the vividness and intactness of the coastal area would be reduced. Additionally, built elements would be visible due to the high visibility of development in areas of high visual sensitivity and quality east of State Route 1, outside the coastal area.

Views of Fort Ord from primary travel routes would be reduced in visual quality by encroaching land uses of potentially high visual impact. School expansion proposed in the southwestern portion of the installation would reduce the vividness of views of Fort Ord from State Route 68, a state-designated scenic highway. Lower intensity land uses proposed for a large portion of the installation's interior would reduce visual impacts from secondary roads and portions of the Salinas Valley.

Viewed from Monterey Bay and other important tourist and recreation areas along the Monterey Peninsula, the vividness and intactness of Fort Ord's visual resources would be reduced by proposed development of the hills and ridges directly inland from the coast.

5.6.4.13 Cultural Resources

This alternative has the potential to affect National Register-eligible historic buildings by loss of federal protection and by splitting proposed National Register districts. If archeological sites or Native American traditional or sacred properties are found at Fort Ord, the institutional land uses proposed by

Alternative 4 are similar to those of Alternative 3 and would result in considerably more of them being preserved in open spaces, institutional/public areas, or in parks than would occur under Alternatives 1 and 2. The areas of greatest archeological sensitivity include all terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, and lands adjacent to the streams that flow through Pilarcitos and Impossible Canyons. All other installation lands are recommended as having low to medium potential for possessing archeological resources.

5.6.4.14 Impact Summary

- **Land Use.** Under Alternative 4, approximately 10% of the currently undeveloped areas of Fort Ord is proposed for development. At buildout there would be 24% open space. However, under this alternative 58% of the installation would remain in a caretaker status pending long-term disposition of the impact area and developed portions of the installation that were not incorporated into open space and recreation uses. If the impact area were cleared of unexploded ordnance and used for open space and recreation, the total open space and recreation land use would be 56%.

  Some of the proposed institutional uses would conflict with local or state land use policies. Urban development would occur in areas that would be unsuitable for development because of physical constraints, because they contain significant habitat for rare and endangered plant and wildlife species, or because of the absence or inadequacy of public services infrastructure.

- **Socioeconomics.** Alternative 4 would result in a net decrease of 3,800 in resident population from the existing 31,270. However, the effective resident population would be approximately 31,000 persons because of the university with an enrollment of 19,200 persons, the 7,000-person correctional facility, and 4,770 persons at the POM annex and reserve center. The net housing supply would decrease by 1,500 units. Army- and university-related residents would occupy approximately 10,490 housing units on Fort Ord. Employment generated by Alternative 4 would result in substantial secondary population growth that would offset direct population loss and would result in the unmet need for approximately 25,000 housing units in the county. Regional economic activity, as measured by countywide employment, personal income, and industrial output, would increase substantially over 1991 conditions, with increases of approximately 14% in employment, 15% in direct output, and 6% in personal income. Approximately 23,000 new jobs would occur, with an increase of $280 million. Total output within Monterey County also would increase by $1.8 billion. The large number of potential jobs would result in the need for school capacity through 12th grade for approximately 9,700 students in the Fort Ord area. Military retirees would be affected by the loss of medical services currently available at Fort Ord. Under Alternative 4 there would be a loss of approximately 450 acres of land available for undeveloped recreational activity and an increase of approximately 1,500 acres for developed recreational opportunities.

- **Soils, Geology, Topography, and Seismicity.** The development under Alternative 4 would disturb or destroy the soil components that support rare plant communities. Development in currently undeveloped portions of the installation would remove vegetation, disturb the soil surface, and accelerate erosion and sedimentation. Developments along Toro Creek would be subjected to an increased flood hazard and to a high to very high potential for liquefaction and seismically induced landslides. Constructing facilities in the coastal zone would subject these facilities to eventual loss from coastal erosion in the area.

- **Public Services and Utilities.** Extensive upgrade and expansion of the utility system would be required to provide service under Alternative 4. An increase of up to 790% over that

currently available would be required. Telephone, cable television, gas and electricity, storm drainage, and water supply infrastructure would require public or private utility companies to upgrade, replace, and expand the infrastructure to provide service to the expanded developments.

- **Water Resources.** Increases in impervious surfaces under Alternative 4 would cause additional surface runoff that could contribute to watershed flood problems. Areas within existing FEMA 100-year floodplains are particularly sensitive to flood damage from increased runoff and generally contribute to water quality degradation in the area and potentially in Monterey Bay, a designated national marine sanctuary.

  Alternative 4 would increase water demand from the existing approximately 5,400 acre-feet at Fort Ord to about 13,360 acre-feet. The existing supply consists entirely of groundwater and already exceeds the safe yield of the groundwater basin in the vicinity of Fort Ord, as evidenced by seawater intrusion. Local groundwater could not supply the water needed for this development.

- **Public Health and Safety.** Alternative 4 would require up to 65 law enforcement officers, 31 firefighters or eight firefighting companies and equipment, and emergency medical services for many institutions and businesses and for approximately 31,000 persons.

  The installation is in a seismic and tsunami risk area, and people would be exposed to these risks and to risks from buildings subjected to ground shaking.

- **Traffic and Circulation.** Alternative 4 would generate approximately 172,000 daily trips at full buildout. To serve this demand, up to three lanes of north-south roadways and nine lanes of east-west roadways would need to be built. To serve travel between Fort Ord and surrounding communities, up to 31 lanes of roadway would need to be built. These estimates should not be combined because one roadway could satisfy both on- and off-installation travel.

- **Air Quality.** Exposure to asbestos is possible if asbestos is not removed from buildings before demolition. Hazardous air pollutants and PM_{10} could be emitted during hazardous waste cleanup and recovery of unexploded ordnance. Construction activities during reuse would generate substantial increases in NO_x, ROG, CO, and PM_{10} emissions. Alternative 4 would not create excessive levels of CO at locations where people live or work. Alternative 4 would be consistent with the MBUAPCD's 1991 AQMP and the 1982 SIP developed jointly by the MBUAPCD and AMBAG.

- **Noise.** Noise impacts from Alternative 4 would include traffic noise impacts on existing and new noise-sensitive land uses and the noise impacts of incompatible land uses. The traffic noise impacts on existing and new noise sensitive land uses would exceed the 60-dB L_{dn} criterion for all evaluated road segments that would have noise-sensitive land uses. Other noise sources such as the airport and agri-center may also have noise levels that exceed the criterion for noise-sensitive land uses. Sensitive land uses, such as educational uses, are projected to be located adjacent to such noise-generating land uses as an airport or agri-center.

  Cumulative noise impacts would result from the intensity of the reuse development on Fort Ord combined with other noise-producing development outside Fort Ord. Approximately four roadway segments are projected to have noise increases with substantial cumulative effects under Alternative 4.

- **Hazardous and Toxic Waste Site Remediation.** After hazardous and toxic waste remediation activities are complete at Fort Ord, reuse of former hazardous and toxic waste sites would pose slight risks to public health and safety. Development could occur on unidentified hazardous waste or unexploded ordnance. Additional hazardous waste would be generated on the installation by demolishing buildings that may contain asbestos and other potentially hazardous materials.

- **Vegetation, Wildlife, and Wetland Resources.** Land development proposed for reuse under Alternative 4 would result in the loss of over 30% of common biological communities at Fort Ord. Impacts include the loss of portions of the ranges of federally listed and proposed and state-listed threatened and endangered species, reduction in the ranges of numerous special-status plant and wildlife species to the point that they would likely become eligible for federal or state listing as threatened or endangered. It would result in the loss of 10% of maritime chaparral habitat, a 20% loss of vernal pools, and a 7% loss of other types of wetlands and riparian habitats. Development and implementation of an installation-wide multispecies HMP could be a means for mitigating impacts. Modifications in this alternative would be needed. Development could avoid Smith's blue butterfly habitat.

- **Visual Resources.** The development in important view areas under Alternative 4 would greatly decrease the amount and diversity of natural vegetation cover and distant views. Development would alter the visual character and reduce the visual quality of the coastal area of Fort Ord. Views from and toward Monterey Bay and views from state-designated scenic routes heavily traveled by tourists and recreationists would be reduced in visual quality by proposed development.

- **Cultural Resources.** All requirements for identification of historic properties under the provisions of the NHPA of 1966 have not been completed as of this writing. Therefore, the Army will adhere to the program outlined in the BRAC cultural resource programmatic agreement (1992) to meet its NHPA requirements.

  Alternative 4 could affect buildings at Fort Ord recommended as potentially eligible for listing in the National Register. Alternative 4 also proposed development in areas considered to have potential for possessing archeological resources.

  No studies have yet been conducted to determine whether culturally sensitive Native American properties are present at Fort Ord. If Native American traditional or sacred properties are found at Fort Ord, the institutional land uses proposed by Alternative 4 would result in considerably more of them being preserved by open spaces, institutional/public areas, or in parks than would occur under Alternatives 1 and 2. Native American groups will be contacted about the presence of these types of properties before initiating disposal or reuse actions.

- **Conclusions.** Alternative 4 would have significant impacts on many environmental resources. The location and extent of new development, new water and wastewater requirements, endangered species impacts, and conflicts in land use and transportation plans for the region would require revisions and implementation of mitigation. Changes to this alternative would be required to address physical and environmental constraints and to allow for economically feasible development and operation within Fort Ord and in the region. It would need to comply with federal laws and policies concerning air quality, endangered species, and floodplains; California costal zone regulations; Monterey marine sanctuary requirements; historic preservation requirements; and noise standards.

5.6.4.15 Mitigation Summary

The following mitigation could be implemented by the Army, unless otherwise indicated. Other mitigation is available that could be implemented by other federal, state, or local agencies and private entities responsible for development; it is described in Volume II, "Detailed Analysis of Disposal and Reuse":

- Encourage additional CHAMPUS/PRIME providers.
- Disclose information on buried utilities to the Underground Service Alert.
- Create a unified storm drainage and flood control district to serve existing and new development.
- Transfer infrastructure to responsible parties.
- Disclose information on buried water distribution infrastructure to the underground service alert.
- Implement measures during construction to minimize NO_x emissions (for establishment of the POM annex only).
- Obtain emission offsets from the emissions bank maintained by the MBUAPCD (for establishment of the POM annex only).
- Implement the transportation control measures included in the MBUAPCD's 1991 AQMP.
- Avoid development in Smith's blue butterfly habitat.
- Determine whether remediation sites have been surveyed for archeological resources and conduct surveys where determined necessary and safe to do so.

5.6.5 Alternative 5: Open Space

5.6.5.1 Land Use

Alternative 5 proposes that most of the installation remain in open space. Approximately 1% of the currently undeveloped portion of the installation is proposed for development. Under Alternative 5, no uses are proposed that have major land use impacts relating to land use incompatibilities, and no inconsistencies with relevant state and local plans and policies would occur.

5.6.5.2 Socioeconomics

Population and Housing. Under Alternative 5, no housing would be developed on installation properties. The estimated population decrease of 30,000 and loss of 13,900 housing units under closure would not be offset by development under Alternative 5 (Table 5-3). This impact is related to closure rather than reuse of installation properties. Population and housing growth within the county unrelated to reuse activities would offset population losses related to closure over the 5-year buildout period.

Implementation of Alternative 5 would result in no new, direct housing growth in Marina and Seaside. The effects of closure on population and housing levels within these communities would not be offset by development under Alternative 5.

The ratio of jobs to housing within Monterey County would incrementally decrease from 1.36 to 1.32. This effect is considered beneficial but would not bring the countywide jobs/housing ratio within the 0.75-1.25 range generally considered to be optimal.

Regional Economy. Implementation of Alternative 5 would result in the development of employment-generating land uses that would create an estimated 2,400 direct jobs (all in Seaside) and 1,700 secondary jobs in Monterey County. The 4,100 jobs generated by Alternative 5 would not offset the estimated 27,000 jobs lost because of closure, resulting in a net decrease of 22,900 jobs in Monterey County (Table 5-3). This net loss represents a 14% decrease in countywide employment relative to 1991 conditions.

After accounting for closure reductions, total output in Monterey County is estimated to decrease by $290 million, representing a 2% decrease compared to baseline conditions. Similarly, personal income is estimated to decrease by $510 million in Monterey County, representing a 10% decrease from baseline conditions.

Social Services. The net decrease in economic activity under Alternative 5 would increase demand for family-related and support services because of the decreased number of jobs and increased levels of unemployment in the county caused by the closure. Caseloads of family-related services, including Aid to Families with Dependent Children, are expected to increase. Support services such as suicide prevention and crisis intervention programs would also likely experience increases in the demand for services without offsetting increases in funding.

The loss of jobs under Alternative 5 would have adverse effects on local job development programs. Specifically, this alternative could adversely affect the Private Industry Council that administers the Job Partnership Act within Monterey County because of the extended funding requirements and probable job shortage for displaced workers.

The availability of healthcare services for military retirees and their family members would likely be reduced under Alternative 5 with the closure of Silas B. Hays Army Community Hospital. No medical center would be developed under Alternative 5. Military retirees and their family members could use existing medical facilities within the region and apply for partial reimbursement of costs through CHAMPUS or Medicare; however, out-of-pocket costs to receive health care would increase for military retirees and their family members. Similarly, military retirees and their family members could travel to other military medical treatment facilities to receive health care. The availability of services at these facilities, however, is likely to be highly constrained and travel costs would increase relative to existing conditions.

Schools. Alternative 5 would not generate the need for additional school capacity (Table 5-4). This could result in the closing of existing Monterey Peninsula Unified School District (MPUSD) schools because of a lack of students resulting from the closure of the installation. Approximately 5,000 students would be leaving the MPUSD and other area school districts as a result of the closure of the installation.

Recreation. Alternative 5 proposes 18,700 acres of land for undeveloped recreational opportunities and 1,500 acres for developed recreational opportunities (Table 5-4). Under Alternative 5, an additional 4,200 acres of land would be available for undeveloped recreational activities and an additional 1,000 acres would be available for developed recreational opportunities.

5.6.5.3 Soils and Geology

All impacts identified under Alternative 1 would be either eliminated entirely or reduced to a minimal level under Alternative 5. The only impact that would be increased is the potential loss of soil fertility identi-

fied under Alternative 3. It is important to note that existing problems of coastal wind and water erosion would not be eliminated under Alternative 5; only further acceleration of their rates would be eliminated.

5.6.5.4 Public Services and Utilities

Table 5-5 quantifies the public services and utilities impacts of Alternative 5.

Wastewater. Alternative 5 would generate up to 1.7 mgd of wastewater. This would result in a 29% decrease from the existing 2.4 mgd (3.3 mgd are available to the installation). No additional treatment capacity would be needed to accommodate the land uses.

Solid Waste. Alternative 5 would generate up to 19 tpd of solid waste, an 80% decrease from the existing 94 tpd. This amount of solid waste would extend the life of the Marina Landfill by approximately 9 years.

Telephone Service. Alternative 5 would not require the expansion of telephone service but may result in the deterioration of the existing telephone infrastructure due to lack of use and maintenance.

Gas and Electric Service. Alternative 5 would not require additional gas and electric service. Alternative 5 may result in the deterioration of gas and electric infrastructure due to lack of use and maintenance.

Cable Television. Alternative 5 would not require the expansion of cable television services. Alternative 5 may result in the deterioration of the cable television infrastructure due to lack of use and maintenance.

Storm Drainage System. Alternative 5 would require new storm drainage infrastructure for approximately 17,006 acres, in addition to upgrades and expansions to existing storm drainage infrastructure that may continue to be used or integrated with the new systems.

Water Distribution Infrastructure. Alternative 5 would not require the expansion or upgrade of the water distribution system's infrastructure. Alternative 5 may result in the deterioration of the water distribution system due to lack of use and maintenance.

5.6.5.5 Water Resources

Hydrology and Water Quality. Alternative 5 would convert only small amounts of land from open space to urban development. It would not cause significant increases in watershed runoff and peak floodflows. It also would not significantly degrade watershed water quality by generating pollutants associated with urban runoff.

Water Demand. Total water demand for Alternative 5 would be about 3,356 acre-feet per year (Table 5-6). This is about 27% of existing water use and is less than the safe yield of the groundwater system in the vicinity of Fort Ord.

5.6.5.6 Public Health and Safety

Table 5-7 quantifies the impact of Alternative 5 on the following services:

Law Enforcement. Alternative 5 would require up to 13 law enforcement officers and equipment to provide service to the proposed uses. This is a 91% decrease from the existing Fort Ord law enforcement staff of 144.

Fire Protection. Alternative 5 would require up to four firefighters and equipment and approximately one firefighting company to provide service to the proposed uses. This is an 89% decrease from the existing Fort Ord fire protection staff of 40.

Medical Services. Because no development is proposed under Alternative 5, the existing medical facilities in the area would be operating below capacity.

Emergency Medical Services. Because no development is proposed under Alternative 5, the existing medical facilities in the area would be operating below capacity and would have sufficient emergency medical services to provide adequate service to the area.

Seismic Safety. Alternative 5 proposes that most of the installation be placed in open space. This would result in an installation population less than what currently exists on the installation. Therefore, a smaller population would be exposed to potential seismic events.

5.6.5.7 Traffic and Circulation

Implementation of Alternative 5 would generate approximately 15,000 daily trips (Table 5-8). Alternative 5 would also generate travel demand of approximately 48,000 trips between Fort Ord and the surrounding communities, creating the need for between three and eight lanes of roadway; approximately 6,000 vehicle trips in the north-south direction on the installation, creating the need for between one and two lanes of roadway; and approximately 24,000 vehicle trips in the east-west direction on and through the installation, creating the need for between two and four lanes of roadway.

To describe the number of lanes of roadway that would be needed to fulfill the travel demand created by Alternative 5, ranges are presented rather than a single number. The lower end of the range describes the number of freeway lanes needed to fulfill the demand, and the upper end describes the number of arterial roadways. In reality, the capacity would likely be provided by an unknown combination of freeways, arterials, collector streets, and transit facilities. The provision of this capacity would be the joint responsibility of the public and private entities that would take ownership and be responsible for development of the uses under Alternative 5.

Implementation of Alternative 5 would create an incompatibility between existing local general plans and the reuse plans for Fort Ord. This incompatibility could be resolved by updating local general plans to include the roadway and transit improvements needed to accommodate the proposed reuse of Fort Ord.

5.6.5.8 Air Quality

Alternative 5 includes construction and use of 1,669 acres of recreational and institutional development. Construction and operation of these land uses will generate air emissions.

The air quality analysis assumes that construction would occur from 1995 through 2010 and that by 2010 all land uses would be fully developed. The operational emission estimates, which assume full buildout by 2010, focus on motor vehicle emissions. No residential units are associated with Alternative 5.

Construction and operational activities resulting from Alternative 5 would result in decreased emissions of all pollutants, including PM_{10} and ozone precursors (Table 5-9). These decreases would

improve existing PM_{10} and ozone air quality. Alternative 5 would not result in violations of the ambient CO standards. Alternative 5 is consistent with the MBUAPCD's 1991 AQMP and the 1982 SIP developed jointly by the MBUAPCD and AMBAG (Table 5-9).

5.6.5.9 Noise

Under Alternative 5, development of Fort Ord would result in approximately 2,400 acres of construction-related land disturbance and would require little if any construction of major arterials within the bounds of the installation. Refer to Table 5-10 for a comparison of reuse alternatives relative to noise.

Under Alternative 5, construction would result in increased noise levels in areas around construction sites and along access roads to construction sites. These increased noise levels have the potential to adversely affect residences and other noise-sensitive land uses near these sites or roads. Ambient noise levels may be substantially increased or local noise standards may be exceeded.

Noise-sensitive land uses (primarily residential) exist adjacent to all of the existing roadway segments evaluated. Some of the noise-sensitive land uses adjacent to these roadways include educational, religious, and healthcare facilities. Residential land uses vary from rural residential uses with scattered houses adjacent to roadways to high-density urban residential development. Commercial, industrial, and recreational land uses also exist adjacent to some of the roads. However, impacts are evaluated based on the most sensitive land use that exists adjacent to a given roadway segment.

The 60-dB L_{dn} noise criterion for residential land uses is exceeded within 100 feet of all existing roadway segments evaluated. In most cases, this is also true under existing conditions. Although implementing Alternative 5 would substantially increase noise (by 5 dB or more relative to existing conditions) along only two of the existing roadway segments evaluated, this alternative would result in increased noise levels along roads where local noise standards are already exceeded. The combination of local noise standards being exceeded and a substantial increase in traffic noise along several roadway segments would have a substantial adverse effect on existing residences.

Under Alternative 5, very few noise-sensitive land uses are proposed that are related to human habitation, and most of the area within Fort Ord would remain open space. This analysis indicates that none of these proposed sensitive uses would be exposed to traffic noise levels in excess of 60-dB-L_{dn}.

Under Alternative 5, no land uses that may support activities that are sources of noise would be located adjacent to noise-sensitive land uses.

5.6.5.10 Hazardous and Toxic Waste Site Remediation

Implementing Alternative 5 would create approximately 11,700 acres of open space and parks and recreation areas. Public access and development would be limited in most of that area, thereby substantially reducing risks to public health and safety from development on unidentified hazardous waste or unexploded ordnance. Implementing this alternative also would reduce the potential for hazardous waste generation on the installation by limiting development.

The Superfund cleanup program at Fort Ord has resulted in increased efforts to locate and remediate hazardous waste. As a result of these remediation efforts, soil and groundwater quality have improved throughout the installation. Environmental quality at Fort Ord would be maintained through the preservation of open space.

5.6.5.11 Vegetation, Wildlife, and Wetland Resources

Common and Special Native Biological Communities. Alternative 5 would result in the removal of approximately 770 acres (10%) of common biological communities, including beaches, bluffs and blowouts, ice plant mats, coastal scrub, coast live oak woodland and savanna, and annual grassland. Approximately 1 acre (1%) of dune scrub and 30 acres (less than 1%) of the maritime chaparral at Fort Ord would be lost under Alternative 5. Losses of biological communities by alternative are shown in Table 5-11.

Special-Status Plant Species. Alternative 5 would result in the loss of approximately 110 acres of habitat occupied by sand gilia, a federally listed endangered species, and Monterey spineflower, a species proposed for federal listing as endangered. Habitat losses for all special-status plant species are shown in Table 5-11.

Approximately 45 acres, or less than 1% of habitat occupied by plants that are federal candidates for listing as threatened or endangered, would be lost under Alternative 5. Plant species affected would be Seaside bird's-beak, Toro manzanita, sandmat manzanita, Hickman's onion, Monterey ceanothus, Eastwood's ericameria, coast wallflower, and wedge-leaved horkelia.

Alternative 5 would result in the loss of approximately 45 acres of habitat occupied by plant species that have no federal or state status but occur on CNPS List 1b or 4. The impacts on these species represent less than 1% of any one of the species' known range.

Special-Status Wildlife Species. Alternative 5 would result in the loss of approximately 1 acre (1%) of Smith's blue butterfly habitat. No California linderiella habitat would be affected. Smith's blue butterfly is federally listed as endangered. Nesting success of western snowy plovers, which are federally listed as threatened, could be adversely affected by activities associated with the increased public use of the beaches. Public use of dune habitats could also degrade habitat occupied by Smith's blue butterfly and black legless lizard. Habitat losses for all special-status wildlife species are shown in Table 5-11.

Between approximately 1% and 6% of the available habitat at Fort Ord for six federal candidate species would be eliminated under Alternative 5: black legless lizard, Monterey dusky-footed woodrat, Monterey ornate shrew, loggerhead shrike, tricolored blackbird, and California horned lark. California tiger salamander, California red-legged frog, and southwestern pond turtle would not be affected under Alternative 5.

Under Alternative 5, between approximately 1% and 7% of the available habitat at Fort Ord for seven California species of special concern would also be eliminated. Species affected include the burrowing owl, northern harrier, sharp-shinned hawk, golden eagle, prairie falcon, American badger, and coast horned lizard. No habitat would be lost for Cooper's hawk and yellow warbler.

Habitat losses for special-interest species range from no loss to 8% loss under Alternative 5. Approximately 8% of the available Salinas harvest mouse habitat at Fort Ord would be eliminated. Less than 1% of the available greater roadrunner habitat would be lost. No habitat loss would occur for Swainson's thrush and common yellowthroat. Special-interest species have no legal status but may be rare or declining in the region.

Wetlands and Other Waters of the United States. Alternative 5 would degrade or remove approximately 2,200 linear feet of streams at Fort Ord. Stream channels are potentially other waters of the United States protected under Section 404 of the Clean Water Act.

Plant and Butterfly Preserves and Significant Natural Areas. No plant or butterfly preserves or significant natural areas would be affected under Alternative 5.

5.6.5.12 Visual Resources

Under Alternative 5, much of Fort Ord would be retained as open space. Development would generally be limited to construction and building modification associated with military uses along the southeastern portion of State Route 1. Under this alternative, existing beach firing ranges would be removed from the coastal area. Additionally, lower intensity land uses would occupy most of the installation's interior. This alternative would preserve the visual quality and character of the region by retaining much of Fort Ord's natural character.

Removing the beach firing range would improve the visual quality of the coastal area. However, higher intensity land uses along the southeastern portion of State Route 1, outside of the coastal area, would reduce the vividness and intactness of this corridor.

Moderate visual change would occur in the extreme southern portion of the installation, in a visually sensitive area seen from State Route 68. However, generally lower intensity land use proposed for the installation's interior would reduce the visual impacts from primary and secondary travel routes.

5.6.5.13 Cultural Resources

This alternative has the potential to affect National Register-eligible historic buildings by loss of federal protection. Of all the alternatives proposed, the open space land uses recommended by Alternative 5 would have the least effect on any archeological sites or Native American traditional or sacred properties that might be present at Fort Ord. Under this alternative, nearly all these resources would be preserved in open spaces, institutional/public areas, or in parks. The areas of greatest archeological sensitivity include all terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, and lands adjacent to the streams that flow through Pilarcitos and Impossible Canyons. All other installation lands are recommended as having low to medium potential for possessing archeological resources.

5.6.5.14 Subalternative A: No Presidio of Monterey Annex/No Reserve Center

Land Use

Land use impacts of Subalternative A would be similar to those described under Alternative 5.

Socioeconomics

- **Population and Housing.** Direct population and housing decreases countywide and in Marina and Seaside under Subalternative A would be similar to decreases under Alternative 5 (Table 5-3). The jobs/housing ratio under Subalternative A would be lower than the ratio under Alternative 5 but would be similar to the existing jobs/housing ratio within the county.

- **Regional Economy.** Employment, output, and personal income levels under this Subalternative A would be lower than those described under Alternative 5 (Table 5-3).

- **Social Services.** Implementation of Subalternative A would result in social services effects similar to those described under Alternative 5.

- **Schools.** Impacts on schools under Subalternative A would be similar to those described under Alternative 5 (Table 5-4).

- **Recreation.** In addition to the impacts described under Alternative 5, implementation of Subalternative A would also result in the loss of recreational opportunities in the Main Garrison area, resulting in a decrease of approximately 500 acres of developed recreational opportunities (Table 5-4).

Soils, Geology, Topography, and Seismicity

Impacts under Subalternative A would be similar to those described under Alternative 5.

Public Services and Utilities

Table 5-5 quantifies the public services and utility impacts of Subalternative A.

- **Wastewater.** Impacts on wastewater would be similar to those described for Alternative 5 except that Subalternative A would generate up to 0.02 mgd, a 99% decrease from existing levels. No additional treatment capacity would be needed.

- **Solid Waste.** Subalternative A would not generate any solid waste because there would not be a POM annex.

- **Telephone Service.** Subalternative A would not require additional telephone service area because there would not be a POM annex.

- **Gas and Electric Service.** Subalternative A would have impacts similar to those described under Alternative 5. Subalternative A would result in the reduction of gas and electricity consumption by 95% and 96%, respectively, compared to 1991 consumption levels.

- **Cable Television.** Subalternative A would have similar impacts to those described under Alternative 5. Subalternative A would not require expansion of the cable television service area.

- **Storm Drainage System.** Subalternative A would have impacts similar to those described under Alternative 5 except that 16,995 acres of storm drainage infrastructure would need to be upgraded or expanded.

- **Water Distribution Infrastructure.** Subalternative A would not require the expansion of the water distribution system's service area.

Water Resources

- **Hydrology and Water Quality.** Subalternative A would convert only small amounts of land from open space to urban development. It would not cause significant increases in watershed runoff and peak floodflows. Subalternative A would not significantly degrade watershed water quality by generating pollutants associated with urban runoff.

- **Water Supply and Demand.** Water demand for Subalternative A would be less than 60 acre-feet per year, or less than 3% of the demand under Alternative 5 (Table 5-6).

Public Health and Safety

Table 5-7 quantifies the impact of this alternative on the following services.

- **Law Enforcement**. Impacts on law enforcement under Subalternative A would be similar to those described under Alternative 5 except that Subalternative A would require a total of four law enforcement officers and equipment, a 97% decrease from existing levels.

- **Fire Protection**. Impacts on fire protection under Subalternative A would be similar to those described under Alternative 5 except that the firefighters and firefighting companies needed to provide service to the POM annex and reserve center would not be needed. Local jurisdictions would, however, be required to provide fire protection services to control wildfires on the installation.

- **Medical Services**. Impacts on medical services under Subalternative A would be similar to those described under Alternative 5.

- **Emergency Medical Services**. Impacts on emergency medical services under Subalternative A would be similar to those described under Alternative 5.

- **Seismic Safety**. Seismic safety impacts under Subalternative A would be similar to those described under Alternative 5.

Traffic and Circulation

The reuse impacts of Subalternative A would be similar, but less than, those described under Alternative 5 (Table 5-8). Subalternative A includes no proposed uses to replace the POM annex and reserve center; therefore, traffic would not be generated.

Air Quality

Subalternative A would result in a lower amount of construction emissions than Alternative 5 because less nonresidential development would occur (Table 5-9). Similarly, operational emissions of PM_{10} and ozone precursors are less than those under Alternative 5 because of the less intensive land development. Subalternative A would not result in violations of the ambient CO standards. In addition, Subalternative A, like Alternative 5, is consistent with the MBUAPCD's 1991 AQMP and the 1982 SIP developed jointly by the MBUAPCD and AMBAG (Table 5-9).

Noise

The absence of the POM annex and the reserve center would not substantially affect traffic noise levels or the degree to which proposed noise-sensitive land uses are affected by noise. Refer to Table 5-10 for a comparison of reuse alternatives relative to noise.

Hazardous and Toxic Waste Site Remediation

No additional effects on hazardous and toxic waste site remediation would be caused by implementing Subalternative A.

Vegetation, Wildlife, and Wetland Resources

Under Subalternative A, the area proposed for the POM annex and reserve center would be designated as NPU. There would be no impacts (Table 5-11). However, once a use is designated, impacts will need to be assessed.

Visual Resources

Visual impacts under Subalternative A would be similar to those described under Alternative 5. The magnitude of impacts would be decreased for portions of areas east of State Route 1 and near North-South Road. Subalternative A would not substantially change visually sensitive areas of Fort Ord, it would improve the visual quality of the coastal zone, and it would help to preserve the region's and Fort Ord's visual character and quality.

Cultural Resources

Not having a POM annex will have no effect on National Register-eligible resources.

5.6.5.15 Impact Summary

- **Land Use.** Alternative 5 proposes that most of the installation remain in open space. Approximately 1% of the currently undeveloped portion of the installation is proposed for development and at buildout 39% of the installation would be open space. However, under this alternative 52% of the installation would remain in a caretaker status pending long-term disposition of the impact area and developed portions of the installation that were not incorporated into open space and recreation uses. If the impact area were cleared of unexploded ordnance and used for open space and recreation, the total open space and recreation land use would be 71%. Under Alternative 5, no uses are proposed that have major land use impacts from land use incompatibilities, and no inconsistencies with relevant state and local plans and policies would occur.

- **Socioeconomics.** Alternative 5 would result in a decrease in resident population from the existing 31,270 persons by approximately 30,000 and would result in a total population of 4,800 persons and decrease students in schools by approximately 5,000. Regional economic activity, as measured by countywide employment, personal income, and industrial output, would decrease over 1991 conditions by approximately 14% in countywide employment, 2% in direct output, and 10% in personal income. Approximately 4,100 new jobs would occur, but there would also be a loss of 27,000 jobs because of closure. Military retirees would be affected by the loss of medical services currently available at Fort Ord. Alternative 5 would reduce the need for school capacity through the 12th grade by 5,000 students. Alternative 5 would increase land available for undeveloped recreational opportunities by 4,200 acres and increase the areas of developed recreational opportunities by 1,000 acres.

- **Soils, Geology, Topography, and Seismicity.** The only impact identified under Alternative 5 would be the increased potential for loss of soil fertility. Existing problems with coastal wind and erosion would not be eliminated; however, the acceleration of their rates would be eliminated.

- **Public Services and Utilities.** Under Alternative 5, the extensive upgrade and expansion of the utility system would not be required because of a decrease in the demand for these services. However, Alternative 5 may result in the deterioration of the public services and utilities infrastructure caused by lack of use and maintenance.

- **Water Resources.** There would be no increase in impervious surfaces under Alternative 5; therefore, watershed flood problems from additional surface runoff would not occur under Alternative 5. Alternative 5 would decrease water demand to 62% of existing use at Fort Ord (from 5,400 acre-feet to about 3,356 acre-feet). The existing supply consists entirely of groundwater. Use under Alternative 5 would be less than the safe yield of the groundwater basin in the vicinity of Fort Ord.

- **Public Health and Safety.** Alternative 5 would require up to 13 law enforcement officers, four firefighters or one firefighting company and equipment, and emergency medical services for those on the installation for maintenance or recreational purposes. The installation is in a seismic and tsunami risk area, and people would be exposed to these risks and to risks from buildings subjected to ground shaking, but this risk would be less than under existing conditions.

- **Traffic and Circulation.** Alternative 5 would generate approximately 15,000 daily trips at full buildout. To serve this demand, up to two lanes of north-south roadways and four lanes of east-west roadways would need to be built. To serve travel between Fort Ord and surrounding communities, up to eight lanes of roadway would need to be built. These estimates should not be combined because one roadway could satisfy both on- and off-installation travel.

- **Air Quality.** Exposure to asbestos is possible if asbestos is not removed from buildings before demolition. Hazardous air pollutants and PM_{10} could be emitted during hazardous waste cleanup and recovery of unexploded ordnance. Construction activities during reuse would generate increases in NO_x, ROG, CO, and PM_{10} emissions. Alternative 5 would decrease levels of CO. Decreases in air emissions would result in decreases for NO_x, ROG, CO, and PM_{10} emissions. Alternative 5 would be consistent with the MBUAPCD 1991 AQMP and the 1982 SIP developed jointly by the MBUAPCD and AMBAG.

- **Noise.** Under Alternative 5, very few noise-sensitive land uses are proposed in connection with human habitation, and most of the area within Fort Ord would remain open space. No land uses that may support sources of noise would be located next to noise-sensitive land uses.

- **Hazardous and Toxic Waste Site Remediation.** Alternative 5 would create approximately 11,700 acres of open space and parks and recreation areas. Public access and development would be limited in most of those areas, substantially reducing risks to public health and safety. Alternative 5 would reduce the potential for hazardous waste generation on the installation by limiting development.

- **Vegetation, Wildlife, and Wetland Resources.** Proposed uses under Alternative 5 would result in the loss of 10% of common biological communities at Fort Ord. Impacts include the loss of small portions of the ranges of federally listed and proposed and state-listed threatened and endangered species, the reduction in the ranges of several other special-status plant and wildlife species, the loss of less than 1% of all known central maritime chaparral habitat, and a 2,200-linear-foot loss of streams at Fort Ord. Biological resources would lose federal protection if lands are transferred to nonfederal entities. Avoidance and enhancement of resources during development or implementation of a multispecies HMP could be means of mitigating impacts.

- **Visual Resources.** Alternative 5 would preserve the visual quality and character of the region by retaining much of Fort Ord's natural character.

- **Cultural Resources.** All requirements for identification of historic properties under the provisions of the NHPA of 1966 have not been completed as of this writing. Therefore, the Army will adhere to the program outlined in the BRAC cultural resource programmatic agreement (1992) to meet its NHPA requirements.

  Alternative 5 would have the least effect on buildings at Fort Ord recommended as eligible for listing in the National Register. Implementation of this alternative may split proposed National Register districts. Under Alternative 5, nearly all archeological sites or Native American traditional or sacred properties that might be found at Fort Ord would be preserved in open space. Native American groups will be contacted about the presence of these types of properties before initiating disposal or reuse actions.

- **Conclusions.** This alternative will not have significant impacts on most environmental resources. The large amount of open space and recreation resources would be a significant environmental benefit. Operation of this alternative would be costly. The economic effects on the region of the closure of Fort Ord would be significant and would not be offset by this alternative. Modifications in this alternative would be possible without destroying key biological resources, to allow development in previously developed areas and in the impact area after unexploded ordnance is removed. This would allow a combination of open space and economically beneficial uses to occur that would have many of the same environmentally positive effects while allowing for substantial economic recovery or expansion. Such an alternative would need to comply with federal laws and policies concerning air quality, endangered species, and floodplains; California costal zone regulations; Monterey marine sanctuary requirements; historic preservation requirements; and noise standards.

5.6.5.16 Mitigation Summary

The following mitigation could be implemented by the Army, unless otherwise indicated. Other mitigation is available that could be implemented by other federal, state, or local agencies and private entities responsible for development; it is described in Volume II, "Detailed Analysis of Disposal and Reuse".

- Encourage additional CHAMPUS/PRIME providers.
- Reduce gas and electric service to proposed developed recreation areas only.
- Reduce cable service to proposed developed recreation areas only.
- Reduction in storm drainage system infrastructure to proposed developed recreation areas only.
- Avoid development in Smith's blue butterfly habitat.
- Determine whether remediation sites have been surveyed for archeological resources and conduct surveys where determined necessary and safe to do so.

5.6.6 Alternative 6R: Anticipated Reuse (Revised)

5.6.6.1 Land Use

Alternative 6R proposes reuse of the developed portion of the installation as well as an additional 10% of the undeveloped portion of the installation. The major land use impacts for Alternative 6R relate to

land use incompatibilities between proposed and existing land uses, incompatibilities between proposed land uses, and inconsistencies with relevant state and local plans and policies.

Alternative 6R proposes land uses that would be incompatible with existing land uses as well as other proposed land uses. Incompatibilities between existing and proposed land uses include the proposed transit center with the natural habitat resources in the coastal zone and the RV park/campground with structures in no proposed use status. Incompatibilities between proposed uses include the natural area expansion with the adjacent office park and corporation yard, the agri-center with the RV park/campground, the school expansion area with the transportation corridor, and the multi-use area with the disturbed habitat zone. Alternative 6R also proposes development that would be inconsistent with relevant state and local plans and policies. These policies include those related to creating development patterns that are not consistent with the 1991 AQMP the expansion of development in areas without adequate infrastructure, land use incompatibilities, protection of sensitive environmental habitats and resources, groundwater resources, and visual quality of the coastal area.

5.6.6.2 Socioeconomics

Population and Housing. Implementation of Alternative 6R would directly decrease the population and housing supplies of Monterey County, Marina, and Seaside. As shown in Table 5-3, countywide population would decrease by an estimated 7,000 (2%), and the housing supply would decrease by approximately 4,000 units (3%). This decline, when annualized over the assumed 50-year buildout period, would not exceed significance thresholds established for population and housing effects.

After accounting for the effects of closure, Marina's population would decrease by more than 5,000 residents, and its housing supply on installation property would decrease by approximately 1,000 units. Seaside's population would decrease by approximately 7,000 residents, and its housing supply on installation would decrease property by more than 3,000 units.

The ratio of jobs to housing within Monterey County would incrementally increase from 1.36 to 1.57. This effect is considered major because it increases the countywide ratio, which already exceeds the ratio of jobs to housing generally considered to be optimal for maintaining a jobs/housing balance.

Regional Economy. Implementation of Alternative 6R would result in the development of employment-generating land uses that would create an estimated 26,000 direct jobs and 27,000 secondary jobs within Monterey County. Subtracting the effects of closure results in a net increase of approximately 27,000 jobs (Table 5-3), representing a 16% increase in countywide employment. An estimated 10,000 of the jobs would be located in Marina, and 5,000 jobs would be located in Seaside.

After accounting for closure reductions, total output in Monterey County is estimated to increase by $1.7 billion, representing a 14% increase over baseline conditions. Similarly, personal income is estimated to increase by $152 million in Monterey County, representing a 3% increase over baseline conditions.

Social Services. Economic activity generated under Alternative 6R could benefit social service programs provided by Monterey County and nonprofit organizations, including welfare services and jobs training and placement programs, by increasing employment opportunities, decreasing unemployment, and generating increased income within the county.

Schools. Alternative 6R would generate the need for additional school capacity for up to approximately 4,300 students in kindergarten through 12th grade (Table 5-4). This would result in a demand for additional school facilities and staff.

Recreation. Alternative 6R proposes 17,723 acres of land that would be available for undeveloped recreational opportunities and 962 acres of developed recreational opportunities (Table 5-4). This would result in an increase of approximately 3,400 acres of land available for undeveloped recreational activities and an additional 500 acres for developed recreational opportunities.

Hospitals. Under Alternative 6R, three healthcare scenarios were evaluated for reuse of installation properties: a no-hospital scenario, a combined-care facility scenario, and an outpatient facility scenario.

Under the no-hospital scenario, no hospital facility would be developed onsite. Military retirees and their family members would use existing local healthcare facilities and receive partial reimbursement for costs through CHAMPUS or Medicare or travel to military medical treatment facilities outside of Monterey County. In either case, military beneficiaries currently using Silas B. Hays Army Community Hospital would face increased competition for available healthcare services and would experience greater out-of-pocket expenses or travel costs.

Under the combined-care facility scenario, a hospital would be operated onsite by a private provider, possibly offering a managed care plan to military beneficiaries through the Uniformed Services Treatment Facility system. Military retirees would still compete with the civilian population for medical services but would receive no- or low-cost health care similar to services provided by Silas B. Hays Army Community Hospital. The availability of services enjoyed by military retirees would be reduced relative to existing conditions, but health care costs would be similar to existing conditions.

Under the outpatient facility scenario, an outpatient clinic would be established at Silas B. Hays Army Community Hospital or at one of the existing clinics located at Fort Ord. Military retirees and their family members would be provided no- or low-cost outpatient services through a clinic located on installation properties. Military retirees, however, would experience greater competition and higher costs for inpatient services compared to existing conditions.

5.6.6.3 Soils, Geology, Topography, and Seismicity

Alternative 6R proposes new development that would result in a substantial disturbance or loss of the soil component of the natural ecosystem supporting natural habitats of limited extent and rare and endangered plant and animal communities. Proposed developments, particularly in the transportation corridor, could result in accelerated water erosion, sedimentation, and increased landslide potential in an area already heavily impacted by existing erosion.

Other lesser potential impacts include loss of soil fertility as a result of fire suppression, loss of reuse of Stilwell Hall as a result of coastal erosion, accelerated wind erosion from vegetation removal and soil surface disturbance, severe engineering limitations in the use of low strength, shrink-swell, excavation caving, and piping susceptible soils, and susceptibility of new and existing structures to damage from seismically induced ground shaking.

5.6.6.4 Public Services and Utilities

Table 5-5 quantifies the public service and utility impacts of Alternative 6R.

Wastewater. Alternative 6R would generate up to 5.0 mgd of wastewater. This 108% increase over the existing 2.4 mgd (a total of 3.3 mgd is available to the installation) would require 1.7 mgd of additional treatment capacity to accommodate the proposed land uses.

Solid Waste. Alternative 6R would generate up to 96 tpd of solid waste, a 2% increase over the existing 94 tpd. This amount of solid waste would reduce the life of the MRWMD's Marina Landfill by approximately 1 year.

Telephone Service. Telephone service exists only in the developed portions of the installation. Alternative 6R would only require telephone service in those portions of the installation where reuse is proposed and telephone service is necessary, reducing the existing service area by approximately 240 acres, a reduction of 5% of the existing service area.

Gas and Electric Service. Gas and electric service exists only in the developed portions of the installation. Alternative 6R would result in the demand for approximately 740 MCFH more gas and 87 MW more electricity, an increase of 507% more gas and 485% more electricity over existing conditions.

Cable Television. Cable television service exists only in the developed portions of the installation. Alternative 6R would only require cable television service in those portions of the installation where reuse is proposed and where cable television service is necessary, reducing the existing service area by approximately 1,660 acres, a reduction of 32% from the existing service area.

Storm Drainage System. Alternative 6R would require new storm drainage infrastructure for approximately 2,500 acres of proposed development in areas with no infrastructure. This would include upgrades and expansions to existing storm drainage infrastructure to be used with the new systems.

Water Distribution Infrastructure. Alternative 6R would require new water distribution infrastructure for approximately 2,500 acres of proposed development in areas with no infrastructure. This would result in an approximate 50% increase in water distribution service area from the existing conditions.

5.6.6.5 Water Resources

Hydrology and Water Quality. Alternative 6R would convert land from open space to urban development, which would increase watershed runoff and peak floodflows. Approximately 2,500 acres would be converted from open space to proposed uses, which would result in a 10% increase in disturbance of undeveloped areas over existing conditions.

Alternative 6R would not only increase watershed runoff but would degrade watershed water quality by generating additional urban pollutants. Surface runoff containing urban pollutants would degrade water quality on the installation and in Monterey Bay.

Water Supply and Demand. Total water demand on Fort Ord under Alternative 6R would be about 12,000 acre-feet per year (Table 5-6). This is about two times greater than existing water use, which already exceeds the safe yield of the groundwater system in the vicinity of Fort Ord. In addition, water demand in communities near Fort Ord would probably increase by about 2,700 acre-feet per year as a result of university students and employees moving to the area and living off campus.

5.6.6.6 Public Health and Safety

Table 5-7 quantifies the impacts of Alternative 6R on the following services:

Law Enforcement. Alternative 6R would require up to 39 law enforcement officers and equipment to provide service to the proposed uses. This is a 73% decrease over the existing Fort Ord law enforcement staff of 144.

Fire Protection. Alternative 6R would require up to 18 firefighters and equipment and approximately five firefighting companies to provide service to the proposed uses. This is a 52% decrease over the existing Fort Ord fire protection staff of 40.

Medical Services. Alternative 6R would generate a population of approximately 22,770 who would require medical services. The existing medical facilities in the Monterey area would be capable of providing these services.

Emergency Medical Services. Alternative 6R would generate a population of approximately 22,770 who would require emergency medical services. The existing emergency medical facilities in the Monterey area would be capable of providing these services.

Seismic Safety. Under Alternative 6R, approximately 44,500 people could be exposed to seismic events.

5.6.6.7 Traffic and Circulation

Implementation of the Alternative 6R would generate approximately 228,000 daily trips (Table 5-8). This alternative would also generate travel demand of approximately 131,000 vehicle trips between Fort Ord and the surrounding communities (including through-trips), creating the need for between nine and 22 lanes of roadway; approximately 40,000 vehicle trips in the north-south direction on and through the installation, creating the need for between three and seven lanes of roadway; and approximately 22,000 vehicle trips in the east-west direction on and through the installation, creating the need for between two and four lanes of roadway.

With the provision of transit service and aggressive measures to reduce single-occupant driving, the need for roadways could be reduced by approximately 10%.

To describe the number of lanes of roadway that would be needed to meet the travel demand created under Alternative 6R, ranges are presented rather than a single number. The lower end of the range describes the number of freeway lanes needed to meet the demand, and the upper end describes the total number of arterial roadway lanes. In reality, the capacity would likely be provided by an unknown combination of freeways, arterials, collector streets, and transit facilities. The provision of this capacity would be the joint responsibility of the public and private entities that would take ownership and be responsible for developing the uses under Alternative 6R.

Implementation of Alternative 6R would create an incompatibility between existing local general plans and the reuse plans for Fort Ord. This incompatibility could be resolved by updating local general plans to include the roadway and transit improvements needed to accommodate the proposed reuse of Fort Ord.

5.6.6.8 Air Quality

Implementation of Alternative 6R would result in the construction and use of 168 medium density residential units and 4,926 acres of office, industrial, educational, tourist, and institutional facilities. Construction and operation of these land uses generate air emissions.

The air quality analysis assumes that construction would occur from 1995 through 2010 and that, by 2010, all land uses would be fully developed. The operational emissions estimates, which assume full buildout by 2010, focus on motor vehicles, residential area sources, and aircraft emissions associated with general aviation use of Fritzsche Army Airfield.

Construction of Alternative 6R would increase NO_x emissions in excess of the MBUAPCD threshold of 150 pounds per day. Operation of Alternative 6R would, when compared to existing Fort Ord emissions, result in decreases of all pollutants. Alternative 6R would not result in violations of the ambient CO standards.

The population growth under Alternative 6R would be consistent with the population forecasts used to prepare the MBUAPCD's 1991 AQMP (designed to meet the California ambient ozone standards) because the population growth associated with Alternative 6R is less than the population forecasts used to prepare the 1991 AQMP. Alternative 6R is also consistent with the population forecasts used to prepare the MBUAPCD's 1982 SIP (designed to meet federal ozone standards) (Table 5-9).

5.6.6.9 Noise

Under Alternative 6R, proposed development of Fort Ord would result in approximately 7,465 acres of construction related land disturbance and would require the construction of new major arterials within the bounds of the installation. Refer to Table 5-10 for a comparison of reuse alternatives relative to noise.

Under Alternative 6R, construction would result in increased noise levels in areas around construction sites and along access roads to construction sites. These increased noise levels have the potential to adversely affect residences and other noise-sensitive land uses near these sites or roads. Ambient noise levels may be substantially increased or local noise standards may be exceeded.

Traffic noise levels have been evaluated along existing roadway segments and other roadway segments proposed under Alternative 6R that would be located within the boundaries of Fort Ord. Noise-sensitive land uses (primarily residential uses) are adjacent to all of the existing roadway segments evaluated. The noise-sensitive land uses adjacent to these roadways include educational, religious, and health care facilities. Residential land uses vary from rural residential with scattered houses adjacent to roadways to high-density urban residential development. Commercial, industrial, and recreational land uses also are adjacent to some of the roads. However, impacts are evaluated based on the most sensitive land use adjacent to a given roadway segment.

Under Alternative 6R, the noise criterion for residential land uses of 60-dB L_{dn} would be exceeded within 100 feet of all existing roadway segments evaluated. In most cases, this is also true under existing conditions. Although implementing Alternative 6R would substantially increase noise (by 5 dB or more relative to existing conditions) along only four of the existing roadway segments evaluated, Alternative 6R would result in increased noise levels along roads where local noise standards are already exceeded. The combination of local noise standards being exceeded and a substantial traffic noise increase along several roadway segments would have a substantial adverse effect on existing residences.

Major arterials would cross or be adjacent to all of the noise-sensitive land uses proposed under Alternative 6R. These noise-sensitive uses include residential and educational land uses. Noise-sensitive land uses would be exposed to noise levels that exceed local noise standards for these uses.

Under Alternative 6R, land uses that may support activities that are sources of noise would be located adjacent to noise-sensitive land uses. Substantial noise impacts could occur as a result of these adjacent uses. The following noise-sensitive land uses are adjacent to land uses that may support noise-generating activities are identified as follows: Recreational land uses would be located adjacent to an agri-center (noise from operations at the agri-center could be incompatible with these recreational uses and could exceed the noise standard for recreational land uses); the university science office and university research area would also be located adjacent to an airport (noise from aircraft accessing the airport could be incompatible with these land uses and could adversely affect these adjacent land uses); and a community

park and natural area expansion would be located adjacent to a corporation yard (noise from operations of the corporation yard could be incompatible with these uses).

5.6.6.10 Hazardous and Toxic Waste Site Remediation

Proposed land reuse patterns under Alternative 6R would be similar to existing land use patterns; reuse would occur primarily in previously developed areas of the installation with known land use and hazardous waste histories and in areas that have been investigated as part of the Superfund cleanup process. With the exception of the proposed SR 68 corridor in the southern portion of the installation, development on former inland trainfire ranges would be limited. Risks to public health and safety from development on unidentified hazardous waste or unexploded ordnance would be slight under Alternative 6R.

The cleanup and certification process required for land transfer by EPA and the Army reduces the potential for unidentified hazardous waste and unexploded ordnance to remain on the installation. In addition, under the Defense Environmental Restoration Program for Formerly Used Defense Sites, the Army is responsible for cleanup of contamination or unexploded ordnance discovered subsequent to land transfers.

Several buildings on the installation would be demolished under Alternative 6R. Many buildings contain asbestos; some may contain lead-based paint and other potentially hazardous materials. Demolition activities would release asbestos into the environment; building debris generated during demolition could be classified as hazardous waste. Generation and disposal of hazardous waste during building demolition could affect compliance with federal and state laws and regulations regarding the handling of hazardous wastes and materials.

Proposed reuse for the landfill as a university research area and environmental restoration research site may be inconsistent with state and federal regulations regarding landfill closure, and could increase risks to human health and the environment. The Army would ensure compliance with applicable regulations regarding landfill closure and post-closure activities.

5.6.6.11 Vegetation, Wildlife, and Wetland Resources

Common and Special Native Biological Communities. Alternative 6R would result in the removal of approximately 1,550 acres (15%) of common biological communities, including beaches, bluffs and blowouts, ice plant mats, disturbed dune, coastal scrub, coast live oak woodland and savanna, and annual grassland. The following habitat losses would result for special native biological communities: approximately 1 acre (1%) of native coastal strand and dune scrub, 925 acres (7%) of maritime chaparral, 30 acres (5%) of perennial grassland, and 5 acres (2%) of riparian forest. Losses of biological communities by alternative are shown in Table 5-11.

Special-Status Plant Species. Alternative 6R would result in the loss of approximately 150 acres of habitat occupied by sand gilia, a federally listed endangered species, and 940 acres of habitat occupied by Monterey spineflower, a species proposed for federal listing as endangered. Habitat losses for all special-status plant species are shown in Table 5-11.

Approximately 2,190 acres of habitat occupied by federal candidates for listing as threatened or endangered would also be lost under Alternative 6R. The species affected would be Seaside bird's-beak, Toro manzanita, sandmat manzanita, Hickman's onion, Monterey ceanothus, Eastwood's ericameria, coast wallflower, and wedge-leaved horkelia.

Alternative 6R would result in the loss of approximately 1,210 acres of habitat occupied by the following nine plant species that have no federal or state status but occur on CNPS Lists 1b or 4: Hooker's

manzanita, Monterey Indian paintbrush, Douglas' spineflower, Lewis' clarkia, virgate eriastrum, small-leaved lomatium, Santa Cruz County monkey flower, curly-leaved monardella, and purple-flowered piperia.

Special-Status Wildlife Species. Alternative 6R would result in the loss of approximately 1 acre (1%) of Smith's blue butterfly habitat and 2 acres (3%) of California linderiella habitat at Fort Ord. None of the five known California linderiella breeding sites would be affected. Smith's blue butterfly is federally listed as endangered, and the California linderiella is federally proposed for endangered status. Nesting success of western snowy plovers, a species federally listed as threatened, could be adversely affected by activities associated with the increased public use of the beaches. Public use on dune habitats could also degrade habitat occupied by Smith's blue butterfly and black legless lizard. Habitat losses for all special-status wildlife species are shown in Table 5-11.

Approximately 12% of the available Monterey ornate shrew habitat and roughly 17% of the black legless lizard habitat at Fort Ord would be eliminated under Alternative 6R. Both species are federal Category 2 candidates for threatened or endangered status. Between 3% and 10% of the available habitat for seven other federal candidate species would be eliminated under Alternative 6R. Species affected include the Monterey dusky-footed woodrat, loggerhead shrike, California horned lark, California tiger salamander, tricolored blackbird, California red-legged frog, and southwestern pond turtle. One of the eight known tiger salamander breeding ponds at Fort Ord would be eliminated.

Under Alternative 6R, approximately 4% of the available Cooper's hawk and yellow warbler habitat at Fort Ord would be lost. Cooper's hawk and yellow warbler are California species of special concern. Between 3% and 14% of the available habitat at Fort Ord for seven other California species of special concern would also be eliminated: burrowing owl, northern harrier, prairie falcon, American badger, golden eagle, sharp-shinned hawk, and coast horned lizard.

Between 5% and 28% of the available habitat for four special interest species would also be eliminated under Alternative 6R: Salinas harvest mouse, Swainson's thrush, common yellowthroat, and greater roadrunner habitat. Special-interest species have no legal status, but may be rare or declining in the region.

Wetlands and Other Waters of the United States. Alternative 6R would result in the degradation or removal of 1 acre (34%) of vernal pools, approximately 1 acre (1%) of freshwater marsh and ponds, and about 2,350 linear feet of streams at Fort Ord. Vernal pools and freshwater marsh are potentially jurisdictional wetlands, and stream channels and ponds are potentially other waters of the United States protected under Section 404 of the Clean Water Act.

5.6.6.12 Visual Resources

Implementation of Alternative 6R would require construction of buildings, renovation of existing buildings, and modification of infrastructure. These activities would produce short-term visual impacts and could produce long-term visual impacts. Short-term visual impacts would occur from construction activities, including location of equipment storage areas; removal of vegetation; and infrastructure modifications. Long-term visual impacts could occur from removal of vegetation; construction of new buildings; alternation of the appearances of buildings and other structures; and construction of improvements such as recreation facilities, parking areas, lighting standards, and fences.

Under Alternative 6R, development would occur principally in the northeastern portion of the installation and along the installation's southern boundary. Development proposed for these areas would introduce numerous built elements including buildings, parking lots, and roads into the Fort Ord viewshed. The forms, lines, colors, and textures of these built elements would sharply contrast the existing landscape,

which has a predominant natural character. Extensive vegetation removal and grading would be required to facilitate this development. Lower intensity land uses would occupy most of the installation's interior.

Proposed development would reduce the visual quality of some areas seen from SR 68 and SR 1. Land uses of high and medium visual impact potential would be located in the foreground and middleground distance zones of these roadways.

Views of Fort Ord from the Salinas Valley would be reduced in visual quality by encroaching land uses of potentially high and medium visual impact potential. Buildings and structures associated with the university/science office park and airport land uses would be visible in the middleground distance zones of this viewshed. Additional areas of high visual impact would occur in the East Garrison area because of the proposed agri-center.

5.6.6.13 Cultural Resources

Alternative 6R has the potential to affect Fort Ord buildings recommended as potentially eligible for listing in the National Register by loss of federal protection and by splitting a proposed National Register district. Alternative 6R and Alternative 2 would have similar effects on any archeological and Native American resources that may be present at Fort Ord. If archeological sites or Native American traditional or sacred properties are found at Fort Ord. Alternative 6R will result in considerably more of them being preserved in open spaces, institutional/public areas, or in parks than would occur under Alternative 1. The areas of greatest archeological sensitivity include all terraces and benches adjacent to the Salinas River and El Toro Creek, the peripheries of the wet cycle lakes, and lands adjacent to the streams that flow through Pilarcitos and Impossible Canyons. All other installation lands are recommended as having low to medium potential for possessing archeological resources.

5.6.6.14 Coastal Resources

Potential inconsistencies with sections of the California Coastal Act of 1972 would result from public construction of the service area, transit center, and recreation facilities; and from construction east of SR 1.

Increased public access could degrade sensitive habitat for special-status plant and wildlife species and could also disturb special-status wildlife species. Public access could also result in the accumulation of litter in the coastal zone, which could degrade aesthetic values.

The potential reuse of Stilwell Hall would create a risk to the lives of visitors because of the instable foundation of the structure. Stabilizing the structure by constructing protective devices to prevent further erosion could be inconsistent with the Coastal Act.

Construction of the service area and recreation facilities would result in a loss of Monterey spineflower habitat and coastal strand community. Construction of these facilities and the transit center would adversely affect the visual resources of the coastal zone.

Construction of the POM annex and other development east of SR 1 would adversely affect marine resources because of increased urban runoff and the possibility that the runoff could carry hazardous materials exposed during reconstruction into the ocean. Development east of SR 1 would also increase the area's demand for potable water, which could degrade groundwater resources in the coastal zone.

5.6.7.15 Monterey Bay National Marine Sanctuary

Alternative 6R would potentially result in additional wastewater discharge into the Monterey Bay; continued erosion of Fort Ord's Aromas and Paso Robles formations and, thus, continued sedimentation

of the Salinas River which discharges into the Monterey Bay; and an increase in stormwater and industrial runoff from outfalls discharging into both the sanctuary and the Salinas River.

5.6.7.16 Impact Summary

- **Land Use**. Under Alternative 6R, approximately 59% of Fort Ord would remain in open space land uses. The remaining area would be developed and/or reused for parks and recreational; commercial/business park; industrial; institutional/public uses; the POM Annex and Reserve Center; and McKinney Act homeless housing.

  Some development is proposed for areas that may potentially disturb significant habitat for rare and endangered plant and wildlife species or have physical constraints. Other development is proposed in areas where infrastructure is inadequate and substantial upgrades of the existing infrastructure may be required to provide adequate service.

- **Socioeconomics**. Alternative 6R would decrease the resident population from the existing 31,270 persons by 8,500 persons to a buildout population of approximately 22,770 persons and 10,210 housing units. This would require school capacity through the 12th grade for approximately 4,300 additional students. Regional economic activity, as measured by countywide employment, personal income, and industrial output, would increase substantially over 1991 conditions, with increases of approximately 16% in employment, 14% in direct output, and 3% in personal income. Approximately 27,000 new jobs would occur, with an increase in personal income of $152 million. Total output within Monterey County also would increase by $1.7 billion. Military retirees would be affected by the loss of medical services currently available at Fort Ord.

  Alternative 6R would increase the land available for undeveloped recreational opportunities by 3,400 acres, and increase developed recreational opportunities by 340 acres.

- **Soils, Geology, Topography, and Seismicity.** Alternative 6R proposes new development that would result in a substantial disturbance or loss of the soil component of the natural ecosystem supporting natural habitats of limited extent and rare and endangered plant and animal communities. Proposed developments, particularly in the transportation corridor, could result in accelerated water erosion, sedimentation, and increased landslide potential in an area already heavily affected by existing erosion.

  Other lesser potential impacts include loss of soil fertility as a result of fire suppression, loss of reuse of Stilwell Hall as a result of coastal erosion, accelerated wind erosion from vegetation removal and soil surface disturbance, severe engineering limitations in the use of low strength, shrink-swell, excavation caving, and piping susceptible soils, and susceptibility of new and existing structures to damage from seismically induced ground shaking.

- **Public Services and Utilities**. Upgrades of some existing utility systems would be required to provide adequate service under Alternative 6R. Increased wastewater treatment capacity; an increased demand for gas and electricity service; and expanded stormdrain and water supply infrastructure would be required for this alternative. Public or private utility companies would be required to upgrade, replace, and/or expand existing infrastructure to provide service to the proposed uses in this alternative. However, this alternative would reduce the demand for telephone and cable television services and generate approximately the same amount of solid waste as baseline conditions.

- **Water Resources.** Increases in impervious surfaces under Alternative 6R would cause additional surface runoff that could contribute to watershed flood problems. Areas within existing FEMA 100-year floodplains are particularly sensitive to flood damage from increased runoff and generally contribute to water quality degradation in the area and potentially in Monterey Bay, a designated national marine sanctuary.

  Alternative 6R would increase annual water demand on Fort Ord from the existing demand of approximately 5,400 acre-feet to about 12,000 acre-feet. The existing supply consists entirely of groundwater and existing demand already exceeds the safe yield of the groundwater basin in the vicinity of Fort Ord, as indicated by the occurrence of seawater intrusion. Local groundwater could not supply the water needed for this alternative.

- **Public Health and Safety.** Alternative 6R would require up to 39 law enforcement officers, 18 firefighters or five firefighting companies and equipment, and no additional medical or emergency medical services for the proposed uses.

  The installation is in a seismic and tsunami risk area, and people would be exposed to these risks from buildings subject to ground shaking.

- **Traffic and Circulation.** Alternative 6R would generate approximately 228,000 daily trips at full buildout. To serve this demand, up to seven lanes of north-south roadways and four lanes of east-west roadways would need to be built. To serve travel between Fort Ord and surrounding communities, up to 22 lanes of roadway would need to be built. These estimates should not be combined because one roadway could satisfy both on- and off-installation travel.

- **Air Quality.** Exposure to asbestos is possible if asbestos is not removed from buildings before demolition. Hazardous air pollutants and PM_{10} could be emitted during hazardous waste cleanup and recovery of unexploded ordnance. Construction activities during reuse would generate substantial increases in NO_x emissions. Alternative 6R would not create excessive levels of CO at locations where people live or work. Operational increases in air emissions would be lower than under existing conditions, resulting in a net decrease in NO_x, ROG, and PM_{10} emissions. Alternative 6R would be consistent with the MBUAPCD 1991 AQMP and the 1982 SIP.

- **Noise.** Noise impacts from Alternative 6R would include traffic noise impacts on existing new noise-sensitive land uses and the noise impacts of incompatible land uses. The traffic noise impacts on existing and new noise-sensitive land uses would exceed the 60-dB L_{dn} criterion for all evaluated road segments that would have noise-sensitive land uses. Other noise sources such as the airport, corporation yard, and agri-center may also have noise levels that exceed the criterion for noise-sensitive land uses. Sensitive land uses, such as recreational, open space, and educational uses, are projected to be located adjacent to such noise-generating land uses as an airport, corporation yard, and agri-center.

  Cumulative noise impacts would result from the intensity of the reuse development on Fort Ord combined with other noise-producing development outside Fort Ord. Approximately four roadway segments are projected to have noise increases with substantial cumulative effects under Alternative 6R.

- **Hazardous and Toxic Waste Site Remediation.** After hazardous and toxic waste remediation activities are complete at Fort Ord, reuse of former hazardous and toxic waste sites would pose slight risks to public health and safety. Development could occur on unidentified hazardous

waste or unexploded ordnance. Additional hazardous waste would be generated on the installation by demolishing buildings that may contain asbestos and other potentially hazardous materials. Reuse of the landfill for university research purposes could increase soil and groundwater contamination and risks to human health and the environment. The amount of hazardous waste generated at Fritzsche Army Airfield also could increase after the airport is converted to civilian use.

- **Vegetation, Wildlife, and Wetland Resources.** Land development proposed for reuse under Alternative 6R would result in the loss of approximately 15% of common biological communities at Fort Ord. Impacts include the loss of portions of the ranges of federally listed and proposed and state-listed threatened and endangered species and reduction in the ranges of numerous other special-status plant and wildlife species. Proposed land development would result in the loss of less than 5% of all known central maritime chaparral habitat, less than 1% loss of vernal pools, and a 3% loss of other types of wetlands and riparian habitats at Fort Ord. Biological resources would lose federal protection if lands are transferred to nonfederal entities.

- **Visual Resources.** The development proposed under Alternative 6R would reduce the visual quality of some areas of Fort Ord seen from the Salinas Valley. Proposed development would reduce the amount and diversity of natural vegetation cover and introduce built elements with contrasting attributes of form, line, color, and texture. Views from state-designated and proposed scenic routes heavily travelled by tourists and recreationists would be reduced in visual quality by proposed development along these roadways.

- **Cultural Resources.** It was not possible to complete all the requirements of the NHPA within the timeframe allotted for this EIS. Therefore, the Army will follow the provisions of the BRAC cultural resource programmatic agreement (1992) to meet its NHPA requirements before initiating land disposal or reuse actions.

  Alternative 6R would affect buildings at Fort Ord recommended as eligible for listing in the National Register and may split proposed national Register districts. Alternative 6R proposes development in areas considered to have potential to contain archeological resources.

  No studies have yet been conducted to determine whether culturally sensitive Native American properties are present at Fort Ord. Alternative 6R has a potential to affect such properties because of the development proposed. Native American groups will be contacted about the presence of these types of properties before initiating disposal or reuse actions.

- **Coastal Zone Resources.** Alternative 6R would be inconsistent with several sections of the California Coastal Act. Degradation of sensitive natural resources and aesthetic values of the coastal zone would result from public access. Reusing Stilwell Hall as a multi-use area would create a risk to the lives of visitors and a potential need to construct protective devices to prevent further beach erosion. Construction of the service area, transit center, and recreation facilities would adversely affect aesthetic values of the coastal zone and would result in a loss of sensitive plant species and animal habitat. Development east of SR 1 would increase urban runoff into the ocean and could carry hazardous materials unearthed during construction.

- **Monterey Bay National Marine Sanctuary.** Alternative 6R would potentially result in additional wastewater discharge into the Monterey Bay, continued erosion of Fort Ord's Aromas and Paso Robles formations, continued sedimentation of the Salinas River which discharges into the Monterey Bay, and an increase in stormwater and industrial runoff from outfalls discharging into both the sanctuary and the Salinas River.

- **Conclusions.** This alternative would result in the transfer of most sensitive environmental areas to other federal and state agencies that are able to manage the lands without significant environmental impacts. Transfer of portions of Fort Ord to local agencies would allow development of educational, recreational, airport business, and institutional uses that would offset the economic effects of closure of Fort Ord.

5.6.7.17 Mitigation Summary

The following mitigation will be implemented by the Army. Other mitigation is available that could be implemented by other federal, state, or local agencies and private entities responsible for development; it is described in Section 6.0, "Detailed Analysis of Alternative 6R" in this volume.

- Limit properties that may be outgranted and restrict access to remediation areas.
- Encourage additional CHAMPUS/PRIME providers.
- Provide for public utilities easements.
- Maintain facilities that collect wastewater from areas outside of the POM annex and reserve center.
- Provide for public utilities easements.
- Disclose information on buried utilities to the Underground Service Alert.
- Conduct periodic maintenance.
- Maintain cable service.
- Create a joint powers agreement to ensure proper oversight and maintenance.
- Disclose information on buried water distribution infrastructure to the Underground Service Alert.
- Implement measures during renovation to minimize NO_x emissions (for establishment of the POM annex only).
- Develop and coordinate an installation-wide multispecies habitat management plan. (Agencies and entities receiving Fort Ord lands would implement the HMP.)
- Maintain historic buildings and condition their sale or transfer with protective covenants.
- Conduct archeological surveys of Fort Ord lands.
- Contact California Native American groups that may have traditional cultural properties located on Fort Ord lands.

Issue Area	General Description of Impact	Reuse Alternatives						
		1	1C	2	3	4	5	6R
LAND USE								
	Potential incompatibility of remediation action with leases of property before disposal	X	X	X	X	X	X	X
	Incompatibility between proposed residential uses and existing agricultural uses	X	X	X	X	–	–	–
	Incompatibility between proposed light industrial areas and proposed recreational vehicle park/campground, university, and community park	X	X	–	–	–	–	–
	Incompatibility between proposed office park and proposed natural area expansion	X	–	–	–	–	–	X
	Incompatibility between proposed amphitheater and proposed residential area	X	X	–	–	–	–	–
	Inconsistency with policies concerning the expansion of development into areas without adequate infrastructure	X	X	X	X	X	–	X
	Potential inconsistency with policies concerning the expansion of development into areas not designated for growth and development, areas outside urban service areas, or areas not intended for development	X	X	X	X	X	–	–
	Potential inconsistency with policies concerning the infill of existing vacant or underused land	X	X	X	X	–	–	–
	Potential inconsistency with policies concerning the adequate provision of open space between different land uses	X	X	X	X	–	–	–
	Potential inconsistency with policies concerning the protection from land use incompatibilities	X	X	X	X	–	–	X
	Inconsistency with policies concerning the protection of sensitive environmental habitat and resources	X	X	X	X	–	–	X
	Inconsistency with policies concerning the protection of ridgelines and steep slopes (30% and over) from development	X	X	–	–	–	–	–
	Inconsistency with policies concerning groundwater resources	X	X	X	X	X	–	X

Issue Area	General Description of Impact	Reuse Alternatives 1	1C	2	3	4	5	6R
LAND USE (Cont'd.)	Inconsistency with Policy 30251 of the California Coastal Act of 1976 concerning the protection of scenic and visual qualities of the coastal area	X	X	X	–	–	–	X
	Incompatibility of proposed land uses in the coastal zone with the coastal zone	–	X	–	–	–	–	X
	Potential inconsistency with Policy 30232 of the California Coastal Act of 1976 concerning protection against spills	–	X	–	–	–	–	–
	Incompatibility between the proposed agri-center and proposed residential uses, regional park, and habitat preserve	–	–	X	–	–	–	–
	Incompatibility between the proposed agri-center and proposed recreational vehicle park/campground	–	–	–	X	–	–	X
	Potential incompatibility between proposed aqua-culture facility/multi-use area and proposed disturbed habitat zone in the coastal zone	–	–	–	X	–	–	X
	Potential incompatibility between proposed correctional facility and proposed residential uses	–	–	–	–	–	–	–
	Potential incompatibility between proposed school expansion and proposed transportation corridor	–	–	–	–	–	–	X
SOCIOECONOMICS								
Population and Housing	Potential need for temporary and permanent housing	X	X	X	X	X	X	X
	Direct increase (decrease) of Monterey County population	212,000	>212,000	78,000	48,000	(4,000)	(30,000)	(7,200)
	Direct increase (decrease) of number of housing units to the Monterey County housing supply	68,000	>68,000	22,000	15,000	25,000	–	(4,000)
	Unmet need for housing units	–	–	–	–	–	–	18,000
	Reduced demand for housing	–	–	–	–	–	X	–
	Change in the countywide jobs/housing ratio (from 1.36 to __)	1.10	1.31	1.52	1.31	1.43	1.32	1.57
Regional Economy	Net increase (decrease) of jobs	100,000	>100,000	108,000	48,000	36,000	(23,000)	27,000
	Net increase (decrease) in total county output	$7.2 billion	>$7.2 billion	$8 billion	$3.3 billion	$1.8 billion	($3 billion)	1.7 billion
	Net increase (decrease) in county personal income	$1 billion	>$1 billion	$1.3 billion	$200 million	$100 million	($500 million)	(152 million)

Issue Area	General Description of Impact	Reuse Alternatives 1	1C	2	3	4	5	6R
Social Services	Decreased demand for community services	X	X	X	X	X	X	X
	Decreased demand for job development programs	X	X	X	X	X	X	X
	Reduction in homeless services	X	X	X	X	X	X	–
	Reduction in the availability of healthcare services for military retirees	X	X	X	X	X	X	X
	Increase in costs for medical care to retirees and their family members	X	X	X	X	X	X	X
	Increased demand for community services	–	–	–	–	–	X	–
Schools	Potential loss of Monterey Peninsula Unified School District land	X	X	X	X	X	X	–
	Potential loss of Monterey Peninsula College's lower division general education program facilities	X	X	X	X	X	X	–
	Insufficient Monterey Peninsula Unified School District staff to maintain facilities on the installation	X	X	X	X	X	X	X
	Demand for additional school capacity (for up to __ students)	54,200	64,830	19,500	7,100	9,700	–	4,300
	Potential closure of schools due to lack of students	–	–	–	–	–	X	–
	Competition between new and existing colleges and universities	–	–	–	–	X	–	–
Recreation	Loss of land available for undeveloped recreational opportunities (acres)	12,000	>12,000	7,200	2,800	450	4,200	–
	Increase of developed recreational opportunities (acres)	3,400	>3,400	1,500	1,500	800	1,000	490
SOILS, GEOLOGY, TOPOGRAPHY, AND SEISMICITY								
	Loss of natural soil ecosystem component	X	X	X	X	X	X	X
	Long-term loss of soil fertility due to fire suppression	X	X	X	X	X	X	X
	Potential increase from existing rate in coastal erosion	–	X	–	–	–	–	–
	Potential loss of existing facilities from coastal erosion	X	X	X	X	X	X	X
	Accelerated wind erosion	X	X	X	X	X	X	X
	Accelerated water erosion	X	X	X	X	X	X	X
	Increased landslide susceptibility	X	X	X	X	X	X	X

Issue Area	General Description of Impact	Reuse Alternatives 1	1C	2	3	4	5	6R
SOILS, GEOLOGY, TOPOGRAPHY, AND SEISMICITY (Cont'd.)								
	Increased sedimentation and flood hazard	X	X	X	X	X	X	X
	Use of unsuitable soil types for agriculture	X	X	–	–	–	–	–
	Severe engineering limitations on use of soils	X	X	X	X	X	X	X
	Severe substrate limitation to water storage	X	X	–	–	–	–	–
	Susceptibility of existing and new structures to damage from ground shaking	X	X	X	X	X	X	X
	Susceptibility of new development to liquefaction and landslides	X	X	X	X	X	–	–
PUBLIC SERVICES AND UTILITIES								
Wastewater	Inadequate access to maintain wastewater collection facilities	X	X	X	X	X	X	X
	Need for expansion of the wastewater collection system	X	X	X	X	X	<	X
	Potential degradation of wastewater service to areas outside of the Presidio of Monterey annex and reserve center	X	X	X	X	X	X	–
	Increased generation of wastewater from the existing 2.4 million gallons per day of wastewater generation (million gallons per day/% increase)	19.5 712%	19.9 730%	13.1 445%	8.9 270%	7.7 220%	1.7 -29%	5.0 108%
	Potential damage to wastewater collection system because of reduced flows	–	–	–	–	–	X	–
	Need to upgrade and expand the wastewater collection system	X	X	X	X	X	–	X
	Inadequate access to maintain wastewater collection facilities	X	X	X	X	X	X	X
Solid Waste	Generation of solid waste from existing 94 tons per day [tons per day/% increase (decrease)]	1,010 974%	1,180 1,156%	460 389%	252 168%	132 41%	19 (41%)	96 (2%)
	Need for additional solid waste hauling service	X	X	X	X	X	–	–
	Generation of demolition waste	X	X	X	X	X	–	X

Issue Area	General Description of Impact	Reuse Alternatives 1	1C	2	3	4	5	6R
Telephone Service	Inadequate telephone facilities to provide service to interim uses outside the Presidio of Monterey annex	X	X	X	X	X	X	X
	Need for additional telephone service outside of the Presidio of Monterey annex (for __ acres/% increase of the existing service area)	21,400 425%	22,000 435%	18,760 370%	8,120 160%	9,830 195%	– –	240 5%
	Lack of utility corridors or restriction of access to existing utility corridors	X	X	X	X	X	–	X
	Disruption of service because of construction	X	X	X	X	X	–	X
	Restricted access to telephone infrastructure caused by lack of clear ownership of infrastructure	X	X	X	X	X	–	X
	Deterioration of telephone infrastructure	–	–	–	–	–	X	–
Gas and Electric Service	Inadequate electric and gas facilities to provide service to the Presidio of Monterey Annex	X	–	X	X	X	X	–
	Potential service continuity problems resulting from the Army-operated system	X	–	X	X	X	X	X
	Increased demand for gas (thousand cubic feet per hour/% increase from existing demand)	5,650 3,900%	4,120 2,800%	3,695 2,500%	1,278 875%	807 550%	– –	740 507%
	Increased demand for electric service (megawatts/% increase above existing demand)	545 3,100%	440 2,500%	392 2,200%	130 730%	141 790%	– –	87 483%
	Deterioration of gas and electric infrastructure	–	–	–	–	–	X	–
	Lack of utility corridors or restriction of access to existing utility corridors	X	X	X	X	X	X	X
	Disruption of service because of construction	X	X	X	X	X	–	X
Cable Television	Potential loss of cable service to the Presidio of Monterey annex, reserve center, Main Garrison, and barracks around the Silas B. Hays Army Community Hospital	X	–	X	X	X	X	X
	Need for additional cable service (for __ acres/% increase of the existing service area)	21,400 425%	22,000 435%	18,760 370%	8,120 160%	9,830 195%	– –	1,660 –
	Deterioration of cable infrastructure	–	–	–	–	–	X	X
	Lack of utility corridors or restriction of access to existing utility corridors	X	X	X	X	X	–	X

Issue Area	General Description of Impact	Reuse Alternatives 1	1C	2	3	4	5	6R
Storm Drainage System	Increased site runoff	X	X	X	X	X	–	X
	Deterioration of storm drainage system *infrastructure*	–	–	–	–	–	X	–
	Increase in erosion potential due to detention basin construction or culvert and stormdrain replacement	#	#	#	#	#	#	X
	Segmentation of storm drainage system *management*	X	X	X	X	X	–	X
Water Supply Distribution Infra-structure	Need for additional water distribution infrastructure outside of the Presidio of Monterey annex (for __ acres/% increase of the existing service area)	21,400 425%	22,000 435%	18,760 370%	8,120 160%	9,830 195%	– –	2,500 50%
	Deterioration of water distribution infrastructure	–	–	–	–	–	X	X
	Disruption of service due to construction	X	X	X	X	X	–	X
WATER RESOURCES								
Hydrology and Water Quality	Increases in site runoff	X	X	X	X	X	–	X
	Risk of flood damage from development in the 100-year floodplain	X	X	X	X	X	–	X
	Water quality degradation from urban runoff	X	X	X	X	X	–	X
	Water quality degradation from increased erosion during construction	X	X	X	X	X	–	X
	Water quality degradation from hazardous material spills during construction	X	X	X	X	X	–	X
Water Supply and Demand	Total demand for water (approximate acre-feet per year)	36,626	37,732	23,022	17,582	13,360	3,356	12,000
	Changes in groundwater recharge	X	X	X	X	X	X	X
PUBLIC HEALTH AND SAFETY								
Law Enforce-ment	Need for additional law enforcement to support interim leases and outgrants	X	X	X	X	X	X	X
	Increased potential for trespassing and vandalism	X	X	X	X	X	X	X
	Need for law enforcement officers and equipment [up to __ officers needed/% increase (decrease) from the existing staff of 144]	495 244%	566 293%	228 58%	170 18%	65 (55%)	13 (91%)	39 (73%)

Issue Area	General Description of Impact	Reuse Alternatives 1	1C	2	3	4	5	6R
Fire Protection	Increased wildland and structural fire hazards following disposal of property by the Army	X	X	X	X	X	X	X
	Need for firefighters and equipment [(up to __ firefighters needed/% increase (decrease) from existing staff of 40	247 517%	283 606%	113 182%	83 107%	31 (22%)	4 (89%)	18 (52%)
Medical Services	Need for additional medical services for users of leased space	X	X	X	X	X	X	X
	Need for additional medical services (for approximately __ residents)	70,000	127,500	–	–	–	–	23,000
	Exposure of people to Lyme disease hazards	X	X	X	X	X	X	X
Emergency Medical Services	Need for additional emergency medical services (for approximately __ residents)	160,000	217,500	26,000	–	31,000	–	–
	Potential for increased response times for emergency services at Fort Ord	X	X	X	X	X	–	X
Seismic Safety	Exposure of people to seismic events through issuance of interim leases of outgrants	X	X	X	X	X	X	X
	Exposure of people to seismic events (approximately __ people)	283,000	>283,000	124,000	83,000	31,000	–	44,500
	Exposure of coastline development to tsunamis	–	X	–	–	–	–	X
TRAFFIC AND CIRCULATION								
	Increased travel demand between Fort Ord and the surrounding communities (to approximately __ trips per day)	750,000	>750,000	307,000	285,000	188,000	48,000	131,000
	North-south daily travel demand on Fort Ord (of approximately __ vehicles)	218,000	>218,000	81,000	32,000	16,000	6,000	40,000
	East-west daily travel demand on Fort Ord (of approximately __ vehicles)	270,000	>270,000	103,000	93,000	50,000	24,000	22,000
	Incompatibility between the existing local general plans and the reuse plans for Fort Ord	X	X	X	X	X	X	X
AIR QUALITY								
	Asbestos emissions during demolition	X	X	X	X	X	X	X
	Emissions of PM_{10} and hazardous air pollutants exceeding Monterey Bay Unified Air Pollution Control district thresholds	X	X	X	X	X	X	X

Issue Area	General Description of Impact	Reuse Alternatives 1	1C	2	3	4	5	6R
AIR QUALITY (Cont'd.)	Generation of NO_x and PM_{10} that exceeds the emission thresholds during construction (NO_x pounds per day/PM_{10} pounds per day)	486 256	471 247	368 194	212 111	212 111	– –	157 –
	Carbon monoxide emissions and concentrations exceeding the federal and California 8-hour ambient air quality standards	X	X	–	–	–	–	–
	Net increases of reactive organic compounds, NO_x, and PM_{10} that exceed the emission thresholds from reuse (ROG/NO_x/PM_{10} in pounds per day)	6,844 6,660 3,358	8,578 7,186 3,531	– 729 1,210	– – –	– – –	– – –	– – –
	Population increases exceeding Association of Monterey Bay Area Governments projections	X	X	X	X	–	–	–
NOISE								
	Excessive noise from remediation activities	X	X	X	<	<	<	X
	Excessive noise from construction activities	X	X	X	<	<	<	X
	Increased and excessive noise from traffic on existing noise-sensitive land uses	X	X	X	<	<	<	X
	Excessive noise from traffic on new noise-sensitive land uses	X	X	X	X	<	<	X
	Exposure of new noise-sensitive land uses to noise from Monterey Peninsula Airport	X	X	X	–	X	–	–
	Exposure of noise-sensitive land uses to concert sound from the amphitheater	X	X	X	–	X	–	–
	Exposure of noise-sensitive land uses (including schools, Asilomar-type facility, recreation vehicle park/ campground, and university) to noise from the transit center	X	–	X	–	X	–	–
	Exposure of residential land uses to noise from activities at sports fields and the sports complex	X	X	X	–	–	–	–
	Exposure of the resort hotel to noise from the film complex and the theme park	X	X	–	–	–	–	–
	Exposure of noise-sensitive land uses (including residential and recreation area) to noise from activities at the police academy or agricenter	X	X	X	–	X	–	X

Issue Area	General Description of Impact	Reuse Alternatives 1	1C	2	3	4	5	6R
NOISE (Cont'd.)	Exposure of uses (including commercial center, business park, trade schools, etc., depending on the alternative) to noise from the airport (currently Fritzsche Army Airfield)	X	X	X	X	X	–	X
	Exposure of uses (including a community park and natural area expansion) to noise from the corporation yard	–	–	–	–	–	–	X
	Exposure of students in the peace officer standards and training academy classrooms to noise from firing ranges	–	–	–	X	–	–	–
HAZARDOUS AND TOXIC WASTE SITE REMEDIATION								
	Potential risks to public health and safety associated with unidentified hazardous waste sites or unexploded ordnance	X	X	X	X	X	–	X
	Potential for generation of hazardous waste during building demolition	X	X	X	X	X	–	X
	Potential for increased hazardous waste generation at the airport	#	#	#	#	#	#	X
	Potential for increased risks to human health and the environment from existing landfill	#	#	#	#	#	#	X
VEGETATION, WILDLIFE, AND WETLAND RESOURCES								
	Loss of common biological communities (acres/%)	7,790 (75%)	>7,790 (>75%)	6,350 (60%)	4,230 (40%)	3,150 (30%)	770 (10%)	1,550 (15%)
	Loss of special native biological communities (acres)	12,570	>12,570	6,710	1,820	1,290	30	955
	Loss of habitat occupied by plant species that are federally listed as endangered or proposed for federal listing as threatened or endangered (acres)	11,060	Similar to Alternative 1	6,620	3,450	2,230	110	1,090
	Loss of habitat occupied by plant species that are federal candidates for listing as threatened or endangered (acres)	14,130	Similar to Alternative 1	7,680	2,740	1,890	45	2,190
	Loss of other special-status plant species with no federal or state status (acres)	11,800	Similar to Alternative 1	11,950	11,800	1,220	45	1,210
	Loss of habitat available for wildlife species that are federally listed as threatened or endangered or proposed for federal listing as threatened or endangered	23-92%	67-92%	14-23%	1-6%	8-14%	0-1%	1-3%

Issue Area	General Description of Impact	Reuse Alternatives 1	1C	2	3	4	5	6R
VEGETATION, WILDLIFE, AND WETLAND RESOURCES (Cont'd.)								
	Loss of habitat available for wildlife species that are federal candidates for listing as threatened or endangered	41-96%	41-96%	23-91%	6-50%	1-33%	1-6%	3-18%
	Loss of habitat available for wildlife species that are California species of special concern	67-97%	67-97%	21-89%	0-44%	0-34%	0-7%	3-14%
	Loss of habitat available for special interest wildlife species with no legal status	94-100%	94-100%	49-100%	0-71%	0-46%	0-8%	5-28%
	Loss of wetlands and other waters of the United States (acres of wetlands/ linear feet of streams)	55 96,400	55 96,400	15 71,400	4 4,000	7 10,500	0 2,200	2 2,350
	Loss of plant and butterfly preserves and significant natural areas	X	X	X	X	X	–	–
	Conflict with wildlife in the Monterey Bay National Marine Sanctuary	–	X	–	–	–	–	–
VISUAL RESOURCES								
	Reduced visual unity and intactness associated with long- and short-term construction impacts	X	X	X	X	X	X	X
	Reduced regional visual quality	X	X	X	X	X	–	–
	Reduced visual quality of the Fort Ord coastal area and of seen areas from State Route 1	X	X	X	–	X	–	X
	Improved visual quality of coastal areas	–	–	–	X	X	X	–
	Reduced visual quality of areas seen from important tourist and recreation areas	X	X	X	X	X	–	–
	Reduced visual quality of areas seen from State Route 68	X	X	X	X	X	–	X
	Reduced visual quality of areas seen from important secondary travel routes	X	X	X	X	X	–	–
	Reduced visual quality of areas seen from the Salinas Valley	X	X	X	X	X	–	X
CULTURAL RESOURCES								
	Potential effects on National Register-eligible historic buildings and potential archeological sites within archeologically sensitive areas	X	X	X	X	X	–	X

Issue Area	General Description of Impact	Reuse Alternatives 1	1C	2	3	4	5	6R
CULTURAL RESOURCES (Cont'd.)								
	Potential loss of access to, damage to, or destruction of sites or resources important to Native Americans	X	X	X	X	X	–	X
COASTAL RESOURCES								
	Inconsistency with Coastal Act Subsections 30212(a) and 30214 (a) and Section 30240	#	#	#	#	#	#	X
	Potential inconsistency with Coastal Act Sections 30220 and 30221	#	#	#	#	#	#	X
	Inconsistency with Coastal Act Sections 30230 and 30231	#	#	#	#	#	#	X
	Potential inconsistency with Coastal Act Subsection 30233(a) and Section 30255	#	#	#	#	#	#	X
	Inconsistency with Coastal Act Section 30251	#	#	#	#	#	#	X
	Inconsistency with Coastal Act Section 30253	#	#	#	#	#	#	X
MONTEREY BAY NATIONAL MARINE SANCTUARY								
	Incremental increase in urban pollutant load levels in stormwater runoff	#	#	#	#	#	#	X
	Incremental contribution of sediment from Fort Ord lands to the Salinas River	#	#	#	#	#	#	X
	Potential increase of wastewater discharge into the sanctuary from MRWPCA's Marina Treatment Plant	#	#	#	#	#	#	X

Notes: X = Impact applies to this alternative. Refer to text in this section and in Volume II, "Detailed Analysis of Disposal and Reuse", for the extent of the impact.

– = Impact not applicable to this alternative.

( ) = Indicates a decrease

= Issue area only analyzed for the Alternative 6R, as a result of comments received on the draft EIS.