FINAL

ENVIRONMENTAL ASSESSMENT

FOR

IMPLEMENTATION OF A REAL PROPERTY MASTER PLAN, INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN, AND INTEGRATED CULTURAL RESOURCES MANAGEMENT PLAN

AT

MILITARY OCEAN TERMINAL CONCORD, CA

June 2013

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LIST OF ACRONYMS

ACM	ASBESTOS-CONTAINING MATERIAL
AR	ARMY REGULATION
ARPA	ARCHAEOLOGICAL RESOURCES PROTECTION ACT
ATFP	ANTI-TERRORISM/FORCE PROTECTION
BAAQMD	BAY AREA AIR QUALITY MANAGEMENT DISTRICT
BART	BAY AREA RAPID TRANSIT
BCDC	SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
BGEPA	BALD AND GOLD EAGLE PROTECTION ACT
BMP	BEST MANAGEMENT PRACTICE
BNSF	BURLINGTON NORTHERN SANTA FE
CA DTSC	CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL
CAA	CLEAN AIR ACT
CARB	CALIFORNIA AIR RESOURCES BOARD
CCCFPD	CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT
CCWD	CONTRA COSTA WATER DISTRICT
CDFW	CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
CERCLA	COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT
CEQ	COUNCIL ON ENVIRONMENTAL QUALITY
CFR	CODE OF FEDERAL REGULATIONS
CO	CARBON MONOXIDE
CWA	CLEAN WATER ACT
CZMA	COASTAL ZONE MANAGEMENT ACT
DBA	DECIBELS, A-WEIGHTED
DOD	DEPARTMENT OF DEFENSE
DODX	DOD-OWNED RAIL CARS
DOGGR	DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES
DRRP	DIESEL RISK REDUCTION PLAN
DTSC	DEPARTMENT OF TOXIC SUBSTANCES CONTROL
EA	ENVIRONMENTAL ASSESSMENT
EFH	ESSENTIAL FISH HABITAT
EIS	ENVIRONMENTAL IMPACT STATEMENT
EO	EXECUTIVE ORDER
ESA	ENDANGERED SPECIES ACT
ESQD	EXPLOSIVE SAFETY QUANTITY DISTANCE
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY
FHA	FEDERAL HIGHWAY ADMINISTRATION
FNSI	FINDING OF NO SIGNIFICANT IMPACT
FY	FISCAL YEAR
GIS	GEOGRAPHIC INFORMATION SYSTEM

HAP	HAZARDOUS AIR POLLUTANT
HAPC	HABITAT AREA OF PARTICULAR CONCERN
ICRMP	INTEGRATED CULTURAL RESOURCES MANAGEMENT PLAN
IDC	INSTALLATION DESIGN GUIDE
INRMP	INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN
IR	INSTALLATION RESTORATION
KV	KILOVOLT
LEED	LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN
LF	LINEAR FEET
LID	LOW IMPACT DEVELOPMENT
LPS	LIGHTNING PROTECTION SYSTEM
LUC	LAND USE CONTROL
MOTCO	MILITARY OCEAN TERMINAL CONCORD
MBTA	MIGRATORY BIRD TREATY ACT
MC	MUNITIONS CONSTITUENTS
MLLW	MEAN LOWER LOW WATER
MMPA	MARINE MAMMAL PROTECTION ACT
MMRP	MILITARY MUNITIONS RESPONSE PROGRAM
MPH	MILES PER HOUR
MRS	MUNITIONS RESPONSE SITE
MSR	MAIN SUPPLY ROUTE
MOU	MEMORANDUM OF UNDERSTANDING
NAGPRA	NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT
NAAQS	NATIONAL AMBIENT AIR QUALITY STANDARDS
NAVFAC	NAVAL FACILITIES ENGINEERING COMMAND
NEPA	NATIONAL ENVIRONMENTAL PROTECTION ACT
NESHAP	NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS
NHPA	NATIONAL HISTORIC PRESERVATION ACT
NMFS	NATIONAL MARINE FISHERIES SERVICE
NO_2	NITROGEN DIOXIDE
NOAA	NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NRCS	NATURAL RESOURCES CONSERVATION SERVICE
NSR	NEW SOURCE REVIEW
NWI	NATIONAL WETLANDS INVENTORY
NWSSBD	NAVAL WEAPONS STATION SEAL BEACH DETACHMENT
O_3	OZONE
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PAH	POLYNUCLEAR AROMATIC HYDROCARBONS
PB	LEAD
PCB	POLYCHLORINATED BIPHENYL
PG&E	PACIFIC GAS AND ELECTRIC COMPANY

PFMC	PACIFIC FISHERY MANAGEMENT COUNCIL
$PM_{2.5}$	PARTICULATE MATTER EQUAL TO OR LESS THAN 2.5 MICRONS
PM_{10}	PARTICULATE MATTER EQUAL TO OR LESS THAN 10 MICRONS
POL	PETROLEUM, OIL, AND LUBRICANTS
POV	PRIVATELY OWNED VEHICLE
RCRA	RESOURCE CONSERVATION RECOVERY ACT
RPMP	REAL PROPERTY MASTER PLAN
RWQCB	REGIONAL WATER QUALITY CONTROL BOARD
SAV	SUBMERGED AQUATIC VEGETATION
SDDC	SURFACE DEPLOYMENT AND DISTRIBUTION COMMAND
SF	SQUARE FEET
SHPO	STATE HISTORIC PRESERVATION OFFICE(R)
SI	SITE INVESTIGATION
SIP	STATE IMPLEMENTATION PLAN
SO	SULFUR DIOXIDE
SOP	STANDARD OPERATING PROCEDURE
SPCC	SPILL PREVENTION, CONTROL, AND COUNTERMEASURES
SVOC	SEMIVOLATILE ORGANIC COMPOUND
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
TB	TRANSPORTATION BATTALION
TEA	TRANSPORTATION ENGINEERING AGENCY
UFC	UNIFIED FACILITIES CRITERIA
ULV	ULTRA-LOW VOLUME
UPRR	UNION PACIFIC RAILROAD
USACE	U.S. ARMY CORPS OF ENGINEERS
USC	U.S. CODE
USDOT	U.S. DEPARTMENT OF TRANSPORTATION
USEPA	U.S. ENVIRONMENTAL PROTECTION AGENCY
USFWS	U.S. FISH AND WILDLIFE SERVICE
UXO	UNEXPLODED ORDNANCE
VCC	VISITOR CONTROL CENTER
VEC	VALUED ENVIRONMENTAL COMPONENT
VOC	VOLATILE ORGANIC COMPOUND

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EXECUTIVE SUMMARY

This Environmental Assessment (EA) is being prepared to assess the potential environmental and social impacts associated with implementing three key planning documents for Military Ocean Terminal Concord (MOTCO): a Real Property Master Plan (RPMP), Integrated Natural Resources Management Plan (INRMP), and an Integrated Cultural Resources Management Plan (ICRMP). This National Environmental Policy Act (NEPA) document provides a comprehensive and programmatic review of the long-term vision set forth in these planning documents, while focusing on those near-term elements for which planning has progressed to the point where the "hard look" required of NEPA can be accomplished.

This EA evaluates the following in detail:

- Proposed action to fully implement the programs as set forth in these planning documents,
- Alternative action for partial implementation of natural and cultural resource management programs,
- Alternative RPMP development scenarios, and
- Specific impacts of real property and natural and cultural resource management projects proposed for years 2011 through 2016.

MOTCO is an Army Military Surface Deployment and Distribution Command (SDDC) munitions and general cargo transshipment facility located at a strategic site in north central Contra Costa County, California. This Department of Defense (DoD) installation is the primary West Coast common-user ammunition terminal and is home to the SDDC's 834th Transportation Battalion (TB). MOTCO is in the East San Francisco Bay region, approximately 40 nautical miles inland past the Carquinez Strait that connects Suisun Bay to San Pablo Bay. Oakland is 20 miles to the southwest, Sacramento is 65 miles to the northeast, and the City of Concord is located approximately 5 miles south.

The installation is composed of an approximately 115-acre Inland Area and an approximately 6,526-acre Tidal Area, which are connected by a road running parallel and west of Port Chicago Highway. The Tidal Area includes 2,045 acres in offshore islands. Two public rail lines: Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe (BNSF) traverse the Tidal Area and interconnect with MOTCO rail lines.

MOTCO installation lands were formerly Department of the Navy lands within Naval Weapons Station Seal Beach Detachment (NWSSBD) Concord. On 1 October 2008, MOTCO properties were transferred from the Navy to the Army per the 2005 Defense Base Closure and Realignment Commission recommendations. However, the Army's presence at MOTCO dates back to 1 October 1997, when the Army's 1302nd Major Port Command was relocated from the Oakland Army Base to MOTCO and became the 834th TB. The City of Concord has been recognized as the Local Reuse Authority for the approximately 5,028-acres of former NWSSBD Concord lands that were determined surplus.

MOTCO is one of five designated primary strategic ports in California and is the larger of two ammunition ports on the West Coast. MOTCO enables the DoD Operations Plan for the Pacific Rim and has the capability to act as a strategic launch platform for the West Coast. Currently, the 834th TB performs the majority of assigned general cargo missions at the following West Coast (California) commercial ports: Oakland, Port Hueneme, Los Angeles/Long Beach, and San Diego. The mission of the 834th TB is to provide terminal and distribution services in support of deploying and redeploying forces in the California Area of Responsibility and, further, to safely provide ammunition terminal services at MOTCO.

The Proposed Action involves the implementation of future development and natural and cultural resource management at MOTCO in accordance with the framework provided in the RPMP, INRMP, and ICRMP. These documents provide overall direction for a long-term planning horizon of 20 to 50 years and provide more detailed planning and programming for short-term projects to be implemented in the 5 to 7 year timeframe. This EA addresses those short-term components for which detailed project planning has progressed to the point where it is prudent to analyze potential environmental impacts in detail.

The RPMP projects analyzed include the following categories:

- **Category A** – projects where detailed planning has been completed and estimated timeline for funding is Fiscal Year (FY) 2013 to FY 2019; tied to the short-term vision for MOTCO.
- **Category B** – demolition projects with estimated timeline of FY 2012 and beyond for funding; tied to the short-term vision for MOTCO.
- **Category C** – projects where some level of requirements analysis, conceptual development, and site planning has been completed and estimated timeline for funding is beyond FY 2019; tied to the short-term vision for MOTCO.
- **Category D** – projects where some level of requirements analysis, conceptual development, and site planning has been completed and the estimated timeline for funding is beyond the timeline for the Category C projects; tied to the 20 to 50-year long-term vision for MOTCO.

Additional NEPA documentation will be needed for Category C and D projects in the future when project planning details have been developed.

Elements of the INRMP analyzed in the EA include the following:

- **Livestock Grazing/Fire Management/Upland Invasive Species Control and Management** – unintended negative impacts on non-targeted species; air emissions; potential for fire escapes; discing of fire breaks; use and maintenance of grazing infrastructure (i.e., access roads, wells, pumps, troughs, cattle exclusion fencing, etc.); soil disturbance/accelerated erosion; and toxicity impacts from improper use of herbicides.

- **Cantonment Area Wildlife Control** – impacts to non-targeted species, unavoidable impacts to migratory birds, and disturbance and displacement of species.

- **Perennial Pepperweed Control and Management** – building a perennial pepperweed control program that is based on best available science, including the avoidance or minimization of impacts to non-targeted species and water quality and toxicity impacts from improper use of herbicides

Elements of the ICRMP analyzed in the EA include the following:

- Evaluate National Register of Historic Places (National Register) eligibility of unevaluated linear resources over 50 years of age (to be implemented as funding becomes available),

- Evaluate buildings and structures that have turned 50 years of age since their first evaluation under NHPA Section 110 (to be implemented as funding becomes available), and

- Establish and maintain a Geographic Information System (GIS) that includes cultural resources information, such as areas previously surveyed and the historic status code of resources (planned for FY 2011).

In addition to the Proposed Action, this EA evaluates alternative actions for modified RPMP development scenarios, partial implementation of the INRMP, and the No Action Alternative. The RPMP Inland Area Focus Alternative accomplishes all the Category A-D projects as outlined for the proposed action, but emphasizes the development of the 115-acre Inland Area over the Gate 5 area of the Tidal Area and includes a more aggressive demolition program. The INRMP Partial Implementation Alternative addresses the proposed projects and activities that are required to meet legislative and regulatory compliance requirements only; as such, it does not include proposed projects and activities of the proposed action that enhance natural resources. Given the status of historic properties at MOTCO and the lack of complexity in ICRMP implementation (e.g., there are not substantially different ways to avoid, minimize, or mitigate cultural resource impacts at MOTCO), it was determined that there is no reasonable alternative to the proposed ICRMP implementation. Therefore, no alternative to the ICRMP Full Implementation Proposed Action was evaluated in this EA. Under the No Action Alternative for this EA, implementation of the RPMP, INRMP, and ICRMP for MOTCO would not occur. Current real property, natural resource, and cultural resource practices would continue without implementation of substantial new/updated practices.

The overall environmental effect of implementing the Proposed Action at MOTCO is anticipated to be less than significant. The implementation of future development and natural and cultural resource management at MOTCO in accordance with the framework provided in the RPMP, INRMP, and ICRMP would have minor, adverse impacts to earth resources, water resources, air resources, biological resources, land use and coastal zone management, transportation and utilities infrastructure, visual resources, noise, and hazardous materials and waste. However, these effects would be less than significant. No impacts to environmental justice or cultural resources would occur as a result of the Proposed Action. Implementation of the Proposed Action would also have beneficial impacts to

transportation, health and safety, as well as socioeconomics. A summary of potential impacts and measures to minimize adverse impacts of the Proposed Action is provided in Tables ES-1 through ES-4.

Based on the analysis contained herein, it is the conclusion of this EA that neither the implementation of future development and natural and cultural resource management at MOTCO in accordance with the framework provided in the RPMP, INRMP, and ICRMP nor the No Action Alternative, would constitute a major federal action with significant impact on human health or the environment, and that a Finding of No Significant Impact (FNSI) should be issued to complete the NEPA documentation process.

Table ES-1 Summary of Potential Impacts and Measures to Minimize Impacts for the RPMP Implementation Action

Resource Area	Level of Impact				Summary of Potential Impacts and Measures to Minimize Impacts	
	Significant	Less than Significant	No Adverse Impact	Beneficial	Full Implementation Alternative	Partial Implementation Alternative
Earth Resources		X			• Localized increased sedimentation at project sites during construction minimized by adherence to NPDES permit requirements. • Total ground disturbance estimated at 761 acres; of this, 86.2 acres is the Category A projects and 2.9 acres is in the Category B projects. • Split-estate issues at P76093, Gate 5 Truck Inspection Station, require resolution prior to project implementation.	Same as the RPMP Proposed Action Alternative except: • Total ground disturbance estimated at 686 acres; of this, 73 acres is the Category A projects and 2.9 acres is in the Category B projects. • No need for resolution of mineral estate issue as site for P76093.
Water Resources		X			• Obtaining and adhering to provisions of NPDES permit requirements would minimize potential impacts to surface water resources. • Obtaining and adhering to provisions of the CWA Section 404 and 401 permitting for the Category B demolition of lighter berths and various Category C and D projects would minimize potential impacts to wetland and surface water resources. • Two Category A construction projects located in a 100-year floodplain cannot be sited elsewhere due to logistical and operational requirements; demolition of 16 Category B project aging structures would provide a benefit in offsetting the development footprint in the 100-year floodplain.	Same as the RPMP Proposed Action Alternative except: • Stormwater management efforts would differ commensurate with greater concentration of impervious surfaces in the Inland Area. • There would be greater development of the portion of the Inland Area impacted by the 100-year floodplain; implementation would be inconsistent with EO 11988.

Table ES-1 Summary of Potential Impacts and Measures to Minimize Impacts for the RPMP Implementation Action

Resource Area	Level of Impact				Summary of Potential Impacts and Measures to Minimize Impacts	
	Significant	Less than Significant	No Adverse Impact	Beneficial	Full Implementation Alternative	Partial Implementation Alternative
Air Resources		X			•Short-term emissions associated with construction and demolition activities would be orders of magnitude below the CAA conformity *de minimis* thresholds for the pollutants of concern, indicating little impact on the local or regional air quality for any given year. •Adherence to Bay Area Air Quality Management District (BAAQMD) recommended measures for construction/demolition projects would ensure minimal impacts to air quality.	Same as the RPMP Proposed Action Alternative except: • Slightly higher emissions associated with approximately 114,000 SF of additional demolition and 60,000 SF of additional construction.
Biological Resources		X			• Two Category A projects and seven Category B demolition projects located adjacent to sensitive marshland habitats plus four Category B in-water demolition projects– protective measures put in place to minimize impacts to threatened and endangered species. • Implementation of Category A and B projects not likely to affect the federally listed California least tern, California tiger salamander, or California red-legged frog. • May affect, but not likely to adversely affect federally listed soft bird's beak, green sturgeon, Central Valley steelhead, Central California Coast steelhead, Sacramento Chinook salmon (Winter run), Central Valley Chinook salmon (Spring run), California clapper rail, and salt marsh harvest mouse. • Potential impacts to state-listed California black rail minimized with management measures • No adverse impact on Essential Fish Habitat. • No injury or mortality of any marine mammal species and no adverse effects on the annual rates of recruitment or survival of any marine mammal species and stocks.	Similar as the RPMP Proposed Action Alternative.

Table ES-1 Summary of Potential Impacts and Measures to Minimize Impacts for the RPMP Implementation Action

Resource Area	Level of Impact				Summary of Potential Impacts and Measures to Minimize Impacts	
	Significant	Less than Significant	No Adverse Impact	Beneficial	Full Implementation Alternative	Partial Implementation Alternative
					• Impacts to other wildlife would be localized and short-term, protective measures for migratory birds provided. • Follow-on analysis including ESA consultation needed for RPMP Category C and D projects.	
Land Use and Coastal Zone Manage-ment			X	X	• Beneficial impacts on land use since there would be effective and orderly sustainable facility design and installation development that support the mission, real property management, local community/installation land use zoning, and other issues affecting existing or future development potential at the installation. • Implementation of this alternative would be consistent to the maximum extent practicable with the San Francisco Bay Conservation and Development Commission (BCDC) coastal management program for the San Francisco Bay segment of the California coastal zone	Same as the RPMP Proposed Action Alternative.
Trans-portation and Utilities Infra-structure				X	• Two Category A projects would result in long-term beneficial impacts to traffic flow and transportation conditions in the Main Gate area of MOTCO. • Changes to current off-installation traffic patterns in the Gate 5 area would be compatible with roadway and traffic conditions along Port Chicago Highway east of the Tidal Area.	Similar to the RPMP Proposed Action Alternative except: • Configuration of Truck Inspection Station would not result in the same level of beneficial impacts. • Changes to traffic patterns in the Gate 5 area would not occur.
Visual Resources		X			• No adverse impacts to Port Chicago National Memorial viewsheds, Suisun Bay, or Los Medanos Hills. • Main Gate improvements would provide a "sense of arrival" to MOTCO personnel and visitors.	Same as the RPMP Proposed Action Alternative.
Noise		X			• Short-term increase in noise exposure from construction and demolition activity;	Same as the RPMP Proposed Action Alternative.

Table ES-1 Summary of Potential Impacts and Measures to Minimize Impacts for the RPMP Implementation Action

Resource Area	Level of Impact				Summary of Potential Impacts and Measures to Minimize Impacts	
	Significant	Less than Significant	No Adverse Impact	Beneficial	Full Implementation Alternative	Partial Implementation Alternative
					however, construction would occur during normal business hours and is short in duration.	
Socio-economics and Environ-mental Justice			X	X	• Potential for short-term beneficial impacts relating to construction and demolition projects. • No disproportionate adverse impacts to low-income or minority populations.	Similar as the RPMP Proposed Action Alternative.
Hazardous Materials and Waste		X			• Procedures for management of hazardous materials and waste would continue in accordance with Federal and California regulations. • Surveys would be conducted prior to demolition to identify and remove all asbestos-containing materials and lead-based paint in accordance with Federal and California regulations. • Proposed construction and demolition activities would be consistent with applicable land use restrictions, and contractor prepared plans.	Similar as the RPMP Proposed Action Alternative.
Health and Safety			X	X	• New construction would conform to the design and construction and personnel assignment requirements associated with building within ESQD arcs and appropriate anti-terrorism force protection resulting in beneficial impacts to personnel working on the installation. • No impacts to populations located off the installation.	Similar as the RPMP Proposed Action Alternative, but no permanent solution for locating certain personnel outside of the ESQD arcs.
Cultural Resources			X		No impacts to cultural resources are expected.	No impacts to cultural resources are expected.

Table ES-2 Summary of Potential Impacts and Measures to Minimize Impacts for the INRMP Implementation

Resource Area	Level of Impact				Summary of Potential Impacts and Measures to Minimize Impacts	
	Significant	Less than Significant	No Adverse Impact	Beneficial	Full Implementation Alternative	Partial Implementation Alternative
Earth Resources		X		X	• Beneficial impacts related specifically to the water quality management and ground squirrel control measures are expected. • Continuation of grazing and wildlife fire management activities would potentially result in soil disturbance, but management through SOPs and BMPs would lessen these impacts. • Short-term, minor localized erosion impacts potentially associated with pepperweed control to be monitored and addressed.	Same as the INRMP Proposed Full Implementation Alternative except: • Fewer water quality and erosion management measures would provide for less beneficial impacts to soil resources.
Water Resources		X		X	• Long-term beneficial impacts as a result of implementation of Water Quality and Erosion Management and Wetlands/Shoreline Management measures and minor, indirect benefits as a result of grounds maintenance and integrated pest management.	• Provides less beneficial impacts as compared to the INRMP Proposed Action as fewer Wetlands/Shoreline Management measures and only one Water Quality and Erosion Management measure would be pursued.
Air Resources		X			• Ongoing prescribed burning program would continue to result in emissions of CO and PM_{10} and $PM_{2.5}$ managed in accordance with BAAQMD regulations.	Same as the INRMP Proposed Action Alternative.

Table ES-2 Summary of Potential Impacts and Measures to Minimize Impacts for the INRMP Implementation

Resource Area	Level of Impact				Summary of Potential Impacts and Measures to Minimize Impacts	
	Significant	Less than Significant	No Adverse Impact	Beneficial	Full Implementation Alternative	Partial Implementation Alternative
Biological Resources		X		X	• Overall beneficial impacts to native fish and wildlife species, as well as special status species. • Livestock Grazing, Fire Management, and Upland Invasive Species Control and Management could result in the taking of non-targeted species, potential for fire escapes and resulting impacts on quality habitat, some soil disturbance and possibly accelerated erosion, and toxicity impacts from improper use of herbicides; however, the potential long-term benefits outweigh the potential adverse impacts are in line with Bay Area habitat goals and objectives. • The Cantonment Area Wildlife Control Program could result in the taking of non-targeted species, possibly unintended take of migratory birds, and disturbance of desirable species; however, the potential long-term benefits outweigh the potential adverse impacts are in line with Bay Area habitat goals and objectives.	Same as the INRMP Proposed Action Alternative except: • Class II (Maintenance) and Class III (Enhancement Actions beyond Compliance) projects would not be implemented; as a result, there would be fewer beneficial impacts to wildlife habitats and special status species.
Land Use and Coastal Zone Manage-ment			X	X	• No impacts to land use. • Beneficial impacts to the coastal zone particularly with regard to management of wetlands, the Wetland Preserve, and tidal vegetation and habitats.	Same as the INRMP Proposed Action Alternative.
Trans-portation and Utilities Infra-structure			X		No impact to transportation or utility infrastructure.	No impact to transportation or utility infrastructure.

Table ES-2 Summary of Potential Impacts and Measures to Minimize Impacts for the INRMP Implementation

Resource Area	Level of Impact				Summary of Potential Impacts and Measures to Minimize Impacts	
	Significant	Less than Significant	No Adverse Impact	Beneficial	Full Implementation Alternative	Partial Implementation Alternative
Visual Resources				X	Beneficial impacts resulting from improved aesthetics.	Same as the INRMP Proposed Action Alternative.
Noise			X		No noise-related impacts are anticipated.	No noise-related impacts are anticipated.
Socio-economics and Environmental Justice		X			• Potential for slight increase in funding for natural resources management programs. • Controlled burns would continue to follow CARB Smoke Management Guidelines; as such, no adverse impacts to low income or minority populations is expected.	Same as the INRMP Proposed Action Alternative.
Hazardous Materials and Waste			X		No impacts to hazardous materials or waste are anticipated	No impacts to hazardous materials or waste are anticipated
Health and Safety			X	X	• Controlled burns would continue to be conducted in accordance with appropriate state and local regulations and MOTCO procedures; in addition, maintenance and enhancement actions would be implemented • Mosquito control would continue as conducted currently	Same as the INRMP Proposed Action Alternative except • Maintenance and enhancement actions beyond compliance would not occur, which would not result in the same beneficial impacts as with the Proposed Full Implementation Alternative
Cultural Resources			X		No impact to cultural resources are expected	No impact to cultural resources are expected

Table ES-3 Summary of Potential Impacts and Measures to Minimize Impacts for the ICRMP Implementation

Resource Area	Level of Impact				Summary of Potential Impacts and Measures to Minimize Impacts
	Significant	Less than Significant	No Adverse Impact	Beneficial Impact	
Earth Resources			X		No impact to earth resources
Water Resources			X		No impact to water resources
Air Resources			X		No impact to air resources
Biological Resources			X		No impact to biological resources
Land Use and Coastal Zone Management			X		No impact to land use
Transportation and Utilities Infrastructure			X		No impact to transportation or utility infrastructure
Visual Resources			X		No impact to viewsheds
Noise			X		No noise-related impacts are anticipated
Socioeconomics and Environmental Justice			X		• Potential for slight increase in funding for cultural resources management programs. • No impact to low-income or minority populations.
Hazardous Materials and Waste			X		No impacts to hazardous materials or waste are anticipated.
Health and Safety			X		No impacts to health and safety are anticipated.
Cultural Resources				X	• Priorities would be established for the identification, evaluation, and maintenance of cultural resources. • Eleven SOPs would be integrated to ensure compliance with existing regulations.

Table ES-4 Summary of Potential Impacts and Measures to Minimize Impacts for the No Action Alternative

Resource Area	Level of Impact				Summary of Potential Impacts and Measures to Minimize Impacts
	Significant	Less than Significant	No Adverse Impact	Beneficial Impact	
Earth Resources		X			• Continued implementation of existing management programs would continue to protect earth resources. • Short-term potential construction-related impacts to soil resources and need for resolution of mineral resource split estate would not occur. • Long-term overall potential benefits to soil resources from implementation of the IRNMP would not be realized.
Water Resources		X			• Continued implementation of existing management programs would continue to protect water resources. • Short-term potential construction-related impacts to water resources would not occur. • Long-term overall potential benefits to water resources from implementation of the IRNMP would not be realized.
Air Resources		X			• Construction and demolition related emissions would not occur. • Ongoing prescribed burning program would continue to result in emissions of CO and PM_{10} and $PM_{2.5}$ managed in accordance with BAAMD regulations.
Biological Resources		X			• Existing natural resources management programs would continue at their current pace and level. • Short-term construction and demolition related impacts on habitats and special status species would not occur. • Potential improvements to habitat quality and species diversity and abundance would not occur.
Land Use and Coastal Zone Management			X		• Baseline conditions would persist and no improvements to land use functionality and efficiencies would occur.
Transportation and Utilities Infrastructure		X			• Ongoing traffic safety issues and inefficiencies in MOTCO rail operations due to current deficiencies would continue. • Traffic conditions at the Main Gate would continue, resulting in occasional backups onto local roadways. • Compliance with current requirements and guidance regarding truck inspection would not be met.
Visual Resources			X		Baseline conditions would persist and no beneficial impacts would occur.
Noise			X		Baseline noise conditions would remain.

Table ES-4 Summary of Potential Impacts and Measures to Minimize Impacts for the No Action Alternative

Resource Area	Level of Impact				Summary of Potential Impacts and Measures to Minimize Impacts
	Significant	Less than Significant	No Adverse Impact	Beneficial Impact	
Socioeconomics and Environmental Justice			X		Funding levels would continue at comparable levels.
Hazardous Materials and Waste		X			Operations at MOTCO would continue at current levels and in accordance with all existing regulations and plans.
Health and Safety			X		Operations at MOTCO would continue at current levels and in accordance with all existing regulations and plans.
Cultural Resources			X		Management of cultural resources would continue on a case-by-case basis.

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

This Environmental Assessment (EA) is being prepared to assess the potential environmental and social impacts associated with implementing three key planning documents for Military Ocean Terminal Concord (MOTCO): a Real Property Master Plan (RPMP), Integrated Natural Resources Management Plan (INRMP), and an Integrated Cultural Resources Management Plan (ICRMP). This National Environmental Policy Act (NEPA) document provides a comprehensive and programmatic review of the long-term vision set forth in these planning documents, while focusing on those near-term elements for which planning has progressed to the point where the "hard look" required of NEPA can be accomplished. Generally, this EA provides analysis for actions that may occur in 2013 through 2016. Tiered and supplemental analysis will occur for years outside of this planning horizon.

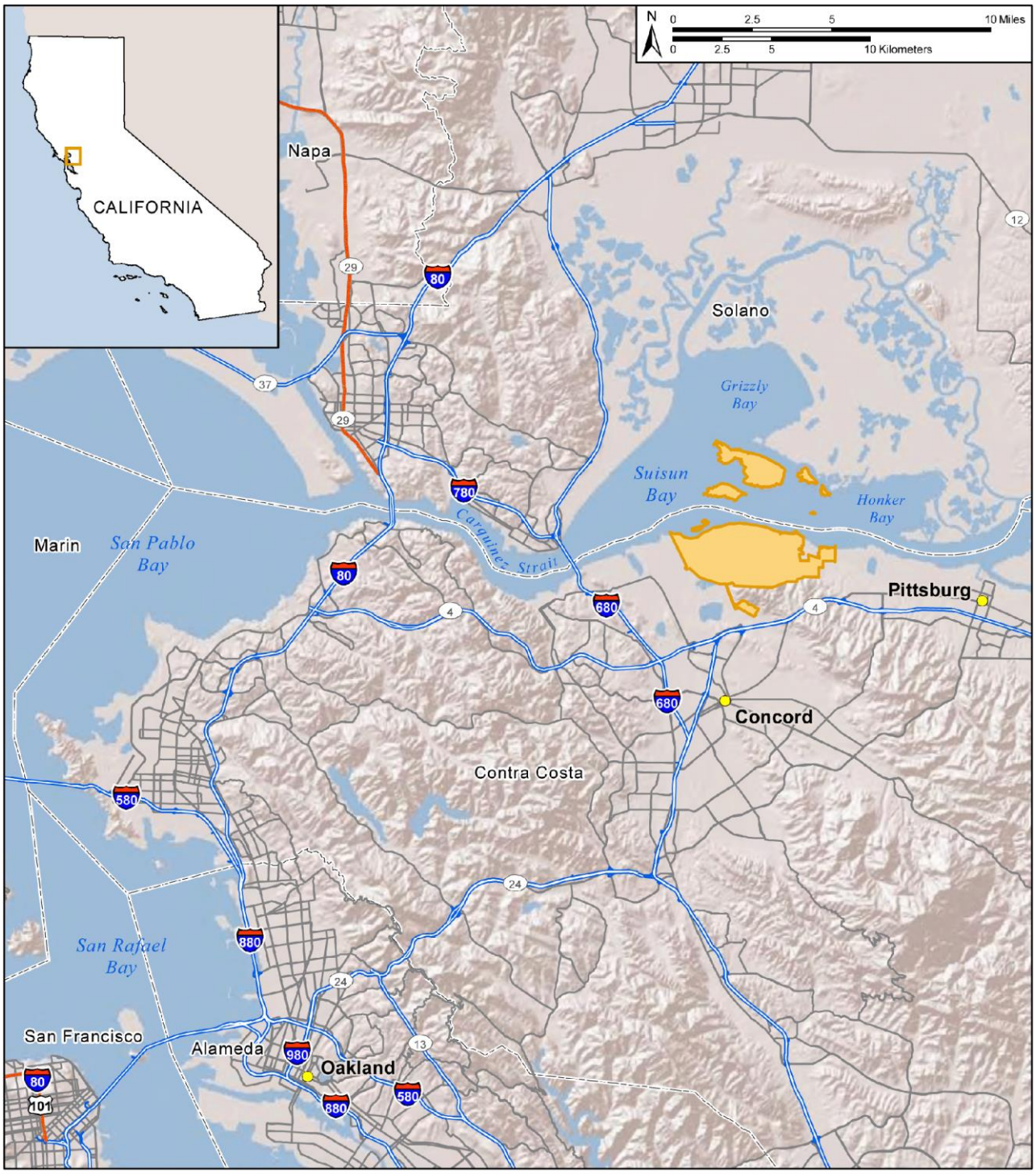
The MOTCO RPMP, prepared in accordance with Army Regulation (AR) 210-20, *Real Property Master Planning for Army Installations* (Army 2005), provides guidance to ensure installation real property master planning is proactive to meet long-term mission requirements. The MOTCO INRMP was prepared to meet statutory requirements of the Sikes Act (16 U.S. Code [USC] § 670a *et seq*.), as amended by the Sikes Act Improvement Act (16 USC § 670b *et seq*.), and AR 200-1, *Environmental Protection and Enhancement* (Army 2007b). The overall goal of the INRMP is to integrate natural resources stewardship and compliance responsibilities with operational requirements to sustain MOTCO and to develop, initiate, and maintain programs for the conservation, utilization, and rehabilitation of natural resources on MOTCO. The MOTCO ICRMP also was prepared in accordance with AR 200-1, but addresses meeting compliance requirements of federal historic preservation laws and regulations in a manner consistent with the sound principles of cultural resources stewardship.

This EA evaluates the following in detail:

- Proposed action to fully implement the programs as set forth in these planning documents,
- Alternative action for partial implementation of natural and cultural resource management programs,
- Alternative RPMP development scenarios, and
- Specific impacts of real property and natural and cultural resource management projects proposed for years 2013 through 2016.

1.2 INSTALLATION DESCRIPTION AND CURRENT SITUATION

MOTCO is an Army Military Surface Deployment and Distribution Command (SDDC) munitions and general cargo transshipment facility located at a strategic site in north central Contra Costa County, California (Figure 1-1). This Department of Defense (DoD) installation is the primary West Coast common-user ammunition terminal and is home to the SDDC's 834th Transportation Battalion (TB). MOTCO is in the East San Francisco Bay region, approximately 40 nautical miles inland past the Carquinez Strait that connects Suisun Bay to San Pablo Bay. Oakland is 20 miles to the southwest, Sacramento is 65 miles to the northeast, and the City of Concord is located approximately 5 miles south.



Cities
Military Ocean Terminal Concord
County Boundary
Interstate Highway
US and State Highway
Local Roads

Figure 1-1

REGIONAL LOCATION

Environmental Assessment

The installation is composed of an approximately 115-acre Inland Area and an approximately 6,526-acre Tidal Area, which are connected by a road running parallel and west of Port Chicago Highway. The Tidal Area includes 2,045 acres in offshore islands (Figure 1-2). Two public rail lines: Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe (BNSF) traverse the Tidal Area and interconnect with MOTCO rail lines.

MOTCO installation lands were formerly Department of the Navy lands within Naval Weapons Station Seal Beach Detachment (NWSSBD) Concord (Figure 1-3). On 1 October 2008, MOTCO properties were transferred from the Navy to the Army per 2005 Defense Base Closure and Realignment Commission recommendations. However, the Army's presence at MOTCO dates back to 1 October 1997, when the Army's 1302nd Major Port Command was relocated from the Oakland Army Base to MOTCO and became the 834th TB. The City of Concord has been recognized as the Local Reuse Authority for the approximately 5,028-acres of former NWSSBD Concord lands that were determined surplus.

MOTCO is one of five designated primary strategic ports in California and is the larger of two ammunition ports on the West Coast. MOTCO enables the DoD Operations Plan for the Pacific Rim and has the capability to act as a strategic launch platform for the West Coast. Currently, the 834th TB performs the majority of assigned general cargo missions at the following West Coast (California) commercial ports: Oakland, Port Hueneme, Los Angeles/Long Beach, and San Diego. The mission of the 834th TB is to provide terminal and distribution services in support of deploying and redeploying forces in the California Area of Responsibility and, further, to safely provide ammunition terminal services at MOTCO.

1.3 PURPOSE AND NEED

The purpose of and need for the proposed action is to update key planning documents to meet current Army standards and needs and to plan, schedule, and program for implementation of near-term projects for real property, natural, and cultural resource management. Currently, MOTCO implements Navy planning documents, which are dated (1989 for the RPMP, 2002 for the INRMP and ICRMP) and apply to the larger 12,920-acre NWSSBD Concord (almost twice the area of the current 6,641-acre MOTCO property).

The RPMP addresses a program for development of MOTCO focused on the ongoing ammunition mission for the short-term, with an eye toward a long-term vision to transform MOTCO into a versatile, modern, and efficient seaport capable of receiving, staging, and onward moving ammunition and general cargo as necessary to meet DoD requirements. Focus areas for execution of the short-term vision include addressing current facility deficiencies, optimizing functional relationships, and implementing changes needed due to Navy-Army realignment actions, while also planning in a manner that allows for the flexibility to accommodate the long-range vision. The INRMP provides an adaptive plan for managing natural resources to support and be consistent with the military mission while protecting and enhancing those resources for multiple use, sustainable yield, and ecological integrity.

Figure 1-2

MOTCO PROPERTY

Environmental Assessment

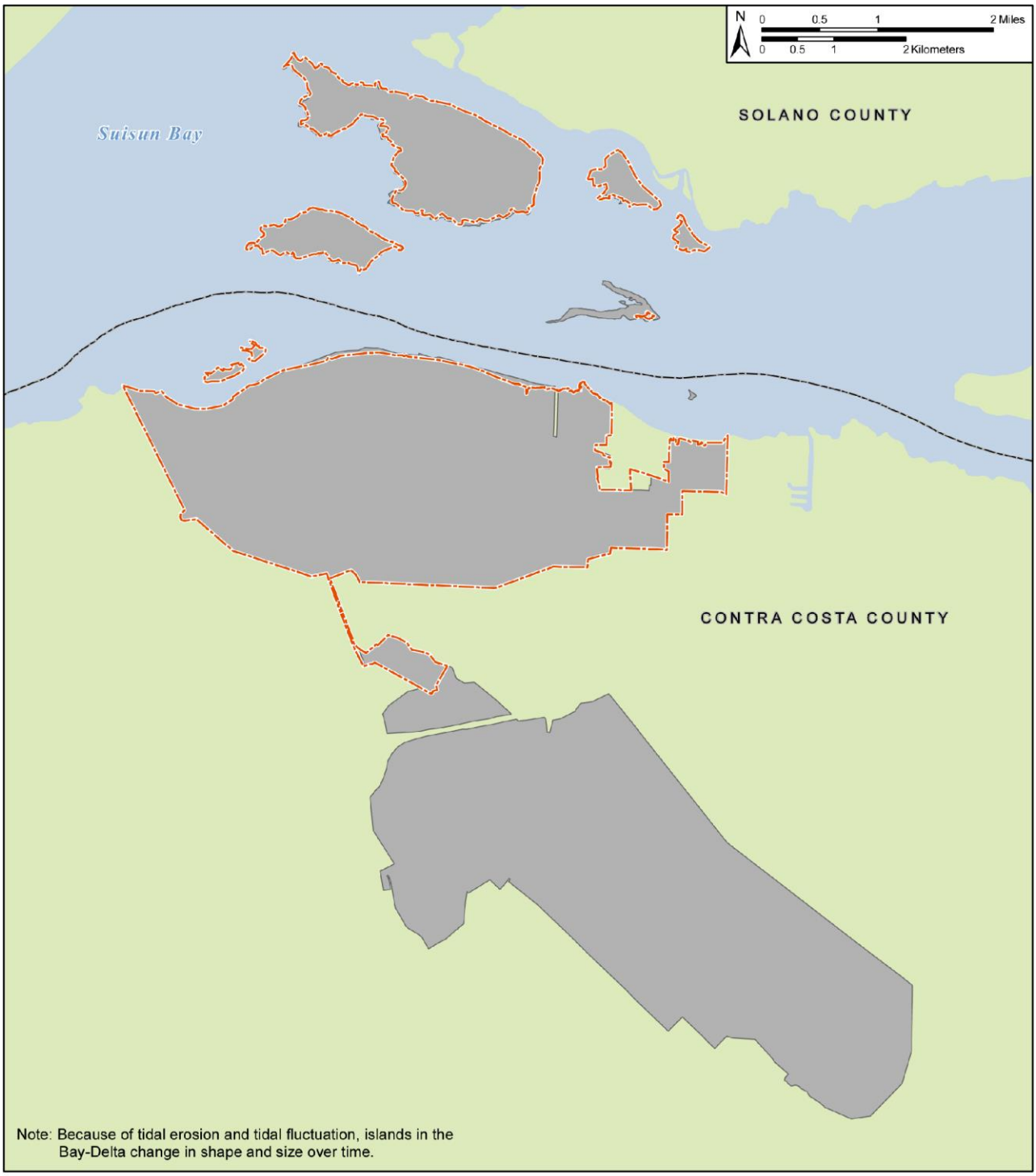


Figure 1-3

MOTCO AND NWSSBD CONCORD BOUNDARIES

Environmental Assessment

Similarly, the ICRMP meets the legal compliance requirements of federal historic preservation laws and regulations in a manner consistent with the military mission and sound principles of cultural resources stewardship. Together, the plans and programs of the RPMP, INRMP, and ICRMP ensure the sustainability of MOTCO's facilities, waterfront assets, and infrastructure, while minimizing land use incompatibilities and balancing the military mission with natural and cultural resource management responsibilities.

In addition, implementation of these planning documents is needed to comply with ARs 210-20 and 200-1, DoD Instruction 4715.3, the Sikes Act Improvement Act, and related compliance requirements applicable to MOTCO. These include the requirements of the Endangered Species Act (ESA), the Clean Water Act (CWA), the Bald and Golden Eagle Protection Act (BGEPA), the Migratory Bird Treaty Act (MBTA), the Magnuson-Stevens Fishery Conservation and Management Act, the National Historic Preservation Act (NHPA), the Native American Graves Protection and Repatriation Act (NAGPRA), the Archaeological Resources Protection Act (ARPA), the American Indian Religious Freedom Act, and various related Executive Orders (EOs).

1.4 SCOPE AND CONTENT OF THIS ENVIRONMENTAL ASSESSMENT

This EA is prepared in accordance with NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508); the Council on Environmental Quality (CEQ) regulations that implement NEPA; and AR 200-2, *Environmental Effects of Army Action*s, as promulgated in 32 CFR Part 651. This EA identifies the potential environmental effects of the Proposed Action and alternatives, and contains discussions of any mitigation and permit requirements, findings, and conclusions in accordance with NEPA. This EA is consistent with the Army NEPA Analysis Guidance Manual (Army 2007a).

The implementation of the RPMP, INRMP, and ICRMP are separate and distinct actions that could be assessed under NEPA independent of one another. However, due to their similarity in scope, timing, and purpose, they are being considered together in this EA. The planning documents discussed in this EA address programs for long-term improvement of MOTCO. In general, an EA remains valid for 5 to 7 years from the signing of the Finding of No Significant Impact (FNSI) unless substantial changes have occurred in the action and/or environmental conditions in the area of potential effect (refer to 40 CFR 1509.2). Thereafter, supplemental NEPA analysis will be needed to address potential environmental impacts of projects. Supplemental analysis may be tiered from this EA per 40 CFR 1508.28. Depending on the subsequent action, the analysis may be a less-detailed Record of Environmental Consideration or a more-detailed tiered supplemental EA.

1.5 DECISION TO BE MADE

The decision(s) to be made by the Commanding Officer of MOTCO are to approve the decision to implement the actions set forth in the MOTCO RPMP, INRMP, and ICRMP in consideration of potential environmental consequences, and actions that protect, restore, and enhance the environment.

1.6 AGENCY AND PUBLIC INVOLVEMENT

The RPMP was prepared to be consistent with land use plans and programs for properties adjacent to MOTCO. The INRMP was developed in cooperation with the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS) and reflects mutual agreement of these agencies concerning conservation, protection, and management of fish and wildlife resources. At the start of the INRMP planning processes (July 2009), scoping letters were sent to the CDFW, USFWS, and NMFS. Coordination with these agencies continued through the preparation of the INRMP, including review of draft versions of the INRMP and an in-progress review meeting in April 2010. At the start of the ICRMP process (July 2009), a scoping letter was sent to the California State Historic Preservation Office (SHPO) and Draft ICRMPs were sent to the SHPO and Native Americans Tribes with interest in MOTCO for review and comment in February 2011. These scoping letters and draft documents informed the agencies that this EA would be prepared to address implementation of the RPMP, INRMP, and ICRMP. In addition, a scoping letter for this EA was submitted to federal, state, and local agencies.

The Draft EA and Draft FNSI were made available to the general public and applicable government agencies for review and comment during the 30-day period that commenced with publication of the Notice of Availability in the *Contra Costa Times* on 17 October 2011. Copies of these documents were available at the Concord Public Library, 2900 Salvio Street, Concord, California 94519 and were sent directly to applicable agencies for their review. Comments on the Draft EA were received from the Chevron Environmental Management Company and the San Francisco Bay Conservation and Development Commission. These comments are incorporated into and addressed in this Final EA.

In addition, in accordance with Section 7 of the ESA, the Army consulted with USFWS and NMFS on the Proposed Action. Informal consultation was initiated with USFWS and NMFS with draft Biological Assessments (BAs) issued concurrent with the Draft EA in October 2011. Consultation with NMFS concluded in August 2012 and consultation with USFWS concluded in June 2013. The final BAs and letters of concurrence from these agencies are provided in Appendix A.

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2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION

The Proposed Action is to implement future development and natural and cultural resource management at MOTCO in accordance with the framework provided in the RPMP, INRMP, and ICRMP.

2.1.1 RPMP Proposed Action

The RPMP sets forth a program for orderly development of MOTCO. The following principles have been applied to planned development:

- Eliminate explosive safety waivers wherever feasible,
- Site all new facilities in compliance with explosive safety requirements,
- When considering increase of general cargo operations, ensure that new facilities and functions are compatible with the current and future ammunition mission,
- Maximize efficiencies,
- Consolidate related functions into composite facilities/complexes,
- Comply with all regulatory requirements,
- Continue to recognize the unique and valuable resources of the Wetland Preserve Area (first established in a 1984 Memorandum of Understanding [MOU] between the Navy and USFWS and superseded by the INRMP), and
- Balance improvement and demolition programs.

While the long-term vision frames the overall development plan, the focus of the proposed action in this EA are those short-term components for which detailed project planning has progressed to the point where it is prudent to analyze potential environmental impacts in detail. Projects addressed in this EA are categorized as follows:

- **Category A** – projects where detailed planning has been completed and estimated timeline for funding is Fiscal Year (FY) 2013 to FY 2019; tied to the short-term vision for MOTCO.
- **Category B** – demolition projects with estimated timeline of FY 2013 and beyond for funding; tied to the short-term vision for MOTCO.
- **Category C** – projects where some level of requirements analysis, conceptual development, and site planning has been completed and estimated timeline for funding is beyond FY 2019; tied to the short-term vision for MOTCO.
- **Category D** – projects where some level of requirements analysis, conceptual development, and site planning has been completed and the estimated timeline for funding is beyond the timeline for the Category C projects; tied to the 20 to 50-year long-term vision for MOTCO.

Note that the highest priority project included in the RPMP is the modernization and repair of Piers 2 and 3. Due to planning and project implementation timelines, detailed NEPA analysis for this project is underway in a stand-alone Environmental Impact Statement (EIS). The Army published a Notice of Intent

to prepare an EIS for the modernization and repair of Piers 2 and 3 in the Federal Register on April 5, 2103 (Volume 78, Number 68, Page 20623). This project is also addressed in the cumulative effects analysis of this EA (see Section 4.0).

RPMP Category A Projects

Detailed planning has been completed for the six Category A projects listed in Table 2-1 and depicted in Figure 2-1. The mapped area of each project is based on the anticipated limits of construction for these projects. It is a larger area than the approximate area of disturbance listed in Table 2-1. This allows the NEPA analysis to have the level of adaptability required by the nature of Army military construction projects, which are often design-build contracts. The specific layout of the facility footprint and associated infrastructure would be determined during the design build planning process. Should the resultant project footprint extend beyond the depicted limits of construction, the Army will conduct additional supplemental NEPA analysis to address any additional environmental impacts.

Table 2-1 RPMP Category A Projects

Project Number and Title	Estimated Funding Timeline	Facility Size	Approx. Area of Disturbance (acres)	Current Land Use
P76086, Lightning Protection	FY 2013	7,000 LF	3.4	Previously disturbed operational areas in the Tidal Area
P74877, Visitor Control Center (VCC) and Security Fencing	FY 2017	2,508 SF and 6 miles	58.7[1]	VCC - previously disturbed security areas in the Inland Area Security fencing – alongside existing roads in developed area of Tidal Area
P76091, Facilities Maintenance Building	FY 2013	14,500	0.3	Previously disturbed, but currently undeveloped areas of Inland Area
P76093, Gate 5 Truck Inspection Station	FY 2018	5,200	18.5	Previously disturbed, but currently undeveloped areas of eastern Tidal Area
P76087, Equipment Maintenance Buildings	FY 2019	43,000	5.0	Previously disturbed, but currently undeveloped areas of eastern Tidal Area
P76092, Security Headquarters Building	FY 2019	3,000	0.2	Previously disturbed, but currently undeveloped areas of Inland Area

Notes: 1. The area disturbed for the security fencing reflects a 50-foot buffer along the length of the fenceline to account for disturbance associated with staging, laydown, etc.; however, disturbance would primarily occur within the existing disturbed roadway surface.
LF = linear feet
SF = square feet

Military Ocean Terminal Concord

Category A Projects

- P76086, Lightning Protection
- P74877, Security Fencing

Category A Projects (continued)

- P74877, Visitor Control Center
- P76087, Equipment Maintenance Building
- P76091, Facilities Maintenance Building
- P76092, Security Headquarters Building
- P76093, Gate 5 Truck Inspection Station

Figure 2-1

LIMITS OF CONSTRUCTION FOR CATEGORY A PROJECTS

Environmental Assessment

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P76086, Lightning Protection

With this project, a Lightning Protection System (LPS) would be installed at Railroad Classification Yards 1 & 2, Building 177, and at the "R" Building Complex (see Figure 2-1) in accordance with the following requirements: DoD Standard 6055.9-STD, *DoD Ammunition and Explosives Safety Standards* (DoD 1999); AR 385-64, *U.S. Army Explosives Safety Program* (Army 2000); and Department of the Army Pamphlet 385–64, *Safety Ammunition and Explosives Safety Standards* (Army 1999). The required LPSs are not currently provided at these locations at MOTCO, where the bulk of munitions transfer activities occur. The proposed LPSs would consist of interconnected assemblies of various elements that divert lightning away from personnel, equipment, and structures in accordance with safety standards.

Approximately 280 steel poles ranging in heights of 60 to 80 feet would be set in concrete foundations as stand-alone features of the system. Components include overhead wiring that forms a catenary (curve from a suspended cord) between masts and serves the functions of both a strike termination device and a main conductor. Buried ground loop wires and rods would be connected at certain intervals and powered with underground electrical lines. For the purpose of this EA, an area within 10 feet of the proposed linear features of the LPSs was estimated as the area of potential disturbance. There is a high level of previous disturbance at the sites where the LPSs would be installed.

P74877, Visitor Control Center (VCC) and Security Fencing

The first component of this project would construct a new 2,500 square feet (SF) VCC/access control building to provide an adequate facility to conduct personnel identification and visitor control. In addition, this facility would be the receiving point for mail and deliveries. This new facility would be constructed at a previously disturbed site in the Inland Area (see Figure 2-1). The project may include some reconfiguration of the existing parking lot and access roads that support the current visitor control function, which is conducted in Building IA-2. The VCC would have an emergency backup generator and an associated approximately 500-gallon Aboveground Fuel Storage Tank.

The second component of this project would address some security shortfalls by installing 6 miles of existing chain link fenceline topped with barbed wire and approximately 4 swing gates to connect with existing fencelines. The proposed fenceline primarily runs adjacent to existing roadways in the Tidal Area where there has been varying levels of previous disturbance (see Figure 2-1). Two stretches of the existing fenceline to be upgraded are near the Wetlands Preserve Area: the fenceline south of the "R" Buildings and Froid Road and along Rhodes Road adjacent to Hastings Marsh and the fenceline south of White Road in the Pier 4 area adjacent to Pier Marsh and Middle Point Marsh. Within the developed shoulder of the existing roadway, a 12-foot wide compressed gravel patrol road would be established. Any tall or bushy vegetation that would impede visibility along the fenceline would be trimmed using hand trimmers during initial fence installation and on an as-needed basis thereafter. The dominant cattail vegetation in the affected areas would not require trimming. No vegetative trimming would occur in marsh or wetland areas.

P76091, Facilities Maintenance Building

This project includes the construction of an approximately 14,500-SF facilities maintenance building at a previously disturbed site in the Inland Area (see Figure 2-1). Current facilities maintenance activities take place in dispersed, aged, and dilapidated buildings, including some facilities within the explosive safety arc associated with ammunition activities in the Tidal Area. The new facility would provide space to conduct facilities maintenance and other public works functions associated with MOTCO plant/installation management functions. The new facilities maintenance building would include supporting equipment not presently available at MOTCO that would increase the efficiency and capability of public works functions. There would be 10,000 SF of paved surfaces to provide parking spaces for personnel housed in the building as well as MOTCO maintenance vehicles; dual-lane entrance and exit roads; sidewalks; curbing; exterior lighting; and landscaping.

P76093, Gate 5 Truck Inspection Station

This project includes the construction of a new Truck Inspection Facility in the previously disturbed but currently undeveloped Gate 5 area of the Tidal Area (see Figure 2-1). The new truck inspection station would meet current requirements, including the *Army Access Control Points Standard Design/Criteria* (Army 2009a) and act as the primary truck inspection for the installation. The infrastructure incorporated in this project includes approximately 6,700 SF of facilities to include a guard booth, gatehouse, over watch location, entrance canopy, and police substation with VCC. In addition, there would be approximately 405,000 SF of paved surfaces for stevedore/personally-owned vehicle (POV) parking, truck parking/queuing area, search areas, a safe haven (i.e., an approved place for parking unattended vehicles loaded with explosives), and dual-lane entrance and exit roads. Also included are sidewalks, security control devices and barriers, fencing, lighting, and landscaping. Additional utility service infrastructure would be installed to connect with existing systems. The facilities included in this project have been sited in a manner to allow for development of road infrastructure to support orderly circulation of trucks queuing, rejected from, and entering the installation, and to provide parking for stevedores. The sizing of the stevedore/POV parking allows for a reduced parking area at the space-constrained Main Gate VCC. Currently, truck inspection practices are not in compliance with DoD Standard 6055.9-STD, *DoD Ammunition and Explosives Safety Standards* and safe haven is provided on a case-by-case basis and is accommodated at various operational facilities according to the types and amounts of ammunition present.

P76087, Equipment Maintenance Buildings

This project would construct an approximately 12,000 SF equipment maintenance shop, 3,000 SF storage building, and 1,600 SF concrete hardstand area in the previously disturbed but currently undeveloped Gate 5 area of the Tidal Area (see Figure 2-1). Currently, equipment maintenance activities take place in aged and dilapidated buildings within the explosives safety arc. The lack of overhead lift and compressed air reduces efficiency, extending the time required to perform maintenance. Some of the equipment at MOTCO is oversized and maintenance on such equipment is performed on unimproved hardstand within the explosive safety arc. The proposed shop will include lift, pit, overhead

crane, an oil-water separator, and hazardous materials waste and storage. This project also would construct a fueling/defueling facility with pumps and two 1,000 gallon above ground fuel storage tanks. Paving and site improvements would include exterior site and building lighting, hardstand, paved parking for POVs, sidewalks, and landscaping. As with the Gate 5 Truck Inspection Station project, utility infrastructure would be extended to this area of the Tidal Area with connections to the new facilities.

P76092, Security Headquarters Building

This project would construct a new single approximately 3,000 SF consolidated security facility to include an Emergency Operations Center and co-located dispatch for fire response. The current security facility for MOTCO, Building 262, is in a relatively vulnerable location near the MOTCO Inland Area boundary. The proposed new facility would be located in an interior area of the Inland Area adjacent to the Fire Station facility built in 2009 (see Figure 2-1). The new facility would provide a secure, consolidated location for MOTCO security personnel to operate from and gather for briefings, planning, and execution of emergency response operations. Associated POV and security vehicle parking, exterior site and building lighting, sidewalks, and landscaping also would be provided. This facility would include a backup generator and an associated approximately 500-gallon Aboveground Storage Tank.

Construction Standards Applicable to all Projects

All projects addressed in this EA would be designed to achieve a Leadership in Energy and Environmental Design (LEED) Silver certification through the U.S. Green Building Council. This is consistent with Army policy and the requirements of EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance***,** which requires that all new construction comply with the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings (Guiding Principles). LEED provides a complete framework for assessing building performance and meeting sustainability goals. Based on well-founded scientific standards, LEED emphasizes state-of-the-art strategies for sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

Low Impact Development (LID), a stormwater management strategy designed to maintain site hydrology and mitigate the adverse impacts of stormwater runoff and nonpoint source pollution, would be adhered to in new construction in accordance with Section 438 of the Energy Independence and Security Act, and DoD and Army policy as outlined in Unified Facilities Criteria (UFC) 3-210-10, *Low Impact Development* (DoD 2010a).

In addition, all construction would be designed in compliance with the Americans with Disabilities Act, UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings* (DoD 2007), UFC 3-310-04, Seismic Design for Buildings (DoD 2010b), and applicable Federal and California Occupational Health and Safety requirements.

RPMP Category B Projects

A demolition program is set forth in the RPMP with the focus on demolition to support the short-range vision. The timeline for these demolition projects is 2013 and beyond. The facilities set forth in the

demolition program are listed in Table 2-2 and depicted in Figure 2-2. Some demolition would be programmed to occur with Category A projects. No in-water or shoreline demolition projects have currently been identified for funding, and specifics regarding the scope, methodology, and other details of proposed demolition are not known at this time. Supplemental site-specific analysis will be prepared for these projects, as required, in compliance with NEPA, ESA, CWA, and other applicable requirements. The following Standard Operating Procedures (SOPs) would be implemented in the demolition program.

- Barn owls (*Tyto alba)* and barn swallows (*Hirundo rustica*) are known to be nesting in and outside many of the older, World War II era buildings on the installation. Although not observed, bats may also be roosting in these buildings. Therefore, prior to demolition, structures would be inspected for wildlife use. Where birds are found present, demolition would be limited to the non-breeding season (October-March). No active bird nests would be disturbed or removed during the March to September timeframe, as breeding native birds are protected. Where non-pest mammals are present (e.g., bats), a professional, licensed animal control specialist would live-trap and remove such species. Should there be a need to remove or disturb bird nests during the breeding season, there would be coordination with the USFWS on MBTA compliance should active nests be found.

- Many of the buildings proposed for demolition were constructed or substantially renovated at a time when lead-based paint and asbestos containing material were commonly used. Prior to demolition of any structure, the potential presence of lead-based paint and/or asbestos containing material would be evaluated by a qualified inspector. Where lead-based paint and/or asbestos containing material are present, required abatement and waste management planning and control measures would be implemented in accordance with Federal and California law.

- In accordance with the ICRMP, NHPA Section 110 documentation for the identification and evaluation of historic properties in advance of demolition will occur (while all of the buildings at MOTCO have been previously recorded and determined not eligible for inclusion in the National Register, buildings and structures that have turned 50 years of age since their initial evaluation require analysis).

- All possible measures would be taken to avoid impact to wetlands; if impacts could not be avoided, the U.S. Army Corps of Engineers (USACE) San Francisco District and San Francisco Bay Conservation and Development Commission would be consulted on permitting and mitigation requirements in accordance with the CWA and Coastal Zone Management Act (CZMA).

- All waste material will be transported off-site to a designated construction or solid waste municipal landfill in accordance with Federal, California, and local laws and regulations.

Military Ocean Terminal Concord

Buildings Included in Category B

Figure 2-2

CATEGORY B - DEMOLITION PROJECTS

Environmental Assessment

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Table 2-2 RPMP Category B (Demolition) Projects

Facility No.	Description	Year Built	Size
92	Chlorinator Building	1958	124 SF
99	Access Control for B-210	1960	144 SF
100	Smoke Shack	1946	400 SF
102	Smoke Shack	1946	800 SF
105	Smoke Shack	1946	800 SF
109	Temp Ordnance Operations Building	1946	168 SF
110	Storage Shed	N/A	600 SF
111	Waterfront Ops Building	1946	460 SF
112	Storage Shed	N/A	820 SF
113	Storage Shed	N/A	120 SF
122	Salvage Yard Office (defunct)	1946	432 SF
123	Southwest Lighter Pier	1945	1 EA
125	Tug Pier (Berths 8 and 9)	1946	1 EA
144	Shed with Tank	N/A	96 SF
155	Snack Shop	N/A	360 SF
160	Steam Plant for Pier 2 (defunct)	1965	576 SF
172	Seal Island Lighter Berths	1965	1 EA
173	Seal Island Lighter Berths	1965	1 EA
176	Railroad Sand Shed at Class Yard #1	1967	400 SF
190	Inland Bathhouse	1971	668 SF
245	Transient Quarters	1947	8,300 SF
262	Inland Army Security	1959	3,150 SF
272	Picnic Shelters	N/A	4 EA
399	Pump House	1980	400 SF
407*	Steam Plant Building for Pier 4	1980	2,440 SF
410	Oil Aboveground Storage Tank (Closed)	1980	25,000 GA
411	Oil Aboveground Storage Tank (Closed)	1980	25,000 GA
600	Security Entry Gate	N/A	60 SF
92A	Pump House (Water)	N/A	144 KG
A-10*	Rigger Shop	1943	2,412 SF
A-11*	Storage (Formerly Hazardous Materials)	1942	441 SF
A-14*	Public Works Storage	1942	3,024 SF
A-16*	Boat Shop	1944	7,250 SF
A-17*	Boat Trailer Shed	1944	8,235 SF
A-19	Shed	N/A	336 SF
A-21	Pier 2 Offices/Battery Charging Area	1944	6,160 SF
A-29*	Lumber Salvage Shop (Closed)	1951	14,400 SF
A-3*	Director of Logistics Equipment Storage	1916	13,800 SF
A-31*	Ammunition Transfer Building	1955	2,392 SF
A-32*	Administrative/Security (Former)	1955	576 SF
E-100	Winch Trainer (Closed)	1944	1 EA
E-101*	Tidal Waterfront Equipment	1944	4,004 SF
E-103*	Workshop (former dry cleaning shop)	1945	336 SF
E-112	Winch Trainer Electrical Building	1953	580 SF
E-82*	Switchgear House (Storage)	1943	817 SF
E-83	Base Storage	N/A	N/A
IA-2*	Police Station	1951	2,800 SF
IA-3	Water Distribution Bldg (defunct)	1945	320 SF

Table 2-2 RPMP Category B (Demolition) Projects

Facility No.	Description	Year Built	Size
IA-5	Diesel Aboveground Storage Tank (closed)	2006	200 GA
IA-59	Tennis Court	1957	3 EA
Totals			**89,201 SF 12 EA 50,200 GA 144 KG**

Notes: In addition to exterior demolition, the interior contents of buildings including furnishings and built-in equipment would be removed and utility connections would be properly closed.

* Demolition project currently identified in programming for Category A projects
SF = Square Feet
GA = Gallons
EA = Each
N/A = Not Available
KG = Thousands of Gallons per Day

RPMP Category C Projects

There are 19 additional projects that are identified in the RPMP for implementation of the short-range vision for MOTCO. Funding for these Category C projects is increasingly in the out-years, with priority given to funding those projects that would correct health, safety, or life-threatening deficiencies. For the purposes of this EA, the estimated timeline for the implementation of these projects is beyond FY 2019. The projects are depicted in Figure 2-3 and listed in Table 2-3. Since many of these projects would not be expected to be implemented within 5 to 7 years of the signing of the FNSI for this EA, supplemental tiered NEPA analysis will be conducted for these projects when more detailed planning has been accomplished.

Figure 2-3

LIMITS OF CONSTRUCTION FOR CATEGORY C PROJECTS

Environmental Assessment

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Table 2-3 RPMP Category C Projects

Project Number and Title	Estimated Funding Timeline	Facility Size	Approx. Area of Disturbance (acres)	Current Land Use
RPMP-8, Main Gate Reconfiguration	FY 2019+	TBD	6.4	Previously disturbed security areas in the Inland Area
RPMP-9, Site Manager/ Stevedore Break Facility	FY 2019+	1,400 SF	0.2	Previously disturbed maintenance area in the Tidal Area
RPMP-10, Connect MOTCO Interchange Yard to BNSF Line	FY 2019+	100 LF	1.5	Previously disturbed, but currently undeveloped areas of Inland Area
RPMP-11, Expand Locomotive Shop	FY 2019+	2,000 SF	0.2	Previously disturbed, but currently undeveloped areas of eastern Tidal Area
RPMP-12, Logistics Warehouse/Storage Facility	FY 2019+	8,000 SF	0.8	Previously disturbed, but currently undeveloped areas of eastern Tidal Area
RPMP-13, Improve Main Supply Routes (MSRs)	FY 2019+	7.5 miles 6,500 SY	87.0	Previously disturbed, but currently undeveloped areas of Inland Area
RPMP-14, Connect Transfer Pads to MOTCO Interchange Yard	FY 2019+	1.5 miles	15.0	Previously disturbed, but currently undeveloped operational area in Tidal Area
RPMP-15, Acquire UPRR (East) for Connection to UPRR (West) from MOTCO Interchange Yard	FY 2019+	5 miles	25.8 (but no disturbance associated with acquisition)	Existing, but currently inactive railway within and adjacent to Tidal Area
RPMP-16, Improve Stevens Road Emergency Evacuation Route	FY 2019+	0.1 mile	10.7	Existing disturbed roadway in Tidal Area
RPMP-17, Enlarge and Curb Container Handler Operating Area of Existing Holding Pads 1-8	FY 2019+	2,400 SY	78.2	Previously disturbed operational area in Tidal Area
RPMP-18, Construct Murdoh Road Bridge	FY 2019+	1 mile	2.8	Previously disturbed area for existing Murdoh Road, but no bridge infrastructure
RPMP-19, Reconfigure Barricaded Rail Sidings Area and Expand MOTCO Interchange Yard	FY 2019+	92,500 SY	175.2	Previously disturbed operational areas of Tidal Area
RPMP-20, Establish Marina for Security Boats and Berthing for Fire Boat	FY 2019+	275 LF	0.7	Previously disturbed shoreline with some relatively undisturbed and undeveloped areas within Suisun Bay at the Tidal Area waterfront
RPMP-21, Expand Holding Pad Area to Add New Holding Pads	FY 2019+	2,300 SY	49.6	Previously disturbed undeveloped operational area in Tidal Area

Table 2-3 RPMP Category C Projects

Project Number and Title	Estimated Funding Timeline	Facility Size	Approx. Area of Disturbance (acres)	Current Land Use
RPMP-22, Restore Barge Pier to Original Design Capacity	FY 2019+	1 EA	1.0	Existing pier infrastructure extending in the Suisun Bay at Tidal Area waterfront
RPMP-23, Reconfigure "R" Buildings	FY 2019+	20,000 SY	14.8	Previously disturbed operational area of Tidal Area surrounded by wetlands
RPMP-24, Reconfigure "S" Buildings	FY 2019+	20,000 SF	18.2	Previously disturbed operational area of Tidal Area near the waterfront
RPMP-25, Improve Pier 4 Parking Lot	FY 2019+	9,700 SY	2.0	Previously disturbed operational area at Tidal Area waterfront

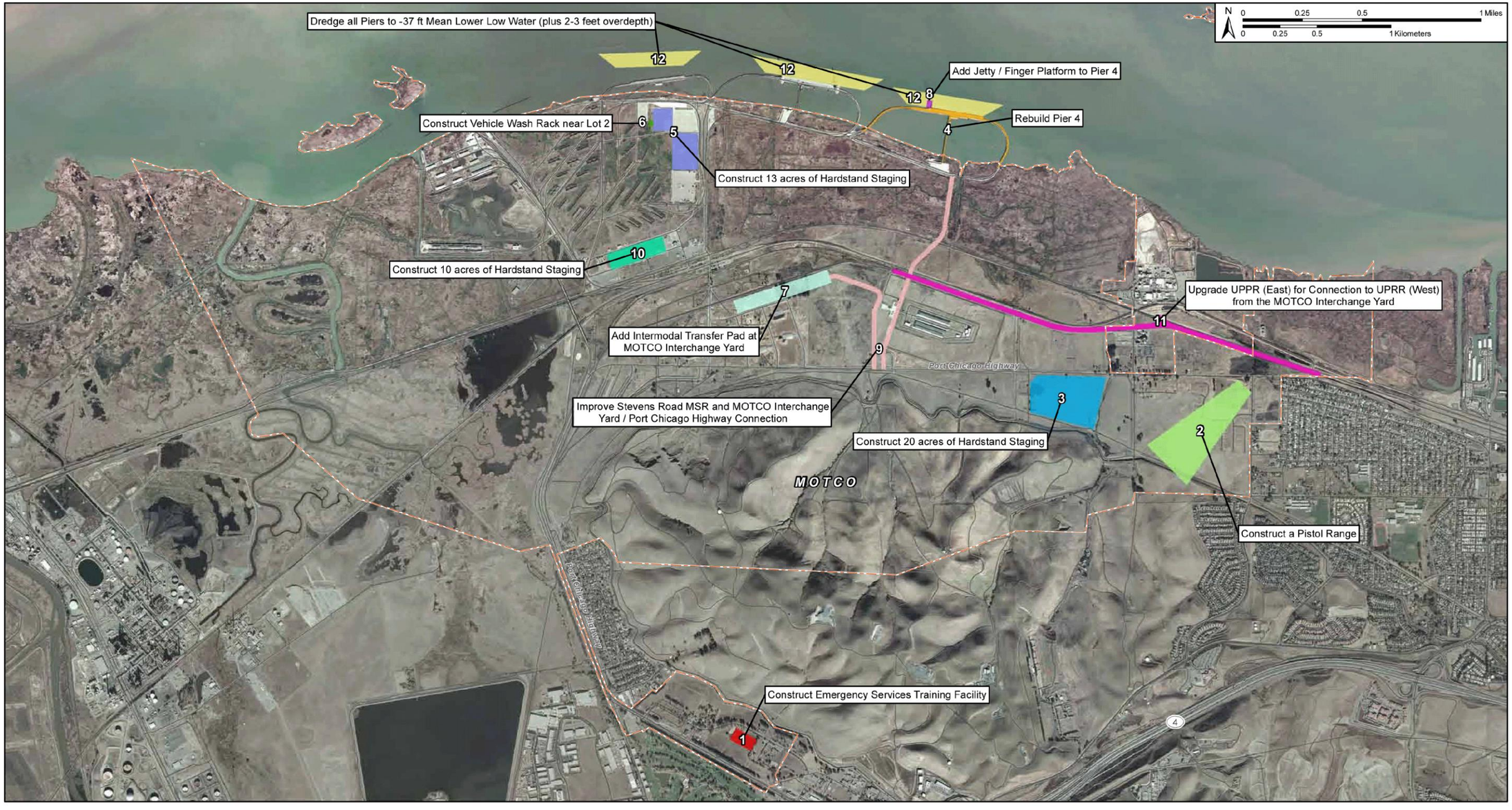
Notes: LF = linear feet
SF = square feet
SY = square yards
TBD = to be determined

RPMP Category D Projects

Projects for execution of the long-term vision for MOTCO are shown in Figure 2-4 and listed below:

- Construct Emergency Services Training Facility in Eastern Inland Area,
- Construct a Pistol Range in the Eastern Tidal Area,
- Construct 20 acres of Hardstand Staging in the Tidal Area,
- Rebuild Pier 4 in the Tidal Area,
- Construct 13 acres of Hardstand Staging in the Tidal Area,
- Construct Vehicle Wash Rack near Lot 2 in the Tidal Area,
- Add Intermodal Transfer Pad at MOTCO Interchange Yard in the Tidal Area,
- Add Jetty / Finger Platform to Pier 4 in the Tidal Area,
- Improve Stevens Road Main Supply Route (MSR) and MOTCO Interchange Yard / Port Chicago Highway Connection,
- Construct 10 acres of Hardstand Staging in the Tidal Area,
- Upgrade UPPR (East) for Connection to UPRR (West) from the MOTCO Interchange Yard in the Tidal Area, and
- Dredge all Piers to -37 ft Mean Lower Low Water (plus 2 to 3 feet overdepth).

Detailed information has not been developed for these projects and the timeline for their implementation is well beyond the "shelf life" of this NEPA analysis. They are included, however, because they are an important component of the potential future of MOTCO and are important in assessing context and intensity of other Category A and B actions evaluated in detail in this EA.



Military Ocean Terminal Concord

Long-Term Vision Projects

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Figure 2-4

CATEGORY D - LONG-TERM VISION PROJECTS

Environmental Assessment

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The potential long-term real property development is relevant in terms of timescales for natural and cultural resource management programs addressed in this EA. By introducing potential long-term development projects in this EA, stakeholders are made aware of these potential projects and some level of long-term analysis can be incorporated into the more detailed analysis of short-term projects. Supplemental NEPA documentation will be prepared for these projects as planning progresses.

2.1.2 INRMP Full Implementation Proposed Action

The Army has coordinated with CDFW, USFWS, and NMFS in the development of the INRMP for MOTCO and the Final INRMP reflects mutual agreement of these agencies concerning conservation, protection, and management of fish and wildlife resources. Ten categories of resource management were identified in the INRMP: special status species management, wetlands/shoreline management, invasive species control and management, cantonment area wildlife control, water quality and erosion management, migratory bird management, recreation management, wildland fire management, grazing outlease program, and environmental restoration. The management strategies/recommendations for each of these, which are addressed in Sections 4.1 through 4.10 of the MOTCO INRMP, are summarized in Table 2-4.

While implementation of the INRMP overall and the majority of the individual proposed INRMP management actions would result in beneficial environmental impacts, there is the potential for some adverse impacts to occur. Per 40 CFR 1508.8, NEPA analysis must evaluate impact of actions that may have both beneficial and detrimental effects, even if on balance the effect is expected to be beneficial. INRMP actions that may have both beneficial and detrimental effects to be evaluated in this EA are noted below:

- Livestock Grazing/Fire Management/Upland Invasive Species Control and Management: unintended negative impacts on non-targeted species; air emissions; potential for fire escapes; discing of fire breaks; use and maintenance of grazing infrastructure (i.e., access roads, wells, pumps, troughs, cattle exclusion fencing, etc.); soil disturbance/accelerated erosion; and toxicity impacts from improper use of herbicides. The area of potential effect for these is depicted in Figure 2-5.
- Cantonment Area Wildlife Control: impacts to non-targeted species, unavoidable impacts to migratory birds, and disturbance and displacement of species. The area of potential effect for cantonment area wildlife control is depicted in Figure 2-6.
- Perennial Pepperweed Control and Management: generally recognizing the potential for impacts to non-targeted species, water quality and/or toxicity impacts from improper use of herbicides, the Army intends to develop this program in collaboration with researchers and the resource agencies to identify effective control methods that would avoid or minimize potential negative effects on non-target species and habitats. The Army will be coordinating with the University of California, Davis, to prepare a pepperweed control pilot program at MOTCO. A separate Section 7 consultation with the resource agencies will be initiated when a specific plan has been developed. A specific course of action would be built based on best available science (e.g., Hutchinson et al. 2011) and would not be implemented until the resource agencies have

had opportunity to review and comment on proposed methods and any required consultations have occurred. The footprint for this action is based on the extent of the invasive species as depicted in Figure 2-7. The approach for the perennial pepperweed control program will be to test and analyze control methods in small scale test plots to monitor and minimize potential impacts to non-targeted species and other natural resources. These efforts will be coordinated with CDFW, USFWS, and NMFS at each step – development of planned approach, implementation, monitoring, and adaptive management. If, at any point in this process, it is determined by the Army and these agencies that the program may affect federally and/or state-listed species, the appropriate consultation(s) will be completed prior to a decision to implement the action.

Table 2-4
Proposed INRMP Management Strategies/Recommendations by Resource Management Category
(*see note at bottom of table regarding italicized text*)

Special Status Species Management

1. Update the 1998-1999 University of Arizona survey results by conducting focused surveys within the potential habitat for federally-listed salt marsh harvest mouse (*Reithrodontomys raviventris*), California Clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis coturniculus)*, and rare plants in 2010. At a minimum, the surveys should cover the area potentially impacted by RPMP Category A, B, and C projects.
2. Continue to comply with ESA requirements in implementation of remediation at environmental restoration sites.
3. Continue to develop and maintain a geographic information system (GIS) database for special status species occurrences, including the results of the focused surveys conducted in 2010 and data from prior surveys conducted at environmental restoration sites. Share data with regional stakeholders.
4. Assess the effects of MOTCO actions on ESA-listed species, and consult with USFWS on any proposed activity or action that may affect federally-listed species under USFWS jurisdiction.
5. Consult with NMFS on any proposed activity or action that may affect ESA-listed species under NMFS jurisdiction.
6. Assess the effects of MOTCO actions on marine mammals and request authorization from NMFS under the Marine Mammal Protection Act (MMPA) for any activity that may result in the incidental harassment of the Pacific harbor seals (*Phoca vitulina*) or California sea lions (*Zalophus californianus*).
7. In conjunction with NEPA review of MOTCO actions, consider effects on state-listed threatened and endangered species and on other state and federally recognized species of concern.
8. Review non-standard operational activities and proposed construction/maintenance projects for noise generation potential and associated sound impacts on known breeding areas for special status species.
9. Develop and implement standards and practices designed to avoid or minimize unintentional takings of special status species and their habitats, to the extent practicable and consistent with mission requirements.
10. Continue to conserve habitat and periodically monitor for the federally listed endangered salt marsh harvest mouse, California Clapper rail, and soft bird's-beak.
11. Limit access to tidal marsh habitats for purposes other than approved research, surveys, or environmental restoration activities, or unavoidable safety/security circumstances (e.g., pursuit of a fleeing suspect, fighting an active fire, etc.) to reduce the potential for human-induced impacts to sensitive species.
12. Continue to maintain the tidal marsh of the Wetland Preserve Area and minimize incidental disturbances to marsh habitats.
13. Discourage development and operational activities in areas known to contain habitat for sensitive species through the RPMP and ongoing planning processes.
14. When conducting pier repair/construction or major maintenance activities, coordinate with USFWS and/or NMFS to determine appropriate mitigation measures.
15. *Conduct focused herpetological surveys to evaluate the presence of California tiger salamander, California red-legged frog, and northwestern pond turtle in potentially suitable habitat within the MOTCO property.*
16. Given that golden eagles (*Aquila chrysaetos*) are known to occur in the area, conduct a survey for golden eagle using the USFWS survey protocol. Coordinate with USFWS regarding survey results and follow-on management actions, as appropriate.

Table 2-4
Proposed INRMP Management Strategies/Recommendations by Resource Management Category
(*see note at bottom of table regarding italicized text*)

Wetlands/Shoreline Management
1. Conduct studies, surveys, and other research, as determined by availability of funds and personnel, on the fish and wildlife resources of the Wetland Preserve Area (including the offshore islands), and wetland functions and values, and engage USFWS as a partner in such activities.
2. Give priority to protecting and managing the Wetland Preserve Area and prevent, as far as feasible, any military activity that could adversely affect or otherwise be detrimental to the wetland resources of the preserve.
3. Allow USFWS personnel access to the Wetland Preserve Area for management purposes and coordinate with USFWS for Army staff participation in such activities.
4. Review all proposed operational activities and construction projects for their potential to affect potentially jurisdictional wetlands in the Tidal Area.
5. Perform a wetland delineation prior to conducting activities in impact areas believed to be jurisdictional wetlands or wetlands requiring further investigation.
6. If wetland area is also potential habitat for a federally listed species, meet ESA requirements.
7. If a proposed military activity or demolition/construction project is unable to avoid jurisdiction wetland impacts then, pursuant to EO 11990 and CWA regulations, design the project to minimize and fully compensate for any wetland loss.
8. Initiate a meeting with the San Francisco Bay National Wildlife Complex office to discuss management measures that could be undertaken to better align the MOTCO Wetland Preserve Area with management goals and objectives of the bay refuges and the USFWS Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California, which is currently in draft form.
9. Protect water quality of all wetland areas. Maintain facilities management procedures to prevent nonpoint source pollution and stormwater runoff from negatively affecting wetland resources from upland sources.
10. Coordinate with USFWS, CDFW, and local colleges and universities whenever a need for research or restoration work within the Tidal Area is identified. The agencies and universities are a source of technical knowledge, and may also be able to provide manpower for implementation efforts.
11. *Systematically assess the current extent and limitations to tidal circulation. Enumerate functions and values associated with fully tidal, muted tidal, and non-tidal wetlands on MOTCO. Study measures such as removing fills and barriers to circulation, installing culverts, repairing or removing tide gates, and enlarging or excavating channels which could, if implemented, improve tidal flow in portions of the Tidal Area that are impaired, or "muted." Carefully consider how hydrological modifications would affect different groups of species and their habitats. Prioritize actions based on greatest good/least cost, taking into account regional conservation and restoration priorities. Consult with San Francisco Bay Joint Venture, USACE, and other regional restoration experts on best methods to employ.*
Invasive Species Control and Management
1. Develop an Integrated Pest Management Plan to control and ultimately eradicate invasive and noxious weed populations such as perennial pepperweed, yellow starthistle, Italian thistle, and artichoke thistle that incorporates DoD goals of chemical dependence reduction. For all weed species, test several techniques of suppression which would then be implemented, monitored, and adaptively managed.
2. Conduct annual surveys to monitor existing and identify new invasive plant and noxious weed populations.
3. *Additional suggested detailed management strategies/recommendations for invasive and noxious weed control measures are outlined the INRMP.*

Table 2-4
Proposed INRMP Management Strategies/Recommendations by Resource Management Category
(*see note at bottom of table regarding italicized text*)

Cantonment Area Wildlife Control

Mosquito Control

1. Maintain a cooperative relationship with the Contra Costa County mosquito abatement program to control mosquito larvae where and when necessary.
2. Encourage the use of native killifish as opposed to nonnative mosquitofish as a means of biological control of mosquito larvae.

Cantonment Area Wildlife Control

1. Develop a Cantonment Area Wildlife Control Program, focusing on humane, non-lethal methods to the extent practicable. Conduct a survey of buildings at the installation that are to be rehabilitated and re-used to determine if unwanted native wildlife species are gaining entrance through damaged walls, broken windows, or gaps in the roof eaves. Repair damage and/or install exclusion material (wood panels, new window panes, heavy-duty galvanized meshing, etc.) to prevent further access by wildlife. Wildlife to be targeted include: raccoon, opossum, skunk, rats, house mice, coyote, barn owl, rock dove, and bats. Where bird species are involved, work will be performed during the non-breeding season (generally, October through March) so as not to entrap native birds that may be nesting in buildings. If it is determined that removal of active bird nest(s) cannot be avoided, MOTCO will consult with USFWS prior to taking such action.
2. Prior to any structural demolition, inspect vacant buildings for wildlife use, especially in internal rafters and outside roof eaves. Hire a professional, licensed animal control specialist to live-trap and remove resident mammal species. Do not disturb or remove active bird nests during the March to September timeframe, as breeding native birds are protected. Barn owls and barn swallows are known to be nesting in and outside many of the older, World War II era buildings on the installation. Although not observed, bats may also be roosting in these buildings.
3. Keep all food waste and trash in sealed containers and collect regularly to minimize attracting wildlife, particularly small rodents, opossums, raccoons, and skunks.

California Ground Squirrel Management

1. Compare and evaluate techniques for controlling California ground squirrel numbers. Test several techniques that are not likely to affect non-target species, such as burrowing owls. Consider a combination of techniques that will be implemented, monitored, and adaptively managed for maximum success. Test trials of the most promising control techniques would be implemented. Thereafter, MOTCO would consult with USFWS, CDFW, and the Contra Costa County Integrated Pest Management Advisory Committee on field results; and implement an installation-wide ground squirrel control, monitoring, and adaptive management program. The INRMP details a number of techniques for study including lethal (careful poisoning) or non-lethal (infertility drugs) means, while also establishing a "clear buffer zone" to prevent rapid re-colonization. Ground squirrel control would be confined to the cantonment areas of the MOTCO Inland and Tidal Areas, and only as necessary where burrowing is causing erosion, such as on the berms that surround ammunition staging areas, near structural foundations, and other areas where real property is damaged or at risk of damage due to burrowing activity. No ground squirrel control will be conducted in the Los Medanos Hills grasslands upslope of the Contra Costa Canal, given the higher probability for impacts to non-target species in this area. Any poisoning would be conducted when circumstances showed that the risk of exposing non-target species (including raptors) is negligible, taking into account the specific location of the action and the substance's mechanism of action. The INRMP also details options for removal of iceplant from berms and replacement with a dense, low-growing, drought-tolerant herbaceous species which is native to the Bay Area and the possibility of raptor perches in inland areas away from salt marsh harvest mouse habitat.

Table 2-4
Proposed INRMP Management Strategies/Recommendations by Resource Management Category
(*see note at bottom of table regarding italicized text*)

Water Quality and Erosion Management
1. Develop a collaborative partnership with the Mount Diablo Creek Watershed Planning Group and the Contra Costa Resource Conservation District to work towards improving the natural flow and function of Mount Diablo Creek.
2. Ensure that all stormwater runoff is being directed to vegetative areas, thus allowing it to slowly dissipate into the soil for groundwater recharge.
3. Consider strategic placement of "rain gardens" in developed areas where storm run-off can be detained nearby and filtered into the planted landscape.
4. Develop a program to monitor and maintain stream channels and riparian areas in order to provide flood management, wildlife habitat, and bank stability.
5. Identify locations where flows tend to be sediment-laden and plant the water's edge with native, indigenous wetland plants to help slow and catch sediment.
6. Incorporate usage of permeable pavement materials in future paving projects.
7. Annually assess hill slopes for sloughing and cattle-induced erosion and implement appropriate best management practices (BMPs) to correct it, such as a sprayed on seed/mulch slurry, with straw, and perhaps overlaid with geo-textile fabric in steep areas. Consider temporary hay bales to impede surface flows in eroded gullies.
8. Continue to annually inspect culverts, pond dam outfalls, and other energy dissipaters to ensure proper functioning (recommended in the 1989 Mount Diablo/Seal Creek Flood Control and Stream Stabilization Plan).
9. Monitor for erosion in grazing outlease parcels and install cattle exclusion fencing if erosion along creek banks becomes problematic.
10. Routinely monitor the Mount Diablo/Seal Creek outfall, other stormwater conduits, overpasses, and railroad crossings to document if/when bank cutting, blockages, and flooding occurs. Clear debris if it is blocking culverts and underpasses, and clear living woody vegetation if it is impeding flows.
11. Ensure proper revegetation measures are implemented on construction projects to stabilize soils and prevent soil from migrating off site.
12. Implementation of the following actions to contribute to overall water conservation: proactively manage conservation and use of potable water supplies; conduct routine surveys of water distribution systems to ensure float valves on all livestock water troughs are operating properly to avoid unnecessary water loss; and continue routine maintenance of landscape irrigation systems to maintain efficiency and to conserve water.
Migratory Bird Management
1. Implement the measures of the Final Migratory Bird Management Plan for MOTCO which include the following:
2. Limit tree pruning and cutting to the non-breeding season (October-March), or have trees inspected for active bird nests by environmental staff prior to pruning/cutting. Should active nests be found, coordinate with USFWS on MBTA procedures and protocols for nest depredation and/or salvage.
3. Limit building demolition to the non-breeding season (October-March), or have buildings inspected for bird nests and mammal use (e.g., bat roosts) by environmental staff prior to demolition. As in (2) above, coordinate with USFWS on MBTA compliance should active nests be found.
4. Review all proposed training activities and construction projects for noise generation potential and subsequent sound impacts on breeding areas for birds and other wildlife species.
5. Ensure that all NEPA evaluations completed for MOTCO projects include an analysis of potential impacts to the migratory bird resource.
6. Develop and implement standards and practices designed to lessen the potential disturbance of migratory bird nests and eggs, to the extent practicable and consistent with mission requirements.
7. Engage with Partners in Flight as needed on migratory bird conservation issues.
8. Develop a bird species checklist for MOTCO. This is an ongoing DoD Partners in Flight effort to provide a list of birds known to occur on or in the vicinity of individual military installations in addition to seasonal occurrence records.

Table 2-4
Proposed INRMP Management Strategies/Recommendations by Resource Management Category
(*see note at bottom of table regarding italicized text*)

9. Develop a migratory bird "species of concern" list for MOTCO.
10. Implement relevant and practical Partners in Flight BMPs for protecting migratory birds.
11. Support implementation of the U.S. Shorebird Conservation Plan, which is an effort being undertaken by a partnership of federal and state government agencies, as well as nongovernmental and private organizations to ensure that stable and self-sustaining populations of all shorebird species are restored and protected.
12. *Manage and protect wetlands and aquatic habitats consistent with the North American Waterbird Conservation Plan, which is a partnership of federal and state government agencies, non-governmental organizations, and private interests focusing on the conservation of waterbirds, primarily marsh birds and inland, coastal, and pelagic colonial waterbirds.*
Recreation Management
1. Support local nature education programs, when feasible, and under conditions that installation security and the military mission is not compromised.
2. Continue to allow the Audubon Society controlled access to MOTCO once a year for Christmas Bird Counts.
3. Educate installation staff and military personnel about the locations of sensitive resources at MOTCO and acceptable outdoor activities.
4. Allow and promote access to the Port Chicago Naval Magazine National Memorial, which became a National Park Service site on 28 October 2009.
Wildland Fire Management
1. Continue grazing out-lease program and annually monitor fuel accumulation.
2. Continue implementation of controlled burns and grazing in order to manage fuel accumulation, but conduct these activities in a manner that mimics historic burn cycles and levels as much as feasible.
3. Coordinate any controlled burning activities with regulatory agencies for potential impacts to federally-listed species and for air quality concerns
4. Continue having fire breaks disked and all fire trails graded annually.
5. Remove man-made fuel piles, such as unwanted/unusable construction material and trash and debris.
6. Do not remove dead, dying, or decaying trees without first inspecting for active bird nests or bat roost sites. Destroying active bird nests is an MBTA violation, and most bat roosts are considered a sensitive resource.
Grazing Outlease Program
1. Work cooperatively with lessee(s) on implementing agreement conditions, and prevent over-grazing and erosion.
2. Ensure grazing lessee(s) comply with and implement noxious/invasive species control measures.
3. Lessee(s) will ensure that cattle exclusion fencing and watering pumps/troughs remain in good, working condition.
4. Continue annual monitoring of fuel accumulation, and continue requiring fire break discing and grading of all fire trails annually by grazing lessee(s).
Environmental Restoration
1. Ensure data collected in surveys required for implementation of environmental restoration activities is captured in the natural resource GIS database and considered in INRMP reviews and updates.
2. Where natural resource damage assessments prescribe natural resource restoration, coordinate resource restoration activities with INRMP goals and objectives.

Note: Italicized items are categorized Class II (Maintenance) or Class III (Enhancement Actions Beyond Compliance); plain font items are categorized as Class 0 (Recurring) or Class I (Current Compliance) per DoD Instruction 4715.3. See Table 2-7 for more information.

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Military Ocean Terminal Concord
Contra Costa Canal
Agricultural Outlease Area

Figure 2-5

LIVESTOCK GRAZING, FIRE MANAGEMENT, UPLAND INVASIVE SPECIES CONTROL AND MANAGEMENT AREA OF POTENTIAL EFFECT

Environmental Assessment

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Military Ocean Terminal Concord
Cantonment Area

Figure 2-6

CANTONMENT AREA WILDLIFE CONTROL AREA OF POTENTIAL EFFECT

Environmental Assessment

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Military Ocean Terminal Concord

Perennial Pepperweed

Figure 2-7

PERENNIAL PEPPERWEED CONTROL AREA OF POTENTIAL EFFECT

Environmental Assessment

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2.1.3 ICRMP Full Implementation Proposed Action

The ICRMP establishes priorities for the identification and evaluation of historic properties located at MOTCO, establishes priorities for cultural resource management, and includes a set of 11 SOPs to integrate cultural resource compliance requirements with ongoing mission activities. The following projects are planned for the timeline of the ICRMP (FY 2011 to FY 2016):

1. Evaluate National Register of Historic Places (National Register) eligibility of unevaluated linear resources over 50 years of age (to be implemented as funding becomes available),
2. Evaluate buildings and structures that have turned 50 years of age since their first evaluation under NHPA Section 110 (to be implemented as funding becomes available), and
3. Establish and maintain a GIS that includes cultural resources information, such as areas previously surveyed and the historic status code of resources (planned for FY 2011).

The 11 SOPs are described in summary form in Table 2-5.

Table 2-5 MOTCO ICRMP SOPs

SOP 1: Maintenance and Care for Historic Buildings and Structures	Outlines the steps to be taken regarding the maintenance and care of buildings and structures eligible or potentially eligible for listing in the National Register of Historic Places (National Register). Although currently there are no historic properties identified within MOTCO, this SOP exists to provide guidance in the event that a historic property is identified during NHPA Section 110 update investigations.
SOP 2: Disposal or Demolition of Excess Property	Outlines actions to be taken to determine if building, structure, or landscape element affected by the proposed demolition and/or replacement activity is a historic property or contributing resource of a historic district. As with SOP 1, although currently there are no historic properties identified within MOTCO, this SOP exists to provide guidance in the event that a historic property is identified during NHPA Section 110 update investigations.
SOP 3: Mission Training of Military and Tenant Personnel	Outlines actions to be taken when planning field training to determine archaeological sensitivity of training areas, need for archaeological clearances, and to ensure units conducting the training have been provided with proper information on protection of cultural resources including SOP 5 on inadvertent discovery.
SOP 4: Emergency Actions	Outlines actions to be taken in the event that an undertaking is necessary in response to a disaster or emergency situation in accordance with 36 CFR 800.12.
SOP 5: Inadvertent Discovery of Archaeological Deposits/Cultural Material	Outlines actions to be taken in the event that archaeological deposits are encountered during any construction or excavation activities to ensure compliance with NAGPRA, ARPA, and other related federal and state laws (i.e., the activity must stop and a qualified professional identifies the deposits and potential presence of American Indian human remains and identifies required compliance actions).
SOP 6: Curation of Archaeological Collections	Outlines the steps to be taken for curating any archaeological artifacts discovered on MOTCO property in accordance with the federal curation program set forth in 36 CFR Part 79 to ensure the preservation and accessibility of artifacts and records for use by members of the public interested in the archaeology of the region.
SOP 7: Public Works Activities	Outlines actions to ensure all reasonable efforts are made to avoid or minimize disturbance of significant cultural resources due to base repair and maintenance activities.
SOP 8: Identifying Historic Properties	Outlines the actions to be taken when identifying/collecting information about historic properties within individual or multiple Areas of Potential Effects.

Table 2-5 MOTCO ICRMP SOPs

SOP 9: Evaluating Historic Properties	Outlines the steps that are taken during the evaluation process for historic property (i.e., assessing significance and integrity of a historic property, resulting in a determination of the property's eligibility for listing in the National Register).
SOP 10: Section 106 Process	Outlines the NHPA Section 106 process as a general orientation to this process detailed in 36 CFR Part 800.
SOP 11: Tribal Consultation Process	Provides guidance and policy in the establishment and conduct of government-to-government relationships and consultation with federally recognized Native American tribes who may be culturally affiliated with the lands owned or managed by the Department of the Army at MOTCO.

2.2 ALTERNATIVES CONSIDERED

In accordance with CEQ regulations (40 CFR 1502.14) and 32 CFR Part 651, a reasonable range of alternatives for implementing the purpose and need for this EA are considered. As further detailed in Section 1.3, the purpose and need for this EA is to update key planning documents providing direction for future development and natural and cultural resource management at MOTCO to meet current Army standards and needs and to plan, schedule, and program for implementation of near-term projects. For this EA, the reasonable range of alternatives varies based on the stand-alone nature of the RPMP, INRMP, and ICRMP programs and the regulatory requirement associated with each program.

There are many ways in which alternatives for the RPMP implementation could be evaluated. For example, alternative site layout and configurations for each of the individual projects are possible. In such cases, CEQ guidance favors the evaluation of a reasonable number of examples, covering the full spectrum of alternatives. This NEPA guidance was combined with the development scenarios evaluated in the RPMP planning process to arrive at the RPMP alternatives considered in detail in this EA. Section 2.2.1 describes the RPMP Inland Area Focus Alternative in detail.

The reasonable range of INRMP and ICRMP implementation alternatives, however, is largely driven by the associated regulatory requirements. All INRMP and ICRMP alternatives must provide for no net loss in the capability of military installation lands to support the military mission and must address the following.

- Resource management programs based on the current conditions and knowledge of resources and potential impacts,
- Resource management programs that reflect current and future military mission requirements and the current and anticipated needs and activities of non-military agencies,
- Natural resources management based on ecosystem management and protection of biological diversity,
- A framework for adapting management to changing conditions, and
- A framework for promoting continued interagency management cooperation/collaboration and effective ongoing public involvement.

Given the range of natural resource management issues, the extent of sustainable multipurpose use of the resources, and safety and military security issues related to public access, it was determined that it would be appropriate to evaluate an INRMP alternative, in addition to the proposed action, the lower range in the level of resource management planned actions. This alternative addresses the proposed projects and activities that are required to meet legislative and regulatory compliance requirements, but does not include proposed projects and activities of the proposed action that enhance natural resources but are not specifically tied to a legislative or regulatory requirement. Section 2.2.2 describes the INRMP Partial Implementation Alternative in detail.

Given the status of historic properties at MOTCO and the lack of complexity in ICRMP implementation (e.g., there are not substantially different ways to avoid, minimize, or mitigate cultural resource impacts at MOTCO), it was determined that there is no reasonable alternative to the proposed ICRMP implementation. The ICRMP outlines the minimal compliance requirements for MOTCO.

2.2.1 RPMP Inland Area Focus Alternative

This alternative to the proposed action is a viable alternative that accomplishes all the Category A-D projects as outlined for the proposed action, but emphasizes the development of the 115-acre Inland Area over the Gate 5 area of the Tidal Area and includes a more aggressive demolition program. The scope of projects – including facility size and footprint – does not differ from the proposed action. This is because RPMP planning is based on real property requirements analysis, which generates the facility space requirement that should be satisfied in planning for the future at MOTCO. For the majority of the proposed projects in the operational areas, alternative siting of facilities/land development planning is not reasonable because of the site-specific operational needs. For example, the staging piers, rail, and MSR infrastructure need to remain co-located and provide for optimal efficiencies.

Under the RPMP Inland Area Focus Alternative, the following projects in RPMP Category A would be located in the Inland Area rather than the eastern Tidal Area:

- P76093, Truck Inspection Station; and
- P76087, Equipment Maintenance Buildings.

The RPMP Inland Area Focus Alternative would also demolish approximately 114,000 SF of additional facilities in addition to the approximately 90,000 SF of buildings and other structures to be demolished under the Proposed Action Category B (demolition) projects. Like the proposed action, the timeline for implementation of these demolition projects would be 2013 and beyond. The additional Category B projects under the Inland Area Focus Alternative are presented in Table 2-6. The same SOPs for demolition as outline for the Proposed Action would be adhered to under this alternative.

Table 2-6 RPMP Inland Area Focus Alternative Category B (Demolition) Projects

Facility No.	Description	Year Built	Size
A-13	Railroad Scale House	1943	288 SF
S-43	Storage	1942	10,200 SF
S-45	Storage	1942	10,200 SF
S-47	Storage	1942	10,200 SF
S-49	Storage	1942	10,200 SF
S-53	Storage	1942	10,200 SF
S-55	Storage	1942	10,200 SF
E-61	Warehouse	1942	21,630 SF
E-106	Administrative/Operations/Training	1944	10,184 SF
R-1	Segregation Building	1944	4,200 SF
R-2	Admin Building	1944	1,690 SF
R-3	Segregation Building	1944	9,276 SF
R-4	Segregation Building	1944	4,200 SF
A-20	Carpenter Shop	1945	1,600 SF
Totals			**114,268 SF**

Notes: Demolition includes removal of interior contents of buildings including furnishings, built-in equipment, and properly closing utility connections

SF = Square Feet

Category C projects as outlined for the Proposed Action would not differ under the RPMP Inland Area Focus Alternative. These projects are operationally oriented and, while there may be slight variation in siting, the requirements and the overall footprint of development would not be expected to change from that described for the Proposed Action.

Under the Inland Area Focus Alternative, approximately 40 acres of RPMP Category D cargo staging projects would be sited in the Inland Area rather than the Tidal Area. In addition, replacement storage for demolished buildings in the Tidal Area would be provided in an approximately 60,000 SF warehouse in the Inland Area. The area of potential effect under the RPMP Inland Area Focus Alternative is depicted in Figure 2-8.

2.2.2 INRMP Partial Implementation Alternative

The INRMP Partial Implementation Alternative is the same as the INRMP Proposed Action, except it implements only those projects categorized in DoD Instruction 4715.3 as Class 0 (Recurring) and Class I (Current Compliance) projects. It would not implement Class II (Maintenance) or Class III projects (Enhancement Actions Beyond Compliance). Table 2-7 presents the conservation compliance class, programming budgeting priority, and the NEPA alternative. There would be 32 fewer management strategies/recommendations under the INRMP Partial Implementation Alternative than under the INRMP Full Implementation Proposed Alternative. Table 2-8 presents recommendations for alternative management strategies under the INRMP Partial Implementation Alternative.

Figure 2-8

RPMP ALTERNATIVE PROJECTS

Environmental Assessment

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Table 2-7 INRMP Alternatives

Conservation Compliance Class	Description of Requirement	INRMP Programming/ Budgeting Priority	NEPA Alternative	
0	**Recurring.** Includes activities needed to cover the recurring administrative, personnel, and other costs associated with managing the installation conservation program that are necessary to meet applicable compliance requirements or that are in direct support of the military mission. Also included are environmental management activities associated with the operation of facilities and the installation.	High	INRMP Partial Implementation Alternative	Proposed Action Alternative
I	**Current Compliance.** Includes projects and activities that are needed because (1) an installation is currently out of compliance with current legal requirements or will be if projects or activities are not implemented in the current program year and/or (2) they are immediate and essential to maintain operational integrity or sustain readiness of the military mission.			
II	**Maintenance.** Includes those projects and activities needed that are not currently out of compliance, but shall be out of compliance if projects or activities are not implemented in time to meet an established deadline beyond the current program year.	Medium	Full Implementation	
III	**Enhancement Actions Beyond Compliance.** Includes those projects and activities that enhance conservation resources, the integrity of the installation mission, or are needed to address overall environmental goals and objectives, but are not specifically required by law.	Low		

Source: DoD Instruction 4715.3

Table 2-8
INRMP Partial Implementation Alternative Management Strategies/Recommendations by Resource Management Category

Special Status Species Management
1. Update the 1998-1999 University of Arizona survey results by conducting focused surveys within the potential habitat for federally-listed salt marsh harvest mouse, California Clapper rail, California black rail, and rare plants in 2010. At a minimum, the surveys should cover the area potentially impacted by RPMP Category A, B, and C projects.
2. Continue to comply with ESA requirements in implementation of remediation at environmental restoration sites.
3. Continue to develop and maintain a GIS database for special status species occurrences, including the results of the focused surveys conducted in 2010 and data from prior surveys conducted at environmental restoration sites. Share data with regional stakeholders.
4. Assess the effects of MOTCO actions on ESA-listed species, and consult with USFWS on any proposed activity or action that may affect federally-listed species under USFWS jurisdiction.
5. Consult with NMFS on any proposed activity or action that may affect ESA-listed species under NMFS jurisdiction.
6. Assess the effects of MOTCO actions on marine mammals and request authorization from NMFS under the MMPA for any activity that may result in the incidental harassment of the Pacific harbor seals or California sea lions.
7. In conjunction with NEPA review of MOTCO actions, consider effects on state-listed threatened and endangered species and on other state and federally recognized species of concern.
8. Review non-standard operational activities and proposed construction/maintenance projects for noise generation potential and associated sound impacts on known breeding areas for special status species.
9. Develop and implement standards and practices designed to avoid or minimize unintentional takings of special status species and their habitats, to the extent practicable and consistent with mission requirements.
10. Continue to conserve habitat and periodically monitor for the federally listed endangered salt marsh harvest mouse, California Clapper rail, and soft bird's-beak.
11. Limit access to tidal marsh habitats for purposes other than approved research, surveys, or environmental restoration activities, or unavoidable safety/security circumstances (e.g., pursuit of a fleeing suspect, fighting an active fire, etc.) to reduce the potential for human-induced impacts to sensitive species.
12. Continue to maintain the tidal marsh area as a Wetland Preserve Area and minimize incidental disturbances to marsh habitats.
13. Discourage development and operational activities in areas known to contain habitat for sensitive species through the RPMP and ongoing planning processes.
14. When conducting pier repair/construction or major maintenance activities, coordinate with USFWS and/or NMFS to determine appropriate mitigation measures.
15. Given that golden eagle are known to occur in the area, conduct a survey for golden eagle using the USFWS survey protocol. Coordinate with USFWS regarding survey results and follow-on management actions, as appropriate.

Table 2-8

INRMP Partial Implementation Alternative Management Strategies/Recommendations by Resource Management Category

Wetlands/Shoreline Management
1. Give priority to protecting and managing the Wetland Preserve Area and prevent, as far as feasible, any military activity that could adversely affect or otherwise be detrimental to the wetland resources of the preserve. 2. Allow USFWS access to the Wetland Preserve Area and coordinate with USFWS for Army staff participation in such activities. 3. Review all proposed operational activities and construction projects for their potential to affect potentially jurisdictional wetlands in the Tidal Area. 4. Perform wetland delineation prior to conducting activities in impact areas believed to be jurisdictional wetlands or wetlands requiring further investigation. 5. If wetland area is also potential habitat for a federally listed species, meet ESA requirements. 6. If a proposed military activity or demolition/construction project is unable to avoid jurisdiction wetland impacts then, pursuant to EO 11990 and CWA regulations, design the project to minimize and fully compensate for any wetland loss.
Invasive Species Control and Management
1. Develop an Integrated Pest Management Plan to control and ultimately eradicate invasive and noxious weed populations such as perennial pepperweed, yellow starthistle, Italian thistle, and artichoke thistle that incorporates DoD goals of chemical dependence reduction. For all weed species, test several techniques of suppression which would then be implemented, monitored, and adaptively managed. 2. Conduct annual surveys to monitor existing and identify new invasive plant and noxious weed populations.
Cantonment Area Wildlife Control
Mosquito Control 1. Maintain a cooperative relationship with the Contra Costa County mosquito abatement program to control mosquito larvae where and when necessary. 2. Encourage the use of native killifish as opposed to nonnative mosquitofish as a means of biological control of mosquito larvae. **Cantonment Area Wildlife Control** 1. Develop a Cantonment Area Wildlife Control Program, focusing on humane, non-lethal methods to the extent practicable. Conduct a survey of buildings at the installation that are to be rehabilitated and re-used to determine if unwanted native wildlife species are gaining entrance through damaged walls, broken windows, or gaps in the roof eaves. Repair damage and/or install exclusion material (wood panels, new window panes, heavy-duty galvanized meshing, etc.) to prevent further access by wildlife. Wildlife to be targeted include: raccoon, opossum, skunk, rats, house mice, coyote, barn owl, rock dove, and bats. Where bird species are involved, work will be performed during the non-breeding season (generally, October through March) so as not to entrap native birds that may be nesting in buildings. If it is determined that removal of active bird nest(s) cannot be avoided, MOTCO will consult with USFWS prior to taking such action. 2. Prior to any structural demolition, inspect vacant buildings for wildlife use, especially in internal rafters and outside roof eaves. Hire a professional, licensed animal control specialist to live-trap and remove resident mammal species. Do not disturb or remove active bird nests during the March to September timeframe, as breeding native birds are protected. Barn owls and barn swallows are known to be nesting in and outside many of the older, World War II era buildings on the installation. Although not observed, bats may also be roosting in these buildings. 3. Keep all food waste and trash in sealed containers and collect regularly to minimize attracting wildlife, particularly small rodents, opossums, raccoons, and skunks.

Table 2-8
INRMP Partial Implementation Alternative Management Strategies/Recommendations by Resource Management Category

California Ground Squirrel Management
1. Compare and evaluate techniques for controlling California ground squirrel numbers. Test several techniques that are not likely to affect non-target species, such as burrowing owls. Consider a combination of techniques that will be implemented, monitored, and adaptively managed for maximum success. Test trials of the most promising control techniques would be implemented. Thereafter, MOTCO would consult with USFWS, CDFW, and the Contra Costa County Integrated Pest Management Advisory Committee on field results; and implement an installation-wide ground squirrel control, monitoring, and adaptive management program. The INRMP details a number of techniques for study including lethal (careful poisoning) or non-lethal (infertility drugs) means, while also establishing a "clear buffer zone" to prevent rapid re-colonization. Ground squirrel control would be confined to the cantonment areas of the MOTCO Inland and Tidal Areas, and only as necessary where burrowing is causing erosion, such as on the berms that surround ammunition staging areas, near structural foundations, and other areas where real property is damaged or at risk of damage due to burrowing activity. No ground squirrel control will be conducted in the Los Medanos Hills grasslands upslope of the Contra Costa Canal, given the higher probability for impacts to non-target species in this area. Any poisoning would be conducted when circumstances showed that the risk of exposing non-target species (including raptors) is negligible, taking into account the specific location of the action and the substance's mechanism of action. Other integrated management options noted in the INRMP include removal of iceplant from berms and replacement with a dense, low-growing, drought-tolerant herbaceous species which is native to the Bay Area and the possibility of raptor perches in inland areas away from salt marsh harvest mouse habitat.
Water Quality and Erosion Management
1. Ensure proper revegetation measures are implemented on construction projects to stabilize soils and prevent soil from migrating off site.
Migratory Bird Management
1. Implement the measures of the Draft Final Migratory Bird Management Plan for MOTCO which include the following: 2. Limit tree pruning and cutting to the non-breeding season (October-March), or have trees inspected for active bird nests by environmental staff prior to pruning/cutting. Should active nests be found, coordinate with USFWS on MBTA procedures and protocols for nest depredation and/or salvage. 3. Limit building demolition to the non-breeding season (October-March), or have buildings inspected for bird nests and mammal use (e.g., bat roosts) by environmental staff prior to demolition. As in (2) above, coordinate with USFWS on MBTA compliance should active nests be found. 4. Review all proposed training activities and construction projects for noise generation potential and subsequent sound impacts on breeding areas for birds and other wildlife species. 5. Ensure that all NEPA evaluations completed for MOTCO projects include an analysis of potential impacts to the migratory bird resource. 6. Develop and implement standards and practices designed to lessen the potential disturbance of migratory bird nests and eggs, to the extent practicable and consistent with mission requirements.
Recreation Management
No management strategies/recommendations.
Wildland Fire Management
1. Continue grazing out-lease program and annually monitor fuel accumulation 2. Coordinate any controlled burning activities with regulatory agencies for potential impacts to federally-listed species and for air quality concerns 3. Continue having fire breaks disked and all fire trails graded annually. 4. Do not remove dead, dying, or decaying trees without first inspecting for active bird nests or bat roost sites. Destroying active bird nests is an MBTA violation, and most bat roosts are considered a sensitive resource.

Table 2-8

INRMP Partial Implementation Alternative Management Strategies/Recommendations by Resource Management Category

Grazing Outlease Program
1. Work cooperatively with lessee(s) on implementing agreement conditions, and prevent over-grazing and erosion.
2. Ensure grazing lessee(s) comply with and implement noxious/invasive species control measures.
3. Lessee(s) will ensure that cattle exclusion fencing and watering pumps/troughs remain in good, working condition.
4. Continue annual monitoring of fuel accumulation, and continue requiring fire break discing and grading of all fire trails annually by grazing lessee(s).

2.3 NO ACTION ALTERNATIVE

CEQ regulations require analysis of a No Action Alternative in EAs to provide a benchmark, enabling decision makers to compare the magnitude of the potential environmental effects caused by the proposed action and other alternative actions. The No Action Alternative is not required to be reasonable, nor does it need to meet the purpose and need described in Section 1.3. An analysis of the No Action Alternative is required even if the agency is under a court order or legislative mandate to act.

Under the No Action Alternative for this EA, implementation of the RPMP, INRMP, and ICRMP for MOTCO would not occur. Current real property, natural resource, and cultural resource practices would continue without implementation of substantial new/updated practices. All of these previous plans were prepared for and approved by the Navy for the 12,920-acre NWSSBD Concord property. The master plan, completed in 1989 (Navy 1989), does not address the core planning issues addressed by the current RPMP nor include the projects the Army needs to fund and implement at MOTCO. The INRMP, completed in 2002 (Navy 2002a), addresses management actions for 2002 through 2006. In the interim, important changes in species and habitat have occurred, pertinent research has been completed, and Bay Area natural resource management has progressed. The ICRMP, also completed in 2002 (Navy 2002b), addresses management actions for 2002 through 2007. In the interim, additional structures have aged to more than 50 years and require review for identification as potential historic properties under NHPA Section 110. Changes in regulatory and management policies have occurred affecting all three planning documents.

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER EVALUATION

In accordance with 32 CFR Part 651 and 40 CFR 1502.14(a), the following provides a discussion of alternatives that were initially considered in the planning process, but were not carried forward for detailed evaluation. There were no alternatives to the INRMP and ICRMP considered but not carried forward for detailed evaluation; however, the following development scenarios were discussed in the RPMP planning process and rejected in the screening analysis.

- **Renovation and Repair Focus**: A development alternative that focused on renovation and/or repair of existing structures rather than demolition and construction of new facilities is not a viable alternative because many existing structures lack integrity to support an addition and/or are located within the explosive arcs, and are therefore limited in the appropriate reassignment in use (inhabited buildings within the arc are restricted to only those with an operational need to be located within the arc, for the shortest duration practicable).
- **Waterfront Infill**: A development alternative to fill wetland areas to provide greater concentration of hardstand at the MOTCO waterfront was considered, but rejected due to Wetland Preserve Area commitments

2.5 COMPARISON OF THE ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION AND ALTERNATIVES

Table 2-9 provides a comparative analysis of the potential environmental consequences of implementing the proposed action and alternatives per 40 CFR 1502.14 and 32 CFR Part 651. This comparative tool sharply defines the issues and provides a clear basis for choice among the alternatives. Consistent with the Army NEPA Guidance Manual (Army 2007a), the comparison is provided in terms of Valued Environmental Components (VECs) as categorization of the resources, ecosystems, and human communities of concern. The analysis is focused on the VECs that are important to the MOTCO area and applicable for MOTCO. VEC analysis applies concepts of cumulative effects analysis to facilitate improved analysis of potential direct and indirect impacts. In terms of the RPMP, the focus is on the Category A and Category B projects as additional NEPA analysis will be needed for Category C and Category D projects once detailed project planning has progressed to the point where it is prudent to analyze potential impacts in detail.

Table 2-9
Comparison of the Environmental Consequences of the Proposed Action and Alternatives

	RPMP Implementation		INRMP Implementation		ICRMP Implementation	
Resource Area	**Proposed Action Alternative**	**Inland Area Focus Alternative**	**Proposed Full Implementation Alternative**	**Partial Implementation Alternative**	**Proposed Action**	**No Action Alternative**
Earth Resources	• Localized increased sedimentation at project sites during construction minimized by adherence to NPDES permit requirements. • Total ground disturbance estimated at 761 acres; of this, 86.2 acres is the Category A projects and 2.9 acres is in the Category B projects • Split-estate issues at P76093, Gate 5 Truck Inspection Station, require resolution prior to project implementation	Same as the RPMP Proposed Action Alternative except: • Total ground disturbance estimated at 686 acres; of this, 73 acres is the Category A projects and 2.9 acres is in the Category B projects • No need for resolution of mineral estate issue as site for P76093 is located in the Inland Area where there is no split estate	• Beneficial impacts related specifically to the water quality management and ground squirrel control measures • Continuation of grazing and wildlife fire management activities would potentially result in soil disturbance, but management through SOPs and BMPs would lessen these impacts • Short-term, minor localized erosion impacts potentially associated with pepperweed control to be monitored and addressed	Same as the INRMP Proposed Full Implementation Alternative except: • Fewer water quality and erosion management measures would provide for less benefits to soil resources	No impact to earth resources	• Continued implementation of existing management programs would continue to protect earth resources • Short-term potential construction-related impacts to soil resources and need for resolution of mineral resource split estate would not occur • Long-term overall potential benefits to soil resources from implementation of the IRNMP would not be realized

Table 2-9
Comparison of the Environmental Consequences of the Proposed Action and Alternatives

	RPMP Implementation		INRMP Implementation		ICRMP Implementation	
Resource Area	**Proposed Action Alternative**	**Inland Area Focus Alternative**	**Proposed Full Implementation Alternative**	**Partial Implementation Alternative**	**Proposed Action**	**No Action Alternative**
Water Resources	•Obtaining and adhering to provisions of NPDES permit requirements would minimize potential impacts to surface water resources •Obtaining and adhering to provisions of the CWA Section 404 and 401 permitting for the Category B demolition of lighter berths and various Category C and D projects would minimize potential impacts to wetland and surface water resources •Two Category A construction projects in 100-year floodplain cannot be sited elsewhere due to logistical and operational requirements; demolition of 16 Category B project aging structures would provide a benefit in offsetting the development footprint in the 100-year floodplain	Same as the RPMP Proposed Action Alternative except: • Stormwater management efforts would differ commensurate with greater concentration of impervious surfaces in the Inland Area • There would be greater development of the portion of the Inland Area impacted by the 100-year floodplain; implementation would be inconsistent with EO 11988	• Long-term beneficial impacts as a result of implementation of Water Quality and Erosion Management and Wetlands/Shoreline Management measures and minor, indirect benefits as a result of grounds maintenance and integrated pest management	• Provides less benefits as compared to the INRMP Proposed Action as fewer Wetlands/Shoreline Management measures and only one Water Quality and Erosion Management measure would be pursued	No impact to water resources	• Continued implementation of existing management programs would continue to protect water resources • Short-term potential construction-related impacts to water resources would not occur • Long-term overall potential benefits to water resources from implementation of the IRNMP would not be realized

Table 2-9
Comparison of the Environmental Consequences of the Proposed Action and Alternatives

	RPMP Implementation		INRMP Implementation		ICRMP Implementation	
Resource Area	**Proposed Action Alternative**	**Inland Area Focus Alternative**	**Proposed Full Implementation Alternative**	**Partial Implementation Alternative**	**Proposed Action**	**No Action Alternative**
Air Resources	• Short-term emissions associated with construction and demolition activities would be orders of magnitude below the CAA conformity *de minimis* thresholds for the pollutants of concern, indicating little impact on the local or regional air quality for any given year • Adherence to BAAQMD recommended measures for construction/demolition projects would ensure minimal impacts to air quality	Same as the RPMP Proposed Action Alternative except: • Slightly higher emissions associated with approximately 114,000 SF additional demolition and 60,000 SF additional construction	• Ongoing prescribed burning program would continue to result in emissions of CO and PM_{10} and $PM_{2.5}$ managed in accordance with BAAMD regulations	Same as the INRMP Proposed Action Alternative	No impact to air resources	• Construction and demolition related emissions would not occur • Ongoing prescribed burning program would continue to result in emissions of CO and PM_{10} and $PM_{2.5}$ managed in accordance with BAAMD regulations
Biological Resources	• Two Category A projects and seven Category B demolition projects located adjacent to sensitive marshland habitats plus four Category B in-water demolition projects– protective measures put in place to minimize impacts to threatened and endangered species • Implementation of Category A and B projects	Similar as the RPMP Proposed Action Alternative	• Overall beneficial impacts to native fish and wildlife species, as well as special status species • Livestock Grazing, Fire Management, and Upland Invasive Species Control and Management could result in the taking of non-targeted species, potential for fire escapes and resulting	Same as the INRMP Proposed Action Alternative except: • Class II (Maintenance) and Class III (Enhancement Actions beyond Compliance) projects would not be implemented; as a result, there would be fewer beneficial impacts to wildlife	No impact to biological resources	• Existing natural resources management programs would continue at their current pace and level • Short-term construction and demolition related impacts on habitats and special status species would not occur

Table 2-9
Comparison of the Environmental Consequences of the Proposed Action and Alternatives

	RPMP Implementation		INRMP Implementation		ICRMP Implementation	
Resource Area	**Proposed Action Alternative**	**Inland Area Focus Alternative**	**Proposed Full Implementation Alternative**	**Partial Implementation Alternative**	**Proposed Action**	**No Action Alternative**
	not likely to affect the federally listed California least tern, California tiger salamander, or California red legged frog, or marine mammals • May affect, but not likely adversely affect federally listed soft bird's beak, green sturgeon, Central Valley steelhead, Central California Coast steelhead, Sacramento Chinook salmon (Winter run), Central Valley Chinook salmon (Spring run), California Clapper rail, , and salt marsh harvest mouse • Potential impacts to state-listed California black rail minimized with management measures • No adverse impact on Essential Fish Habitat • No injury or mortality of any marine mammal species and no adverse effects on the annual rates of recruitment or survival of any marine mammal species and stocks • Impacts to other wildlife		impacts on quality habitat, some soil disturbance and possibly accelerated erosion, and toxicity impacts from improper use of herbicides; however, the potential long-term benefits outweigh the potential adverse impacts are in line with Bay Area habitat goals and objectives • The Cantonment Area Wildlife Control Program could result in the taking of non-targeted species, possibly unintended take of migratory birds, and disturbance of desirable species; however, the potential long-term benefits outweigh the potential adverse impacts are in line with Bay Area habitat goals and objectives	habitats and special status species		• Potential improvements to habitat quality and species diversity and abundance would not occur

Table 2-9
Comparison of the Environmental Consequences of the Proposed Action and Alternatives

	RPMP Implementation		INRMP Implementation		ICRMP Implementation	
Resource Area	**Proposed Action Alternative**	**Inland Area Focus Alternative**	**Proposed Full Implementation Alternative**	**Partial Implementation Alternative**	**Proposed Action**	**No Action Alternative**
	would be localized and short-term, protective measures for migratory birds provided • Follow-on analysis including ESA consultation needed for RPMP Category C and D projects					
Land Use and Coastal Zone Management	• Beneficial impacts on land use • Implementation of this alternative would be consistent to the maximum extent practicable with the (BCDC) coastal management program for the San Francisco Bay segment of the California coastal zone	Same as the RPMP Proposed Action Alternative	• No impacts to land use • Beneficial impacts to the coastal zone particularly with regard to management of wetlands, the Wetland Preserve, and tidal vegetation and habitats	Same as the INRMP Proposed Action Alternative	No impact to land use	• Baseline conditions would persist and no improvements to land use functionality and efficiencies would occur

Table 2-9
Comparison of the Environmental Consequences of the Proposed Action and Alternatives

	RPMP Implementation		INRMP Implementation		ICRMP Implementation	
Resource Area	**Proposed Action Alternative**	**Inland Area Focus Alternative**	**Proposed Full Implementation Alternative**	**Partial Implementation Alternative**	**Proposed Action**	**No Action Alternative**
Transportation and Utilities Infrastructure	• Two Category A projects would result in long-term beneficial impacts to traffic flow and transportation conditions in the Main Gate area of MOTCO • Changes to current off-installation traffic patterns in the Gate 5 area would be compatible with roadway and traffic conditions along Port Chicago Highway east of the Tidal Area	Similar to the RPMP Proposed Action Alternative except: • Configuration of Truck Inspection Station would not result in the same level of beneficial impacts • Changes to traffic patterns in the Gate 5 area would not occur	No impact to transportation or utility infrastructure	No impact to transportation or utility infrastructure	No impact to transportation or utility infrastructure	• Ongoing traffic safety issues and inefficiencies in MOTCO rail operations due to current deficiencies would continue • Traffic conditions at the Main Gate would continue, resulting in occasional backups onto local roadways • Compliance with current requirements and guidance regarding truck inspection would not be met
Visual Resources	• No adverse impacts to Port Chicago National Memorial viewsheds, Suisun Bay, or Los Medanos Hills • Main Gate improvements would provide a beneficial impact to MOTCO personnel and visitors	Same as the RPMP Proposed Action Alternative	• Beneficial impacts resulting from improved aesthetics	Same as the INRMP Proposed Action Alternative	No impact to viewsheds	Baseline conditions would persist and no beneficial impacts would occur

Table 2-9
Comparison of the Environmental Consequences of the Proposed Action and Alternatives

	RPMP Implementation		INRMP Implementation		ICRMP Implementation	
Resource Area	**Proposed Action Alternative**	**Inland Area Focus Alternative**	**Proposed Full Implementation Alternative**	**Partial Implementation Alternative**	**Proposed Action**	**No Action Alternative**
Noise	• Short-term increase in noise exposure from construction and demolition activity; however, construction would occur during normal business hours and is short in duration	Same as the RPMP Proposed Action Alternative	No noise-related impacts are anticipated	No noise-related impacts are anticipated	No noise-related impacts are anticipated	Baseline noise conditions would remain
Socioeconomics and Environmental Justice	• Short-term beneficial impacts • No disproportionate adverse impacts to low-income or minority populations	Similar as the RPMP Proposed Action Alternative	• Potential for slight increase in funding for natural resources management programs • Controlled burns would continue to follow CARB Smoke Management Guidelines	Same as the INRMP Proposed Action Alternative	• Potential for slight increase in funding for cultural resources management programs • No impact to low-income or minority populations	Funding levels would continue at comparable levels
Hazardous Materials and Waste	• Procedures for management of hazardous materials and waste would continue • Surveys would be conducted prior to demolition to identify and remove all asbestos-containing materials and lead-based paint in accordance with Federal and California law • Proposed construction and demolition activities would be consistent with applicable land use	Similar as the RPMP Proposed Action Alternative	No impacts to hazardous materials or waste are anticipated	No impacts to hazardous materials or waste are anticipated	No impacts to hazardous materials or waste are anticipated	Operations at MOTCO would continue at current levels and in accordance with all existing regulations and plans

Table 2-9
Comparison of the Environmental Consequences of the Proposed Action and Alternatives

	RPMP Implementation		INRMP Implementation		ICRMP Implementation	
Resource Area	**Proposed Action Alternative**	**Inland Area Focus Alternative**	**Proposed Full Implementation Alternative**	**Partial Implementation Alternative**	**Proposed Action**	**No Action Alternative**
	restrictions, and contractor prepared plans					
Health and Safety	• New construction would conform to the design and construction and personnel assignment requirements associated with building within ESQD arcs and appropriate anti-terrorism force protection • No impacts to populations located off the installation	Similar as the RPMP Proposed Action Alternative, but no permanent solution for locating certain personnel outside of the ESQD arcs.	• Controlled burns would continue to be conducted in accordance with appropriate state and local regulations and MOTCO procedures; in addition, maintenance and enhancement actions would be implemented • Mosquito control would continue as conducted currently	Same as the INRMP Proposed Action Alternative except • Maintenance and enhancement actions beyond compliance would not occur, which would not result in the same beneficial impacts as with the Proposed Full Implementation Alternative	No impacts to health and safety are anticipated	Operations at MOTCO would continue at current levels and in accordance with all existing regulations and plans
Cultural Resources	No impact to cultural resources are expected	No impact to cultural resources are expected	No impact to cultural resources are expected	No impact to cultural resources are expected	• Priorities would be established for the identification, evaluation, and maintenance of cultural resources • Eleven SOPs would be integrated to ensure compliance	Management of cultural resources would continue on a case-by-case basis

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

NEPA and associated regulations promulgated in 40 CFR Parts 1500-1508 and 32 CFR Part 651 require an EA to discuss impacts in proportion to their significance and present only enough discussion of other than significant issues to show why more study is not warranted. In the affected environment discussions in this chapter, the general conditions and nature of the environment potentially affected by the proposed action and alternatives is discussed. These relevant general baseline conditions establish the environmental setting against which the evaluation of potential environmental effects are presented in the environmental consequences discussions.

Potential direct and indirect, and short-term and long-term impacts are identified, where possible. Potential impacts are quantified wherever possible and discussed at a level of detail necessary to determine the significance of the impacts. Where appropriate, the implementation of Best Management Practices (BMPs) and/or standard operating procedures (SOPs) that act to minimize potential environmental impacts and any additional practical mitigation to minimize impacts are identified. Cumulative effects of the proposed action and alternatives when considering past, present, and foreseeable future actions are presented in Chapter 4.

3.1 Earth Resources

3.1.1 Existing Conditions

Soils and Topography

The U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) has mapped 20 soil types at MOTCO. The Tidal Area is largely composed of silty clay and saline muck soils that are very deep and poorly drained. Because these soils have poor drainage, they are subject to freshwater flooding and ponding following heavy rainfall and surface runoff from the adjacent inlands. The soils located on hill slopes range from somewhat excessively-drained to moderately well-drained.

Erosion factor K indicates soil susceptibility to erosion. At MOTCO, K factor values range from 0.02 to 0.69. Other factors being equal, the higher the K factor, the more susceptible the soil is to erosion by water. For the purposes of this analysis, the soils were characterized as follows:

- Low erosion potential for soils – K factors less than 0.2,
- Moderate erosion potential for soils – K factors of 0.2 to 0.4, and
- High erosion potential for soils – K factors greater than 0.4.

Figures 3-1 and 3-2 depict the distribution of soils in these erosion potential categories relative to the area of potential development being analyzed under the proposed action alternatives evaluated in this EA.

Soils in much of the developed areas of MOTCO are categorized by NRCS as Urban Land, which indicates that they are heavily developed (i.e., covered by at least 75 percent asphalt or buildings), and natural

soil series do not occur in these areas (i.e., that portion that is not covered by asphalt or buildings is normally composed of fill material).

Seismic Conditions

As with the rest of the San Francisco Bay area, MOTCO lies within one of the most seismically active regions of the United States. There are four Seismic Zones and MOTCO is in Zone 4, which has the highest potential for earthquake damage. Based on estimates from geologists, the faults systems in Contra Costa County have a probable earthquake magnitude of between 5.0 and 8.5 on the Richter Scale (Contra Costa County 2005). The Concord-Green Valley Fault is located just east of MOTCO (California Geologic Survey 2002). In addition to bodily injury and property damage, seismic activity associated with faults can cause geologic hazards such as liquefaction and landslides. At MOTCO, there is a high liquefaction probability for the portions of the Tidal Area with artificial fill Quaternary deposits; a moderate liquefaction probability for areas of the Tidal Area and Inland Area with Quaternary deposits of Bay mud and alluvial deposits; and a low to very low liquefaction potential for the Los Medanos Hills and associated alluvial fan area (USGS 2006). Inundation due to related tsunamis is also a hazard at MOTCO.

Mineral Resources

Approximately 65 percent of the Tidal Area (including all seven offshore islands) is under split estate rather than fee simple ownership. For these split estate lands, the surface estate is federally owned and the subsurface mineral estate is privately owned by others. Only one mineral estate is currently under development. There is an active natural gas field on Ryer Island operated by Veneco Inc. (California Division of Oil, Gas, and Geothermal Resources [DOGGR] 2003). There are no manned facilities on Ryer Island; the natural gas is accessed via directional drilling from an off-Installation location in the Los Medanos Hills. Future requests for lease agreements for mineral exploration, development, and production and surface access for such purposes to privately owned mineral estate underlying MOTCO lands would be subject to a number of requirements including DoD/Army safety and security requirements, California DOGGR regulatory requirements, and NEPA. Development of MOTCO split estate lands by the Army could result in competing or infringement of development and access rights held by the private owner(s) of the mineral estate, depending on the title deed and conveyance parameters. With two exceptions, the development under review in this EA does not occur in split estate. The exceptions are one Category A project: P76093, Truck Inspection Station, and one Category D project: the pistol range proposed for the eastern portion of the Tidal Area. Both of these projects are sited in areas where mineral rights below 500 feet are privately held without surface entry rights (MOTCO 2011a).

3.1.2 Environmental Consequences

RPMP Proposed Action Alternative

Construction and demolition projects would result in short-term increased localized potential for soil erosion at project sites. Table 3-1 details the soil types within the areas of potential effect for the proposed RPMP projects.

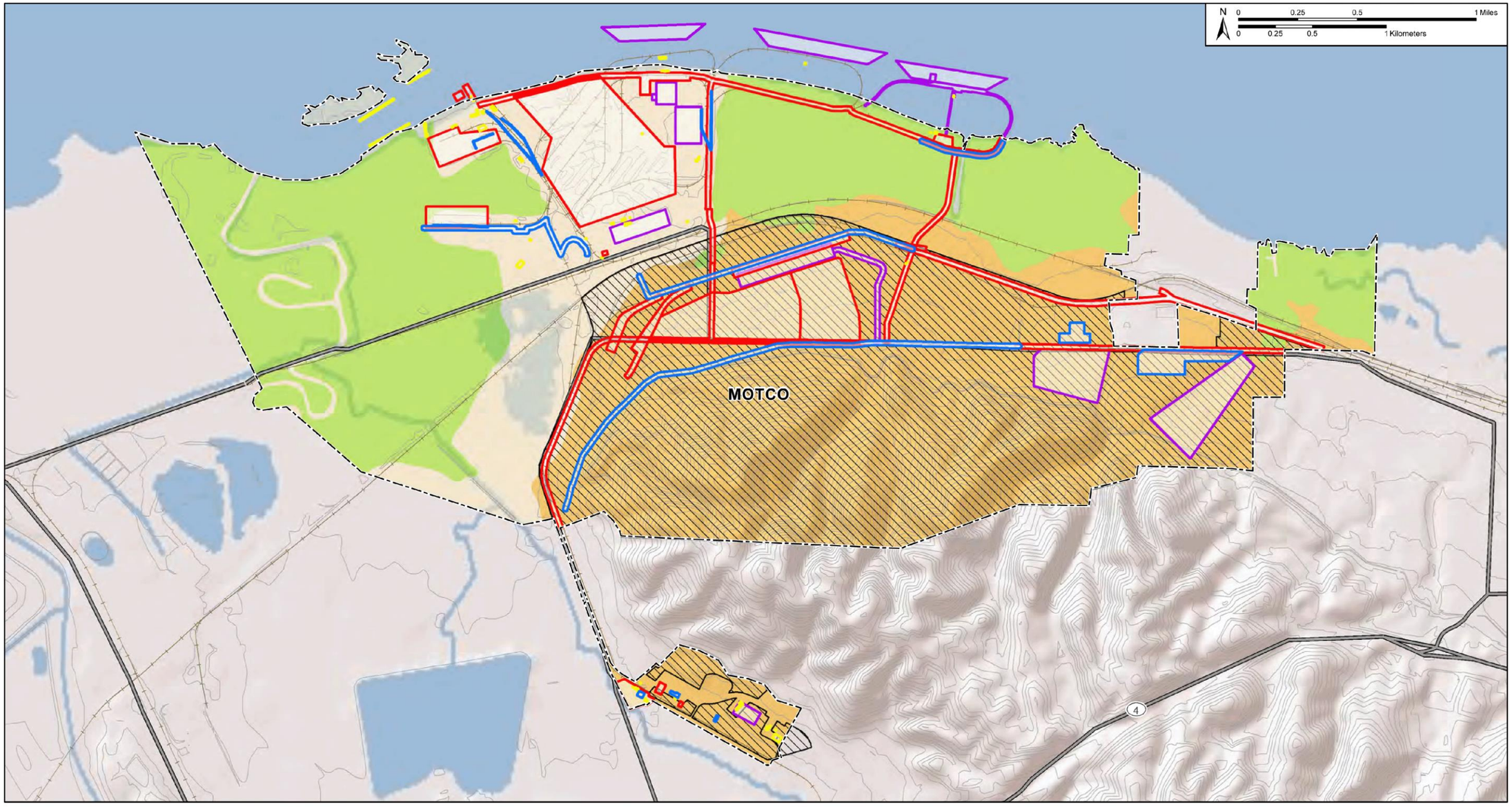

Figure 3-1

SOILS AND TOPOGRAPHY AND FOOTPRINTS OF PROPOSED ACTIONS

Environmental Assessment

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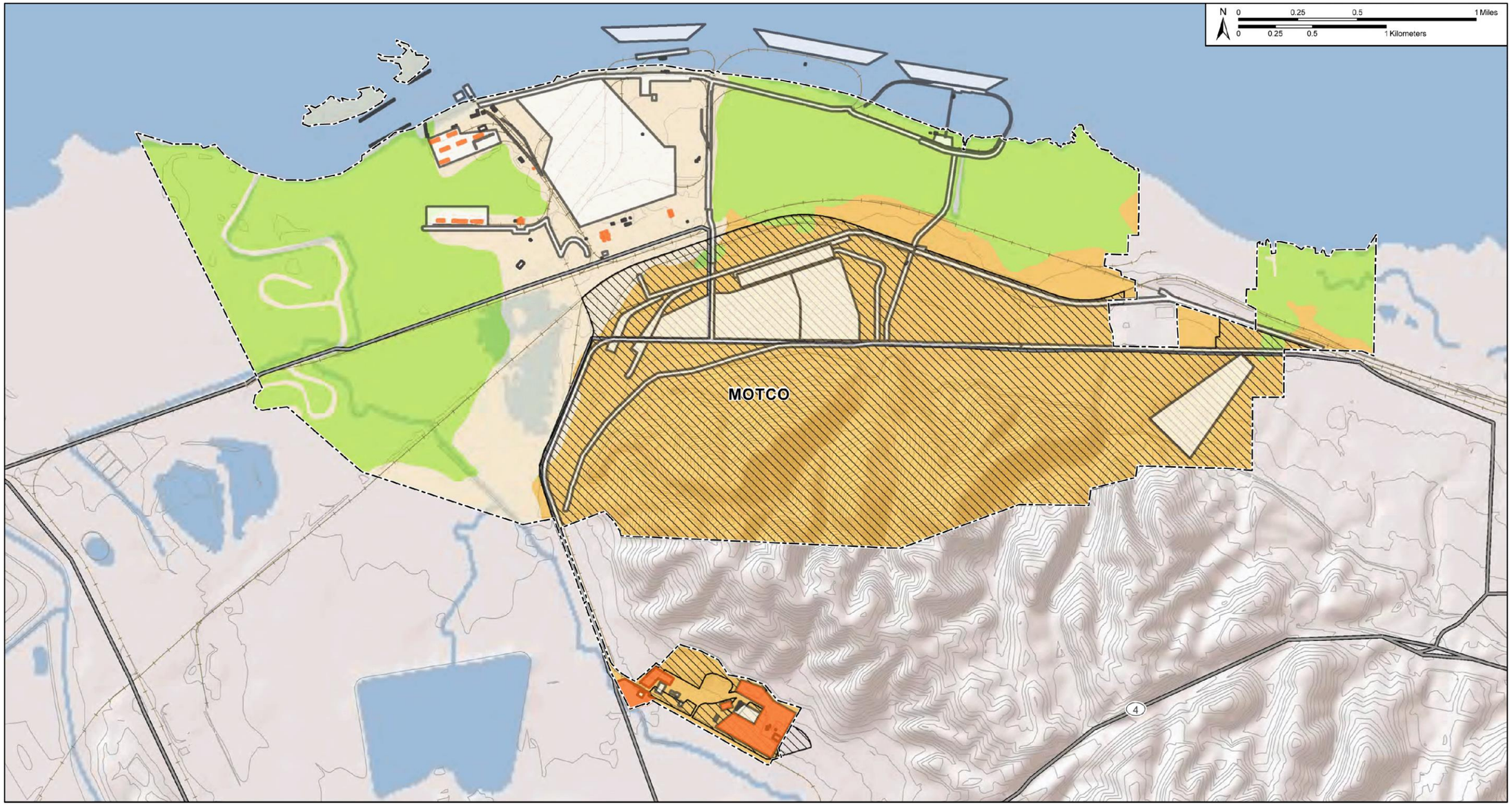

Figure 3-2

SOILS AND TOPOGRAPHY AND FOOTPRINTS OF ALTERNATIVE ACTIONS

Environmental Assessment

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The area of potential development for Category A projects was estimated based on the footprint area in which a design-build contractor would be develop site layout plans. The majority of Category A development projects are proposed in soils with moderate K factors. There is comparatively lesser soil area potentially impacted by the proposed demolition projects. Soil disturbance associated with these projects would largely be localized to the site of the development being demolished and equipment operating and staging areas. There are considerably greater soil areas potentially disturbed by implementation of the Category C and Category D projects. Because project details are lacking for these projects, these are not analyzed in detail herein. However, at a programmatic level, it is noted there would be additional area converted to impervious surface for hardstand, which would require long-term stormwater management measures to minimize erosion impacts. The Category D project to Construct a Pistol Range would involve earth moving activities for the footprint of the range and require management of expended munitions under the Military Munitions Rule to reduce potential soil contamination (with the primary concern being lead). The Category D project to dredge the piers to -37 ft mean lower low water (MLLW) would result in benthic impacts and dredge spoil disposal management impacts.

Table 3-1 RPMP Proposed Action Alternative Potentially Affected Soils

Soil Erosion Potential	Category A Projects (acres)	Category B Projects (acres)	Category C Projects (acres)	Category D Projects (acres)	Total (acres)
High (K factor more than 0.4)	0.0	0.0	0.0	0.0	0.0
Moderate (K factor 0.2 to 0.4)	67.0	1.7	229.8	161.4	459.2
Low (K factor less than 0.2)	4.9	0.3	28.7	5.2	39.0
Urban Land (not natural soil series)	14.3	1.7	220.3	26.7	263.1
Total (acres)	**86.2**	**2.9**	**478.9**	**193.3**	**761.2**

During project construction and demolition activities, erosion potential would be minimized through adherence to construction National Pollutant Discharge Elimination System (NPDES) permit requirements. Construction disturbances in excess of 1 acre require coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity from the San Francisco Bay Regional Water Resources Control Board (RWQCB), which requires development of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP includes erosion and sediment control BMPs aimed at confining sedimentation to the construction site such as use of silt fencing, swales, rock dams, etc. and monitoring (see Section 3.2.2 for additional discussion of the SWPPP). The SWPPP also addresses proper management of Petroleum, Oil, and Lubricants (POLs) and hazardous materials at a construction site to reduce the potential for soil contamination and address any spills or breaches of protective systems expediently in accordance with applicable laws and regulations. During the project design phase for individual construction projects, LEED standards would be incorporated into site layout and facility designs to ensure that long-term erosion issues are not generated by new construction.

To address split estate (i.e., the Army owns the surface, but the subsurface mineral rights are privately owned), the merits of acquiring the subsurface mineral rights for the Category A P76093 Gate 5 Truck Inspection Station development footprint are under evaluation by the Army. Alternatively, directional drilling options also may allow for concurrent use of surface estate by the Army and mineral estate by a private interest. Given the timeline for the Category D pistol range project, the Army will evaluate split mineral estate options for this area concurrent with programming efforts.

New construction at MOTCO must adhere to Zone 4 Uniform Building Code in accordance with seismic conditions. See Section 3.11, Health and Safety, for additional discussion.

RPMP Inland Area Focus Alternative

For the most part, the potential impacts to earth resources of the RPMP Inland Area Focus Alternative would be the same as noted for the RPMP Proposed Action Alternative. Generally speaking, the localized impact would be shifted primarily from the Gate 5 area (soils with moderate erosion potential) and developed areas of the Tidal Area between Hastings Marsh and Pier Marsh (urban land) to the Inland Area (soils moderate erosion potential). Table 3-2 details the soil types within the areas of potential effect for the RPMP Inland Area Focus Alternative.

Table 3-2 RPMP Inland Area Focus Alternative Potentially Affected Soils

Soil Erosion Potential	Category A Projects (acres)	Category B Projects (acres)	Category C Projects (acres)	Category D Projects (acres)	Total (acres)
High (K factor more than 0.4)	0	0	0	0	0
Moderate (K factor 0.2 to 0.4)	53.4	0.9	229.8	125.7	409.8
Low (K factor less than 0.2)	4.9	0.3	28.7	5.2	39.1
Urban Land (not natural soil series)	14.3	1.7	220.3	0.3	236.6
Total (acres)	**72.6**	**2.9**	**478.8**	**131.2**	**685.5**

Under the RPMP Inland Area Focus Alternative, there would be no need for resolution of mineral estate issue as the proposed P76093, Truck Inspection Station site as the site is located in the Inland Area where there is no privately owned underlying mineral estate.

INRMP Proposed Full Implementation Alternative

The proposed water quality management measures detailed in the INRMP Proposed Full Implementation Alternative (see Table 2-4) would benefit soil resources. Additionally, implementation of ground squirrel control would be expected to have long-term beneficial impact as ground squirrel activity currently increases erosion rates within the MOTCO cantonment areas. However, some of the natural resource management actions could potentially have the following impacts to soil resources:

- Grazing activity that would be authorized with implementation of the grazing lease has the potential to result in increased erosion from use of unpaved roads and cattle grazing trampling soils and removing vegetative cover. The grazing lease, however, includes SOPs such as animal unit allocations to prevent overgrazing and grassland management as well as protocols to identify and address any erosion problems that develop.
- Wildland fire management activities such as controlled burns and use of fire break roads result in increased erosion. Roads are maintained to address erosion issues and controlled burns include BMPs that minimize erosion impacts. Accelerated rates of erosion due to controlled burns are localized and persist for a short duration until vegetative cover is restored. Without wildland fire management, uncontrolled wildfires have the potential to result in greater rates of erosion.

- There could be minor short-term minor localized increased erosion in the areas where perennial pepperweed control measures are implemented, but this program will be closely monitored to identify and address any erosion issues.

The proposed grazing and wildlife fire management activities would occur primarily in areas of moderate erosion potential (see Figure 3-1). The total area of potential effect for the grazing and wildfire management activities is estimated at 1,985 acres and 97 percent of that (1,923 acres) is in areas of moderate erosion potential. An additional 18 acres is in areas of low erosion potential, 44 acres are in urban land areas, and no acres are in areas of high erosion potential.

INRMP Partial Implementation Alternative

The INRMP Proposed Full Implementation Alternative includes a number of measures for water quality and erosion management that are not included in the INRMP Partial Implementation Alternative. Therefore, in comparison, implementation of this alternative would be less beneficial for soil resources. Many of these measures provide a mechanism for monitoring, providing an additional failsafe to the SOPs and BMPs. It is not possible to provide a quantitative assessment of the magnitude of the potential difference in benefit to soil resources. However, qualitatively, the INRMP Partial Implementation Alternative would be expected to have fewer long-term benefits as compared to the Proposed Full Implementation Alternative.

ICRMP Implementation Alternative

Implementation of the ICRMP is not expected to result in impacts to earth resources.

No Action Alternative

Under the No Action Alternative, the short-term construction-related impacts to soil resources and need for resolution of mineral resource split estate would not occur. The long-term overall benefits to soil resources from implementation of the IRNMP would not be realized. However, the No Action Alternative would not result in adverse impacts to earth resources as continued implementation of existing management programs would continue to provide measures to minimize erosion and other potential adverse impacts to soils.

3.2 Water Resources

3.2.1 Existing Conditions

Surface Water

Surface freshwater features in the Tidal Area and Inland Area all ultimately flow northward, emptying into Suisun Bay via natural creeks, artificial ditches, canals, and sloughs. Much of this flow must also pass through the numerous culverts, tide gates, and water control structures present throughout the Tidal Area. The origin of the freshwater is also varied; some comes from groundwater springs in the Los Medanos Hills or arrives as channel flow within the Mount Diablo/Seal Creek drainage or is simply precipitation trapped in impermeable depressional areas.

The vast majority of surface water in the Tidal Area is brackish in nature, as Suisun Bay is an estuary where tidal mixing of saltwater from the Pacific Ocean and freshwater from the Sacramento-San Joaquin Delta occurs. In general, any area within the Tidal Area lower than 9 feet MSL is subject to tidal flooding. The sloughs and ditches found within the salt marshes of the Tidal Area are also largely brackish, as they are both flushed by tides while also intercepting upland freshwater flows.

Brackish waters from Suisun Bay inundate the tidal marsh during high tides via a network of natural and artificial channels. Extensive ditching and berms located along ditches have resulted in muted tidal inundation/circulation in most of MOTCO's marshlands. In addition to the prior diking and filling, much of the natural drainage pattern and tidal influence has been altered by the roadways, rail lines, and Contra Costa Canal that traverse the Tidal Area. These features have altered drainage and runoff in some areas.

An installation-wide SWPPP addresses individual NPDES permit requirements for the ongoing industrial activities that occur at MOTCO. The SWPPP consists of three major components: stormwater monitoring, BMP implementation, and site compliance evaluations. The main objective of the installation-wide SWPPP is to provide information as to how MOTCO controls the discharge of pollutants from stormwater and to provide practical guidance to assist with implementing the SWPPP (MOTCO 2001). MOTCO is in the process of updating the 2001 SWPPP to reflect current property uses and regulatory requirements.

Wetlands

Wetlands at MOTCO are predominantly estuarine by virtue of connections to Suisun Bay. There are small areas of palustrine wetlands which by definition receive only freshwater inflows, but because of saline soils and poor drainage, they often support brackish vegetation similar to that of estuarine habitats. National Wetland Inventory (NWI) data indicate that approximately 3,175 acres of potential wetlands occur on MOTCO including 404 acres of Estuarine Subtidal wetlands, 2,687 acres of Estuarine Intertidal wetlands, and 84 acres of Palustrine wetlands. The potential wetlands and floodplains at MOTCO relative to the footprints of the proposed and alternative actions evaluated in this EA are depicted in Figures 3-3 and 3-4. NWI data is not ground-truthed, as it is national-scale mapping based entirely on soils, topography, and aerial photograph interpretation. A jurisdictional wetlands delineation would be needed to assess the extent of federal and state jurisdiction, but one has not been conducted yet for the area of potential effect analyzed in this EA. However, for the purposes of this EA, it is assumed that all tidally influenced estuarine wetlands and unimpaired drainages are hydrologically connected to Suisun Bay and are, therefore, jurisdictional. Isolated palustrine wetlands may or may not be jurisdictional (USEPA and USACE 2008).

The offshore islands and the majority of the marshlands at MOTCO are part of a Wetland Preserve Area (see Figure 3-3) first established through an MOU between the Navy and USFWS signed on 1 February 1984 and now a component of MOTCO's INRMP.

The State of California has a policy of no net loss of wetlands and requires all impacts to wetlands be mitigated under Section 401 (State Water Quality Certification of USACE permits) of the CWA. However,

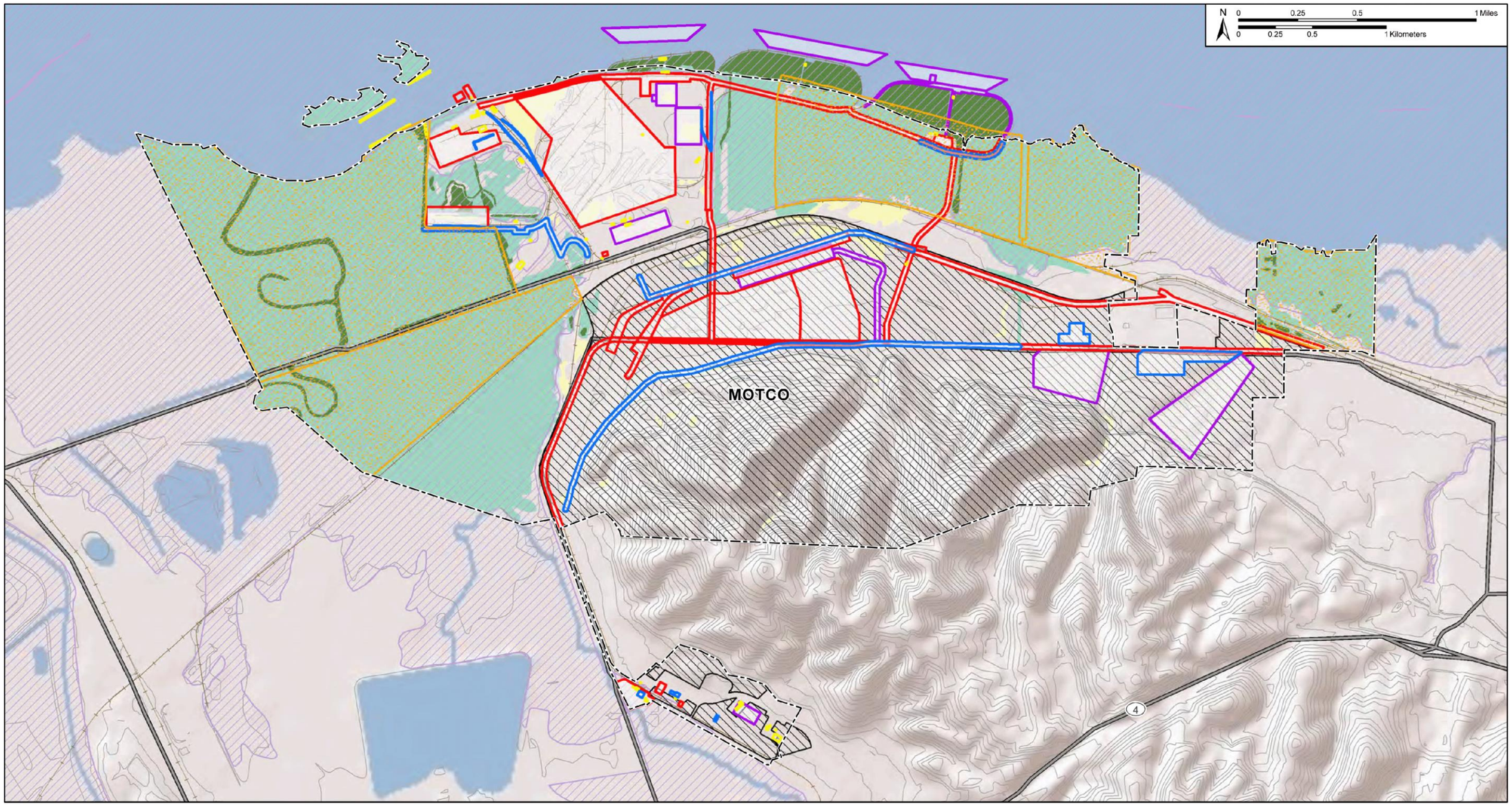

Figure 3-3

POTENTIAL WETLANDS AND FLOODPLAIN AND FOOTPRINTS OF PROPOSED ACTIONS

Environmental Assessment

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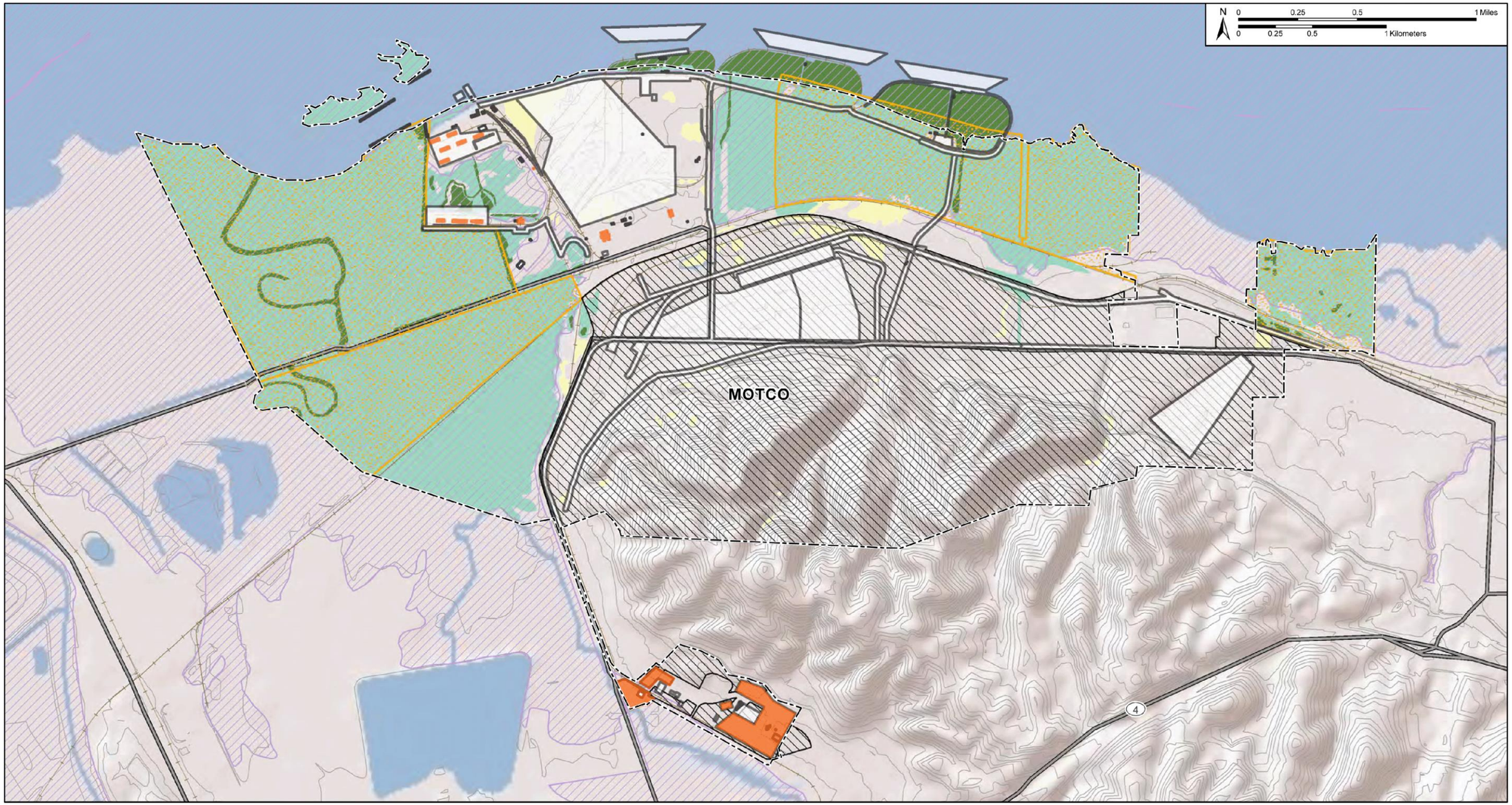

Figure 3-4

POTENTIAL WETLANDS AND FLOODPLAIN AND FOOTPRINTS OF ALTERNATIVE ACTIONS

Environmental Assessment

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USACE only requires Section 404 permitting for jurisdictional wetlands, which are defined as having a significant nexus to navigable waters; hence the state may assert jurisdiction over some water bodies not subject to Section 404/USACE permit jurisdiction.

Floodplains

The 100-year floodplain represents those areas that could be inundated in the event of high flood water levels expected to occur once every 100 years from the combination of heavy rainfall, high tides, and storm surges. Development within the 100-year floodplain is constrained by regulatory requirements related to safety and environmental concerns. Executive Order (EO) 11988, *Floodplain Management*, directs federal agencies to provide leadership in avoiding direct or indirect development of floodplains, as well as to restore and preserve the natural and beneficial values of floodplains. Engineering methods can be used to reduce potential impacts from development in floodplains; however, the engineering costs involved with development in floodplains are often prohibitive. Flood hazard areas at MOTCO for the Inland Area are based on mapping developed by the Federal Emergency Management Agency (FEMA). The southwestern corner of the Inland Area is affected by occasional flooding associated with poor drainage in the vicinity of the Diablo Creek Golf Course (see Figure 3-3). The Tidal Area floodplain has not been mapped by FEMA. Therefore, an analysis was conducted to align mapping of the 100-year floodplain on adjacent lands with topographical information available for MOTCO. Based on this analysis, a considerable portion of land along the southern border of Suisun Bay is comprised of 100-year floodplain (see Figure 3-3). Most existing facilities in the Tidal Area are not located within the 100-year floodplain. Mount Diablo/Seal Creek drains the north slope of Mount Diablo, crosses under the Port Chicago Highway, and empties into the tidal marshes within MOTCO. Historical records indicate that flooding occurs in the Mount Diablo/Seal Creek watershed almost every year.

3.2.2 Environmental Consequences

RPMP Proposed Action Alternative

Surface Water

All proposed construction projects would follow USEPA Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Act (USEPA 2009). Obtaining the required NPDES permit, including development of a SWPPP and use of BMPs for all projects with construction disturbances in excess of an acre, would minimize potential impacts to surface water resources from implementation of RPMP projects. The BMPs include measures to reduce stormwater runoff and the transport of sediments from the construction sites into receiving bodies of water, and they address management measures that reduce the potential for contaminations to enter into surface or groundwater supplies.

Large-scale projects would be evaluated on a case-by-case basis for incorporation into the installation-wide SWPPP. In addition, the following projects would require modification of the installation-wide Spill Prevention, Control, and Countermeasures (SPCC) Plan, which identifies management practices designed to prevent and respond to discharges of oil-based products into navigable waters:

Aboveground Storage Tanks for backup generators at P76092, Security Headquarters Building; P74877, VCC; and the Fuel/Defuel Station that is part of P76087, Equipment Maintenance Buildings.

The Category B demolition projects for the lighter berths (Facilities 123, 172, and 173) would have the potential for short-term localized impacts to water quality from increased sedimentation associated with in-water activity. The activity would require permitting under CWA Section 404 for "incidental fallback" which may occur during the removal of berths from the substrate, as well as a Section 401 Water Quality Certification from the RWQCB which would include assurances that BMPs would be used to minimize potential impacts to water quality. This permitting process would ensure that state water quality standards would not be affected by implementation of these demolition projects.

Programmatically, implementation of the Category C and D projects would have similar potential impacts to surface water quality as the Category A projects. The overall increase in impervious surfaces would be addressed through appropriate stormwater management techniques developed and incorporated into project design and the SWPPP update. The Category D project for construction of a Pistol Range would incorporate appropriate design to contain most expended munitions within the range footprint, engineered with appropriate site containment and stormwater control. Consultation with USACE and the RWQCB will be initiated once project planning is more definitive and appropriate permits and mitigations will be determined at that time.

Wetlands

Some elements of the fencing for Project P74777, Perimeter Fencing, are adjacent to tidal wetland areas that are also part of the Wetlands Preserve. Specifically, security fencing upgrades and associated lighting are proposed south of the "R" Buildings and south of White Road in the vicinity of Pier 4 (see Figure 3-3). Because the fencing would be installed within the disturbed footprint of the existing roadway, wetlands impacts would likely be avoided in most cases. Where such impacts could not be avoided (e.g., access for fence installation), impacts could be covered under the USACE nationwide permit program, which is intended to simplify the process of permit review and issuance for projects that have no more than minimal site-specific and cumulative impacts on the aquatic environment. In this case, Nationwide Permit 18 for Minor Discharges would apply. In locations where new ground-disturbing activity is occurring within wetlands, MOTCO would provide the required Pre-Construction Notification and confirmed wetlands delineation, as required on a case-by-case basis.

No other Category A projects are expected to impact wetland areas, including the Wetlands Preserve. Although P-76086, Lightning Protection Systems, is near wetland areas and the Wetlands Preserve in the vicinity of the R Buildings, the system is being installed on previously disturbed roadside edges and berms, and along already developed areas with existing buildings and other structures. Given its nearness to some sensitive wetland habitats, all construction activity for the Lightning Protection System would be carefully undertaken to prevent disturbance to these areas, and an erosion and sedimentation control plan would be implemented to minimize and water quality impacts to these adjacent wetland areas. Similarly, while some of the Category B demolition projects are located adjacent to wetland areas, none are located within wetland areas; however, given the close proximity of some of these older

buildings to tidal wetland areas, the same carefully designed construction BMPs used for the Lightning Protection System will be implemented.

As summarized in Table 3-3, implementation of some Category C projects would likely require additional CWA Section 404 wetlands permitting through USACE that would be sought by MOTCO on a case-by-case basis as more project and design details are developed. A jurisdictional wetlands determination for the areas of potential effect will likely be needed during this consultation process.

Table 3-3 Predicted Water Quality Related Permitting Required for RPMP Projects

	USACE Rivers and Harbors Act Section 10	USACE CWA Section 404	RWQCB CWA Section 401
Category B (Demolition)			
Lighter Berths (123, 171, and 172)		✓	✓
Category C			
Project 9, Improve Stevens Road MSR		✓	
Project 13, Improve MSRs		✓	✓
RPMP-19, Reconfigure Barricaded Rail Sidings Area		✓	
Project 20, Establish Marina for Security Boats and Berthing for Fire Boat		✓	✓
RPMP-22, Restore Barge Pier to Original Design Capacity		✓	✓
RPMP-23, Reconfigure "R" Buildings		✓	
RPMP-24, Reconfigure "S" Buildings		✓	
Category D			
Project 3, Rebuild Pier 4		✓	✓
Project 8, Add Jetty/Finger Platform to Pier 4		✓	✓
Project 12, Dredge Piers to -37 ft MLLW	✓	✓	✓

Floodplains

The vast majority of proposed RPMP projects would not result in development within the floodplain. Two Category A projects involve new construction within the 100-year floodplain: P74877, VCC, and the "R" Buildings portion of P76086, Lightning Protection System. Due to operational and logistical requirements, there is no practicable alternative to the siting of these facilities. Executive Order 11988 specifies that, in situations where alternatives are impractical, action must be taken to minimize potential harm to or within the floodplain and take appropriate steps to notify the public. To the extent financially and technically feasible, the VCC and lightning protection structures would be designed and constructed above the 100-year floodplain level. This EA acts as appropriate public notification of proposed construction within the 100-year floodplain.

There are 16 Category B demolition projects within the 100-year floodplain (Projects 105, 122, 123, 125, 144, 172, 173, 262, 407, 410, 411, 600, A-29, A-31, IA-2, and IA-5). These facilities were not engineered in accordance with current floodplain designed standards and are at risk of destruction due to flooding given their current degraded condition. There are some trade-offs balancing the proposed VCC in that there are six demolition projects (Projects 122, 407, 410, 411, A-29, and A-31) in the same floodplain as

the VCC – demolition of these inadequate structures and construction of a modern facility with design and construction elements to provide protection from flooding would be an overall benefit.

Category C projects RPMP-13, Improve MSRs; RPMP-16, Improve Stevens Road for Emergency Evacuation (also Category D project RPMP-9 to upgrade Stevens Road MSR); RPMP-18, Construct Murdoh Road Bridge; RPMP-23, Reconfigure "R" Buildings; and RPMP-25, Improve Pier 4 Parking Lot projects are all located within the 100-year floodplain. These projects are aligned with existing infrastructure and require waterfront access in order to serve their functional purpose. There is no practicable alternative for the proposed sites for these five projects and there is minimal safety risk, as all of these facilities would be unmanned.

For the reasons outlined above, there would not be any significant impacts to floodplains as a result of implementation of the RPMP Proposed Action Alternative.

RPMP Inland Area Focus Alternative

Surface Waters

There is no distinguishable difference in the level of potential impacts to surface waters under the RPMP Inland Area Focus Alternative as compared to the RPMP Proposed Action Alternative. Although impervious surface increases would be more concentrated in the Inland Area as compared to being dispersed throughout the waterfront and Gate 5 areas of the Tidal Area; any differences would be in applicable stormwater management techniques as opposed to level or magnitude of impacts to surface water resources.

Wetlands

There would be no difference in potential impacts to wetlands with implementation of the RPMP Inland Area Focus Alternative as compared to the RPMP Proposed Action Alternative. The additional Category B demolition projects in the "R" Buildings area, which is surrounded by wetlands and abuts the Wetlands Preserve (see Figure 3-4), would be implemented with erosion and sedimentation control measures to avoid impacts to these wetlands.

Floodplains

As compared with the RPMP Proposed Action Alternative, there would be greater development in the portion of the Inland Area affected by the 100-year floodplain, with construction of P76093, Truck Inspection Station; P76087, Equipment Maintenance Building; and P74877, Visitor Control Center (see Figure 3-4). The proposed action offers practicable alternatives for these facilities that are not located within the 100-year floodplain. Thus, based on current information, implementation of this alternative would be inconsistent with the provisions outlined in EO 11988.

INRMP Proposed Full Implementation Alternative

The INRMP Proposed Full Implementation Alternative would result in long-term beneficial impacts to surface water resources as a result of implementation of those elements of the proposed action that

could directly or indirectly improve surface water quality and hydrologic systems. Specifically, the Water Quality and Erosion Management measures outlined in Table 2-4, would protect water quality, particularly surface water quality with measures for Mount Diablo Creek, stormwater management, additional mechanisms for monitoring and implementation of BMPs, and water conservation. In addition, implementation of the Wetlands/Shoreline Management measures, including Wetland Preserve Area management, regional coordination for Tidal Marsh ecosystem recovery, establishment of additional SOPs for stormwater management, and efforts to address tidal circulation all would have beneficial impacts to water quality, wetlands, and floodplains.

Grounds maintenance and integrated pest management could potentially have minor, indirect impacts to surface water quality as a result of pesticide/herbicide application or removal of plant species in or near water resources. However, use of native plant species would conserve water usage and minimize the potential for introduction of fertilizers and pesticide/herbicide chemicals into surface water and groundwater systems, since native plants typically do not require the same amount of watering and pesticide/herbicide use as non-native plants.

INRMP Partial Implementation Alternative

The INRMP Partial Implementation Alternative would provide a lesser level of potential long-term benefit to water resources than the INRMP Proposed Full Implementation Alternative. Fewer Wetlands/Shoreline Management measures would be pursued, including various research and partnering initiatives intended to improve wetlands and surface water quality (see Table 2-4). Additionally, only one Water Quality and Erosion Management measure of the 12 INRMP Proposed Alternative management measures would be pursued. These initiatives go beyond compliance to pursue various evaluations, partnerships, programs, and technologies that would benefit water resources (see Table 2-4).

ICRMP Implementation Alternative

No potential impacts to water resources are foreseen as a result of ICRMP implementation.

No Action Alternative

Implementation of the No Action alternative would not result in impacts to water quality. Existing management programs would continue to provide for the protection and maintenance of surface water quality and protection of wetlands and the Wetland Preserve. The short-term potential construction-related impacts to surface water quality from implementation of RPMP construction and demolition projects would not occur. The potential improvements to water quality, wetlands, and hydrological systems noted above for the INRMP Proposed Full Implementation Alternative, however, would not occur.

3.3 Air Quality

3.3.1 Existing Conditions

Air quality in a given location is described by the concentration of various pollutants in the atmosphere. A region's air quality is influenced by many factors including the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. The 1970 Clean Air Act (CAA) and its subsequent amendments established the National Ambient Air Quality Standards (NAAQS) for "criteria" pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter equal to or less than 10 and 2.5 microns (PM_{10} and $PM_{2.5}$), and lead (Pb). These standards represent the maximum allowable atmospheric concentrations that may occur while ensuring protection of public health and welfare, with a reasonable margin of safety. Short-term standards (1-, 8-, and 24-hour periods) are established for pollutants contributing to acute health effects, while long-term standards (quarterly and annual averages) are established for pollutants contributing to chronic health effects (40 CFR Part 50).

In addition to the ambient air quality standards for criteria pollutants, national standards exist for hazardous air pollutants (HAPs). The National Emission Standards for Hazardous Air Pollutants (NESHAP) regulates 188 HAPs based on available control technologies (40 CFR Parts 61 and 63). HAPs include compounds such as benzene, which is found in gasoline; the majority of HAPs are volatile organic compounds (VOCs).

Based on measured ambient criteria pollutant data, the USEPA designates all areas of the United States as having air quality better than the NAAQS (attainment), worse than the NAAQS (nonattainment), or unclassifiable (40 CFR Part 81, Subpart C, Section 107). The CAA requires each state to develop a State Implementation Plan (SIP) that is its primary mechanism for ensuring that the NAAQS are achieved and maintained within that state. According to plans outlined in the SIP, designated state and local agencies implement regulations to control sources of criteria pollutants. The CAA provides that federal actions in nonattainment and maintenance areas will not hinder future attainment with the NAAQS and must conform to the applicable SIP (i.e., California SIP). In addition to the criteria pollutants, California also maintains ambient air quality standards for vinyl chloride, sulfates, and hydrogen sulfide. Because none of these are expected to be emitted as a result of the proposed action, they are not carried forward in the analysis.

MOTCO is located in the Bay Area, which is designated as a federal attainment area for CO, SO_2, and Pb standards; a marginal federal nonattainment area for the O_3 standard; and a federal nonattainment area for $PM_{2.5}$. The Bay Area is designated as a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. Air quality at MOTCO is regulated by the USEPA, California Air Resources Board (CARB), and locally by the Bay Area Air Quality Management District (BAAQMD).

Bay Area Air Quality Management District

The BAAQMD boundaries are based on meteorological and geographic conditions and, where possible, jurisdictional boundaries such as county lines. Specifically, the BAAQMD includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, the western portion of Solano, and the

southern portion of Sonoma counties. The location for proposed construction and demolition activities is in Contra Costa County. The portion of BAAQMD that includes MOTCO has been designated nonattainment for the following NAAQS: 8-hour O_3, CO, and 24-hour $PM_{2.5}$. These nonattainment designations indicate that there are certain air pollutant control requirements that must be undertaken by the BAAQMD in order to improve air quality and achieve attainment with the NAAQS.

New Source Review

New Source Review (NSR) for BAAQMD is implemented under BAAQMD Regulation 2, Rule 2, *New Source Review*. The rule requires a review of new and modified stationary sources prior to equipment installation if the equipment would cause, reduce or control the emission of air contaminants.

Conformity Requirements

The General Conformity rule prohibits any federal action that does not conform to the applicable air quality attainment plan or SIP, and applies to areas designated as nonattainment or maintenance for NAAQS. Therefore, the purpose of conformity is to ensure federal activities do not interfere with the budgets in the SIP.

Some emissions are excluded from conformity determination, such as those already subject to NSR; those covered by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 USC 9601 et seq.) or compliance with other environmental laws; actions not reasonably foreseeable; and those for which the agency has no continuing program responsibility. A project is exempt from the conformity rule (presumed to conform) if the total net project related emissions (construction and operation) are less than the *de minimis* thresholds established by the conformity rule. A project that produces emissions that exceed conformity thresholds is required to demonstrate conformity with the SIP through mitigation, application of offsets, or other accepted practices.

The proposed action would be located in the BAAQMD and the general conformity requirements apply to the ozone precursors VOCs and NOx, as well as CO and $PM_{2.5}$. In accordance with the air conformity requirements of 40 CFR 51.853/93.153(b)(1), the applicable *de minimis* levels are presented in Table 3-4.

Table 3-4 General Conformity de Minimis Thresholds (tons/year)

	VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$
Applicable *de minimis* Thresholds	100	100	100	[1]100	[1]100	100

Source: 40 CFR 93.153

[1]NOx and SO_2 are included as potential precursors for $PM_{2.5}$ formation.

The air quality analysis for this EA refers exclusively to regulatory requirements and air quality impacts in BAAQMD as the assumption is made that all project-related construction vehicles would stay within this district while performing project-related work.

3.3.2 Environmental Consequences

RPMP Proposed Action Alternative

The air quality analysis qualitatively evaluates the proposed construction and demolition projects at MOTCO. The construction projects include five distinct Category A building projects, which are

scheduled to occur in the 2017-2019 timeframe. The proposed timetable includes two construction projects totaling 9,508 SF in 2017; two construction projects totaling 19,700 SF in 2018; and two construction projects totaling 46,000 SF in 2019. Once construction of these buildings is completed, operations would commence. At this time it is unknown if any equipment associated with the Category A projects would emit air contaminants at a level that would require regulation. Possible sources could include emergency generators, boilers, and spray paint booths. The Category B demolition projects involve numerous buildings, most of which are only a few hundred square feet in size. The timing for completion of all of the demolition, which constitutes a total of 89,201 SF, could take 20 or more years to complete; it is unknown at this time when any of the demolition would specifically occur.

Impacts to air quality associated with construction activities would be short-term and orders of magnitude below the CAA conformity *de minimis* thresholds for ozone precursors, CO and $PM_{2.5}$. During years 2017 and 2018, the volume of construction is limited. Construction of building footprints totaling 9,508 SF would result in construction emissions in 2017 that would not exceed 4 tons of emissions for any criteria pollutant. In 2018, the footprints total 19,700 SF and the emissions would not exceed 10 tons per year. In 2019, the largest volume of construction is scheduled to occur, at 46,000 SF of building footprint. This set of projects is not expected to exceed 20 tons per year of emissions for any criteria pollutant. Given that the General Conformity *de minimis* thresholds for the pollutants of concern are 100 tons per year for each pollutant, the results of the construction emission analysis indicate little impact on the local or regional air quality for any given year.

Depending on the building age, asbestos-containing materials (ACM) may be in some of the buildings to be demolished. If ACM is present, demolition would have to be selective in order to properly remove and segregate ACM from general demolition debris. During the demolition process, contractors would have to adhere to 40 CFR Part 61, Subpart M, *National Emission Standards for Asbestos.* Compliance with the standards would ensure that air emissions are negligible or eliminated.

Table 3-5 identifies mitigation measures that are recommended by the BAAQMD for construction/demolition projects. In order to ensure minimal impacts to air quality, these guidelines would be followed during the implementation of proposed construction and demolition projects.

Table 3-5 BAAQMD Basic Construction Mitigation Measures Recommended for All Proposed Projects

1. All exposed unpaved/bare soils (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Motor vehicles are a major source of PM emissions, especially diesel PM which has been classified by the CARB as a toxic air contaminant. The CARB adopted a Diesel Risk Reduction Plan (DRRP) in October 2000. To implement the DRRP, CARB has adopted a series of regulations to require cleaner diesel fuel, to restrict idling of diesel engines, and to reduce emissions from both old and new on-road and off-road diesel engines. Implementation of the DRRP is expected to result in lower emissions from construction and demolition activities than would have occurred without this additional layer of regulation.

RPMP Inland Area Focus Alternative

The distinction in potential emissions with implementation of the RPMP Inland Area Focus Alternative as compared with the RPMP Proposed Action Alternative is associated with the more aggressive demolition program proposed under this alternative. By comparison, an additional approximately 114,000 SF of facilities would be demolished and an additional 60,000 SF of facilities would be constructed to centralize storage that would remain dispersed under the RPMP Proposed Action Alternative. Although emissions would be slightly greater as compared to the RPMP Proposed Action Alternative, short-term emissions of ozone precursors, CO and $PM_{2.5}$ associated with construction and demolition activities would also be orders of magnitude below the CAA conformity *de minimis* thresholds for the pollutants of concern, indicating little impact on the local or regional air quality for any given year. As with the RPMP Proposed Action Alternative, adherence to BAAQMD recommended mitigation measures for construction and demolition projects would ensure minimal impacts to air quality.

INRMP Proposed Full Implementation Alternative

The only INRMP action that would potentially result in notable air quality impacts is the continued implementation of the ongoing prescribed burning program. Prescribed burning produces emissions of criteria pollutants of CO and PM_{10} and $PM_{2.5}$, as well as other pollutants such as carbon dioxide, methane, and non-methane hydrocarbons. California's smoke management program is an integrated State and local effort. The State Smoke Management Guidelines, adopted by CARB, establish the

fundamental framework for the program. Additionally, BAAMD Regulation 5, Subsection 401.11, addresses fires set for the purpose of range management and grazing and BAAMD Regulation 5, Subsection 401.15 addresses wildland vegetation management. The MOTCO Fire Department manages the prescribed burns at the installation in accordance with these rules and regulations. Fires are limited to a period beginning July 1 and ending April 30. MOTCO registers burns and obtains permits from BAAMD for prescribed burns. This includes submitting and obtaining approval of a smoke management plan, which is a set of air quality, meteorological, and fuel conditions needed before burn ignition may be allowed. As part of this process, PM_{10} emissions are calculated for each prescribed burn.

INRMP Partial Implementation Alternative

There is no distinguishable difference in air emissions from the INRMP Partial Implementation Alternative as compared to the INRMP Proposed Full Implementation Alternative.

ICRMP Implementation Alternative

No air quality impacts are foreseen with implementation of the ICRMP.

No Action Alternative

Under the No Action Alternative for this EA, current real property would continue to be operated and no new construction would occur, nor would existing structures be demolished. Impacts to air quality would remain unchanged from current conditions, including ongoing prescribed burns.

3.4 Biological Resources

3.4.1 Existing Conditions

Wildlife Habitat and General Wildlife

Significant habitat types known to exist within MOTCO's boundaries and associated general wildlife are discussed below in order from deepest marine habitat type moving inland to developed/disturbed. Figure 3-5 depicts these habitats relative to the footprints of the proposed actions evaluated in this EA; Figure 3-6 depicts these habitats relative to the footprints of the alternative actions evaluated in this EA. Special status species are discussed in the subsection that follows.

Subtidal Habitats

MOTCO is located on the south side of Suisun Bay, which comprises the eastern, upstream portion of San Francisco Bay and the western extent of the Sacramento-San Joaquin Delta. Suisun Bay represents the central, brackish-transition zone of the largest estuary, and contains the largest continuous area of brackish wetlands found anywhere in the Western United States. Suisun Bay represents a brackish tidal environment, with highly variable salinity. Tides along the west coast are mixed semi-diurnal, with two high and low tides of unequal amplitude occurring approximately every 24.8 hours, and tidal amplitude increasing or diminishing concurrent with lunar cycles. Except during periods of heavy outflows from the Delta, the dominant currents of Suisun Bay are those associated with the rising or falling tides. Large freshwater inflows enter Suisun Bay from Denverton Creek and the Delta. Because of strong winds and

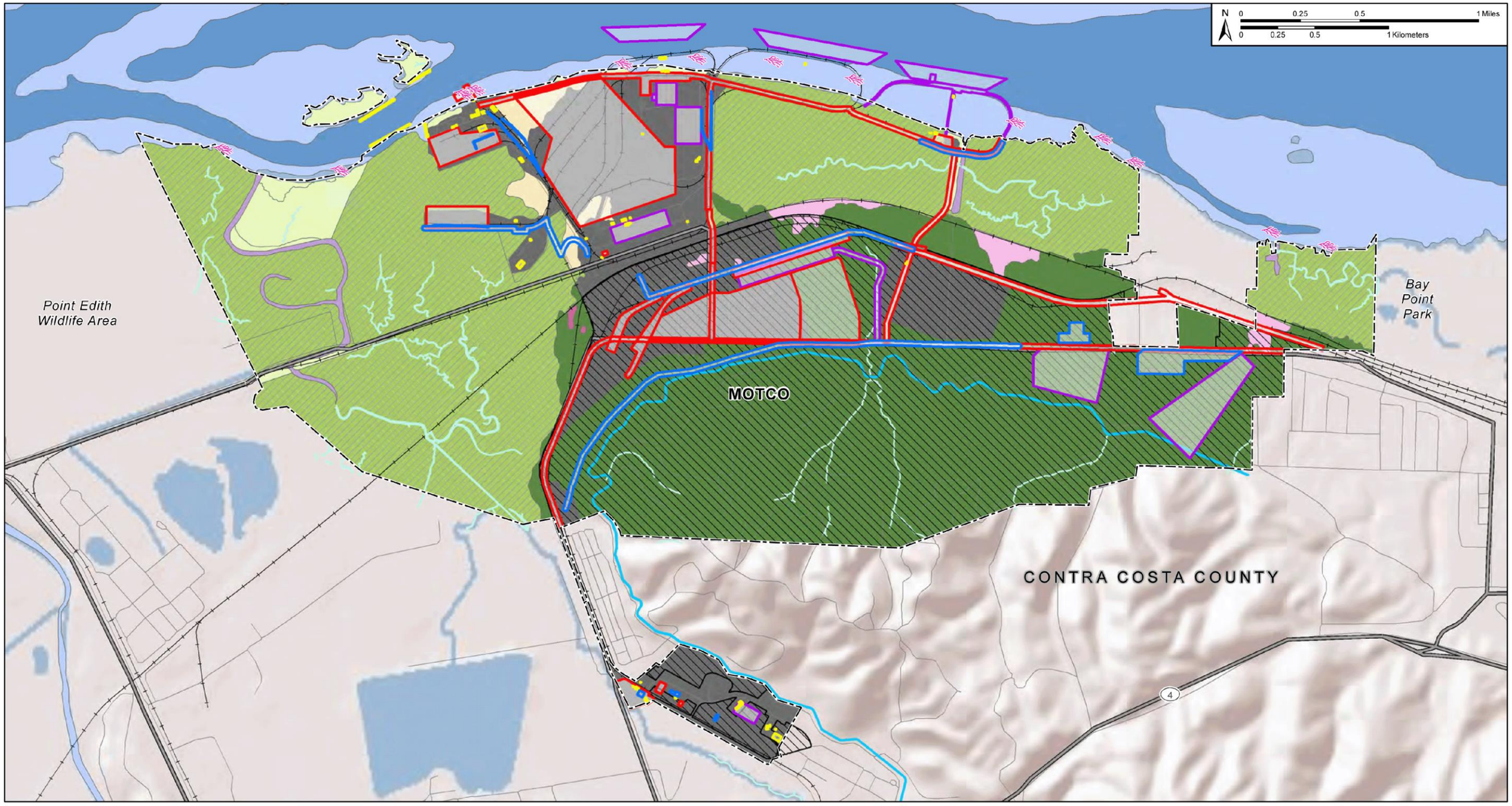

Figure 3-5

HABITAT TYPES AND FOOTPRINTS OF PROPOSED ACTIONS

Environmental Assessment

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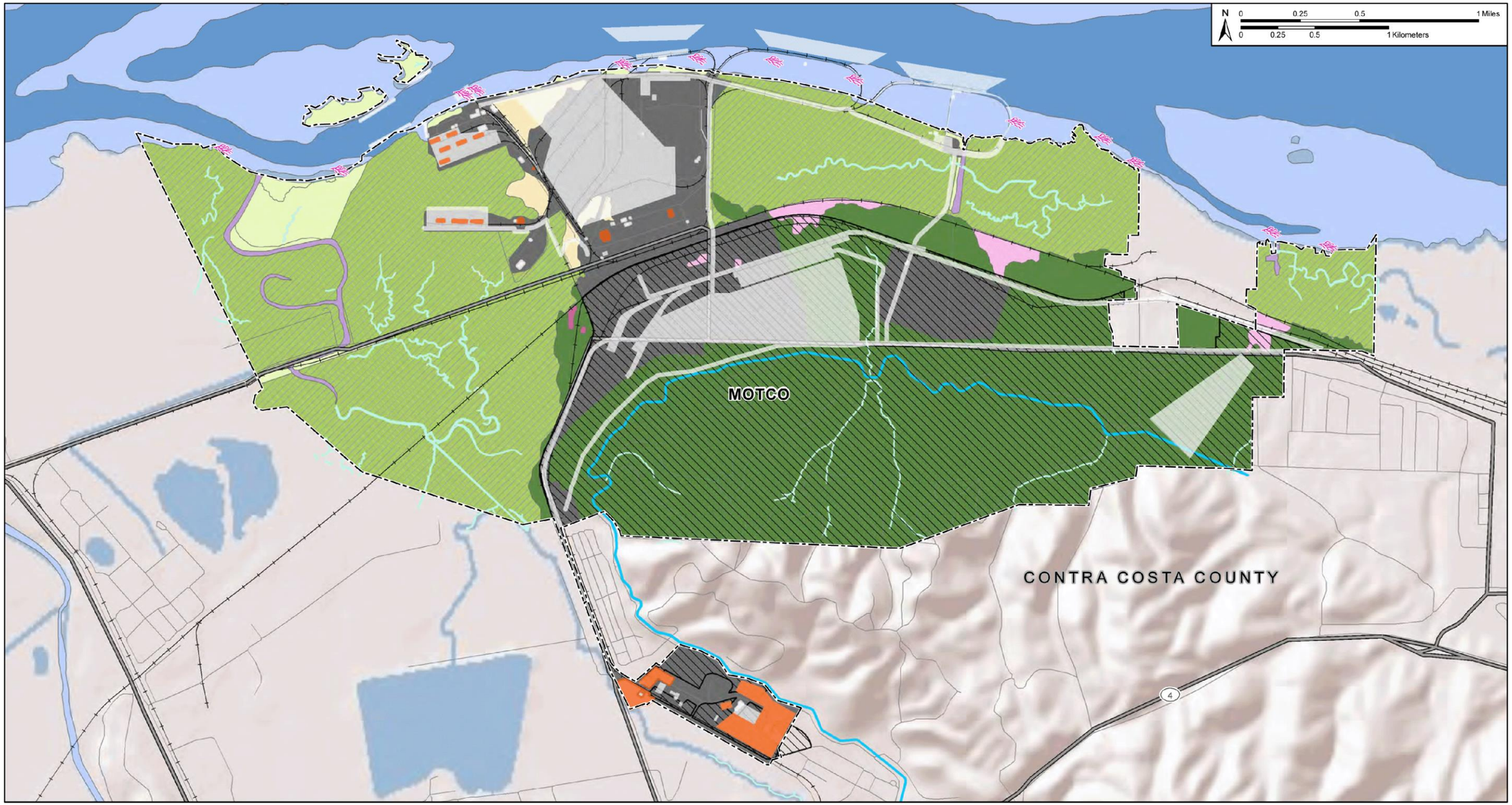

Figure 3-6

HABITAT TYPES AND FOOTPRINTS OF ALTERNATIVE ACTIONS

Environmental Assessment

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shallow depths, mixing typically occurs throughout the water column, leading to well-oxygenated waters.

The subtidal waters and substrates of Suisun Bay help to sustain a number of commercially important fisheries, and as a result have been designated as estuarine Essential Fish Habitat (EFH) under three Fishery Management Plans, including West Coast Salmon, Pacific Coast Groundfish, and Coastal Pelagic Species (Pacific Fishery Management Council [PFMC] 1998, 2000, 2006). Table 3-6 lists the EFH species likely to occur in the Suisun Bay near MOTCO. These species are highly transient and can be found throughout Suisun Bay. The Suisun Bay near MOTCO is also designated Habitat Area of Particular Concern (HAPC) for various federally managed fish species within the Pacific Coast Groundfish Fisheries Management Plan.

Table 3-6 EFH Fish Species Likely to Occur in the Suisun Bay Near MOTCO

Common Name	Scientific Name	Life Stage in Area
Coastal Pelagic Fish		
Northern anchovy	*Engraulis mordax*	larval, juvenile, adult
West Coast Salmon		
Chinook salmon	*Oncorhynchus tshawytscha*	juvenile, adult
Pacific Coast Groundfish		
English sole	*Pleuronichthys vetulus*	juvenile, adult
Starry flounder	*Platichthys stellatus*	juvenile, adult
Brown rockfish	*Sebastes auriculatus*	juvenile

The habitat in Suisun Bay and the Bay-Delta in general has been altered dramatically over the years as a result of various human activities. This alteration of habitat has led to a long-term decline in abundance of several important fish species: Delta smelt (*Hypomesus transpacificus*), longfin smelt (*Spirinchus thaleichthys*), and striped bass (*Morone saxatilis*).

The majority of deepwater subtidal habitat in Suisun Bay is comprised of unconsolidated bottom sediments. Deep bay/channel habitat is associated with the John F. Baldwin Ship Channel which is just offshore of MOTCO (between the mainland and the islands) and the seaward edge of the MOTCO piers. These areas have been previously dredged, but dredging is infrequently required at the MOTCO piers as sedimentation builds slowly under natural conditions (with the last dredging event occurring in the mid-1980s).

Shallow bay habitat is found inshore of the MOTCO piers as well as in the sheltered lees of the piers and headlands. Although not common in Suisun Bay, numerous small beds of submerged aquatic vegetation (SAV) consisting of eelgrass (*Zostera marina*) have been observed in this area at MOTCO (see Figure 3-5). SAV is designated as EFH by NMFS, and sites where it exists are defined as Special Aquatic Sites by the USEPA. The SAV may constitute important nursery and migratory passage habitat for marine and anadromous fishes.

Suisun Bay channels are dominated by bivalves (*Corbula amurensis* and *Corbula fluminea*), polychaetes (*Marenzellaria viridis* and *Heteromastus filiformis*), and a small surface-dwelling cumacean (*Nippoleucon*

hinumensis). Although these same species dominate channel edges, channel edges also support the deposit feeding isopod (*Synidotea laevidorsalis*) and filter feeding barnacle (*Balanus improvises*). In shallow subtidal areas the dominant species include a bivalve (*C. amurensis*), a polychaete (*M. viridis*), and an amphipod species (*Monocorophium alienense*) (NMFS 2007).

Common bony fish species in Suisun Bay include various smelt species, gobies, small fish such as Pacific herring (*Clupea pallasii*), white sturgeon (*Acipenser transmontanus*), flatfish, and perches. In the early 1990s, native fish abundance in the Bay-Delta region was at an extreme low. Suisun Bay experienced the most significant decline of all of the Bay regions, and native fish populations have only increased slightly, although significantly, in recent years (Bay Institute 2005).

Marine mammals generally require higher salinity conditions than those occurring near MOTCO; however, harbor seals (*Phoca vitulina*) are known to occur consistently in low abundance in the vicinity of MOTCO. California sea lion (*Zalophus californianus*) sightings have been documented, but sea lions are not frequent visitors of the Suisun Bay area. There are rare occurrences of the federally endangered humpback whale (*Megaptera noveangilae*) in the area.

Tidally Influenced Habitats

There are a number of tidally influenced habitats within the vertical range of extreme low to extreme high tides at MOTCO. Low Intertidal shores and flats are largely unvegetated areas occurring below mean tide level. There are three different types of substrates and associated biological communities that occur on shores and flats at MOTCO: low tidal marsh mudbanks that front natural shorelines; hard substrates of the piers and developed areas that support sparse, patchy growths of green algae (*Ulva* spp., *Enteromorpha* spp.) and attached epifauna – predominantly barnacles (*Balanus improvisus*); and mudflats that occur around the edges and shallowest portions of muted tidal ponds. These areas are heavily used by shorebirds including American white pelicans (*Pelecanus erythrorhynchos*) and non-native mute swans (*Cygnus olor)*.

Away from the immediate shoreline, the tidal marshlands at MOTCO are a mosaic of marsh vegetation and bodies of water including tidal sloughs, channels, ponds, and manmade ditches, all of which function as a circulatory system for water, oxygen, sediments and nutrient transport, and as pathways for the movement of fish and aquatic wildlife. The interface between marsh vegetation and the water throughout the marshes provides a structurally complex and productive habitat that is used for nesting, foraging, nursery, and refuge by a variety of fish and wildlife.

Natural sloughs at MOTCO include Hastings Slough and Lost Slough. East Marsh Slough, Belloma Slough (Pier 3), and Cunningham Slough have all been channelized from the Bay inland, but remain relatively wide, deep, open, and connect to remnants of the network of natural tidal channels on the marsh plain between the shore and the railroad tracks. Numerous linear ditches were excavated in the past across the Tidal Area for drainage and agricultural use, resulting in a series of parallel or intersecting ditches that crisscrosses the historic marsh plain. In these areas, the natural tidal channels are largely obliterated. Linear stands of upland (often weedy) vegetation established on the spoils that were excavated and mounded along the banks of the ditches fragment the native marsh habitat. Benthic

invertebrate communities in slough channels are similar to those found in the shallow subtidal habitat described above, although species abundance is much lower (NMFS 2007).

The vast majority of marshlands on MOTCO are brackish tidal marshes, either fronting Suisun Bay or connected to it by sloughs, channels, and ditches. On the immediate shoreline and in well-flushed portions of the marshes, the vegetation is dominated by species that occur across a broad range of salinities both up- and downstream in the Bay-Delta. With few exceptions, these marshlands are Muted Tidal Marsh habitats. These areas are subject to regular daily or monthly tidal action, but to an extent that is lessened by the tidal circulation that has been constricted, impeded, or diverted relative to historic conditions. The distribution of tidal marsh plants is strongly (but not exclusively) influenced by tidal elevation and salinity; the low-, mid-, and high marsh habitats at MOTCO are described below:

- Low-Tidal Brackish Marsh: The native low tidal salt marsh vegetation is characterized by a single emergent species, smooth cordgrass (*Spartina foliosa*). Low tidal brackish marsh vegetation is important in stabilizing shorelines, is a major source of primary production in this part of the estuary, and provides a structurally complex habitat for fish and wildlife, especially migratory waterfowl and wading birds. Hardstem tule (*Scirpus acutus*) and, to a lesser extent, California bulrush (*Scirpus californicus*) are the most abundant and structurally dominant low marsh species. On wave-exposed consolidated mud banks there is a low-growing turf made up of dwarf spikerush (*Eleocharis parvula*), low bulrush (*Scirpus cernuus*), Delta mudwort (*Limosella subulata*), and Mason's and western lilaeopsis (*Lilaeopsis masonii* and L. *occidentalis*).
- Mid-Tidal Brackish Marsh: The mid-tidal zone typically supports low-growing herbaceous vegetation patchily dominated by saltgrass (*Distichlis spicata*), pickleweed (*Salicornia virginica*), Baltic rush (the *Juncus balticus-lesueurii* complex), spearscale (*Atriplex triangularis*), jaumea (*Jaumea carnosa*), creeping spikerush (*Eleocharis macrostachya*), alkali heath (*Frankenia salina*), dodder (*Cuscuta salina*), arrowgrass (*Triglochin* spp.) and the extremely invasive perennial pepperweed (*Lepidium latifolium*).
- High-Tidal Brackish Marsh: Areas that were probably native mid-tidal marsh on MOTCO have been converted to high marsh by diking and ditching, which limit tidal flooding onto the former marsh plain. In addition to the high marsh species mentioned above, this zone at MOTCO supports San Francisco Bay gumplant (*Grindelia stricta var. angustifolia*), western goldenrod (*Euthamia occidentalis*), salt marsh baccharis (*Baccharis douglasii*), western ragweed (*Ambrosia psilostachya*), tarragon (*Artemisia dracunculus*), and the federally endangered state-listed rare soft bird's-beak (*Cordylanthus mollis ssp. mollis*) and Suisun Marsh aster (*Aster lentus*). The upland-transition portion of the high marsh zone is structurally dominated by coyote brush (*Baccharis pilularis*) and is exaggerated where manmade linear features such as ditch banks and railroad berms are elevated above the marsh plain.

Non-Tidal Habitats

Freshwater aquatic habitats are of very limited extent on MOTCO (see Figure 3-5). They are associated with the nearly 6.5 miles of the man-made Contra Costa Canal that passes through the Tidal Area, Mount Diablo/Seal Creek which drains the north slope of Mount Diablo, and Nichols Creek which flows across the southeastern corner of MOTCO. The lower limit of freshwater habitat associated with the

Mount Diablo/Seal Creek appears to be at a freshwater pond and marsh that lie just north of the MOTCO boundary on the west side of Port Chicago Highway. Downstream (north) of this area, freshwater flows mix with brackish tidal flows from Suisun Bay in the Seal Creek Marsh. A small area of freshwater habitat with marsh vegetation dominated by California bulrush and broad-leaved cattails is associated with the slow-moving, freshwater stream Nichols Creek. Very small ephemeral drainages or wet depressions and patches of freshwater emergent wetland vegetation may exist in other locations in what are otherwise upland areas of MOTCO, but these have not been confirmed.

Non-tidal brackish marshes include formerly tidal but now diked marshes, and marshes on saline soils in non-tidal depressions and drainages. Non-tidal brackish marsh is highly variable and often includes alkali heath, saltgrass, pickleweed, cattails, alkali and three-square bulrush, creeping spikerush, heliotrope (*Heliotropum currasavicum*), and Italian ryegrass (*Lolium multiflorum*). Two small non-tidal, saline depressions exist between the railroads and the southern Seal Creek Marsh (see Figure 3-5). These areas are effectively diked by fill material associated with road and railroad berms and are seasonally ponded by rainfall. They have no surface connections to the Seal Creek Marsh, although they may be underlain by shallow saline groundwater. These areas may have some value as foraging or resting habitat for migratory shorebirds and waterfowl.

There are approximately 1,700 acres of non–native annual grasslands at MOTCO on the slopes of the Los Medanos Hills (see Figure 3-5). Grazing is used to control vegetative growth and to reduce fire hazards in this area. The dominant plant species are non-native grass species that include wild oats (*Avena fatua*), ripgut grass (*Bromus diandrus*), Mediterranean barley (*Hordeum marinum*), and Italian ryegrass, along with a heavy infestation of the noxious, invasive yellow star thistle. This habitat is of great value to grassland wildlife, particularly where the grasslands mingle with marshlands along a broad ecotone on the upper edge of the Tidal Area. A relatively high diversity of amphibian, reptile, bird, and mammal species are supported by the grassland areas. The complete listing of these species is available in MOTCO's INRMP.

Developed/disturbed areas on MOTCO (see Figure 3-5) support non-native vegetation that includes homestead plantings of fruit, shade, and garden trees on the former Port Chicago town site, as well as plantings of eucalyptus. Large, blue gum eucalyptus trees (*Eucalyptus globulus*) apparently were planted by homesteaders as windbreaks and shade trees during the late 1800s occur in a number of locations. Many of the trees are now over 100 feet tall and provide nesting, foraging, and roosting habitat for birds, including great horned owls (*Bubo virginianus*) and Swainson's hawks (*Buteo swainsoni*). The earthen berms at ammunition storage facilities are covered by the highly invasive, non-native ice plant (*Carpobrotus edulis*) and inhabited by a dense population of burrowing California ground squirrels (*Spermophilus beechyii*). Other wildlife in developed/disturbed areas is typical of species that live in close proximity to humans. Barn owls (*Tyto alba*) and other bird species have been observed inhabiting unused old buildings with broken windows and damaged eaves. Swallows have been observed nesting on the Barge Pier.

Bat surveys have been conducted in the past at MOTCO and no bats have been detected on current MOTCO property. However, a single Mexican free-tailed bat (*Tadaria brasiliensis*) was captured in a mist

net in 1993 at a suspected roost site in the Inland Area of the former NWSSBD Concord. Other bat species that potentially occur at MOTCO based on general distribution include California myotis (*Myotis californicus*), long-legged myotis (*M. volans*), long-eared myotis (*M. evotis*), Yuma myotis (*M. yumanensis*), hoary bat (*Lasiurus cinereus*), red bat (*L. borealis*), big brown bat (*Eptesicus fuscus*), western pipistrelle (*Pipistrellus hesperus*), pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Corynorhinus townsendii*) (Navy 2002a).

Special Status Species

For the purposes of this EA, threatened and endangered species refers to federally-listed endangered and threatened species protected by the ESA and ESA critical habitat; species listed as threatened or endangered by the State of California in the California Endangered Species Act or Native Plant Protection Act as threatened and endangered; species protected by the Bald and Golden Eagle Protection Act (BGEPA); and species protected by the Marine Mammal Protection Act (MMPA). The listing of federal and/or state listed threatened or endangered species is provided in Table 3-7. Species occurrence data is based on special status surveys were conducted for the MOTCO Tidal Area targeted for the area of potential affect analyzed in this EA were conducted in 2010. It also references previous comprehensive survey efforts were conducted in 1998-1999 (Downard et al. 1999), and targeted and localized survey efforts were conducted in association with environmental restoration projects in the interim.

Table 3-7 Special Status Species

Common Name	Scientific Name	Status* Federal/State/CNPS *(Critical Habitat Present?)*	Occurrence within Project Area(s)	Responsible Agency	Habitat/Regional Occurrence
PLANTS					
Soft Bird's-beak	*Cordylanthus mollis* ssp. *mollis*	E / R / --	Yes	USFWS	Low marsh zone and eroding banks of Delta tidal brackish marshes. On installation, found in Middle Point Marsh and Hastings Slough.
FISH					
Delta Smelt	*Hypomesus transpacificus*	T / -- / -- *Suisun Bay Designated as Critical Habitat*	Presumed	USFWS	Larval, juvenile, and adult Delta smelt may all be found in Suisun Bay, including the shallow edges and backwater sloughs.
Green Sturgeon	*Acipensir medirostris*	T / -- / -- *Suisun Bay Designated Critical Habitat*	Presumed	NMFS	Suisun Bay supports juvenile, sub-adult, and adult Southern Distinct Population Segment fish, serving as important rearing habitat and an important migratory corridor from the San Pablo and San Francisco Bays to and from the Delta and Sacramento River system.
Central Valley Steelhead	*Oncorhynchus mykiss irideus*	T / -- / --	Presumed	NMFS	An ocean-maturing species that migrates through Suisun Bay, primarily December-April, to spawn upstream.
Central California Coast Steelhead	*Oncorhynchus mykiss*	T / -- / --	Presumed	NMFS	An ocean-maturing species that migrates through Suisun Bay, primarily January-April, to spawn upstream.
Sacramento Chinook Salmon, *Winter Run*	*Oncorhynchus tshawytscha*	E / -- / -- *Suisun Bay Designated as Critical Habitat*	Presumed	NMFS	Adults migrate through Suisun Bay in December-July, with smolts returning downstream to the ocean within one year.
Central Valley Chinook Salmon, *Spring Run*	*Oncorhynchus tshawytscha*	T / -- / --	Presumed	NMFS	Adults migrate through Suisun Bay in March-July, with smolts returning downstream to the ocean within one year.
AMPHIBIANS					
California Tiger Salamander	*Ambystoma californiense*	T / E / --	Possible	USFWS	Permanent freshwater ponds and marshes. Nearest known occurrences are in four ponds within Inland Re-Use Area.
California Red-legged Frog	*Rana aurora draytoni*	T / -- / --	Possible	USFWS	Near-permanent sources of deep water with emergent vegetation. Requires 11-20 weeks for larval development. Nearest known occurrences are within Inland Re-Use Area.
BIRDS					
California Clapper Rail	*Rallus longirostris obsoletus*	E / E / --	Yes	USFWS	Salt and brackish marshes. Not found at MOTCO during 2010 surveys, but have been previously recorded at MOTCO.
California Black Rail	*Laterallus jamaicensis coturniculatus*	-- / T / --	Yes	CDFW	Low-lying salt marshes with abundant pickleweed. Found during 2010 and other surveys at numerous sites within Tidal Area.

Table 3-7 Special Status Species

Common Name	Scientific Name	Status* Federal/State/CNPS *(Critical Habitat Present?)*	Occurrence within Project Area(s)	Responsible Agency	Habitat/Regional Occurrence
California Least Tern	*Sternula antillarum browni*	E / E / --	Possible	USFWS	Colonial breeder on bare or sparsely vegetated sand beaches or alkali flats. Last observed on installation in 1982.
Golden Eagle	*Aquila chrysaetos*	BGEPA/ --/ --	Possible	USFWS	Feeds in open terrain and nests on cliffs and large trees. May occur, but has not been observed.
MAMMALS					
Salt Marsh Harvest Mouse	*Reithrodontomys raviventris*	E / E / --	Yes	USFWS	Requires large pickleweed flats with adjoining refuge areas above the High Tide line. Based on 2010 survey data, there is an up to 30 percent probability for this species to occur on MOTCO, primarily in areas of Pier Marsh; occurrence in other marsh areas cannot be discounted, but regarded as very low potential.
Humpback Whale	*Megaptera novaeangliae*	E / -- / --	Presumed	NMFS	An infrequent migrant in the San Francisco Bay and Bay/Delta estuaries.
Pacific Harbor Seal	*Phoca vitulina richarii*	FP / -- / --	Presumed	NMFS	Spotted periodically in Suisun Bay. Protected by the MMPA.
California Sea Lion	*Zalophus californianus*	FP / -- / --	Presumed	NMFS	Spotted periodically in Suisun Bay. Protected by the MMPA.

Note:
*** T** = Threatened; **E** = Endangered; **R** = Rare; **FP** = Fully Protected; **BGEPA** = Bald and Gold Eagle Protection Act

3.4.2 Environmental Consequences

RPMP Proposed Action Alternative

RPMP Category A Projects

The majority of the area of potential ground disturbance associated RPMP Category A projects is within previously disturbed or developed areas within MOTCO. The proposed P74877, Visitor Control Center; P76091, Facilities Maintenance Building; and P76092, Security Headquarters Building are within the Inland Area cantonment area where vegetation present is mostly ruderal (i.e., vegetation that is first to inhabit disturbed soils, often weedy) common species. The majority of the P76086, Lightning Protection project area of potential disturbance is within previously disturbed cantonment areas of the Tidal Area. The P76087, Equipment Maintenance Buildings; P76093, Gate 5 Truck Inspection Station; and the majority of P74877, Security Fencing component are proposed within the non-native annual grassland habitats.

There are three localized areas of disturbance associated with Category A projects that could affect the habitats associated with the following dominant plant associations (see Figure 3-5):

- Hastings Marsh south of the "R" Buildings and along Rhodes Road: Some components of P74877, Security Fencing would install fencing along the roadway adjacent to Hastings Marsh south of the "R" Buildings and along the Rhodes Road and the "R" Buildings area. In addition, the P76086, Lightning Protection project for the "R" Buildings is adjacent to this marsh. The dominant plant species in this area are broad-leaved cattail (*Typha latifolia*) south of Froid Road and saltgrass (*Distichlis spicata*) east of Rhodes Road. South of a channelized stream, the dominant plant cover is pickleweed (*Salicornia depressa*).
- Pier Marsh/Middle Point Marsh near Pier 4: Some components of the P74877, Security Fencing project would erect new security fencing along White Road adjacent to these marshes. Due to the presence of the federally endangered, state-listed rare soft bird's beak, all fence installation shall be from the roadway surface at this location. The area adjacent to the roadway is primarily cattail with increased occurrence of broadleaved pepperweed near Stevens Road as well as some saltgrass, common reed, and Baltic rush. This fenceline traverses the Pier 4 Slough along a bridge on White Road.
- Pier Marsh east of Mordoh Road: the area of potential effect for P76086, Lightning Protection project for Class Yard 2, would be adjacent to this marsh. The dominant plant species in this area of potential effect is cattail.

General wildlife potentially affected by implementation of Category A projects would primarily be birds and small mammals that inhabit the areas described above. Impacts to these species would largely be localized. During construction, most species would be expected to flee the area. After the construction phase is complete, landscaping for new facilities would provide minor localized urban replacement habitat in the built environment. In adjacent undeveloped areas including the sensitive marshland habitats associated with the P74877, Security Fencing project and P76086, Lightning Protection project,

species would be expected to return after the disruptions associated with construction activities (i.e., noise and human activity) have ceased.

Special Status Species

The potential for impacts to special status species associated with implementation of the RPMP Category A projects primarily relate to the three localized areas of potentially affected sensitive tidal marsh habitat described above.

The implementation of the Category A projects is not likely to affect California least tern (federally and state endangered), as habitat for this species does not occur in the area of potential impact for the Category A projects. The implementation of the Category A projects also is not likely to affect California red-legged frog (federally threatened) or California tiger salamander (federally threatened and state endangered). However, in accordance with the INRMP, the Army will conduct surveys to determine likely presence of California red-legged frog or California tiger salamander. Although extensive past survey has occurred in the area, no survey has ever indicated the presence of either the California red-legged frog or California tiger salamander within MOTCO's Tidal Area. Previous investigations covered the entire MOTCO Tidal Area and intensely surveyed potentially suitable habitat for these species. Though the Category A P76093 project site has habitat that would support these species if they were present, the site was never considered potential habitat and therefore was never surveyed for either species. The nearest documented occurrence of the California red-legged frog is 2.2 miles southeast of the project site and the nearest documented occurrence of the California tiger salamander is 2.6 miles to the southeast of the project site. The Army will coordinate with USFWS as the surveys are conducted and in any required follow-on.

In accordance with Section 7 of the ESA, the Army consulted with the USFWS and NMFS regarding the potential for implementation of the Proposed Action to affect threatened and endangered species or critical habitat. The Army initiated informal consultation with the USFWS and NMFS on 14 October 2011 and received a letter of concurrence from NMFS on 6 August 2012 and from USFWS on 14 June 2013. The consultations are summarized below and the final BAs and agency concurrence letters are provided in Appendix A. Specifically, the consultations addressed two Category A RPMP projects: Lightning Protection (P76086) and security fencing associated with the Visitor Control Center project (P74877), and 19 Category B demolition projects including four in-water projects (Facilities 123, 125, 172, and 173), 12 land-based projects near the shoreline or Hastings Marsh (Facilities 100, 111, 144, 160, 407, 410, 411, A-11, A-19, A-31, 122, and A-29), and three over-water projects (Facilities 102, 105, and A-21). In these consultations, the Army determined that the Proposed Action may affect, but is not likely to adversely affect threatened and endangered species protected under the ESA and that the action would not result in the destruction or adverse modification of designated critical habitat of any of the following eight species:

- Soft bird's-beak, *Cordylanthus mollis spp. Mollis*, Endangered;
- California clapper rail, *Rallus longirostris obsoletus*, Endangered;
- Salt marsh harvest mouse, *Reithrodontomys raviventris*, Endangered;
- Southern Green Sturgeon, *Acipenser medirostris*, Threatened;

- Central California Coastal Steelhead, *Oncorhynchus mykiss*, Threatened;
- Central Valley Steelhead, *Oncorhynchus mykiss*, Threatened,
- Central Valley Spring-run Chinook Salmon, *Oncorhyncus tshawytscha*, Threatened; and
- Sacramento River Winter-run Chinook Salmon, *Oncorhynchus tshawytscha*, Endangered.

The soft bird's-beak, California clapper rail, and salt marsh harvest mouse are under the jurisdiction of USFWS and the remaining ESA-listed salmonids and green sturgeon are under the jurisdiction of NMFS.

In August 2012, NMFS concurred with the Army's determination of "may affect, not likely to adversely affect" for the aforementioned species under NMFS jurisdiction. In June 2013, after the Army decided to remove the four in-water demolition projects from the Proposed Action (see addendum to this EA), USFWS concurred with the Army's determinations of "may affect, not likely to adversely affect" for the soft bird's beak, California clapper rail, and salt marsh harvest mouse.

Potential impacts to the California black rail, which is not an ESA listed species, but which is state listed as threatened by CDFW, are minimized with management measures.

Special status species surveys were conducted in 2010 for the entire area of potential affect for RPMP projects. Occurrences of soft bird's beak were located in the area of potential effect for elements of P74877, Security Fencing located in the Pier 4 area south of White Road and east of Stevens Road. In addition, there is a slight chance that California clapper rail and salt marsh harvest mouse may be affected and a fair chance that California black rail may be affected by implementation of the elements of P74877, Security Fencing, and P76086, Lightning Protection projects, as these projects are proposed adjacent to sensitive marsh habitats. All three localized areas adjacent to marsh habitats (Hastings Marsh south of the "R" Buildings and along Rhodes Road, Pier Marsh/Middle Point Marsh near Pier 4, and Pier Marsh east of Mordoh Road) have a very low potential for occurrence of salt marsh harvest mouse (i.e., occurrence cannot be discounted, but the area provides potential dispersal or sink habitat).

As further detailed in Appendix A, the following protective measures would be implemented and are incorporated into the proposed action for the three localized areas of marsh habitat potentially impacted by Category A projects:

1. A USWFS-approved biologist will conduct pre-construction surveys for threatened and endangered species. Based on the survey results, the USFWS-approved biologist will designate the area to which project activities must be confined. This will include establishment of a 10-ft buffer of open ground between potential salt marsh harvest mouse habitat and project activities.
2. The results of the above will be provided to USFWS and CDFW. If any threatened or endangered species are found present at the site of the proposed disturbance, no activity will occur until the USFWS and CDFW has reviewed and approved the site-specific avoidance plan.
3. To the extent practicable, construction and demolition activity for the projects listed in item 1 will be avoided during the rail breeding season (from 1 February through 31 August for the California clapper rail) and (15 March through 31 July for California black rail) and within two hours before or after spring tide events.

4. Prior to ground disturbing activities for the projects listed in item 1, there will be mandatory training of all construction personnel by a USFWS-approved wildlife biologist to increase awareness of threatened and endangered species presence and minimization and avoidance measures.
5. Equipment access for RPMP Category A project P7877, Security Fence, construction will be limited to the minimum necessary to upgrade the security fence. Security fence installation in the Pier 4 area (where soft bird's beak is known to occur) will be from the roadway surface only.
6. Erosion and sedimentation control and spill prevention and control plans will be developed and implemented at construction sites in accordance with NPDES requirements.

With the implementation of these measures, it was determined that the implementation of the Category A projects may affect, but would not likely adversely affect threatened and endangered species.

Category B RPMP Projects

The vast majority of proposed Category B demolition projects are located in developed cantonment areas of MOTCO where wildlife, wildlife habitat, and special status species impacts would be minimal. Vegetative removal would be limited to landscaped areas and ruderal species that occur immediately adjacent to the structures. Equipment staging and demolition debris stockpiling will occur in areas that are devoid of vegetation. The INRMP is aligned with the RPMP and provides the following SOPs to be implemented for all demolition projects:

1. No more than 2 weeks prior to demolition, have a qualified wildlife biologist or licensed animal control specialists inspect all structures to assess wildlife use and occupancy.
2. If non-vermin wildlife are found to be using a structure (e.g., bats, raccoons, opossums, etc.), then have a licensed animal control specialist live-trap and relocate them to an approved site. Nuisance species that are considered "vermin" (i.e., disease spreading) may be humanely killed using methods described in MOTCO's *Pest Management Plan*.
3. For bird nests on or in buildings and other structures, nests will not be disturbed or removed during the March to September timeframe, as breeding native birds are protected by the MBTA; limit removal of active bird nests to the non-breeding season (October-March). Should there be a need to remove or disturb active bird nests during the breeding season, there would be coordination with the USFWS on MBTA compliance requirements.

Seven proposed demolition projects are at or very near the MOTCO shoreline: Waterfront Ops Building (111), Shed (144), Smoke Shack (100), Steam Plant for Pier 2 (160), Closed Oil Aboveground Storage Tank (410), Closed Oil Aboveground Storage Tank (411), and Steam Plant Building for Pier 4 (407). The following five proposed demolition projects are near the interface of the cantonment area with Hasting Marsh: Storage (A-11), Shed (A-19), Ammunition Transfer Building (A-31), Defunct Salvage Yard Office (122), and Closed Lumber Salvage Shop (A-29). Both the shoreline and Hasting Marsh areas provides habitat for California black rail, potential habitat for California clapper rail, and very low occurrence potential habitat for salt marsh harvest mouse. In addition to the measures identified for all Category B

projects above, the following additional management measures will be implemented for these proposed demolition projects:

1. A USWFS-approved biologist will conduct pre-construction surveys for threatened and endangered species. Based on the survey results, the USFWS-approved biologist will designate the area to which project activities must be confined. This will include establishment of a 10-ft buffer of open ground between potential salt marsh harvest mouse habitat and project activities.
2. The results of the above will be provided to USFWS and CDFW. If any threatened or endangered species are found present at the site of the proposed disturbance, no activity will occur until the USFWS and CDFW has reviewed and approved the site-specific avoidance plan.
3. To the extent practicable, construction and demolition activity for the projects listed in item 1 will be avoided during the rail breeding season (from 1 February through 31 August for the California clapper rail) and (15 March through 31 July for California black rail) and within two hours before or after spring tide events.
4. Prior to ground disturbing for the projects listed in item 1, there will be mandatory training of all construction personnel by a USFWS-approved wildlife biologist to increase awareness of threatened and endangered species presence and minimization and avoidance measures.
5. Erosion and sedimentation control and spill prevention and control plans will be developed and implemented at construction sites in accordance with NPDES requirements.

Four of the proposed demolition projects would involve in-water work: Southwest Lighter Pier (123), Tug Pier (125), Seal Island Lighter Berths (172), and Seal Island Lighter Berths (173) and three demolition projects would involve over-water work at the piers: Smoke Shack (102), Smoke Shack (105), and Pier 2 Offices/Battery Charging Area (A-21). For these projects, the following additional management measures would be implemented:

1. To the extent practicable, in-water work will be confined to the period of 1 September-30 November.
2. No equipment or vehicles will be stored on the pier when not in use to reduce the potential for any spills or debris entering the water column.
3. All vehicles and equipment will be properly maintained to reduce the potential for spills of petroleum-based products. Containment booms and absorbent materials will available during the activity and will be deployed immediately in the event of a spill to limit its spread.
4. To minimize the potential for impacts from hazardous or regulated materials, all fuel, waste oils, and solvents will be stored well away from the construction zone. Any spill of such materials will be immediately contained by means of an earthen barrier and all affected soils will be removed and placed in appropriate containers for proper disposal offsite. The MOTCO Fire Department, Department of Public Works, and Environmental Compliance are notified immediately following the spill to ensure response actions are appropriate.
5. To minimize disruption of the sediment layer below the pier, pilings will be carefully removed via the “vibratory hammer” or “direct pull” methods. The vibratory hammer method involves dislodging the pile, and then slowly lifting the pile (in its entirety) from the sediments. The direct

pull method involves placing a choker around the pile and slowly pulling upward with a crane or other equipment.

6. If timber pile breakage occurs (World War II-era pilings may be more vulnerable), the stub would be removed utilizing a hydraulic shear and crane or other equipment to cleanly pull out the stub.
7. Minimal cutting and boring will occur over the water; if necessary, however, tarps or other capture devices will be used to reduce the likelihood of materials entering the water.
8. Debris that falls in the water will be captured using a floating surface boom and promptly removed.
9. All debris and damaged pilings will be slowly lifted from the water and placed in a containment basin on the pier, without attempting to clean or remove any adhering sediment. This material will then be disposed of properly offsite in a manner that does not expose or affect aquatic resources.
10. Conduct a qualitative eelgrass/SAV survey immediately prior to piling removals (if proposed within the April-October growing season) for presence/absence of eelgrass shoots or other submerged aquatic vegetation by examining the footprint and immediate vicinity (10 meter buffer) at low tide. If any eelgrass shoots or SAV are present, implement turbidity control measures (e.g., slit curtains) to prevent impacts to eelgrass/submerged aquatic vegetation

Temporary and very minimal impacts to bay bottom and water column habitats would occur from increased suspended sediments and turbidity could potentially affect EFH, HAPC, and SAV. Based on the high degree of turbidity already present at the project location (caused by winds, vessel movement, runoff from storm events, benthic foraging activities of other aquatic organisms, and tidal currents), turbidity plumes created by project activities are expected to produce conditions very minimally different from normal. These minor and localized elevated levels of turbidity would quickly disperse from the area with tidal circulation and be minimized with implementation of NMFS' EFH conservation recommendation (management measure 10 above). The proposed demolitions would add localized areas of unshaded bottom habitat that would be a minor benefit to EFH habitat and SAV. Removal of the pilings would disrupt or remove the associated algae and invertebrates, either on the pilings or in the substrate, which may affect feeding opportunities for fish. Any effect would be very small in relation to the area of identical habitat on nearby pilings. There would be localized long-term impacts from the removal of encrusting organisms; however, such impacts would be minor. Therefore, there would be no adverse effect on EFH, HAPC, or SAV from increased turbidity. With respect to Essential Fish Habitat (EFH), the Army concluded that there will be no adverse effect on EFH. In August 2012, NMFS agreed with this EFH assessment with a conservation recommendation for EFH that the Army has agreed to (management measure 10 above).

Any impact to marine mammals from implementation of the in-water, overwater, and/or shoreline demolition projects at MOTCO would be discountable. The most likely species to be in Suisun Bay during the in-water work would be harbor seals, others potential species are transient species-the infrequent occurrence of California sea lion and rare occurrence of humpback whale. Given the low intensity, intermittent and infrequent duration of activity associated with the proposed demolitions,

potential impacts to marine mammals would be, therefore, be extremely unlikely to occur. Therefore, no injury or mortality of any marine mammal species is reasonably foreseeable and no adverse effects on the annual rates of recruitment or survival of any of the species and stocks assessed would be expected as a result of implementation of the Category B projects.

Category C Projects

The 19 RPMP Category C projects have been carefully sited to minimize impacts on sensitive species and habitats, although not all such impacts can be avoided due to mission requirements. At this time, planning for these projects remains largely conceptual and not enough details are available to consult with agencies on potential impacts to threatened and endangered species. Therefore, the analysis of potential impacts to biological resources for Category C projects is commensurate with the level of detail available on the projects, including rough estimations of project footprints. Additional detailed analysis, including agency consultation, will be conducted in the future for these projects.

Overall, habitat impacts from Category C projects are not extensive, and would not result in a substantial loss of important wildlife habitat. The majority of these projects would impact already disturbed non-native annual grassland and existing developed areas. Table 3-8 summarizes the biological resources considerations for Category C projects with the greater potential for impacts to biological resources.

Table 3-8 Biological Resource Impact Considerations for Category C Projects

Projects	Summary of Potential Biological Resource Impacts	Threatened and Endangered Species Impact Potential	Agencies with Jurisdiction
RPMP-9, Site Manager/ Stevedore Break Facility	Localized ruderal vegetative removal from 0.2-acre previously disturbed site, replacement with landscaping, short-term construction related activity and long-term site of human activity	Very low potential for salt marsh harvest mouse, presumed California black rail, and potential California clapper rail in the area	USFWS and CDFW
RPMP-13, 14, 15, 16, and 18, Various Linear Projects	Localized ruderal vegetative removal from various cantonment area sites, localized MSR crossings of waterways along White Road; short-term construction related activity	Very low probability for salt marsh harvest mouse throughout most of the area, with some portions of White Road abutting areas of low potential for the mouse (20-30 % probability), presumed California black rail, and potential California clapper rail in the area	USFWS and CDFW
RPMP-19, Reconfigure Barricaded Rail Sidings Area and Expand MOTCO Interchange Yard	Earth disturbing activity affecting primarily non-native plant cover over the approximately 175-acre area; some areas of pickleweed vegetation near the shoreline; short-term construction related activity	Very low potential for salt marsh harvest mouse, presumed California black rail, and potential California clapper rail in the area	USFWS and CDFW

Table 3-8 Biological Resource Impact Considerations for Category C Projects

Projects	Summary of Potential Biological Resource Impacts	Threatened and Endangered Species Impact Potential	Agencies with Jurisdiction
RPMP-20, Establish Marina for Security Boats and Berthing for Fire Boat	Long-term localized hydrodynamic impacts, addition of substrate habitat, and construction site management issues including increased turbidity, debris management, management of hazardous materials, in-water noise, and associated with construction of approximately 275 linear feet breakwater	In-water construction that may affect listed fish species as well as EFH, HAPC, SAV, and other shoreline habitat	NMFS and USFWS
RPMP-22, Restore Barge Pier to Original Design Capacity	In-water work could be required in addition to over-water work, resulting in construction site management issues including debris management and management of hazardous materials	In-water and over-water work that may affect listed fish species as well as EFH, HAPC, SAV, and other shoreline habitat	NMFS and USFWS
RPMP-23, Reconfigure "R" Buildings	Localized ruderal vegetative removal from previously disturbed site, replacement with landscaping, short-term construction related activity and long-term site of human activity adjacent to environmentally sensitive Hastings Marsh	Very low potential for salt marsh harvest mouse, presumed California black rail, and potential California clapper rail in the area	USFWS and CDFW
RPMP-24, Reconfigure "S" Buildings	Localized ruderal vegetative removal from previously disturbed site, replacement with landscaping, short-term construction related activity and long-term site of human activity adjacent to environmentally sensitive Hastings Marsh	Very low potential for salt marsh harvest mouse, presumed California black rail, and potential California clapper rail in the area	USFWS and CDFW
RPMP-25, Improve Pier 4 Parking Lot	Construction-related site management issues including noise, erosion and sedimentation control, and management of hazardous materials	Very low potential for salt marsh harvest mouse, presumed California black rail, and potential California clapper rail in the area	USFWS and CDFW

The in-water work for the new marina and boat berths, and the restoration of the barge pier, would require consultation with NMFS for potential impacts to green sturgeon, Central Valley steelhead, Central California Coast steelhead, Sacramento "winter run" Chinook salmon, and Central Valley "spring run" and "winter run" Chinook salmon as well as potential EFH impacts. USFWS would also need to be consulted on all in-water work because of potential impacts to Delta smelt. Consultations for in-water work would likely result in a requirement for seasonal construction limitations and other minimization avoidance measures.

Category D Projects

Similar to the Category C projects, there are few details available on the 12 proposed RPMP Category D projects to assess potential impacts to biological resources. Detailed follow-on analysis and agency consultations would occur in the future in the event that these projects come to fruition. Potential biological resource impacts of concern and likely requiring agency consultation are noted in Table 3-9.

Table 3-9 Biological Resource Impact Considerations for Category D Projects

Projects	Summary of Potential Biological Resource Impacts	Threatened and Endangered Species Impact Potential	Agencies with Jurisdiction
Rebuild Pier 4 in Tidal Area	Involves in-water and over-water work including pile driving and construction site management including noise, erosion and sedimentation control, and management of hazardous materials; long-term would be little change in conditions affecting biological resources, although increased shading of sub-bottom habitat could potentially occur	In-water construction that may affect listed fish species as well as EFH, HAPC, SAV, and other shoreline habitat including very low potential for salt marsh harvest mouse, presumed California black rail, potential California clapper rail, and confirmed soft-bird's beak in the area	NMFS, USFWS, and CDFW
Construct 13 ac of Hardstand Staging in Tidal Area	Construction-related issues associated with removal of ruderal species and noise and construction site management including erosion and sedimentation control; long-term increased impervious surface and introduction of additional human activity in the area	Adjacent habitat is muted tidal marsh that supports California black rail, and potentially California clapper rail and very low potential for salt marsh harvest mouse	USFWS and CDFW
Construct Vehicle Wash Rack near Lot 2 in Tidal Area	Construction-related issues associated with removal of ruderal species and noise and construction site management including erosion and sedimentation control; long-term increased impervious surface and introduction of additional human activity in the area	Adjacent habitat is muted tidal marsh that supports California black rail, and potentially California clapper rail and very low potential for salt marsh harvest mouse	USFWS and CDFW
Add Jetty/Finger Platform to Pier 4 in Tidal Area	Involves in-water and over-water work including pile driving and construction site management including noise, erosion and sedimentation control, and management of hazardous materials; long-term increased shading of sub-bottom habitat	In-water construction that may affect listed fish species as well as EFH, HAPC, and SAV	NMFS and USFWS
Improve Stevens Road MSR and Interchange Yard/Port Chicago Highway Connection	Construction-related disturbance and site management along existing road corridor that is disturbed and dominated by ruderal vegetation and non-native grasses, but crosses through Pier Marsh	Area has very low potential habitat for salt marsh harvest mouse, presumed presence of California black rail and potentially California clapper rail.	USFWS
Dredge all Piers to -37 ft MLLW (plus 2-3 ft over-depth)	Dredging activities would disturb sediments in Suisun Bay and result in noise and increased turbidity through the water column during the period of construction; long-term impacts would be minimal as the area has been previously been dredged at lower depths and species that currently inhabit the area would be expected to return.	In-water construction that may affect listed fish species, EFH, HAPC, SAV, and marine mammals.	NMFS and USFWS

RPMP Inland Area Focus Alternative

From a biological and natural resources perspective, this alternative does not differ significantly from the proposed action. Under the RPMP Inland Area Focus Alternative, emphasis is placed on developing the Inland Area as much as possible, which is primarily either already developed or contains areas of landscaping, ruderal weeds and forbs, and patches of non-native annual grassland. The overall scope of projects – including facility size and footprint – differs only slightly from the proposed action, most notably with increased demolition activity and the addition of a 60,000 SF warehouse project.

Biological resources impacts from Category A projects under the RPMP Inland Area Focus Alternative differ only slightly from those of the RPMP Proposed Action Alternative. There is little difference in the habitat types and potential impacts to species with the implementation of P76093, Truck Inspection Station and P76087, Equipment Maintenance Buildings in the Inland Area rather than the Gate 5 area (as proposed). There may be slightly lesser impacts because construction of are located in the Gate 5 area grazed, non-native grasslands of little biological value, and would be in disturbed/developed areas under this alternative (see Figure 3-6).

The RPMP Inland Area Focus Alternative would also result in 14 additional Category B structural demolition projects, totaling approximately 114,000 SF. Nearly all of these proposed demolition projects (E-61 and E-106 are the exceptions) are located near Hastings Marsh, where there is very low occurrence potential for salt marsh harvest mouse, presumed California black rail, and potential California clapper rail (see Figure 3-6). As with the proposed action, Demolition SOPs to Protect Natural Resources would be implemented to minimize potential impacts to migratory birds and other wildlife using those buildings and construction site management BMPs would minimize potential impacts to special status species.

Category C projects as outlined for the Proposed Action would not differ under the RPMP Inland Area Focus Alternative.

Several of the Category D projects that involve construction of new Hardstand Staging Areas would also be moved to the Inland Area under this alternative but, again, there would be little difference with regards to biological resource issues as these projects were already sited in disturbed/developed portions of the Tidal Area under the proposed action. There would potentially be lower magnitude of impacts on some biological resources associated with sensitive marsh habitats, as these biological resources could be indirectly impacted by the construction-related and long-term increase in human activity with the proposed construction of various hardstand staging areas in the Tidal Area under the RPMP Proposed Action Alternative.

INRMP Proposed Full Implementation Alternative

The Army has coordinated with CDFW, USFWS, and NMFS in the development of the INRMP for MOTCO and the Final INRMP reflects mutual agreement of these agencies concerning conservation, protection, and management of fish and wildlife resources. Ten categories of resource management were identified in the INRMP: special status species management, wetlands/shoreline management, invasive species control and management, cantonment area wildlife control, water quality and erosion management,

migratory bird management, recreation management, wildland fire management, grazing outlease program, and environmental restoration. The management strategies/recommendations for each of these, which are addressed in Sections 4.1 through 4.10 of the MOTCO INRMP, are summarized in Table 2-4.

While implementation of the INRMP, overall, and the majority of the individual INRMP management actions, would result in net beneficial environmental effect, there is the potential for adverse impacts from implementation of some INRMP programs. The Livestock Grazing, Fire Management, and Upland Invasive Species Control and Management programs could all result in some level of unintended negative impacts, including take of non-targeted species, potential for fire escapes and resulting impacts on quality habitat, some soil disturbance and possibly accelerated erosion, and toxicity impacts from improper use of herbicides. The Cantonment Area Wildlife Control Program could result in take of non-targeted species, possibly unintended take of migratory birds, and disturbance of desirable species. Should methods to attract raptors be used for California ground squirrel control, such measures would not be implemented within salt marsh harvest mouse habitat. In the unlikely event that California tiger salamander or California red-legged frog occur in the spring-fed waters of the Los Medanos Hills, the managed ongoing livestock grazing program at MOTCO would have an overall beneficial impact on these species.

The approach for the perennial pepperweed control program will be to develop the program in a collaborative effort with researchers and the resource agencies to identify effective control methods that would avoid or minimize potential negative effects on non-target species and habitats. A specific course of action would be built based on best available science (e.g., Hutchinson et al. 2011) and would not be implemented until the resource agencies have had opportunity to review and comment on proposed methods, and any required consultations have been completed. The program would test and analyze control methods in small scale test plots to monitor and minimize potential impacts to non-targeted species and other natural resources. These efforts will be coordinated with CDFW, USFWS, and NMFS at each step – development of planned approach, implementation, monitoring, and adaptive management. If, at any point in this process, it is determined by the Army and these agencies that the program may affect federally and/or state-listed species, the appropriate consultation(s) will be initiated. As such, the proposed action may affect, but is not likely to adversely affect, any listed species or critical habitat. However, as details of the program are developed, the Army will update and seek comment from the resource agencies and would re-engage in consultations as warranted by new information.

Wildlife Habitats

The INRMP was designed to provide overall net benefits to all native fish and wildlife species inhabiting the upland habitats, tidally-influenced marshes, and nearshore waters within MOTCO's boundaries. None of the ten categories of resource management programs identified in the INRMP would have any long-term negative effects on species or their habitats at MOTCO. There are always negative effects from grazing in hilly countryside with numerous small drainages, including some soil erosion and water quality degradation, but the benefits of grazing and maintaining low grassland fuel loads far outweigh

the dramatic effects wildland fire might have if it were to burn unchecked throughout MOTCO. Similarly, a program to control the spread of the non-native, invasive perennial pepperweed using aquatic herbicides has water quality and native species short-term risks associated with it if used improperly, but the potential benefits of long-term control and even eventual eradication outweigh the risks and are in line with Bay Area habitat goals and objectives.

Special Status Species

As with wildlife habitats, special status species present within MOTCO's boundaries would experience the same overall net benefits from implementation of the ten management programs prescribed in the INRMP. In particular, species inhabiting the tidal marshes and upland transition zones, such as saltmarsh harvest mouse, California clapper rail, and California black rail, would benefit from focused wetlands and shoreline management approaches, water quality and erosion management strategies, and would be expected to experience less competition and improved habitat quality with invasive species control measures.

INRMP Partial Implementation Alternative

The INRMP Partial Implementation Alternative is the same as the INRMP Proposed Full Implementation Alternative, except it implements only those projects categorized in DoD Instruction 4715.3 as Class 0 (Recurring) and Class I (Current Compliance) projects. It would not implement Class II (Maintenance) or Class III (Enhancement Actions beyond Compliance) projects.

Wildlife Habitats

Under this alternative, there would be fewer habitat improvement actions because programs intended only to enhance and maintain habitat, beyond what is required for regulatory compliance, would be dropped. Stewardship strategies would not be implemented, and habitat quality would not be enhanced. Both terrestrial and aquatic habitats infested with non-native species would remain in that condition, possibly resulting in their further spread. There would also be no actions implemented to attempt to improve water quality and control erosion beyond their current levels, and no projects aimed at improving tidal circulation would take place, thus flushing of most tidal marshes would remain constrained.

Special Status Species

The INRMP Partial Implementation Alternative would provide a lesser level of long-term management options for special status species. Again, under this alternative, fewer actions would be implemented to actually increase species numbers to further their recovery; population numbers at MOTCO might only be sustained at current levels, and the quality and amount of habitat being occupied might not change. Also, fewer research and partnering initiatives would be pursued under this alternative, so opportunities to experiment with, monitor, and then implement promising invasive species control techniques or new ground squirrel management options would not be realized.

ICRMP Implementation Alternative

Implementation of the proposed ICRMP would not affect biological resources.

No Action Alternative

Implementation of the No Action alternative would not result in impacts to habitats or special status species. Existing natural resource management programs would continue at their current pace and level, which provides for maintenance of current conditions, protection of federally and state-listed species and their habitats, grazing of the grasslands, fire management and control, and consultations with NMFS, USFWS, and CDFW on an as needed basis for maintenance and repair projects. The short-term construction and demolition-related impacts on habitats and special status species from RPMP projects would not occur. The potential improvements to habitat quality and species diversity and abundance noted above for the INRMP Proposed Full Implementation Alternative, however, also would not occur.

3.5 Land Use and Coastal Zone Management

3.5.1 Existing Conditions

The current pattern of land use at MOTCO concentrates administrative and security/safety land uses in the Inland Area. The majority of the 115-acre area is currently undeveloped/available for development. Much of this land was formerly occupied by Navy administrative and housing facilities in support of NWSSBD Concord, which have since been demolished.

Land use in the Tidal Area serves the primary mission of MOTCO roughly divided into waterfront operations occurring in the north adjacent to Suisun Bay, ammunition holding and transfer facilities in the center, and the "Q Area" to the east. Large portions of the Tidal Area are marshlands/Wetlands Preserve lands within the ESQD arcs. The ammunition transfer pads and port operations are separated by the BNSF and UPRR railroad corridors. Ammunition holding/staging is the most prominent active land use in the Tidal Area, with approximately 8 percent of lands devoted to this function. Piers 2, 3, and 4 are the centerpiece of the Tidal Area and, together, make up the majority of the 6 percent of lands used for operations.

This land use pattern has dominated the use of the Tidal Area for the past several decades. Few facilities have been constructed or undergone improvement in recent years. A number of existing facilities are vacant and not used in support of the current MOTCO mission. The existing pattern of development is relatively efficient, with similar or supporting uses close to one another and dissimilar uses separated.

The coastal zone discussion specifically refers to compliance with the CZMA (16 USC § 1451, et seq., as amended). In accordance with Section 307 of the CZMA and 15 CFR 930 subpart C, Federal agency activities affecting a land or water use or natural resource of a state's coastal zone must be consistent to the maximum extent practicable with the enforceable policies of the state's coastal management program (National Oceanic and Atmospheric Administration [NOAA] 2004). The CZMA establishes national policy to protect resources in the coastal zone. CZMA policy is implemented via NOAA-approved state coastal management programs. Federal lands are excluded from the jurisdiction of such approved state coastal management programs. The CZMA and its implementing regulations, however,

provide that federal agencies must determine if it is reasonably foreseeable that their proposed actions, whether inside or outside of a state's coastal zone, will directly or indirectly affect any land or water use or natural resource within that coastal zone. The CZMA requires that federal activities affecting any coastal use or resource of a state must be consistent to the maximum extent practicable with the enforceable policies of the state's NOAA-approved coastal management plan.

The San Francisco Bay Conservation and Development Commission (BCDC) is the federally-designated state coastal management agency for the San Francisco Bay segment of the California coastal zone. This designation empowers the Commission to use the authority of the federal CZMA to ensure that Federal projects and activities are consistent with the policies of the Bay Plan and state law. The coastal zone for the BCDC includes the open water, marshes, and mudflats of greater San Francisco Bay, and areas 100 feet inland from the line of highest tidal action. The boundary also includes the Suisun marsh and buffer zone: managed wetlands diked off from the Bay; and open waters diked off from the Bay and used in salt production (NOAA 2004). The BCDC coastal management program is based on the provisions and policies of the McAteer-Petris Act, Suisun Marsh Preservation Act of 1977, San Francisco Bay Plan, Suisun Marsh Protection Plan, and BCDC administrative regulations. MOTCO is located in the Suisun Bay and Marsh area of the San Francisco Bay Plan (Plan Map 3).

3.5.2 Environmental Consequences

RPMP Proposed Action Alternative

Implementation of the proposed action would result in changes to land use at MOTCO as prescribed by the RPMP. The RPMP provides for effective and orderly sustainable facility design and installation development that support the mission, real property management, local community/installation land use zoning, and other issues affecting existing or future development potential at the installation. The RPMP integrates real property master planning interests of tactical mission and functional areas, tenant organizations, higher headquarters, and surrounding civilian communities. This EA focuses on the short-term proposed development for MOTCO, which is focused on the ongoing ammunition mission. It includes addressing current facility deficiencies, optimizing functional relationships, and implementing changes needed due to Navy-Army realignment actions, while also planning in a manner that allows for the flexibility to accommodate the long-range vision. The long-range vision is to transform the installation into a versatile, modern, and efficient seaport capable of receiving, staging, and onward moving ammunition and general cargo as necessary to meet DoD requirements.

More specifically, the proposed future land use plan for MOTCO outlined in the RPMP aims to:

- Eliminate explosive safety waivers wherever feasible;
- Site all new facilities in compliance with explosive safety requirements;
- Ensure new facilities and functions are compatible with the current and future ammunition mission when considering increase of general cargo operations;
- Maximize efficiencies;
- Consolidate related functions into composite facilities/complexes;.
- Comply with all regulatory requirements;

- Comply with the INRMP prescriptions for the Wetlands Preserve Area; and
- Balance improvement and demolition programs.

Therefore, the implementation of the proposed action would have a beneficial impact on land use.

As detailed in Appendix B, the implementation of the proposed action would be consistent to the maximum extent practicable with the BCDC coastal management program for the San Francisco Bay segment of the California coastal zone.

RPMP Inland Area Focus Alternative

Impacts to land use would be similar as described under the RPMP Proposed Action Alternative. However, under the RPMP Inland Area Focus Alternative, 115 acres Inland Area would be developed rather than the Gate 5 area of the Tidal Area as under the Proposed Action Alternative. The majority of this 115-acre area is currently undeveloped/available for development so no adverse impacts are expected. As such, overall beneficial impacts to land use would be anticipated from implementation of this alternative.

In addition, implementation of the RPMP Inland Area Focus Alternative would be consistent to the maximum extent practicable with the BCDC coastal management program for the San Francisco Bay segment of the California coastal zone.

INRMP Proposed Full Implementation Alternative and Partial Implementation Alternative

The RPMP and INRMP were prepared to be complementary of one another. Therefore, implementation of the INRMP proposed or Partial Implementation Alternative would not impact land use. There would be beneficial impacts to the coastal zone particularly with regard to management of wetlands and the Wetland Preserve, and tidal vegetation and habitats.

ICRMP Implementation Alternative

The implementation of the ICRMP would not result in impacts to land use or coastal zone management.

No Action Alternative

Improvements to land use functionality and efficiencies from implementation of the RPMP Proposed Implementation Alternative or the Partial Implementation Alternative would not occur.

3.6 Transportation and Utilities Infrastructure

3.6.1 Existing Conditions

Road Transport

California Highway 4 provides the main access to MOTCO with State Highway 242 and Interstates 680, 80, 580, and 780 providing access towards San Francisco, Oakland, San Jose, and Sacramento. Port Chicago Highway, a county road, provides access to MOTCO California Highway 4. The Port Chicago exit provides access to the main gate, and the Willow Pass exit provides access to Gate 5. Nichols Road

connects with Port Chicago Highway, which connects with Willow Pass Road to the east of the installation for access to California Highway 4. During peak summer months, parts of California Highway 4 near MOTCO experience traffic volumes between 80,000 and 157,000 vehicles per day.

Two main MOTCO access gates are manned at all time. Gate 1 provides access to the Inland Area via Port Chicago Highway to Kinne Boulevard. Gate 2 provides the main access to the Tidal Area via Port Chicago Highway to Taylor Boulevard. Gates 1 and 2 do not meet current design criteria, although retrofitted improvements provide adequate access control. Gate 5 in the eastern Tidal Area is currently unmanned most times.

The Tidal Area primary road network consists of Port Chicago Highway/Taylor Boulevard, Waterfront Road White Road, Main Road/Murdoh Road, and Stevens Road. These roads provide access to the Tidal Area and between the various Tidal Area functions. Port Chicago Highway, Main Street, and Waterfront Road were formerly open to public travel, but were closed to public access in 1994. In terms of circulation, the roads are well placed, providing good transit between operational areas. Traffic congestion is not an issue on the road network, but there are issues with the adequacies of the roadway surfaces, railroad crossings, turns, and capacity limits, particularly for heavy loads. Roads in the Los Medanos Hills portion of the Tidal Area act as fire breaks and provide access to the grazing outlease and other tenant interests in that area. An access road parallels the Contra Costa Canal. There are no issues with this transportation network.

Mass Transit

Bay Area Rapid Transit (BART) commuter train service is available in the area. BART stations on the yellow line are located near MOTCO with the North Concord/Martinez Station located at the northwest intersection of Highway 4 and Port Chicago Highway, approximately 1 mi south of the MOTCO main gate, and the Pittsburg/Bay Point Station located approximately 3 mi southeast of MOTCO Gate 5.

Rail Transport

Two major railroad lines currently carry freight and commuters within Contra Costa County. The UP line, formerly Southern Pacific railroad line, stretches 60 mi through the county from Richmond to the Alameda County line. The UPRR line carries by far the most freight traffic of all the railroad corridors in the County. The 55-mi long BNSF railroad corridor roughly parallels the UP line between Richmond and Hercules (Contra Costa County 2005). AMTRAK currently operates four north bound and four south bound commuter train routes that traverse MOTCO seven days a week, primarily on the BNSF tracks (Amtrak 2009).

A railroad track inspection completed in 2005 (HDR Inc. 2005) found that, in general, the railroad at MOTCO is in fairly good condition. MOTCO rail infrastructure was designed and built at a time when 40-ft and 50-ft boxcars were the common rail conveyance vehicle. Today's DoD-owned Rail Cars (DODX) are 89-ft flatcars. There are some areas where tight curvature impacts mission efficiency as tight turns must be negotiated at very slow speeds of 10 mph or less to avoid derailments.

Water Transport

MOTCO is located 40 nautical miles (nm) inland from the Sea Buoy just outside the Golden Gate Bridge on the Baldwin-Stockton Deepwater Shipping Channel, which extends an additional 35 nm to the Port of Stockton. The existing depth of the channel is 35 ft below MLLW level. The authorized depth of the channel, including the Suisun Bay Channel north of MOTCO, is 45 ft below MLLW, but required environmental clearances have not been obtained for the dredging project that would be required to deepen the channel.

Sanitary Sewer

Sanitary sewer infrastructure has been installed to serve current and past development in the Inland Area and majority of the Tidal Area (with the notable exception of the eastern Tidal Area). Much of the piping at MOTCO is more than 50 years old, and targeted repair and replacement projects have been implemented or are planned. The Delta Diablo Sanitation District receives discharge from the Tidal Area, while the Inland Area discharges to the Central Contra Costa Sanitation District Sewer (Naval Facilities Engineering Command Southwest [NAVFAC SW] 2008a). Treatment systems in both sanitation districts have adequate capacity to meet current and projected growth.

Natural Gas

Pacific Gas and Electric Company (PG&E) supplies natural gas to MOTCO. The gas meter for MOTCO is located north of the intersection between Port Chicago Highway and California Highway 4. Natural gas is transported from San Francisco through transmission mains from Canada and Texas (City of Concord 2009). All major facilities at MOTCO are connected to the natural gas lines.

Potable Water

The Contra Costa Water District (CCWD) supplies potable water treated at the Bollman Water Treatment Plant in Concord owned and operated by the CCWD. Together with the Randall Bold treatment facility, the CCWD has capacity to treat the current and projected service population. In addition, the Tidal Area has access to an auxiliary feed from East Bay Municipal Utilities District, which provides MOTCO with a nonpotable water source (City of Concord 2009). All major facilities at MOTCO are connected to the potable water lines.

Electricity

MOTCO receives power from the Western Area Power Administration. Electricity is delivered to the Tidal Area through 12-kilovolt (KV) transmission lines. The electrical infrastructure at MOTCO is aging and in need of upgrades to meet current standards. The eastern portion of the Tidal Area is not equipped with electrical lines.

Telecommunications

Telecommunications services are provided by AT&T via pole lines and conduit communications ducts for voice and data services.

Solid Waste

Solid waste, recyclable materials, and green waste are collected by Concord Disposal Services.

3.6.2 Environmental Consequences

RPMP Proposed Action Alternative

The programming for RPMP proposed facilities includes required transportation ingress and egress and parking, as well as utility infrastructure needed to support the proposed development. Development of the Gate 5 area would require expansion of the utility infrastructure in the eastern Tidal Area. All utility systems have adequate capacity to accommodate the utility requirements of the proposed improvements.

During implementation of the proposed construction and demolition projects, there would be short-term case-by-case increased traffic associated with workers and construction vehicles at the project sites. In some cases, on-installation traffic may be rerouted during the period of construction. The impact of additional traffic and detours would be minimal to on-installation personnel and discountable off-installation.

Category A projects P74877, VCC, as well as P76093, Gate 5 Truck Inspection Station include elements that would influence the inflow and outflow of vehicles arriving or departing MOTCO including the daily workforce population, service providers, and visitors. Reconfigurations associated with P74877, VCC, would be confined to the interior of the installation. The proposed Category C project RPMP-8, Main Gate Reconfiguration, would follow and provide for additional flow improvements as recommended by the Army's Transportation Engineering Agency (TEA). Together, these improvements would have a long-term beneficial impact to traffic flow and transportation conditions in the Main Gate area of MOTCO. No change to current off-installation traffic patterns or flow would be expected as a result of implementation of these projects.

Shifting truck and stevedore-related traffic from the Main Gate to the Gate 5 area with implementation of P76093, Gate 5 Truck Inspection Station would reduce gate area traffic congestion during MOTCO mission events. During major mission events, approximately 75 to 85 POVs would arrive and depart the Gate 5 area according to the mission-specific work schedule. These vehicles would park in the Gate 5 area (outside the explosive safety arc) and personnel would be shuttled to/from the work site. During major mission events, truck traffic is estimated at 100 to200 trucks per day and 75 to 85 stevedore POVs per day would be arriving/departing from Gate 5 for a 10-day period. In addition, daily truck traffic (estimated at 25 to35 trucks per day) and construction-related truck traffic would be routed through Gate 5. Typically, MOTCO truck traffic occurs throughout the day and evening hours, with no market increase in peak traffic hours and infrequent activity during the late hours. During the design phase for

the Gate 5 Truck Inspection Station, the Army would address traffic management issues such as adequate parking, space for truck queuing, and rejection lanes. As a result, it is expected the design would eliminate any potential for off-installation queuing under normal operating conditions. The road network in the Gate 5 area has adequate capacity to support the increased truck traffic. The off-installation portion of Port Chicago Highway at Gate 5 is a four-lane road. A wall provides a noise and visual barrier between the roadway and the residential areas to the north of it. While increased congestion during major mission activities would be expected, changes to the overall long-term level of service of these roadways would not be expected given the short-term and relatively infrequent nature of major mission events.

MOTCO provides safe haven or designated areas where trucks that are hauling explosives can be temporarily left unattended. These trucks may or may not be related to MOTCO and requests are accommodated on a case-by-case basis. Under this alternative, a designated safe haven would be located in the currently undeveloped Gate 5 area. The facilities included in this project have been sited in a manner to allow for development of road infrastructure to support orderly circulation of trucks queuing, rejected from, and entering the installation; as such, no impacts to transportation are expected.

The projects for improvements to the MSRs (Category C projects RPMP-13, RPMP-16, and RPMP-18 and Category D project to improve Stevens Road MSR and the MOTCO Interchange Yard/Port Chicago Highway Connection) and proposed rail improvements (Category C projects RPMP-10, RPMP-14, RPMP-19 and Category D projects to add an Intermodal Transfer Pad at MOTCO Interchange Yard in the Tidal Area and upgrade UPPR [East] for Connection to UPRR [West] from the MOTCO Interchange Yard in the Tidal Area) would improve traffic safety conditions for MOTCO operations. No off-installation impacts are expected with these projects with the exception of the potential future long-range Category D project to upgrade the UPRR (East) for Connection to UPRR (West) from Interchange Yard, which would involve acquisition and subsequent improvement to an existing inactive UPRR track and construction of a new switch to improve efficiency of MOTCO rail operations.

RPMP Inland Area Focus Alternative

Under the RPMP Inland Area Focus Alternative, P76093, Truck Inspection Station, would be constructed at the Main Gate rather than at Gate 5. This configuration provides a less flexibility configuration of idealized traffic flow for truck traffic, workforce population, and visitors, particularly the capacity to accommodate mission-related spikes in traffic.

The changes to the traffic patterns in the Gate 5 area as described for the RPMP Proposed Action Alternative would not occur.

INRMP Proposed Full Implementation Alternative and INRMP Partial Implementation Alternative

No transportation or utility infrastructure impacts would be expected under the INRMP Proposed Full Implementation Alternative or the INRMP Partial Implementation Alternative.

ICRMP Implementation Alternative

No transportation or utility infrastructure impacts would be expected under the ICRMP Partial Implementation Alternative.

No Action Alternative

Under the No Action Alternative, there would continue to be ongoing traffic safety issues associated with MSRs and inefficiencies in MOTCO rail operation due to current deficiencies.

Routing of truck traffic through the Main Gate would continue, including occasional backups onto local roadways during major mission events. Although the continuation of operations in the absence of an adequate truck inspection facility would not impact transportation impacts, it is not in compliance with current security requirements and Army guidance.

3.7 Visual Resources

3.7.1 Existing Conditions

There are two viewsheds at MOTCO that offer visual diversity that is relatively rare in terms of color, line, and form. The first is the marshland/waterfront viewsheds that provide views of Suisun Bay and minimally interrupted marshlands of the Wetland Preserve. The second is the Los Medanos Hills that provide rolling grassland covered background views for MOTCO and the surrounding area. Both viewsheds are minimally disrupted by existing MOTCO development and activities. Both of these viewsheds contribute to the visual environment of the Port Chicago National Memorial, which has unique visual elements designed by the National Park Service to commemorate the site.

While MOTCO personnel are the main viewers of the visual environment at MOTCO, sensitive viewers include those who visit Port Chicago National Memorial, nearby residents in Clyde, Shore Acres, and Pittsburg, as well as users of Del Diablo Golf Course. Views of MOTCO from these locations are largely screened or obstructed by intervening vegetation and topography.

Minimal Installation Design Guide (IDC) elements have been incorporated into development at MOTCO, resulting in a lack of uniformity in visual elements of development including building materials, architectural design, signage, and landscaping throughout the installation. The main gate lacks a sense of arrival, with the exception of the low-aspect monument that reads “Military Ocean Terminal Concord” near the main gate. The number of deteriorated facilities throughout the installation degrades the aesthetics and vitality of the built environment.

3.7.2 Environmental Consequences

RPMP Proposed Action Alternative

The overall program of proposed new construction and demolition would improve the visual character of the installation’s built environment for MOTCO personnel and visitors. Although an IDC has not yet been developed for MOTCO, the Army will impart consistent general guidance on a case-by-case basis through the project design phases until an IDC is in place.

No development would be expected to have adverse impacts to the Port Chicago National Memorial viewsheds. Views of Suisun Bay and Los Medanos Hills by sensitive viewers would not be expected to be negatively impacted by any of the proposed development. Vegetation and topographic obstruction would continue to screen views from sensitive viewers at neighboring Clyde, Shore Acres, Pittsburg communities and the Diablo Creek Golf Course. The Main Gate improvements would provide a "sense of arrival" at the installation, which would be beneficial for MOTCO personnel and others visiting or transiting through the area.

RPMP Inland Area Focus Alternative

In comparison to the proposed action alternative, visual resource impacts would be shifted under this alternative with more manmade changes to the visual environment occurring in the Inland Area instead of the eastern Tidal Area. Since sensitive viewers would have screened views of development at either location, there is no distinguishable difference in the level of visual resource impact between this alternative and the RPMP Proposed Action Alternative.

INRMP Proposed Full Implementation Alternative and Partial Implementation Alternative

Implementation of either INRMP alternative would benefit visual resources as effective natural resource management contributes to the aesthetics of the viewsheds at MOTCO.

ICRMP Implementation Alternative

No impact to visual resources would be expected with implementation of the ICRMP for MOTCO.

No Action Alternative

Under the No Action Alternative, the potential benefits to the visual resources of MOTCO noted above for implementation of the RPMP and INRMP proposed or alternative actions would not occur.

3.8 Noise

3.8.1 Existing Conditions

The existing noise environment at MOTCO does not include major noise sources such as airfield operations, live-fire training, or entertainment venues. Noise sources include motor vehicle, heavy equipment, and railroad use and maintenance in support of mission activities, as well as commercial rail transport along the UP and BNSF lines.

3.8.2 Environmental Consequences

RPMP Proposed Action and RPMP Alternative Action

During the sporadic and intermittent periods of demolition and construction activity for implementation of RPMP, there would be short-term increased levels of noise exposure at MOTCO. Table 3-10 lists construction-related noise emission levels as compiled by the U.S. Department of Transportation (USDOT) Federal Highway Administration (FHA). As shown in the table, construction-related noise emissions can range from 73 to 101 decibels, A-weighted (dBA) when measured 50 feet from the

respective piece of equipment. During common construction and demolition, use of heavy equipment occurs sporadically throughout the daytime hours. Under any of the action alternatives, noise levels that would be generated during the earth moving phase (i.e., site clearing activities involving pieces of equipment, such as compactors, front loaders, backhoes, tractors, scrapers/graders, pavers, and trucks) could range from 77 to 84 dBA or more at 50 feet from the equipment. However, noise impacts from construction activities are expected to be negligible because construction would occur during normal business hours, the nearest receptors are more than 50 feet away, and the equipment would be used for a short period of time. As such, no impact to off-installation personnel from noise would be expected during the sporadic construction and demolition activities that would occur with implementation of the RPMP Proposed Action or Alternative Action Alternatives.

With regard to worker exposure to noise during construction activities, compliance with regulations and policies would minimize the potential for hearing loss. Specifically, Occupational Safety and Health Administration (OSHA) regulations, DoD Instruction 6055.12, *Hearing Conservation Program*; and U.S. Department of the Army Pamphlet 40-501, *Hearing Conservation Program*.

In addition, one of the Category D RPMP projects is for the construction of a Pistol Firing Range in the Eastern Tidal Area. Any long-term adverse noise impacts associated with this project would be minimized with compliance with OSHA regulations; DoD Instruction 6055.12, *Hearing Conservation Program*; and U.S. Department of the Army Pamphlet 40-501, *Hearing Conservation Program*.

INRMP Proposed Full Implementation Alternative and Partial Implementation Alternative

No noise-related impacts are anticipated with implementation of the INRMP Proposed Full Implementation Alternative or Partial Implementation Alternative.

ICRMP Implementation Alternative

No noise-related impacts are anticipated with implementation of the ICRMP Implementation Alternative.

No Action Alternative

Under the No Action Alternative, there would be no change in the existing noise environment at MOTCO.

Table 3-10 Construction-Related Noise Emissions

Equipment Description	Actual Measured L_{max} at 50 ft (dBA)	Equipment Description	Actual Measured L_{max} at 50 ft (dBA)
Generator (<25KVA, VMS Signs)	73	Rock Drill	81
Refrigerator Unit	73	Dozer	82
Flat Bed Truck	74	Horizontal Boring Hydraulic Jack	82
Welder/Torch	74	Vacuum Street Sweeper	82
Man Lift	75	Boring Jack Power Unit	83
Pickup Truck	75	Compactor (ground)	83
Dump Truck	76	Gradall	83
Paver	77	Warning Horn	83
Backhoe	78	Auger Drill Rig	84
Compressor (air)	78	Chain Saw	84
Slurry Plant	78	Scraper	84
Concrete Mixer Truck	79	Pneumatic Tools	85
Drill Rig Truck	79	Vacuum Excavator	85
Front End Loader	79	Clam Shovel (dropping)	87
Rivit Buster/Chipping Gun	79	Grapple (on backhoe)	87
Ventilation Fan	79	Vibrating Hopper	87
Drum Mixer	80	Jackhammer	89
Roller	80	Concrete Saw	90
Slurry Trenching Machine	80	Mounted Impact Hammer (hoe ram)	90
Vibratory Concrete Mixer	80	Pavement Scarifier	90
Concrete Pump Truck	81	Sand Blasting (single nozzle)	96
Crane	81	Sheers (on backhoe)	96
Excavator	81	Impact Pile Driver	101
Generator	81	Vibratory Pile Driver	101
Pumps	81		

Source: USDOT FHA 2006.

3.9 Socioeconomics and Environmental Justice

3.9.1 Existing Conditions

MOTCO employs approximately 160 personnel, including military, civilian, and contractor personnel. In addition there are approximately 50 base operating support contractors and tenants at MOTCO; additionally, during mission events, an additional 75 to 85 personnel are present for contracted terminal operations and as stevedore personnel. This comprises less than 0.1 percent of the total employment for Contra Costa County, which was 486,929 in 2009 (U.S. Bureau of Economic Analysis 2011)

Based on results of the 2010 Census, Contra Costa County is the 9th most populous county in California, at 1,049,025 persons (a 10.6 percent increase from the 2000 Census population) (U.S. Census Bureau 2011). The distribution of race and ethnicity is presented in Table 3-11 for Contra Costa County and the two census tracts that include MOTCO. Census Tract 3142 includes the eastern MOTCO Tidal Area, Bay Point, and the Shore Acres neighborhood east of the MOTCO Tidal Area and Nichols Road. Census Tract 3150 includes the remainder of MOTCO, and the area between California Highway 4 and Suisun Bay including Bay Point and Clyde to west of Point Edith State Wildlife Management Area.

Table 3-11 Study Area Race and Ethnicity Data

Race	Contra Costa County		Census Tract 3142		Census Tract 3150	
	Population	Percentage	Population	Percentage	Population	Percentage
White	614,512	58.6	3,081	47.5	1,824	55.6
Black or African American alone	97,161	9.3	254	3.9	256	7.8
American Indian and Alaska Native alone	6,122	0.6	63	1.0	23	0.7
Asian alone	151,469	14.4	321	5.0	635	19.4
Native Hawaiian and Other Pacific Islander alone	4,845	0.5	48	0.7	23	0.7
Some Other Race alone	112,691	10.7	2,263	34.9	315	9.6
Two or More Races alone	62,225	5.9	452	7.0	205	6.2
Ethnicity						
Hispanic or Latino Origin (of any race)	548,102	52.2	4,481	69.1	755	23.0

Based on the 2010 Census, there are 400,263 total housing units in Contra Costa County; of which 93.8 percent (375,364) are occupied. Of those occupied, 67.1 percent (251,904) are owner-occupied, and 32.9 percent (123.460) are renter-occupied (U.S. Census Bureau 2010).

As shown in Table 3-12, the poverty rate (individuals below the poverty level) of Contra Costa County was at 8.6 percent as compared to the poverty rate of 13.2 percent in California and the nationwide average of 12.4 percent (U.S. Census Bureau 2009). At the Census Tract level, the best available data on poverty rates is from the 2009 American Community Survey. At that time, the poverty rate in Census Tract 3142 was 21.5 percent and the poverty rate in Census Tract 3150 was 12.1 percent. In addition, the estimated median household income for Census Tract 3142 was lower than for California and Contra Costa County, while the estimated median household income for Census Tract 3150 was higher than California and Contra Costa County.

Table 3-12 Income and Poverty

Jurisdiction	Median Household Income ($)	Percent Below Poverty
California	60,392	13.2
Contra Costa County	77,838	8.6
Census Tract 3142	44,222	21.5
Census Tract 3150	87,846	12.1

Sources: U.S. Census Bureau 2011, 2005-2009 American Community Survey.

Environmental Justice

Environmental justice compliance is prescribed by Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low Income Populations*, issued in 1994. This policy directive to Federal agencies outlines appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Based on the data presented in Tables 3-10 and 3-11, Census Tracts 3142 and 3150 have greater proportions of minority and low-income populations as compared to Contra Costa County as a whole. Therefore, adverse impacts that extend beyond the MOTCO property boundary must be evaluated for potential disproportionate impacts to these populations.

3.9.2 Environmental Consequences

RPMP Proposed Action Alternative

The only discernible areas of potential socioeconomic effect would be the employment and earnings associated with the implementation of the proposed actions. The investment in the Category A project would be realized on project-by-project basis. The best available cost estimates for these projects are as follows:

- P76086, Lightning Protection: $5.8 million in FY 2013
- P74877, VCC and Security Fencing: $2.1 million in FY 2017
- P76091, Facilities Maintenance Building: $3.1 million in FY 2013
- P76093, Gate 5 Truck Inspection Station: $8.9 million in FY 2018
- P76087, Equipment Maintenance Buildings: $5.1 million in FY 2019
- P76092, Security Headquarters Building: $3.1 million in FY 2019

Some Category B demolition projects would potentially be funded with the above listed projects. Initially identified candidates include Buildings IA-2, A-10, A-11, A-14, A-16, A-17, A-29, A-31, A-32, 245, 262, 407, and E-101. These projects meet an Army policy that requires the demolishment of one square foot of unneeded, substandard, and/or temporary facilities for each square foot of new construction. This policy is intended to reduce overall operation and maintenance costs, and retain only those facilities required to meet mission requirements (Army 2009b).

These expenditures would result in short-term project-by-project design and construction related expenditures supporting direct employment of contractors providing design and construction services for project implementation as well as indirect impacts as the result of the ripple effect of the initial expenditures. While some of this impact may be local to the MOTCO area, regional or national contractors may provide these services. Those who work at MOTCO would have an improved work environment as a result of the investment in facilities modernization to meet currently unmet or inadequate requirements. In context of the greater San Francisco Bay area economy, the socioeconomic impacts would be minimal.

All construction and demolition activities would occur within MOTCO boundaries and would not affect low-income or minority populations, disproportionately or otherwise. Any adverse impacts associated with construction-related noise, air emissions, or construction-related vehicle traffic would be short-term and minimal. Specifically, noise impacts from construction activities are expected to occur during normal business hours, and the equipment would be used for a short period of time. Construction-related activities would produce air emissions, but would remain below potential air quality impacts significance thresholds and fugitive dust control measures would further minimize air emissions. Construction-related traffic could create minor, short-term impacts to traffic, and would not result in a long-term disruption to current transportation patterns, nor would it change existing traffic safety. Furthermore, no safety or health issues would arise for children and all construction would be consistent with existing land use designations.

As noted in Section 3.6.2, Category A project P76093, Gate 5 Truck Inspection Station, includes elements that would influence the inflow and outflow of vehicles arriving or departing MOTCO including the daily workforce population, service providers, and visitors. No change to current off-installation traffic patterns or flow would be expected as a result of implementation of this project as only an estimated 25 to 35 trucks per day would be routed through Gate 5. Typically, MOTCO truck traffic occurs throughout the day and evening hours, with no marked increase in peak traffic hours and infrequent activity during the late hours. During the design phase for the Gate 5 Truck Inspection Station, the Army would address that traffic management issues such as adequate parking, space for truck queuing, and rejection lanes. As a result, it is expected the design would eliminate any potential for off-installation queuing under normal operating conditions. The road network in the Gate 5 area has adequate capacity to support the increased truck traffic. While increased congestion during major mission activities would be expected, the overall long-term level of service of these roadways would not be expected given the short-term and relatively infrequent nature of major mission events.

The area most likely to be affected by smoke from prescribed burns would be the areas immediately adjacent to MOTCO grasslands in Census Tracts 3142 and 3150.

RPMP Inland Area Focus Alternative

Implementation of the RPMP Inland Area Focus Alternative would be similar to the RPMP Proposed Action Alternative. However, costs for locating P76087, Equipment Maintenance Buildings, and P76093, Truck Inspection Station, in the Inland Area rather than the eastern portion of the Tidal Area as proposed would likely be similar. Although utility service would need to be extended to the eastern Tidal Area whereas the Inland Area already has utility service, the Inland Area utilities would require upgrade to accommodate these projects.

INRMP Proposed Full Implementation Alternative and Partial Implementation Alternative

Implementation of either INRMP alternative would potentially result in slight increases in funding for natural resources management programs at MOTCO, subject to Congressional funding and Army programming priorities. With the proposed partnership and collaborative efforts, there would potentially be more efficient expenditure of federal, state private, educational institution, and non-

government organization dollars for natural resource management. The magnitude of these impacts would be minor in context of the area economy.

With mitigation measures, the only potentially adverse impact from natural resource management programs that could affect off-installation populations is smoke from the ongoing implementation of the prescribed burning program. This program would continue to be managed in accordance with CARB Smoke Management Guidelines.

ICRMP Implementation Alternative

Similar to the INRMP, implementation of the ICRMP would potentially result in slight increases in funding for cultural resource management programs at MOTCO, subject to Congressional funding and Army programming priorities. The magnitude of this impact would be minor in context of the area economy.

No Action Alternative

Expenditures for real property, natural resource, and cultural resource management programs would continue in what would be expected to be a comparatively piecemeal fashion. Possible inefficiencies in spending might occur as a result of the lack of comprehensive planning and analysis aimed at providing an overall pattern of orderly and efficient development. Such impacts cannot be quantified, and would be expected to be minor relative to the greater San Francisco Bay area economy.

3.10 Hazardous Materials and Waste

3.10.1 Existing Conditions

A SPCC Plan is being developed to establish procedures, methods, equipment, and other criteria to prevent and respond to discharges of oil products from non-transportation-related onshore and offshore facilities into or upon navigable waters (MOTCO 2010a).

The Oil, Hazardous Substance, and Hazardous Waste Spill Contingency Plan identifies Army requirements to respond to unintentional releases of oils or hazardous substances. Releases requiring response include DoD and non-DoD spills occurring on the installation, off-site spills affecting the installation, and possibly other spills in the geographic area for which DoD assistance would be deemed appropriate. Hazardous substances include those involved in operations, processes, cargo, and hazardous waste (MOTCO 2010b).

MOTCO is regulated as a Small Quantity Generator of hazardous waste as defined under the Resource Conservation Recovery Act (RCRA). In Calendar Year 2010, MOTCO generated 8.1318 tons of hazardous waste (California Department of Toxic Substances Control [CA DTSC] 2011a). Common hazardous wastes generated include hydrocarbon solvents; waste oil and mixed oil; unspecified oil-containing waste; latex waste; off-specification, aged, or surplus organics; and other organic solids (CA DTSC 2011a).

Regulated toxic substances typically associated with buildings and facilities include asbestos and lead-based paint. Certified contractors are used in all renovation or demolition projects; the contractors follow MOTCO's guidance for asbestos management. Figures 3-7 and 3-8 depict the locations of former Underground Storage Tanks, Areas of Concern, Installation Restoration (IR) Program sites and associated monitoring wells, and Military Munitions Response Program (MMRP) Munitions Response Sites (MRS) at MOTCO relative to the footprints of the proposed and alternative actions evaluated in this EA. Of these, the IR Program and MRS are most relevant to this analysis.

MOTCO has a Land Use Control (LUC) Plan for the following closed MMRP sites with ongoing or future response actions: MRS 7, Tidal Explosive Ordnance Disposal site above the Q Area (MOTCO-007-R-01); MRS 8, Port Chicago Tidal Area (MOTCO-008-R-01), and MRS 10, Suisun Bay Impact Area (MOTCO-010-R-01) (see Figure 3-7). The Tidal EOD site above the Q Area MRS 7 was formally used for open detonation of munitions in the early 1970s. It encompasses approximately 0.37 acre, and probable munitions detonated/destroyed at this site include bulk propellants and explosives, pyrotechnics, and small arms. The Port Chicago Tidal Area and Suisun Bay Impact Area MMRP sites represent the 1944 Port Chicago disaster blast radius from the shipboard explosion at the former Pier 1, involving more than 5,000 tons of ammunition (Tetra Tech EM Inc. 2007a). Objects up to 1,000 pounds were thrown distances up to 1.5 miles and to a height of over 12,000 feet. Most of these objects fell within 2,000 feet of the explosion site (NAVFAC SW 2008b). In addition, there is evidence that chemical agents, including mustard gas and lewisite, were transshipped through the area (Tetra Tech EM Inc. 2007a). The Port Chicago Tidal Area MMRP site encompasses approximately 4,945 acres including the main Tidal Area and Roe and Ryer Islands. The Suisun Bay Impact Area covers approximately 4,830 acres of the 1944 blast radius (Tetra Tech EM Inc. 2007a). A feasibility study for these sites is expected in July 2013 and Site Closeout is predicted in March 2017 (TetraTech EM Inc. 2011).

The DoD's Policy on Land Use Controls Associated with Environmental Restoration Activities (2001) defines LUCs as any type of physical, legal, or administrative mechanism that restrict the use of, or limits access to, real property to prevent or reduce risks to human health and the environment. The purpose of this policy is for the selection and implementation of LUCs that minimize the potential for human exposure to explosive hazards and to maintain the integrity of the MRS with respect to the current land use. For these three areas, land use restrictions include the prohibition, or otherwise careful management of required excavation activities, and the restriction of daycare, hospital, schools, or residential use in these areas. LUCs include the requirement to obtain dig permits and coordination with the RPMP to ensure that the land use restrictions for these MMRP sites are incorporated into the short- and long-range development plans for MOTCO. Prior to the initiation of work, a meeting will be held with the contractor and representatives from the USACE and MOTCO Department of Public Works to discuss matters of mutual interest concerning the project. General conditions, work schedule, phasing, and coordination, security, safety, permits, and other matters pertinent to work accomplishments will be discussed at this meeting. In addition, the contractor would be required to submit various plans including an Unexploded Ordnance (UXO) Anomaly Avoidance Plan/UXO Support During Construction Activities; Environmental Protection Plan; Quality Control Plan, Hazard Analysis, and Safety/Health Plan.

In these plans, safety protocols and notification requirements will be discussed which will minimize any potential for adverse impacts.

There are several IR Program sites in the Tidal Area. IR Site 1 is located along the western side of Johnson Road, just north of Froid Road (see Figure 3-7). The IR Site 1 landfill covers 12.5 acres and forms an asymmetric mound that reaches a maximum elevation of more than 10 feet above mean sea level (msl) near its eastern edge along Johnson Road (NAVFAC SW 2008b). A Site Inspection (SI) of the Site 1 Landfill was conducted from April 1988 to January 1991. Groundwater, surface water, soil, and sediment samples were collected within the Site 1 Landfill. Results revealed volatile organic compounds (VOC), semivolatile organic compounds (SVOC), polynuclear aromatic hydrocarbons (PAHs), dieldrin, Aroclor-1260, metals, and nitrobenzene. Based upon USEPA's Presumptive Remedy for CERCLA Municipal Landfill Sites (1993), a multi-layer municipal solid waste prescriptive soil cap was proposed and selected (Tetra Tech EM Inc. 2010). The proposed end date for actions on this IR site is September 2012 for the surface and June 2017 for the groundwater (Tetra Tech EM Inc. 2011).

Site 2, a 31-acre area consisting of a large pond with fringing brackish and slat marches, is bounded by Baker, Pickett, Johnson, and Froid Roads and the western boundary of the Site 1 Landfill (see Figure 3-7) (Army 2011). From the late 1940s until approximately 1976, the site was used for the disposal of materials generated during segregation of conventional munitions returned from the Pacific. Potential wastes include ordnance, VOCs, SVOCs, pesticides, polychlorinated biphenyls (PCBs), and metals (Agency for Toxic Substances and Disease Registry [ATSDR] 2005). Typically, no one works within Site 2 boundaries, but base personnel routinely work in the surrounding developed areas. Most of Site 2 is under water. The "R" Buildings to the south are not currently used, Building 177 to the north is used for ammunition transfer operations, and other buildings north of Site 2 are mostly used for storage (Army 2011). The proposed end date for IR Program actions at this site is November 2013 (Tetra Tech EM Inc. 2011)

Site 9 is an approximate 0.6-acre site that is bisected by Froid Road and bordered by Site 1 Landfill to the north, Taylor Boulevard on the east, and Site 11 on the southwest (see Figure 3-7) (Army 2011). The site contains an estimated 50 cubic yards of waste deposited between 1944 and 1979. Potential waste types include metals, ordnance, VOCs, and SVOCs (ATSDR 2005). The proposed end date for IR Program actions at this site is November 2013 (Tetra Tech EM Inc. 2011)

Site 11 is a 26-acre site and is bordered by Froid Road to the north, an unnamed dirt and asphalt road to the east, and Otter Slough to the south and west (see Figure 3-7) (Army 2011). The site consists of wood chips deposited as fill in 10 acres of wetlands adjacent to the hogger. Some wood was treated with pentachlorophenol, a wood preservative. Potential waste types include VOCs, SVOCs, metals, and pesticides (ATSDR 2005). Site 11 consists of some existing dilapidated buildings, unimproved former storage areas, and roads. No treated or preserved wood is currently stored or handled at Site 11 (Army 2011).

Sites 3, 4, 5, 6, 25, 26, 28, 32, and 33 comprise the Litigation Area (see Figure 3-7). Waste disposal activities from previous owners and historic spills from neighboring chemical companies have resulted in

contamination of various metals, including arsenic, cadmium, copper, lead, selenium, mercury, and zinc (CA DTSC 2011b; Tetra Tech EM INC. 2007b). The parcels were grouped into four remedial action subsites (RASS) and Sites 4 and 5 were grouped into RASS 1 (Tetra Tech EM Inc. 2007b). RASS 1 is a 210-acre site adjacent to Suisun Bay composed of tidally influenced brackish wetland. The source of the contamination to RASS I was hydrofluoric acid recycle system ponds and the alum mud and iron oxide that covered the property (Tetra Tech EM Inc. 2007b). IR Site 3 comprises RASS 2 and consists of 13 acres of upland, wetland, and transitional habitat. Until 1974, up to 10 brick kilns were located at the site; when the kilns were dismantled, debris was spread along the railroad embankment. IR Sites 25 and 26 comprise RASS 3. RASS 3 is a 71-acre site south of RASSs 1 and 2. These sites were contaminated by non-Navy property owners. IR Site 6 (Coke Pile Site) comprises RASS 4. RASS 4 is a 13-acre site comprised of uplands and non-tidal wetlands.

For the Litigation Area Sites, in 1989, it was determined the Navy would remove the most contaminated soil and monitor any remaining contamination. From 1992 through 1996, the Navy conducted site cleanup and revegetation of the Litigation Area. From 1996 through 2001, the Navy conducted and published the results of 5 years of post-cleanup monitoring. In 2003, the Navy finalized a 5-year periodic review assessment of the Litigation Area sites that evaluated whether the original cleanup decision was protective. The report concluded the active remediation was successful where implemented on the marsh surface and upland habitats, but recommended additional study to address the ecological risk to birds and fish in some portions of the site where contamination is still present (NWSSBD Concord 2005). In 2004, the monitoring program for the Litigation Area was revised based on recommendation in the 5-year periodic review with the objectives of demonstrating compliance with regulatory standards, assessing the effectiveness of prior remedial activities, identifying changes in site conditions, and assessing ongoing risk to ecological receptors (Tetra Tech EM Inc. 2007b). These sites continue to be monitored under the long-term monitoring program (Tetra Tech EM Inc. 2011).

Metals and PCBs have been remediated at Site 30, the Taylor Boulevard Bridge (see Figure 3-7), completed in October 2010. Efforts are underway to address metal contamination at a Site 31, a former fertilizer plant, west of Site 6 (see Figure 3-7) and the proposed end date for this effort is February 2015. Three sites contaminated with hazardous substances are in the site inspection stage, which is expected to be completed by June 2012: Site 38, Port Chicago Dump; Site 39, Dry Cleaning Facility; and Site 40, Copper Smelter. Sites 38, 39, and 40 have not yet been mapped them, as boundaries have yet to be determined (Tetra Tech EM Inc. 2011).

In addition to IR Program and MMRP MRS considerations, construction or demolition activity may uncover remnants of two former crude oil pipelines located within MOTCO's boundaries (CEMC 2011; Appendix C). Portions of the former Old Valley Pipeline and Tidewater Associated Oil Company Pipeline generally follow the railroad corridor and/or Port Chicago Highway bisecting the installation as shown in Figures 1 through 6 in Appendix C. When pipeline operations were discontinued the pipelines were either closed onsite or removed; however, residual crude oil, abandoned steel pipelines, and ACM (used to encase the pipelines) could be encountered during construction activities ROW that may penetrate to a depth of approximately 10 feet. Results from numerous risk assessments along other sections of the

former pipelines have indicated that any contaminated soil is generally non-hazardous and requires no additional management (CEMC 2011; Appendix C).

3.10.2 Environmental Consequences

RPMP Proposed Action Alternative

Procedures for hazardous material management established for MOTCO would continue to be followed during all construction and demolition activities. In addition, MOTCO would continue to operate within its small quantity generator hazardous waste permit conditions. Established hazardous waste procedures would continue to be followed during all construction and demolition alternatives.

The majority of facilities proposed for demolition were constructed or substantially renovated at a time when lead-based paint and asbestos containing material were commonly used. Prior to demolition of any structure, the potential presence of lead-based paint and/or asbestos containing material would be evaluated by a qualified inspector. Where lead-based paint and/or asbestos containing material are present, required abatement and waste management planning and control measures would be implemented in accordance with Federal and California law.

Under the Proposed Action the P76086, Lightning Protection, and P74877, Security Fencing, projects would occur near IR Sites 1, 2, 9, and 11. However, the projects would not encroach into any of the four IR sites. The remedy at the Site 1 Landfill includes construction of a cap to prevent human and animal contact with the waste and to reduce infiltration of rainwater runoff into and through the landfill mass. The remedy at the Site 1 Landfill would be redesigned to reduce landfill subsidence, cost, and the overall footprint of the cap so that it does not encroach on the surrounding aquatic environment. The work is funded and scheduled for completion in November 2013 (Tetra Tech EM Inc. 2010). The remedy applies to the waste at the Site 1 Landfill and does not address groundwater conditions at the Site 1 Landfill. The ROD for Site 1 groundwater is anticipated to be completed September 2013 (Tetra Tech EM Inc. 2010).

There are no plans for future public access to Sites 2, 9, and 11 for the reasonably foreseeable future, limited access for military personnel working at the facility, and no plans for future residential development. Results of the risk assessment for a commercial/industrial worker revealed that Sites 2, 9, and 11 do not pose an unacceptable risk to workers under current and reasonably anticipated future use scenarios. In addition, there are no unacceptable risks to plants and animals at Sites 2 and 9, and no unacceptable risk to plants at Site 11. Mercury-contaminated soils at Site 11 pose an unacceptable risk to benthic invertebrates, fish, birds, and mammals. The Army and regulatory agencies agree that the preferred alternative for Sites 2 and 9 is the implementation of LUCs to prohibit residential development. For Site 11, the Army and regulatory agencies agree the preferred alternative is implementation of LUCs to prevent residential development and excavation and off-site disposal of mercury-contaminated soils. The 30-day public comment period for the Proposed Plan ended on May 15, 2011; the Army has not announced its final decision to date (Army 2011).

Portions of P74877, Security Fencing, in the vicinity of Pier 4 would be within the boundaries of RASS 1 (see Figure 3-7). Evidence of metal contamination including arsenic, cadmium, copper, lead, selenium,

and zinc has been documented. Access considerations were part of the design process for the security fence, including considerations for access to these IR sites for remediation efforts. Any vegetation removed as part of maintaining the required clear zone on either side of the fenceline would not involve soil disturbance and would therefore not be of concern for ongoing IR activities at the site. As discussed previously, a pre-construction meeting will be held and various plans will be prepared to document safety protocols and notification requirements. These measures will minimize any potential adverse impact.

The Category D project to upgrade the UPRR (East) for connection to UPRR (West) may disturb soils transecting RASS 3. However, since RPMP-15 is an acquisition project only, no ground disturbance would occur. The cleanup status would be expected to progress and LUCs for the site may differ by the time the Category D project is pursued. Further analysis of potential conflicts, safety protocols, and notification requirements, would occur in the future to minimize any potential adverse impact.

Three Category A projects (P74877, P76093, and P76087) and several Category B, C, and D projects are adjacent to or in the vicinity of former Chevron oil pipelines. The activities associated with Category B projects have little to no likelihood of encountering the remnant pipelines as demolition activities generally do not disturb soils to the depth at which the pipelines are expected. Although it is not anticipated that contaminated soil exists, contracted construction crews will briefed on the possibility of and protocol for encountering abandoned pipelines, crude-contaminated soil, and pipeline-related ACM during the course of their work. If needed, soil sampling would be conducted and any identified ACM and/or other toxic substances would be controlled and disposed of in accordance with Federal and California regulations.

RPMP Inland Area Focus Alternative

Impacts to hazardous materials and waste would be similar as described under the RPMP Proposed Action Alternative.

INRMP Proposed Full Implementation Alternative

No impacts to hazardous materials or waste are anticipated with implementation of the INRMP Proposed Full Implementation Alternative.

INRMP Partial Implementation Alternative

No impacts to hazardous materials or waste are anticipated with implementation of the INRMP Partial Implementation Alternative.

ICRMP Implementation Alternative

No impacts to hazardous materials or waste are anticipated with implementation of the ICRMP Implementation Alternative.

No Action Alternative

Under the No Action Alternative, implementation of the RPMP, INRMP, and ICRMP for MOTCO would not occur. Operations at MOTCO would continue at current levels and all regulations and plans that pertain to hazardous materials or waste would continue to be followed.

3.11 Health and Safety

3.11.1 Existing Conditions

Occupational health and safety applies to on-the-job safety and implements the requirements of 29 CFR 1926 *et seq*. All construction and demolition is performed in accordance with applicable OSHA regulations to protect human health and minimize safety risks are coordinated between contractors and the Safety Office prior to initiation of construction and demolition activities.

Large portions of the Tidal Area are marshlands/Wetlands Preserve lands within the ESQD arcs. As such, all buildings are required to conform to the design and construction requirements to protect personnel within inhabited structures per DoD Manual 6055.09-STD *DoD Ammunition and Explosives Safety Standards* and UFC 3-340-02 *Structures to Resist the Effects of Accidental Explosions*. DoD Manual 6055.09-STD establishes safety standards designed to manage risks associated with ammunition and explosives by providing protection criteria to minimize serious injury, loss of life, and damage to property. This Manual also requires submitting site and general construction plans for non-ammunition and explosive facilities located within ESQD arcs to the DoD Explosives Safety Board for review and approval. UFC 3-340-02 contains design procedures to achieve personnel protection, protect facilities and equipment, and prevent propagation of accidental explosions.

The MOTCO Fire Department provides fire protection services for MOTCO from two MOTCO fire stations: one in the Tidal Area and one in the Inland Area. In addition, the Contra Costa County Fire Protection District (CCCFPD) maintains 28 fully staffed stations and two stations staffed with paid-on-call Reserve Firefighters with a minimum daily staffing of 95 personnel (CCCFPD 2011a). The CCCFPD provides fire and emergency medical services to nine cities, including Antioch (Stations 81, 82, 83, and 88), Clayton (Station 11), Concord (Stations 6, 8, 10, and 22), Lafayette (Stations 15, 16, and 17), Martinez (Stations 12, 13, 14, and 20), Pittsburg (Stations 84, 85, and 87), Pleasant Hill (Stations 2 and 5), San Pablo (Station 70), and Walnut Creek (Stations 1, 3, 4, and 7). The CCCFPD also serves the unincorporated communities of Bay Point (Station 86), Clyde (Station 18), El Sobrante (Station 69), Pacheco (Station 9), and Port Chicago (CCCFPD 2011b). MOTCO has a Federal Police Department and receives contract support from the Contra Costa County Sherriff's Office.

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, recognizes a growing body of scientific knowledge that demonstrates children may suffer disproportionately from environmental health risks and safety risks. The EO directs federal agencies to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children.

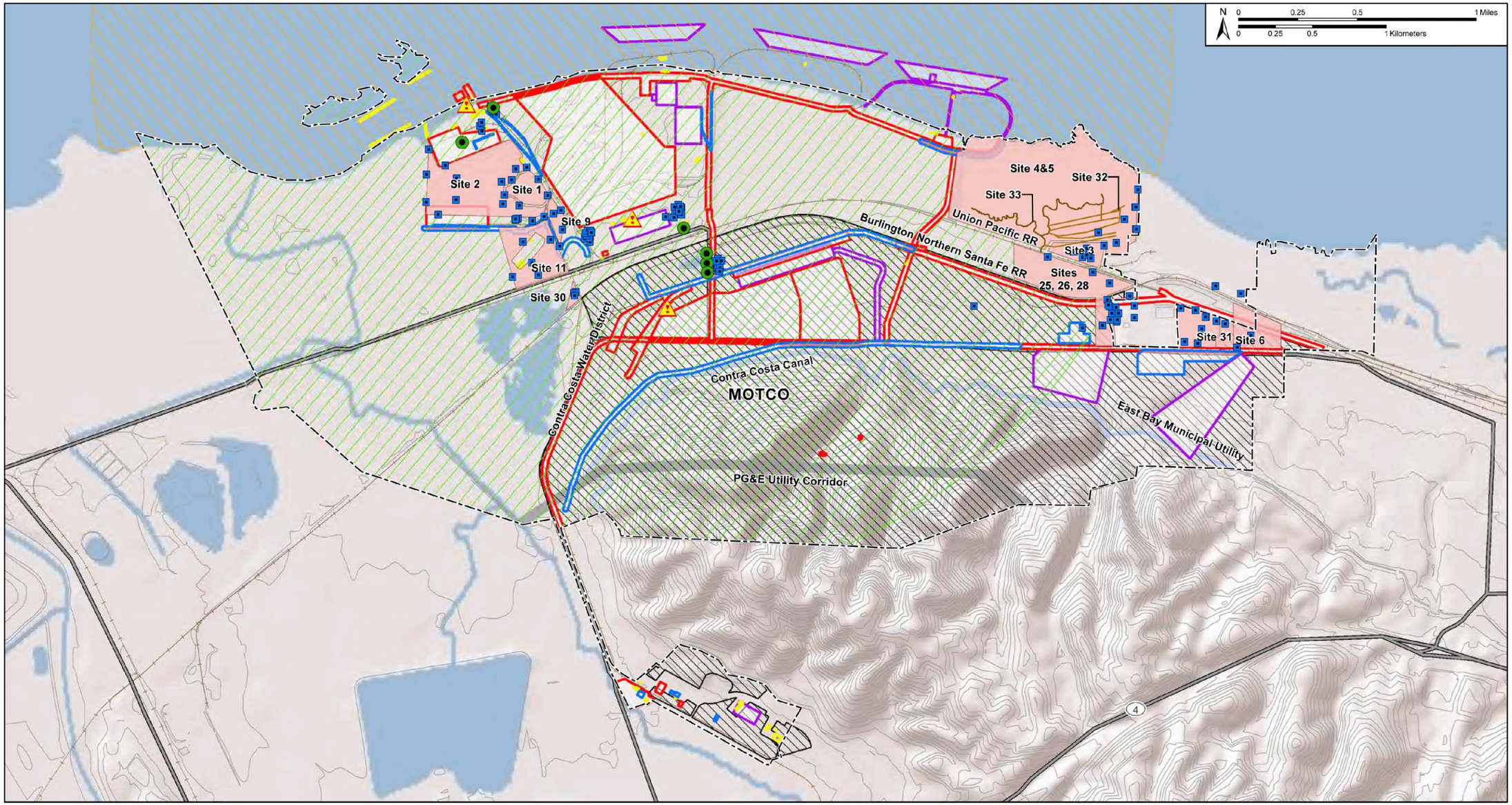

Figure 3-7

ENVIRONMENTAL REMEDIATION SITES AND FOOTPRINTS OF PROPOSED ACTIONS

Environmental Assessment

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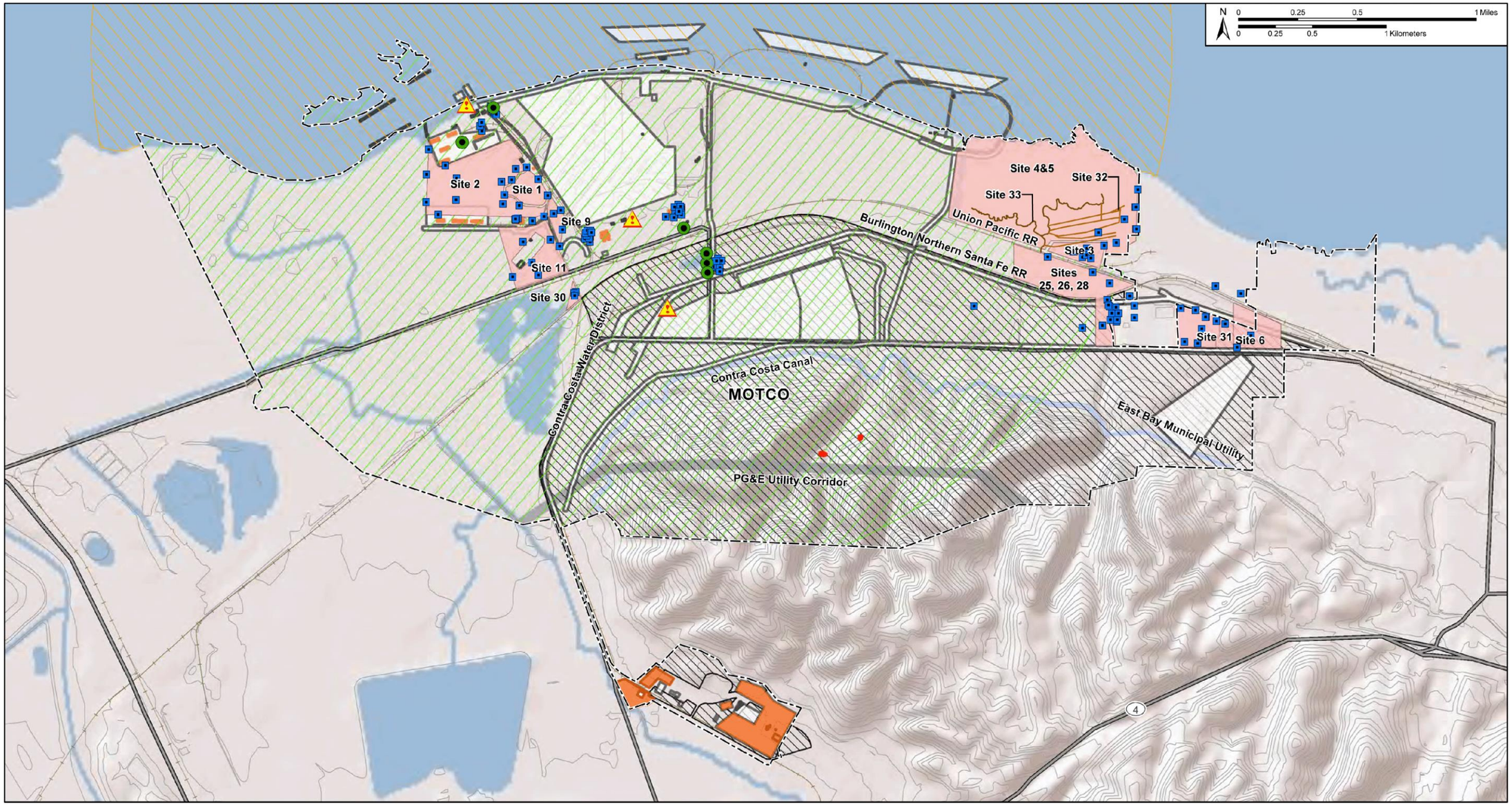

Figure 3-8

ENVIRONMENTAL REMEDIATION SITES AND FOOTPRINTS OF ALTERNATIVE ACTIONS

Environmental Assessment

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The BAAQMD, Rule 5, Section 213, prescribed burning is the planned, controlled application of fire to vegetation to achieve a specific natural resource management objective on land areas selected in advance of that application. Prescribed burning is regulated as Wildland Vegetation Management fires and subjected to all of the requirements applicable to Subsection 5-401.15. As part of these requirements, MOTCO must prepare a smoke management plan, and submit the plan to the Air Pollution Control Officer of the BAAQMD at least 30 days prior to the burn for approval. At MOTCO, the Fire Chief is responsible for organizing and maintaining the appropriate level of firefighting resources and decides when a controlled burn is needed for the approximate 1,300 acres of grassland habitat (MOTCO 2011b).

Mosquito control is accomplished under a cooperative agreement with the Contra Costa Mosquito and Vector Control District. The emphasis of this campaign is to reduce mosquito larvae occurrence, thereby minimizing the need to use adulticides. Reducing the adult mosquito population with pesticides (adulticides) approved by the USEPA would be done if necessary to prevent human illness or to suppress a heavy nuisance infestation of mosquitoes. The decision to spray, either by truck mounted sprayers or by aircraft, is based on surveillance information or the documentation of West Nile virus activity at a level that indicates a threat to human health. Spraying is concentrated in areas most at risk for disease occurrence and will be conducted by certified and licensed applicators. The risks to the public and to the environment are very low. Mosquito adulticides are applied as ultra-low volume (ULV) sprays. ULV applications involve small quantities of active ingredient in relation to the size of the area treated, typically less than 2 ounces per acre, which minimizes exposure and risk to people and the environment (Contra Costa Mosquito and Vector Control District 2011).

3.11.2 Environmental Consequences

RPMP Proposed Action Alternative

Construction and demolition activities may expose workers to construction-related risks. However, the proposed construction and demolition activities would not introduce any unique or unusual risks. Specific practices and policies to protect human health and minimize safety risks would be coordinated between the contractor and the Safety Office prior to initiation of construction and demolition activities. Furthermore, activities would follow all applicable OSHA requirements. No significant impacts to public health and safety are anticipated from construction and demolition activities.

Large portions of the Tidal Area are marshlands/Wetlands Preserve lands within the ESQD arcs. All proposed buildings would be designed and constructed in accordance with DoD Manual 6055.09-STD, *DoD Ammunition and Explosives Safety Standards* and United Facilities Criteria (UFC) 3-340-02, *Structures to Resist the Effects of Accidental Explosions*. Providing facilities to permanently relocate personnel outside of the ESQD arc will improve safety conditions for MOTCO long-term.

In addition, appropriate anti-terrorism force protection (ATFP) minimum requirements would be designed into new construction in accordance with UFC 4-010-01, Change 1 (DoD 2007). These ATFP standards provide appropriate, implementable, and enforceable measures to establish a level of protection against terrorist attacks for all inhabited DoD buildings where no known threat of terrorist

activity currently exists. By following all DoD regulations and policies, on-site personnel would not be exposed to significant health or safety risks.

Under this alternative, there would be no change in the number of personnel at MOTCO. As such, it is not expected that emergency services and law enforcement would be affected in their ability to respond to emergency situations. With regards to children, no housing units are located on the installation, and all construction and demolition would occur on military property where access is restricted. As such, no impacts to air quality are anticipated, and no disproportionate safety or health risks to children are expected.

RPMP Inland Area Focus Alternative

Impacts to health and safety would be similar as described under the RPMP Proposed Action Alternative.

INRMP Proposed Full Implementation Alternative

All controlled burns would continue to be conducted in accordance with appropriate state and local regulations and MOTCO procedures. During a controlled burn, crew(s) will undertake actions to prevent continued degradation of the resource and protect valuable habitat. These actions include, but are not limited to, removing flammable materials around structures, posting fire areas, and digging hand lines during burns to minimize impacts to environmentally sensitive areas and reduce erosion. In addition, MOTCO would conduct controlled burns in a manner that mimics historic burn cycles

Mosquito control would also continue to be conducted as currently. MOTCO would maintain a cooperative relationship with the Contra Costa County mosquito abatement program to control mosquito larvae where and when necessary. In addition, native killifish in lieu of nonnative mosquitofish would be encouraged as a means of biological control of mosquito larvae.

INRMP Partial Implementation Alternative

Under the INRMP Partial Implementation Alternative, controlled burning and mosquito control would be conducted similar to the INRMP Proposed Full Implementation Alternative. However, under the INRMP Partial Implementation Alternative, maintenance and enhancement actions beyond compliance would not be completed. For controlled burning, actions such as conducting controlled buns in a manner that mimics historic burn cycles and levels as much as feasible, and removing man-made fuel piles would not occur. Omitting these actions would not yield a direct adverse impact on health or safety, but would not provide the beneficial impact associated with proactively removing items that could provide fuel to a fire. In addition, the mosquito control program would remain as described for the INRMP Proposed Full Implementation Alternative.

ICRMP Implementation Alternative

No impacts to health and safety are anticipated with implementation of the ICRMP Implementation Alternative.

No Action Alternative

Under the No Action Alternative, implementation of the RPMP, INRMP, and ICRMP for MOTCO would not occur. Operations at MOTCO would continue at current levels and all regulations and plans that pertain to health and safety would continue to be followed. There would be no long-term solution for relocating non-operational personnel outside ESQD arcs.

3.12 Cultural Resources

3.12.1 Existing Conditions

Archaeological resources include any material remains of past human life or activities that are capable of providing scientific or humanistic understandings of past human behavior and cultural adaptation through the application of scientific or scholarly techniques (ARPA, Section 3(I) 16 U.S.C. 470bb). For example, archaeological resources consist of sites, arrowheads, stone flakes, or bottles. As of September 2009, 24 cultural resources investigations have been conducted at MOTCO. Of the 24 investigations that have occurred within the MOTCO boundary, one resource, the Contra Costa Canal, has been determined eligible for listing in the National Register of Historic Places. The Contra Costa Canal runs along the northern edge of MOTCO's Inland Area and traverses the Tidal Area just south of the Port Chicago Highway. This eligible resource is owned and managed by the Bureau of Reclamation, and traverses the MOTCO installation (MOTCO 2011c).

Architectural resources include standing buildings, dams, canals, bridges, and other structures of historic or aesthetic significance (National Parks Service 2002). Previous cultural resources investigations at MOTCO show that nearly all of the resources built in 1998 or earlier have been previously evaluated, and that none were determined eligible for listing in the National Register of Historic Places (MOTCO 2011c). However, there are buildings and structures that have turned 50 years of age since their initial evaluation that require additional analysis.

Traditional cultural properties can include archaeological resources, buildings, neighborhoods, prominent topographic features, habitats, plants, animals, or traditional hunting and gathering areas that American Indians or others consider essential for the continuance of traditional cultures (National Parks Service 1998). The Native American Heritage Commission has identified four federally recognized American Indian groups with potential interest in MOTCO, the Bay Miwok, Ohlone/Constanoan, Plains Miwok, and Patwin/Winton. No items subject to the Native American Graves Protection and Repatriation Act have been recovered from, or identified at, MOTCO through cultural resources studies conducted to date (MOTCO 2011c).

3.12.2 Environmental Consequences

RPMP Proposed Action Alternative

The RPMP Proposed Action Alternative would not impact the Contra Costa Canal. Several buildings slated for demolition are 50 years of age or older. In accordance with the ICRMP, NHPA Section 110 documentation would be completed to identify and evaluate historic properties prior to demolition. In

addition, as stated previously, no items subject to the NAGPRA have been recovered from, or identified at, MOTCO through cultural resources studies conducted to date.

If a potential cultural resource is inadvertently discovered during any construction or excavation activities, activities would cease and the discovery would be immediately reported to the MOTCO Environmental Coordinator in accordance with ICRMP guidance and procedures. Impacts would be minimized by complying with the existing consultation procedures called for under the ICRMP, and following the Programmatic Agreement.

RPMP Inland Area Focus Alternative

Impacts to cultural resources would be similar as described under the RPMP Proposed Action Alternative.

INRMP Proposed Full Implementation Alternative

No impact to cultural resources would be expected with implementation of the INRMP Proposed Full Implementation Alternative.

INRMP Partial Implementation Alternative

No impact to cultural resources would be expected with implementation of the INRMP Partial Implementation Alternative.

ICRMP Implementation Alternative

Under the ICRMP Implementation Alternative, priorities would be established for the identification and evaluation of historic properties located at MOTCO, management of cultural resources, and integration of 11 SOPs to ensure compliance. As part of the implementation process, MOTCO would complete the following tasks:

1. Evaluate unevaluated linear resources over 50 years of age for potential eligibility in the National Register of Historic Places (to be implemented as funding becomes available),
2. Evaluate buildings and structures that have turned 50 years of age since their first evaluation under the NHPA, Section 110 (to be implemented as funding becomes available), and
3. Establish and maintain a GIS that includes cultural resources information, such as areas previously surveyed and the historic status code of resources (MOTCO 2011c).

No Action Alternative

Under the No Action Alternative, the management of cultural resources would continue on a case-by-case basis; however, the potential benefits associated with implementing the ICRMP would not occur. Specifically, the long-term benefits to cultural resources from identifying, evaluating, and managing cultural resources and ensuring compliance with cultural resources would not occur.

4.0 CUMULATIVE IMPACTS

This section 1) defines cumulative effects, 2) describes past, present, and reasonably foreseeable actions relevant to cumulative effects, 3) analyzes the incremental interaction the proposed action may have with other actions, and 4) evaluates cumulative effects potentially resulting from these interactions.

4.1 Definition of Cumulative Effects

CEQ regulations stipulate that the cumulative effects analysis within an EA should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1508.7). CEQ guidance in *Considering Cumulative Effects* affirms this requirement, stating that the first steps in assessing cumulative effects involve defining the scope of the other actions and their interrelationship with the proposed action. The scope must consider geographic and temporal overlaps among the proposed action and other actions. It must also evaluate the nature of interactions among these actions.

Cumulative effects are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the proposed action would be expected to have more potential for a relationship than those more geographically separated. Similarly, actions that coincide, even partially, in time would tend to offer a higher potential for cumulative effects.

To identify cumulative effects the analysis needs to address three fundamental questions:

1. Does a relationship exist such that affected resource areas of the proposed action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?

2. If one or more of the affected resource areas of the proposed action and another action could be expected to interact, would the proposed action affect or be affected by impacts of the other action?

3. If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the proposed action is considered alone?

4.2 Scope of Cumulative Effects Analysis

The scope of the cumulative effects analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur. For this EA, the region of influence delimits the geographic extent of the cumulative effects analysis. Because the proposed action area is located within the confines of MOTCO, actions considered in this cumulative impact analysis are generally located at MOTCO. It is noted, however, that the proposed INRMP and ICRMP were developed in consideration of regional natural and cultural resource management issues, concerns, and planning in recognition that management techniques for these resources often are on large-scale efforts that

extend across property ownership boundaries. The time frame for cumulative effects centers on the timing of the proposed action, late 2011, and extending to the foreseeable future.

Another factor influencing the scope of cumulative effects analysis involves identifying other actions to consider. Beyond determining that the geographic scope and time frame for the actions interrelate to the proposed action, the analysis employs the measure of "reasonably foreseeable" to include or exclude other actions. For the purposes of this analysis, public documents prepared by Federal, state, and local government agencies form the primary sources of information regarding reasonably foreseeable actions. Documents used to identify other actions included notices of intent for Environmental Impact Statements and EAs, management plans, land use plans, and other NEPA studies.

4.3 Past, Present, and Reasonably Foreseeable Actions

Numerous other activities exist in the region of influence. The activities described here are by no means all-inclusive, but serve to highlight some major influences in the region and to provide perspective on the contribution to any impacts generated by the proposed action. A review of recent, ongoing, and foreseeable actions determined that several actions must be considered when analyzing the potential cumulative impacts of the proposed action. These projects are listed in Table 4-1, along with the status of the NEPA analysis (if applicable). A description of these projects follows Table 4-1.

Table 4-1 Cumulative Action Evaluation

Action	Level of NEPA Analysis Completed
Recent Past Actions	
Pier 4 Structural Repair Project	CATEX
IR Program Remedial Actions	CATEX
Present and Reasonably Foreseeable Future Actions	
Construction and Operation of a U.S. Army Reserve Center at MOTCO Inland Area	EA
Repair Damaged Pilings at Piers 3 and 4	CATEX
Modernization and Repair of Piers 2 and 3	EIS
Security Boat Ramp Repair and Upgrade Project	CATEX
IR Program Remedial Actions	CATEX
San Francisco Bay Area Water Trail	Environmental Impact Report

4.3.1 Past Actions

Pier 4 Structural Repair Project

MOTCO's Pier 4 was damaged as the result of a collision with Hyundai Merchant Marine's vessel, Pacific Success, on 10 September 2006. When the collision occurred, this commercial ship was traversing the Stockton Deepwater Shipping Channel, located approximately 300 feet from the pier, for purposes

unrelated to MOTCO operations. The collision damage to Pier 4 was located at the west end of the berth. In 2009, the Army implemented a structural repair project that spanned 132 ft of the 1,220-ft long pier. The repair involved demolition and construction including the following:

- Removal and replacement of damaged concrete deck members;
- Removal and replacement of four damaged pre-stressed concrete pilings and associated pile caps;
- Removal and replacement of 19 damaged timber fender pilings and associated timber elements; and
- Removal and replacement of damaged portions of the existing electrical system under the damaged port of the deck.

Consultation with USFWS and NMFS was completed in accordance with Section 7 of the ESA on threatened and endangered species and EFH. In addition, a Section 404 permit was obtained from the USACE, and a Section 401 Water Quality Certification was obtained from the RWQCB.

IR Program Remedial Actions

As part of the IR program, there have been a number of remedial actions undertaken in the MOTCO Tidal Area. These actions have involved earth moving activities that have been evaluated for potential impacts to threatened and endangered species, most notably at Site 1, Tidal Area Landfill and Site 30, Taylor Boulevard Bridge Disposal Area. At the Site 1, Tidal Area Landfill, remediation efforts have included capping the former landfill with a thick layer of fill with sloping/drainage. The majority of the capping construction has been completed, but additional work would occur through a redesign effort to reduce landfill subsidence, cost, and the overall footprint of the cap so that the cap does not encroach on the surrounding aquatic environment. The work is funded and scheduled for completion in November 2013 (Tetra Tech EM Inc. 2010). This remedy applies to the waste at the Site 1 Landfill and does not address groundwater conditions at the Site 1 Landfill. The ROD for Site 1 groundwater is anticipated to be completed September 2013 (Tetra Tech EM Inc. 2010).

At the Site 30, Taylor Boulevard Bridge Disposal Area, contaminated soil was removed and stockpiled prior to being transported to and disposed of at a Class A Waste Disposal Facility. Site restoration included importing soil and restoring pickleweed vegetation. These activities were completed in 2009. In addition to EPA oversight, ESA Section 7 and BCDC consultation occurred for this project. Surveys were conducted for California clapper rail, California black rail, and the salt marsh harvest mouse resulting in sporadic observation of California clapper rail and more regular observations of California black rail with no detection of salt marsh harvest mouse at these sites.

4.3.2 Present and Reasonably Foreseeable Actions

Construction and Operation of a U.S. Army Reserve Center at MOTCO Inland Area

The United States Army Reserve has proposed construction and operation of a Reserve Center and supporting facilities on an approximate 15-acre site in the Inland Area as part of the Grow the Army program. The Reserve Center is programmed for construction in 2011. It will provide space for 13 new

U.S. Army Reserve units, which will include an estimated 26 full-time staff and 629 Reservists. The Reserve Center will include a 64,382 SF training building; a 9,634 SF Organizational Maintenance Shop; a 4,254 SF unheated storage building; and 25,910 square yards of organizational vehicle parking. The Reserve Center will provide an 800-member training facility with administrative, educational, assembly, library, learning center, vault, weapons simulator, and physical fitness areas for the new units. The Organizational Maintenance Shop will provide administrative offices and work bays and washracks for the maintenance operations. The Proposed Action will provide adequate unit storage, Military Equipment Parking, and POV parking areas.

An EA was completed for this action in July 2010 resulting in a FNSI (Vernadero Group Incorporated. 2010). The construction and operation of the Reserve Center was determined to have the potential for minor, adverse impacts to land use; topography, geology, and soils; hydrology and water resources; biological resources; air quality; visual resources; utilities; transportation; hazardous and toxic substances; human health and safety; and the noise environment. However, these effects would be less than significant. No impacts to cultural resources were found. In addition direct, beneficial impacts to the local economy were found.

Repair Damaged Pilings at Piers 3 and 4

The Navy has completed consultation with USFWS and NMFS and permitting for the removal and replacement of one damaged concrete piling at Pier 3 and one damaged timber piling at Pier 4. The work is currently planned to occur with the approved work window of 1 September to 30 November 2012. With adherence to the work window and other permit requirements, there would be discountable environmental impacts (Olmsted 2011).

Modernization and Repair of Piers 2 and 3

As first noted in Section 2.1.1, a separate EIS is being prepared by the Sacramento USACE to address the potential environmental impacts of implementation of the modernization and repair of Piers 2 and 3. The proposed action covers those actions necessary to modernize and repair Piers 2 and 3 to support current and future DoD missions in the Pacific theater of operations. Piers 2 and 3 are past their structural and design life and lack modern operational efficiencies. In its current degraded and nonoperational condition Pier 2 cannot be utilized, thereby resulting in a measureable shortfall in ammunition throughput capability. Additionally, the primary operational pier at MOTCO, Pier 3, requires repair to maintain even its limited operational life expectancy (estimated to be 2018). The proposed action is needed to modernize and repair pier infrastructure at MOTCO to ensure this vital West Coast port can continue to meet its designated national security mission while ensuring continued safe operation of the piers.

The Draft EIS is being prepared to address the potential environmental effects from activities that would occur under the No Action Alternative, Alternative 1 (Reoriented Footprint), Alternative 2 (Existing Footprint), and Alternative 3 (Larger Reoriented Footprint). Environmental resource topics evaluated include geology/seismology, topography, and soils; water resources; biological resources; land use; coastal zone management; transportation; utilities infrastructure; visual resources; noise;

socioeconomics; environmental justice; cultural resources; and hazardous materials, hazardous waste, toxic substances, and contaminated sites.

Security Boat Ramp Repair and Upgrade Project

The Army has proposed to upgrade an existing security boat ramp located just east of the Barge Pier in the MOTCO Tidal Area. The project footprint would be within the footprint of the existing boat ramp that extends from high tide to 5 ft below MLLW with a total surface area of approximately 2,500 SF. The boat ramp improvements would replace the deteriorated sections of the existing ramp with a base layer of geotextile fabric, three inches of crushed gravel, 1-inch thick steel plates, and sheets of perforated steel landing mat. In addition, the project would include installation of a high mast light pole, gangway, and floating docks in Suisun Bay. The floating docks would be anchored to the barge pier by metal rings and rollers that would allow them to float with the tides. The 100-SF gangway would be installed over the floating docks. The foundation for the high mast light pole would occur above high tide and reach approximately 15 ft below ground surface.

The Army consulted with NMFS on potential ESA and EFH impacts in June 2009 (NMFS 2009) and concluded that the proposed project is not likely to adversely affect listed anadromous salmonids or the southern Distinct Population Segment of green sturgeon and is not likely to adversely affect essential physical or biological features associated with designated or proposed critical habitat for these species. Avoidance and minimization measures incorporated into this project include sedimentation control measures, in-water work window of 1 August through 30 November, and management of materials including fuels, waste oils, and solvents. The new docks would increase shading in the area by approximately 1,152 SF. It was determined that the enlarged dock area may adversely affect EFH and recommended that 30 to 50 percent of the surface of the floating docks be constructed of grated material to allow transmission of light to the underlying habitat.

IR Program Remedial Actions

Future remedial actions for IR sites could include ground disturbing impacts with potential environmental impacts such as erosion and sedimentation, disturbance to biological resources, air emissions, etc. Such impacts would be assessed in the feasibility studies and development of the proposed remedial actions. Coordination with EPA and other agencies including USFWS, NMFS, BCDC, and the RWQCB would occur, as needed.

San Francisco Bay Area Water Trail

The California State Coastal Conservancy prepared an Environmental Impact Report to analyze the potential impacts associated with implementing the Water Trail Plan. The San Francisco Bay Area Water Trail project would implement the Water Trail Plan through access site designation process designed to support improved and safer non-motorized small boat access to San Francisco Bay, and protect environmental resources (California State Coastal Conservancy 2011). Waters adjacent to MOTCO are part of the planned San Francisco Bay Area Water Trail. One existing (CC1) and one planned (CC22)

launch sites are proposed for designation near MOTCO. CC1 is in Martinez Marina, which is west of MOTCO; CC22 is located in the Bay Point Regional Shoreline, which is east of MOTCO (Figure 4-1).

Figure 4-1 Water Trail Plan Access Points Near MOTCO

Implementation of the Water Trail Plan would consist of the following five primary tasks:

1. Designation of access points,
2. Development of water trail signage,
3. Funding of select water trail-related facility improvements,
4. Coordination of education, outreach, and stewardship programs for non-motorized small boat users, and
5. Development and distribution of water trail information (California State Coastal Conservancy 2010).

It was noted in the Environmental Impact Report that boaters must maintain a distance of 100 yards at all times from MOTCO's three existing piers, and 500 yards from MOTCO's three existing piers during periods when military shipments are moored (California State Coastal Conservancy 2010).

The Environmental Impact Report identified potentially significant impacts to recreation, navigation, aesthetics, biological resources, cultural resources, hydrology and water quality, as well as traffic, circulation and parking. Mitigation measures identified in the Environmental Impact Report would reduce all of these impacts to a less than significant level (California State Coastal Conservancy 2010).

4.4 Potential Cumulative Effects

4.4.1 Earth Resources

The earth disturbing activities associated with the proposed action would have minor potential for cumulative impacts when considered with past, present, and reasonably foreseeable future actions noted in Section 4.3 including to soils and Suisun Bay sediments. In all likelihood, project implementation would be staggered over a period of years, which would reduce the potential for interactive impacts. The potential for additive impacts would be minimized since individual impacts are largely localized and managed through erosion and sedimentation control permit conditions and BMPs. The implementation of proposed INRMP actions and IR Program remedial actions would have overall countervailing beneficial impacts on earth resources. Therefore, there would be no significant cumulative effect to earth resources.

4.4.2 Water Resources

The earth disturbing activities associated with the proposed action would have minor potential for cumulative impacts to water resources when considered with past, present, and reasonably foreseeable future actions. However, implementation of the in-water Category B demolition projects concurrently or in close succession to efforts to rebuild Pier 2 would result in additive and interactive adverse cumulative impacts to threatened and endangered fish species through increases in water turbidity, debris generation, and acoustical noise. Any adverse impacts would be minimized through the implementation of management measures, including those required by Section 7 ESA consultation with NMFS and USFWS, CZMA coordination with BCDC, and CWA permitting with USACE and the RWQCB.

4.4.3 Air Quality

The earth disturbing activities associated with the proposed action would have minor potential for cumulative impacts to air quality when considered with past, present, and reasonably foreseeable future actions. Potential overlapping and/or construction/demolition projects occurring in close succession has the potential to result in higher levels of individual annual emissions; however, cumulative impacts would be expected to be below *de minimus* levels. In addition, mitigation measures recommended by the BAAQMD for construction and demolition projects would minimize impacts to air quality.

4.4.4 Biological Resources

The earth disturbing activities associated with the proposed action would occur in previously disturbed or developed areas; thus, there would be minimal potential for cumulative impacts to biological resources when considered with past, present, and reasonably foreseeable future actions. Additive and/or interactive impacts could occur from concurrent or close succession of construction/demolition projects. The potential for cumulative impacts to biological resources could potentially be an issue for threatened and endangered species and would be addressed in the ESA consultation process. As needed, management and/or protective measures would be implemented to minimize potential impacts to threatened and endangered species. All other potential cumulative impacts to biological resources

would not increase the overall magnitude of potential biological resources impacts as assessed for the proposed implementation of the RPMP, INRMP, and ICRMP.

4.4.5 Land Use and Coastal Zone Management

The implementation of the RPMP Proposed Action Alternative would result in changes to land use at MOTCO, but the resulting impact is expected to be beneficial as it would eliminate explosive safety requirements where feasible; site new facilities in compliance with explosive safety requirements; ensure new facilities and functions are compatible with current and future ammunition mission when considering increase of general cargo operations; maximize efficiencies; consolidate related functions; comply with regulatory requirements; comply with INRMP prescriptions for the Wetlands Preserve Area; and balance improvement and demolition programs. It is expected the projects outlined in Section 4.3 would be consistent with the RPMP Proposed Action Alternative and no adverse cumulative impacts are anticipated. In addition, the proposed action would be consistent to the maximum extent practicable with the BCDC coastal management program for the San Francisco Bay segment of the California coastal zone and adverse cumulative impacts are not expected.

4.4.6 Transportation and Utilities Infrastructure

Temporary increases in vehicular traffic would occur from construction traffic and long-term increases in vehicular traffic would occur from operation of the Army Reserve Center. However, under the proposed action, short-term actions will improve transportation logistics and safety with the construction of the Category A P76093, Gate 5 Truck Inspection Station and the long-term Category C and Category D projects to provide improvements to the MSRs would improve traffic safety conditions at MOTCO by beneficially impacting traffic flow. As such, there would be no cumulative impacts from future projects that would increase vehicular traffic. In addition, the existing utility infrastructure has adequate capacity to support the proposed action and all present and reasonably foreseeable actions; as such, no cumulative impacts are anticipated. There would be little to no cumulative impact to transportation and utilities infrastructure from implementation of the proposed INRMP and ICRMP in combination with the actions outlined in Section 4.3.

4.4.7 Visual Resources

There would be little to no cumulative impact to visual resources from implementation of the proposed RPMP, INRMP, and ICRMP in combination with the actions outlined in Section 4.3.

4.4.8 Noise

If the construction/demolition projects outlined for the RPMP Proposed Action Alternative are implemented at the same time as other projects such as the rebuilding of Pier 2 and/or IR Program remedial actions, there could potentially be additive impacts to the noise environment of MOTCO. However, construction-related noise is localized to the construction site and is short-term and intermittent; as such, it is unlikely that there would be anything other than minor additive and/or interactive impacts from concurrent implementation of such projects. The greatest potential would be for in-water work windows to cluster waterfront construction and demolition projects into time periods

where there would be less potential for impacts to threatened and endangered fish species. Any cumulative impact would be minor.

4.4.9 Socioeconomics and Environmental Justice

There is potential for minor additive economic benefit if the project activities outlined in the RPMP, INRMP, and ICRMP are implemented concurrent or in close succession to the projects outlined in Section 4.3. No cumulative environmental justice impacts are anticipated.

4.4.10 Hazardous Materials and Waste

Ongoing and project-specific management programs would reduce the potential for adverse impacts due to inadvertent spills or releases during implementation of project activities. In addition, the implementation of IR program activities would continue in accordance with applicable regulations, LUCs, and contractor prepared plans to reduce the environmental contamination from past activities at MOTCO providing a countervailing impact.

4.4.11 Health and Safety

The assessment of potential cumulative health and safety impacts is similar to the above assessment for hazardous materials and waste. The RPMP is consistent with LUC programs for the IR sites and provides for benefit to health and safety of MOTCO workers in relocating certain land uses outside the explosive safety arc. Non-motorized boaters launching from Water Trail access points would continue to be required to maintain a distance of 100 yards at all times from MOTCO's three existing piers, and 500 yards from MOTCO's three existing piers during periods when military shipments are moored. No significant cumulative health and safety impacts would result from the implementation of the proposed RPMP, INRMP, and ICRMP and the actions outlined in Section 4.3.

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Berkeley Regional Office
700 Heinz Avenue
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1400 Tenth Street
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Mr. Bill Kolb, Manager
Concord Public Library
2900 Salvio Street
Concord, CA 94519

Ms. Carol Roland-Nawi, State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Ms. Carrie Austin, Water Resource Control Engineer
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Ms. Adriana Constantinescu
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Ms. Kim Turner, Assistant Field Supervisor
Coast Bay Delta Branch
U.S. Fish and Wildlife Service
Bay-Delta Office, Fish and Wildlife Service
650 Capitol Mall, 8th Floor
Sacramento, CA 95814

Mr. Richard Butler, Supervisor
Santa Rosa Area Office
National Marine Fisheries Service
777 Sonoma Ave., Room 325
Santa Rosa CA 95404

Mr. Dan Cordova, Fish and Wildlife Biologist
Coast Bay Forest Foothills Division
U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825

Mr. Larry Goldzband, Executive Director
San Francisco Bay Conservation and Development Commission
50 California Street, Suite 2600
San Francisco, CA 94111

APPENDIX A

BIOLOGICAL ASSESSMENTS AND ASSOCIATED CORRESPONDENCE

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
08ESMF00-2012-I-0396

JUN 14 2013

Ms. Kimberly Garber, AICP
Community Planner
Military Surface Deployment distribution Command
Building 3304
1050 Remount Road
North Charleston, South Carolina 29406-3500

Subject: Informal Endangered Species Consultation on the Proposed Implementation of the Real Property Management Plan at Military Ocean Terminal Concord, Contra Costa County, California

Dear Ms. Garber:

This is in response to your April 10, 2012, request for concurrence from the U.S. Fish and Wildlife Service (Service) with your determination that the proposed Implementation of the Real Property Management Plan (RPMP)(project) at the U.S. Army Military Ocean Terminal Concord (MOTCO) in Contra Costa County California is not likely to adversely affect any federally listed species. At issue are the potential effects to the federally endangered soft bird's-beak (*Cordylanthus mollis* ssp. *mollis*). the federally threatened delta smelt (*Hypomesus transpacificus*), the federally endangered California clapper rail (*Rallus longirostris obsoletus*), the federally endangered salt marsh harvest mouse (*Reithrodontomys raviventris*), the federally threatened California red-legged frog (*Rana draytonii*), and the federally threatened Central Distinct Population Segment (DPS) of the California tiger salamander (*Ambystoma californiense*)(Central California tiger salamander). Following initiation of informal consultation, the Army removed the in-water component of the RPMP. Therefore, the RPMP will have no potential affects to the delta smelt. This response is issued under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act).

This correspondence is based on: (1) The April 10. 2012 letter from the Army to the Service; (2) the Final Biological Assessment for Potential Effects on USFWS-Listed Species & Critical Habitat From Implementation of a Real Property Master Plan at Military Ocean Terminal

Concord, California, April 2012; (3) a June 10, 2013 notification from the Army that the in-water components of the RPMP had been removed; (4) electronic mail messages and telephone conversations between the Army and the Service; and (5) other information available to the Service.

The implementation of the RPMP includes seven project components: 1) installation of a lightning protection system; 2) the construction of a new Visitor Control Center and security fencing; 3) the Construction of a Facilities maintenance Building; 4) The construction of the Gate 5 Truck Inspection Station; 5) The construction of an Equipment Maintenance building; 6) the construction of a Security Headquarters Building; and 7) the demolition of 50 existing facilities.

Habitat within the project area, with the exception of the Gate 5 Truck Inspection Area, is mostly composed of developed areas such as railroad yards, developed road shoulder, and areas adjacent to existing facilities; however, based on the information provided, we are concerned that the proposed project may adversely affect the California red-legged frog and the Central California tiger salamander. The Gate 5 Truck Inspection Area portion of the project is located in an area that provides suitable habitat for both of these listed species. Suitable habitat for these two species potentially includes all aquatic, riparian, and upland areas within the range of the species and includes any landscape feature that provides cover, such as animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned sheds, or hay stacks may also be used. Neither the California red-legged frog nor Central California tiger salamander has been documented to occur within the boundaries of MOTCO. However, protocol level surveys for these two species have not recently been conducted at MOTCO. Therefore, given that the Gate 5 Truck Inspection Area is located within the range of both the California red-legged frog and the Central California tiger salamander, and contains suitable habitat for these species, it is possible that the Gate 5 project area may contain these species, and thereby affect them.

During recent communications with the Service, the Army clarified that, in accordance with the Integrated Natural Resources Management Plan (INRMP), it intends to conduct surveys for the California red-legged frog and Central California tiger salamander to determine if they are likely to be present on MOTCO. On November 15, 2012, the Service issued a letter concurring with the INRMP pursuant to the Sikes Act Improvement Act of 1997 and made the determination that the proposed management measures prescribed within the plan were not likely to adversely affect federally-listed species and critical habitat (Service file # 08ESMF00-2011-CPA-0027). While it is necessary for the Service to analyze the effects of the entire RPMP on listed species, we recognizes that the RPMP contains a time-sensitive component, and that it is important for the Army to proceed with certain RPMP activities prior to conducting surveys for the California red-legged frog and Central California tiger salamander. Therefore, our current response is limited to an analysis of the portions of the RPMP that do not provide suitable habitat for either the California red-legged frog or Central California tiger salamander, as activities in these areas are not likely to adversely affect either species.

The lightning protection component of the RPMP includes the installation of a lightning protection system (LPS) at locations within existing railroad classification yards and buildings. The LPS consists of 60 to 80 foot high lightning rods set in concrete, overhead wiring, and buried ground loop wires/rods. The LPS system would affect approximately 3.4 acres of previously disturbed developed areas around building facilities and railroad yards.

The Visitor Control Center and security fencing component of the RPMP includes the construction of a 2,500 square feet building and the installation of security fencing (with barbed wire) and gates. The Visitor Control Center will be sited at the current entry station which is currently developed and paved with asphalt. The security fencing will require approximately 6 miles of fence installation and the addition of 4 swing gates. New fencing will be installed along the developed shoulder of existing roadways. Additionally a 12-foot wide patrol road will be maintained on the developed shoulder of the roadways. No existing fencing will be removed as part of this project. The project also includes the maintenance of a 20 foot vegetation buffer on each side of the fence. The vegetation buffer will consist of the trimming of any tall or bushy vegetation that will impede visibility along the fence-line. Hand held trimmers will be used to maintain the area. No vegetation trimming will occur in marsh or wetland areas.

An approximately 14,500 square foot facilities maintenance building will be sited on a previously disturbed area within the cantonment area. The facility will include an approximately 10,000 square foot parking area. Total area of disturbance for this facility is approximately 0.3 acre. The site for this facility was previously a residential area which was removed in approximately 2006 and has recently been used as a lay-down area for construction activities.

A 43,000 square foot equipment maintenance building will be sited in the existing cantonment area and will include a 24,000 square foot paved area. The facility will be constructed in place of an existing building, parking lot, and maintained grounds. The total area of disturbance for this facility is estimated at 5 acres and includes the area of the existing building and parking area.

A Security Headquarters Building is proposed for addition to the cantonment area. This facility will be approximately 3,000 square feet and will include a parking area. The total area of disturbance for this facility is approximately 0.2 acre of previously disturbed, but currently undeveloped land adjacent to the fire station.

The demolition portion of the project includes 11 facilities identified as components of the project that "may affect" Federal listed species. These facilities are distributed throughout MOTCO. Demolition will include clearing the interiors of the buildings, disconnecting and capping utilities, and physical destruction and removal of the facility.

Project activities will be conducted in adherence to the following avoidance and minimization measures:

1. A Service-approved biologist will conduct appropriately timed pre-construction surveys for threatened and endangered species for the following RPMP Projects:
    a. The Security Fencing and Lightning Protection projects;

   b. Seven demolition projects located near the MOTCO shoreline: Waterfront Ops Building (111), Shed (144), Smoke Shack (100), Steam Plant for Pier 2 (160), Closed Oil Aboveground Storage Tank (410), Closed Oil Aboveground Storage Tank (411), and Steam Plant Building for Pier 4 (407); and
   c. Five demolition projects located near Hasting Marsh: Storage (A-11), Shed (A-19), Ammunition Transfer Building (A-31), Defunct Salvage Yard (122), and Closed Lumber Salvage Shop (A-29). Based on the survey results, the Service-approved biologist will designate the area to which project activities must be confined. This will include establishment of a 10-foot buffer of open ground between potential salt marsh harvest mouse habitat and project activities.

2. The results of the above surveys will be provided to the Service. If any threatened or endangered species are found present at the site of the proposed disturbance, no activity will occur until the Service has reviewed and approved the site-specific avoidance or until the Army and the Service are able to conclude formal consultation
3. Construction and demolition activities for the project components listed in item 1 will not be performed during the California clapper rail breeding season (February 1 through August 31) and within 2 hours before or after a spring tide. If activities would occur during the California clapper rail breeding season, pre-construction protocol-level surveys would occur the same year that work occurs. If breeding clapper rails are detected, activities will not occur within 700 feet of an identified call center. If the intervening distance across a major slough channel or across a substantial barrier between the California clapper rail calling center and any activity is greater than 200 feet, then it may proceed at that location within the breeding season.
4. Prior to ground disturbance for the projects listed in item 1, there will be mandatory training of all construction personnel by a Service-approved biologist. The training will include, but not be limited to, a description of the species, discussion of its habitat, protections under state and federal laws, reporting requirements, and required avoidance and minimization measures.
5. Equipment access for the security fence installation in the Pier 4 area will be from the roadway surface only (to avoid a known occurrence of soft bird's beak).
6. Erosion, sedimentation control, and spill prevention and control plans will be developed and implemented at construction sites in accordance with National Pollution Discharge Elimination System requirements.
7. No equipment or vehicles will be stored on the piers when not in use to reduce the potential for any spills or debris entering the water column.
8. All equipment and vehicles will be properly maintained to reduce the potential for spills of petroleum-based products. Containment booms and absorbent materials will be available on-site during work activities and will be deployed immediately in the event of a spill to limit its spread.
9. To minimize the potential for impacts from hazardous or regulated materials, all fuel, waste oils, and solvents will be stored well away from the construction zone. Any spill of such materials will be immediately contained by means of an earthen barrier and all affected soils will be removed and placed in appropriate containers for proper disposal offsite.
10. No more than two weeks prior to demolition of facilities, a qualified wildlife biologist

will inspect all structures to assess use and occupancy by migratory birds and other wildlife).

11. No nests or nesting birds will be disturbed or removed during the breeding season (March through September).
12. All project waste materials will be transported off-site to a designated construction or solid waste municipal landfill in accordance with Federal, California, and local laws and regulations.

The Service concurs that the implementation of the Real Property Management Plan for Military Ocean Terminal Concord, as proposed, may affect, but is not likely to adversely affect salt marsh harvest mouse, California clapper rail, and soft bird's-beak. This concurrence is based on: 1) the avoidance and minimization measures incorporated into the Project; and 2) the absence of, or degraded conditions of habitat for listed species at the project sites. We will follow up this response with correspondence regarding the Gate 5 Truck Inspection Station upon receipt and analysis of survey results for the California red-legged frog and Central California tiger salamander.

Unless new information reveals effects of the proposed action that may affect listed species in a manner or to an extent not considered; or the project is modified in a manner that causes an effect to the listed species that was not considered; or a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act, is necessary.

Please address any questions or concerns regarding this response on the proposed implementation of the RPMP to Fish and Wildlife Biologist Dan Cordova or Ryan Olah, Coast Bay/ Forest and Foothills Division Chief, at (916) 414-6600.

Sincerely,

for Eric Tattersall
Deputy Assistant Field Supervisor

From: GARBER, KIMBERLY D (Kim) CIV USARMY SDDC (US)
Sent: Monday, June 10, 2013 at 7:39 AM
To: 'Cordova, Dan'
Subject: Lighter berth demo (UNCLASSIFIED)

Dan,

Based on conversations with the AMC legal counsel (Army Materiel Command-our higher HQ) we feel that the best way to proceed with the demolition of the lighter berths is to remove them from the Real Property Master Plan EA and to include them in the on-going EIS for the repair and modernization of Piers 2 and 3. Pier 2 is in the same area of the installation and will also demolition of piles. We are aware that the scale of the work will require formal consultation and look forward to working with the Bay Delta office on this issue.

Thanks,
Kim

From: Cordova, Dan [mailto:dan_cordova@fws.gov]
Sent: Thursday, June 06, 2013 5:54 PM
To: GARBER, KIMBERLY D (Kim) CIV USARMY SDDC (US)
Subject: Re: FW: NMFS correspondence (UNCLASSIFIED)

Kim,

Based on the level of disturbance from the removal of 800+ pilings, the Army would need an exemption for incidental take through an Incidental Take Statement within a Biological Opinion. I will give you a call on Monday morning to discuss forward progress.

Dan

Dan Cordova
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Coast Bay Forest Foothills Division
Sacramento Fish and Wildlife Office
2800 Cottage Way
Sacramento, CA 95825
916-414-6600

From: GARBER, KIMBERLY D (Kim) CIV USARMY SDDC (US)
Sent: Thursday, June 6, 2013 at 10:17 AM
To: 'Cordova, Dan'
Subject: NMFS correspondence (UNCLASSIFIED)

Dan,

I have attached the correspondence we had with NMFS. They asked the same question about number of piles and duration.

We originally estimated that we could pull 4 piles a day. The engineer we are working with for the Pier 2 demolition is estimating that with the right equipment we can pull up to 40 piles per day per crew. If the lighter berths have to be demoed in less than two weeks we would most likely use this more aggressive technique and potentially use two crews if we have to compress the work down to closer to 7-9 days.

If we are only allowed to work once per open in-water work period we are willing to spread the lighter berth demolition over more than one year to meet the schedule requirements if necessary.

Thanks,
Kim

Kim Garber, AICP
Community Planner
SDDC HQ G1/G4
Office: 843.794.0383 x122 DSN 794
Email: kimberly.d.garber.civ@mail.mil

-----Original Message-----
From: GARBER, KIMBERLY D (Kim) CIV USARMY SDDC (US) [mailto:kimberly.d.garber.civ@mail.mil]
Sent: Tuesday, June 04, 2013 11:03 AM
To: Wirth, Carol P.
Subject: FW: CRLF/CTS Info (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Carol,

Here is the correspondence with Dan Cordova on the CTS and CRLF.

Kim Garber, AICP
Community Planner
SDDC HQ G1/G4
Office: 843.794.0383 x122 DSN 794
Email: kimberly.d.garber.civ@mail.mil

From: GARBER, KIMBERLY D (Kim) CIV USARMY SDDC (US)
Sent: Thursday, May 23, 2013 12:22 PM
To: 'Cordova, Dan'
Subject: RE: CRLF/CTS Info (UNCLASSIFIED)

Dan,

Here is the literature review that TEC put together. Hope it helps. And thanks for looking into the surveys for me.

Kim Garber, AICP
Community Planner
SDDC HQ G1/G4
Office: 843.794.0383 x122 DSN 794
Email: kimberly.d.garber.civ@mail.mil

Summary of California Red-Legged Frog and California Tiger Salamander Surveys Near the Military Ocean Terminal Concord Tidal Area

Military Ocean Terminal Concord (MOTCO) installation property was formerly owned by the Department of the Navy as part of Naval Weapons Station Seal Beach Detachment Concord (Detachment Concord). On 1 October 2008, the 6,526-acre Tidal Area and 115 acres of the Inland Area were transferred to the U.S. Army and is now known as MOTCO (6,419 acres in total). The remaining 5,038 acres of the former Navy Inland Area, was declared surplus and is the subject of a community reuse planning effort and Department of Navy disposal process. For the purposes of this memo, the 6,526-acre MOTCO Tidal Area is defined as that area located north of State Route (SR) 4 and traverses both sides of Port Chicago Highway. MOTCO's 115-acre Inland Area is not discussed herein. The Detachment Concord Inland Area is defined as that area currently owned by the Navy (Figure 1).

The following summarizes California red-legged frog (*Rana aurora draytoni*) and/or California tiger salamander (*Ambystoma californiense*) surveys that have been conducted at MOTCO and Detachment Concord's Inland Area.

1. Document: A Natural Resources Survey for Naval Weapons Station Concord, California. Prepared by Jones & Stokes Associates, Inc. for Naval Facilities Engineering Command Western Division. 31 December 1982.

   Summary: Tadpoles of the California red-legged frog were introduced into Cistern Pond in May 1982 by the California Department of Fish and Game; tadpoles were observed in June 1982. It is not known whether the species was present prior to the introduction, but it is unlikely since bullfrogs are common in the area; California red-legged frogs are not known to occur in the same ponds as bullfrogs. Bullfrogs were introduced into California in the early part of the 20th Century and are suspected of being responsible for the decline in native California red-legged frog population. Cistern Pond is probably the most suitable breeding area for California red-legged frogs at Naval Weapons Station Seal Beach, Detachment Concord (Detachment Concord).

   The California tiger salamander was detected at four locations during the surveys. Adults were captured on two occasions at Plot 3 in oak woodland habitat with rock outcrops in the 5AT area, one was captured in a pitfall trap, and one was captured in a small mammal trap. Larvae were found in the Cistern Pond, a small seasonal pond next to the quarry and in a seasonal pond north of the Eagle's Nest eucalyptus grove.

Figure 1. MOTCO and NWSSBD Property Boundaries

2. Document: Characterization of Wildlife and Plant Communities for Naval Weapons Station Seal Beach, Detachment Concord. Prepared by The University of Arizona Advanced Resource Technology Group, School of Renewable Natural Resources for the Department of the Navy. March 1999.

   Summary: From July 1998 to September 1999, the University of Arizona mapped natural resources at Detachment Concord. The purpose of the project was to identify and describe the seasonal presence, distribution, and abundance of wildlife and plant communities that occur at Detachment Concord.

   As part of the results, California red-legged frogs were observed at 10 of the 22 fixed amphibian and reptile survey locations. The California red-legged frog was only observed within the Detachment Concord Inland Area and was associated with all known perennial ponds and springs excepting the freshwater march area of the Old Airport. The absence of California red-legged frogs at the Old Airport is likely related to the presence of crayfish, an exotic predator. The abundance of California red-legged frogs was greatest at Indian Springs and Cistern Pond relative to other sampling areas (Figure 2).

   In addition, California tiger salamanders were observed within the Detachment Concord Inland Area at 9 of the 22 fixed amphibian and reptile survey locations sampled. The abundance of California tiger salamanders was greatest at the Hilltop Ponds of the Detachment Concord Inland Area relative to all other sites sampled (Figure 2).

   California red-legged frogs were not detected within the Tidal Area (Figure 3). In addition, in general, results show that California tiger salamanders do not occur in the Tidal Area; the species was not found in Ponds 29 (Freshwater Marsh), 35 (Homestead Riparian), 36 (Tidal Hills Riparian), or 41 (Borrow Pit) (Figure 3).

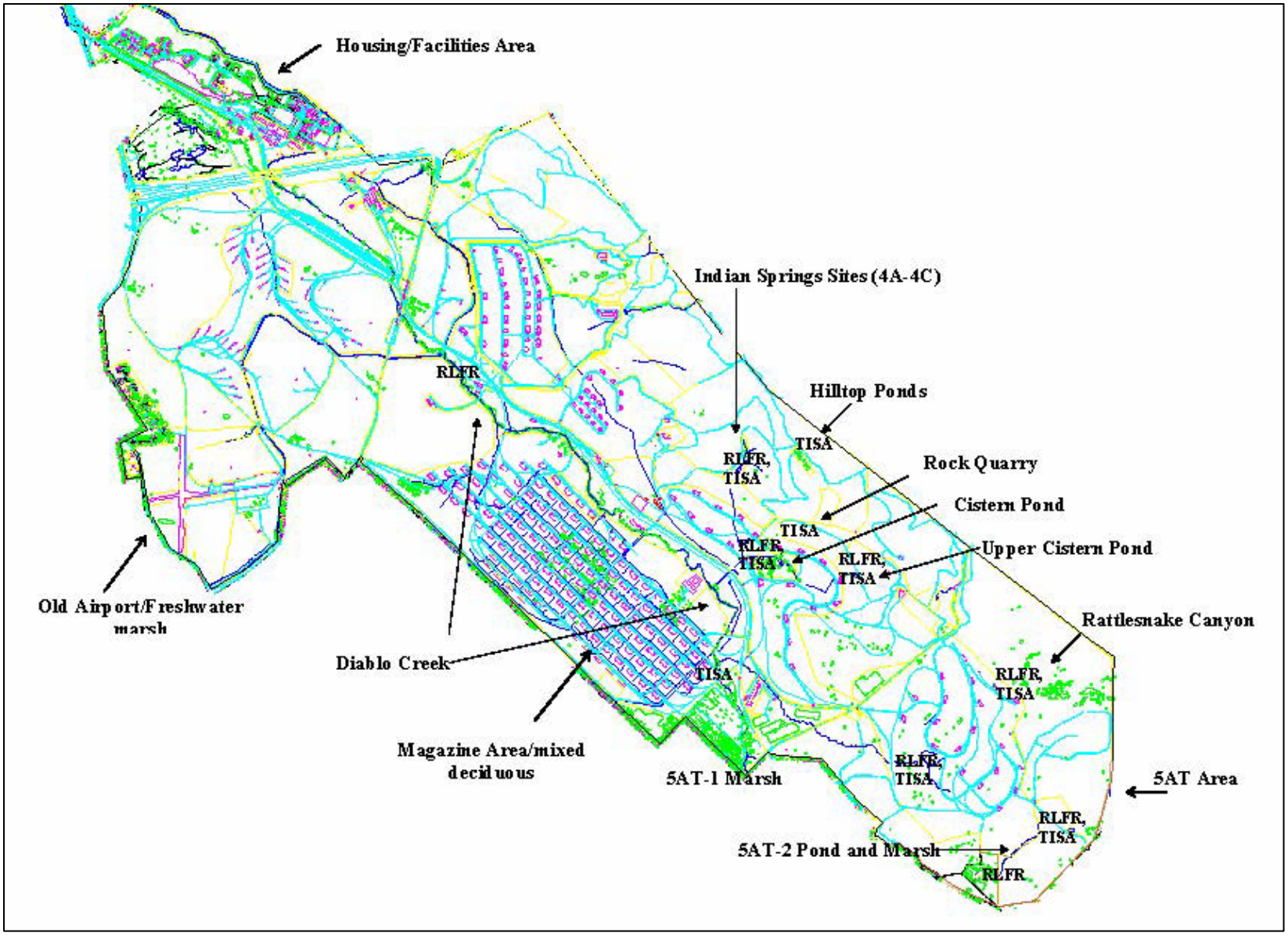


Figure 2. Detachment Concord Inland Area Locations Where Red-Legged Frogs and Tiger Salamanders Were Observed: 1998-1999

Figure 3. General Location Where Amphibian and Reptile Surveys were Conducted within the Tidal Area: 1998-1999

3. Document: A Monitoring Effort to Detect the Presence of the Federally Listed Species California Tiger Salamander and California Red-Legged Frog at the Naval Weapons Station Seal Beach Detachment Concord, California. Prepared by K. S. Smallwood and M. L. Morrison for Naval Facilities Engineering Command Southwest. 22 January 2007.

   Summary: The goal of this project was to re-survey throughout the Inland and Tidal Areas of Detachment Concord to identify locations occupied during 2005 and 2006 by both the California tiger salamander and California red-legged frog. Specifically, surveys were conducted beginning in spring 2005 and continued into spring 2006 in suitable habitat in both the Inland and Tidal Areas of Detachment Concord.

   California red-legged frogs were found to occupy the same general area as documented by previous surveys. However, the species was not found in the Indian Springs drainage, nor was it found in 5AT-2 Pond. The California red-legged frog was only found in Cistern Pond, Upper Cistern Pond, and in Diablo Creek between L and O Street bridges. The California red-legged frog might have been sighted in 5AT-1 Pond. No California red-legged frogs were found in the Tidal Area. Figures 4 and 5 depict the areas of most likely occurrence searched for California red-legged frogs, and the locations where the species was found.

   California tiger salamander larvae were found in most of the same locations where they were found previously, but the species was also found in new locations where they had not been reported previously, including a dead adult in Bunker City. It was noted the habitat conditions in some other ponds was degrading. Cattails were crowding 5AT-1 Pond and Cistern Pond, and 5AT-2 Pond held only a small amount of water. Ponds where the California tiger salamander was not found were also declining in their apparent suitability to the species. The pond in the elk pen just south of Willow Pass Road (Pond 124) nearly completely filled with silt in 2006, and so did Pond 120 on the western side of the Detachment Concord Inland area. The California tiger salamander was not found in any of the ponds surveyed in the MOTCO Tidal Area, including those ponds listed in Table 1. Figures 6 and 7 depict the areas of most likely occurrence searched for California tiger salamanders, and the locations where the species was found.

Table 1. 2005-2006 California Tiger Salamander Survey Results within the MOTCO Tidal Area

Pond Number	Pond Name	Pond Surveyed	California Tiger Salamander Present	Number Tiger Salamander Larvae
201	Above Quarry (Tidal)	Y	N	0
202	Above Quarry (Tidal)	Y	N	0
203	Broken Dam in Tidal Hills (Tidal)	Y	N	0
204	Stock Pond in Tidal Hills (Tidal)	Y	N	0
206	Next to Eucalyptus (Tidal)	Y	N	0
207	Rain Pond (Tidal)	Y	N	0
208	Rain Pond by Canal (Tidal)	Y	N	0
212	North Main Street (Tidal)	Y	N	0
213	North Main Street (Tidal)	Y	N	0
214	Main Street (Tidal)	Y	N	0
215	Main Street (Tidal)	Y	N	0
219	Tidal North of Road (Tidal)	Y	N	0
220	By Fire Station (Tidal)	Y	N	0
221	By Fire Station (Tidal)	Y	N	0
222	By Fire Station (Tidal)	Y	N	0
223	Admist Bunkers	Y	N	0

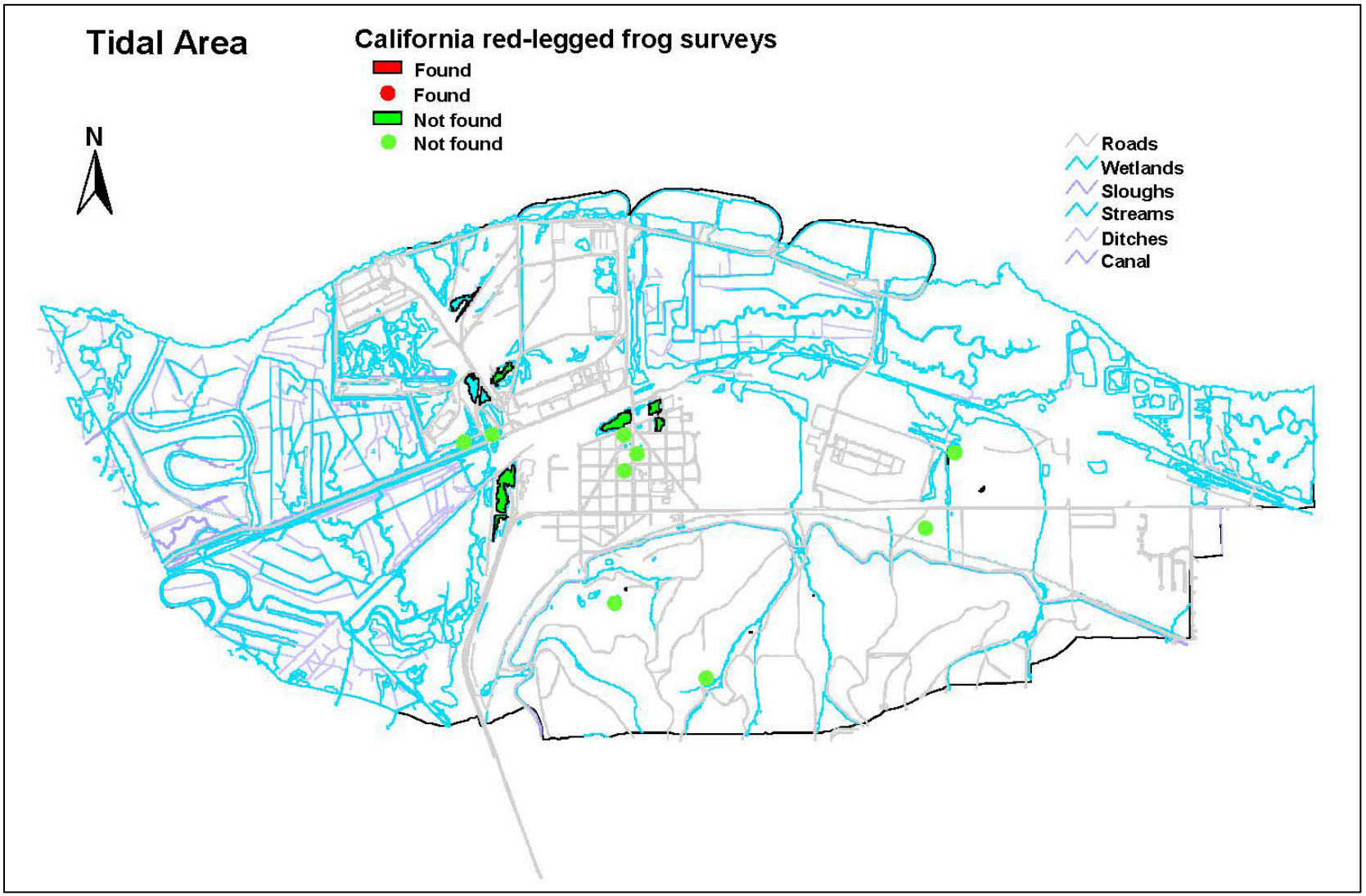


Figure 4. Locations of 2005-2006 Surveys for California Red-Legged Frogs at MOTCO Tidal Area

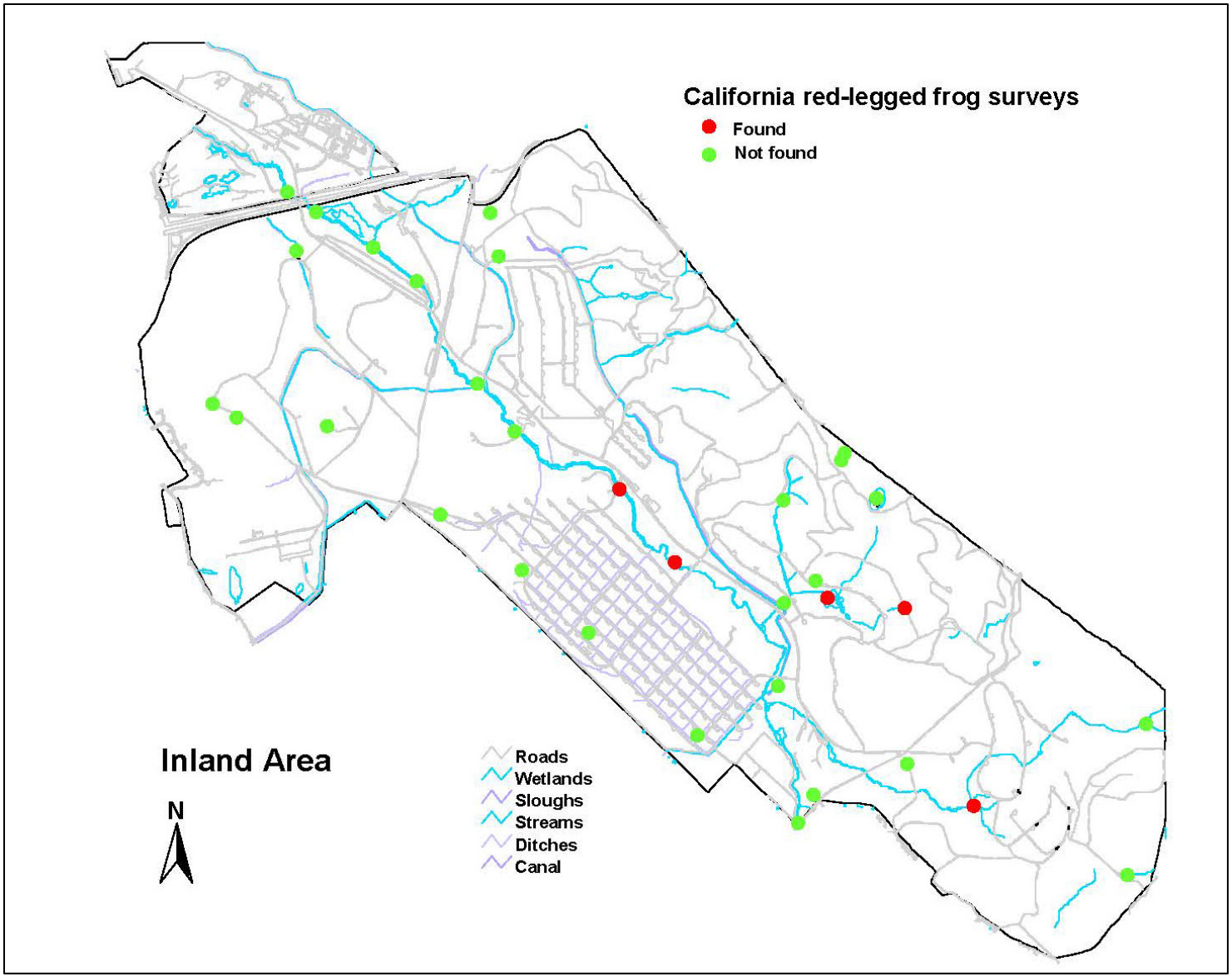


Figure 5. Locations of 2005-2006 Surveys for California Red-Legged Frogs at Detachment Concord Inland Area

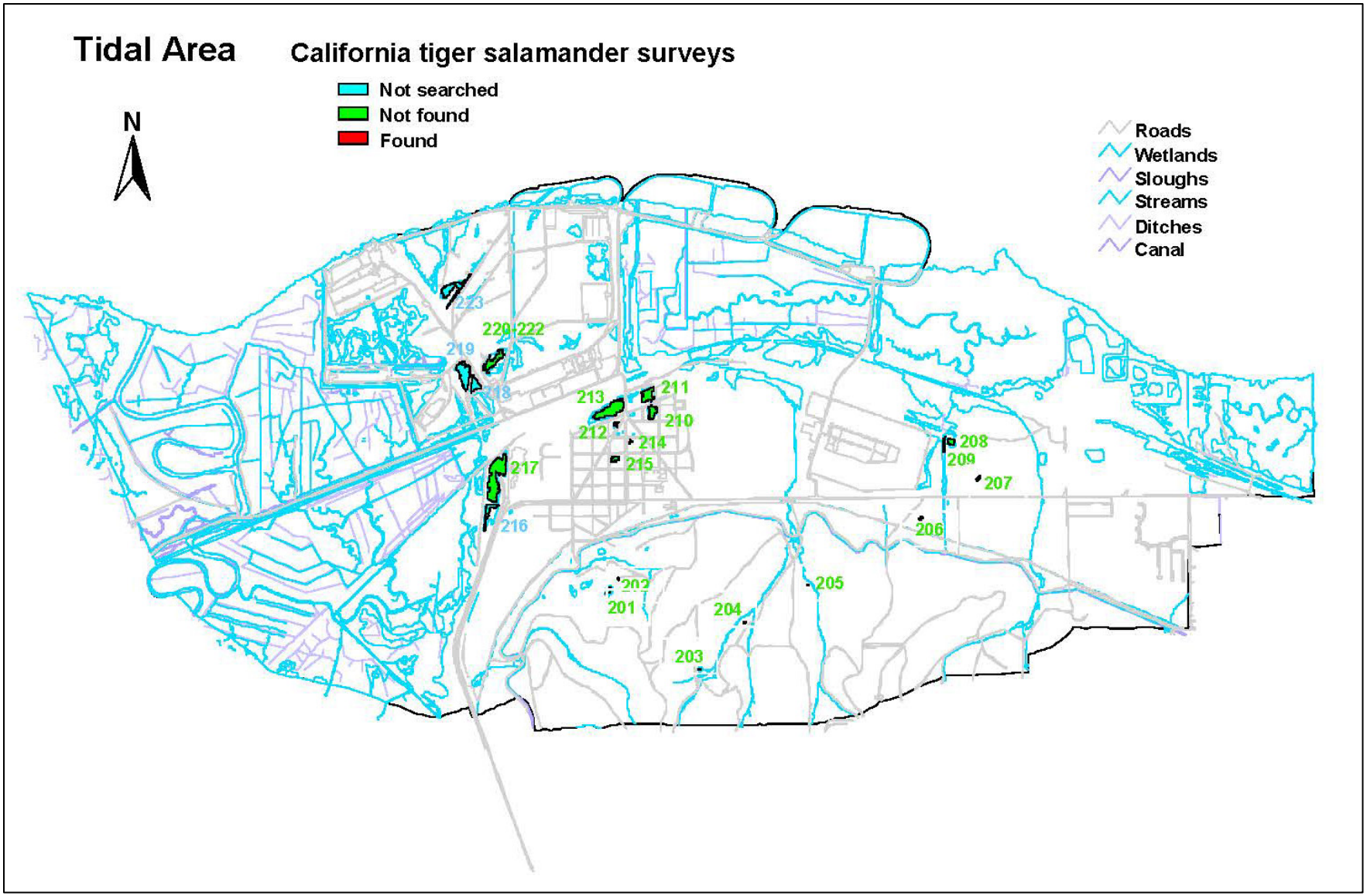


Figure 6. Locations of 2005-2006 Surveys for California Tiger Salamanders at MOTCO Tidal Area

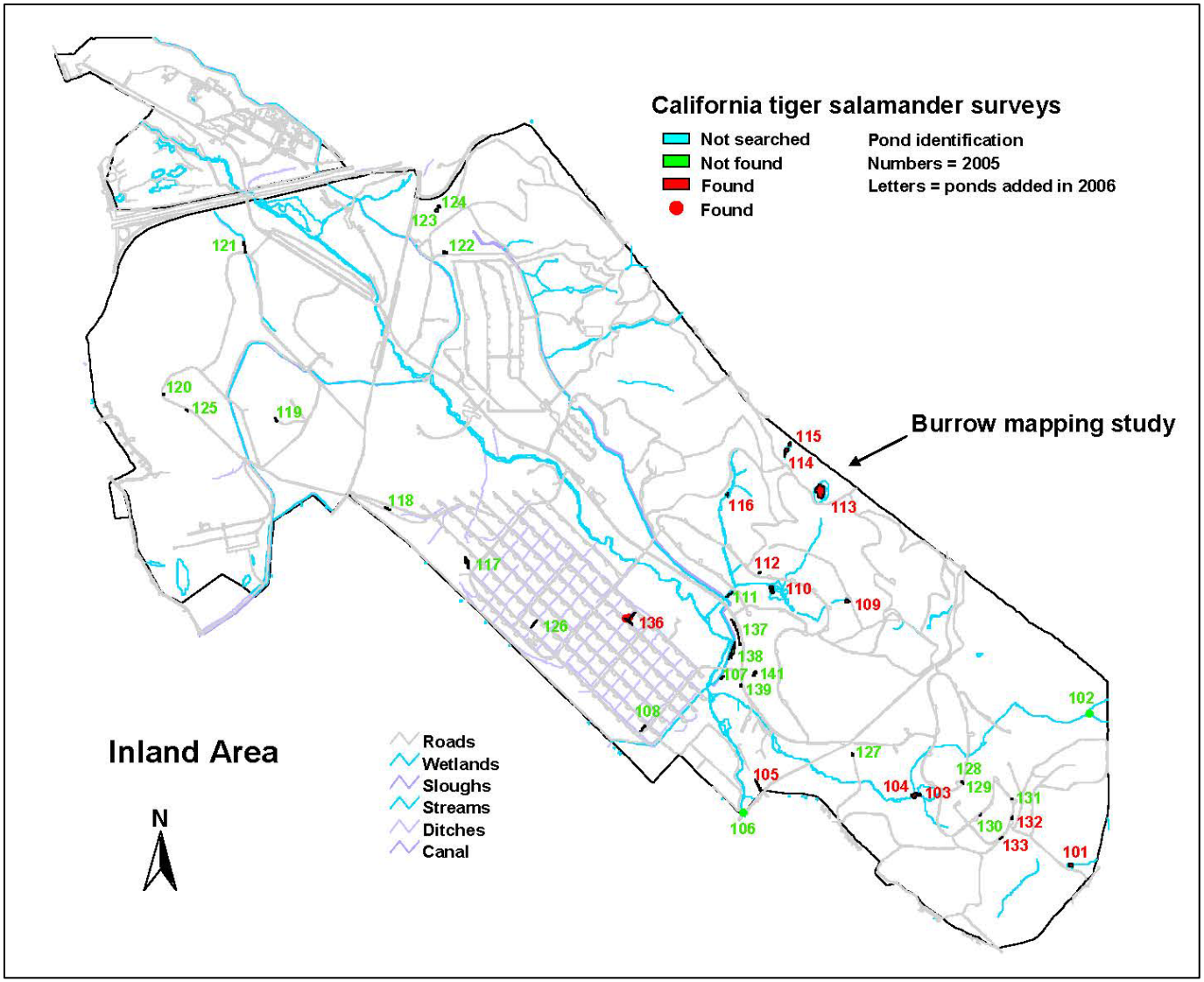


Figure 7. Locations of 2005-2006 Surveys for California Tiger Salamanders at Detachment Concord Inland Area

4. Document: California Tiger Salamander Upland Habitat Study Report. Prepared by EDAW/AECOM for Naval Base Realignment and Closure – Program Management Office. 3 December 2008.

   Summary: A survey was conducted for the approximate 5,280-acre Detachment Concord Inland Area property in support of an environmental impact statement for base closure (Figure 4). Although several prior studies have documented the presence of California tiger salamanders and California tiger salamander breeding ponds within the Detachment Concord Inland Area, the distribution of California tiger salamanders during non-breeding season was unknown. The upland habitat study report includes a background literature review, results of an upland burrow study and nocturnal surveys, and a habitat suitability analysis for the California tiger salamander.

   The burrow study area included areas within 1.37 miles of known breeding ponds (up to approximately 2,369 acres) on and adjacent to Detachment Concord (Figures 8 and 9). The study area excluded the portion of Los Medanos Hills where slopes are 30 percent or greater, which are planned to be maintained as open space. The study area also excluded all areas west of Willow Pass Road, as all prior surveys for California tiger salamanders in that area have been negative. Nocturnal surveys focused on areas of burrow concentrations identified during the burrow study where California tiger salamanders have not been previously documented. Figure 10 compiles all known occurrences of California tiger salamanders within the vicinity of Detachment Concord from the California Natural Diversity Database (CNDDB) and literature review prior to the publication of the 2008 report.

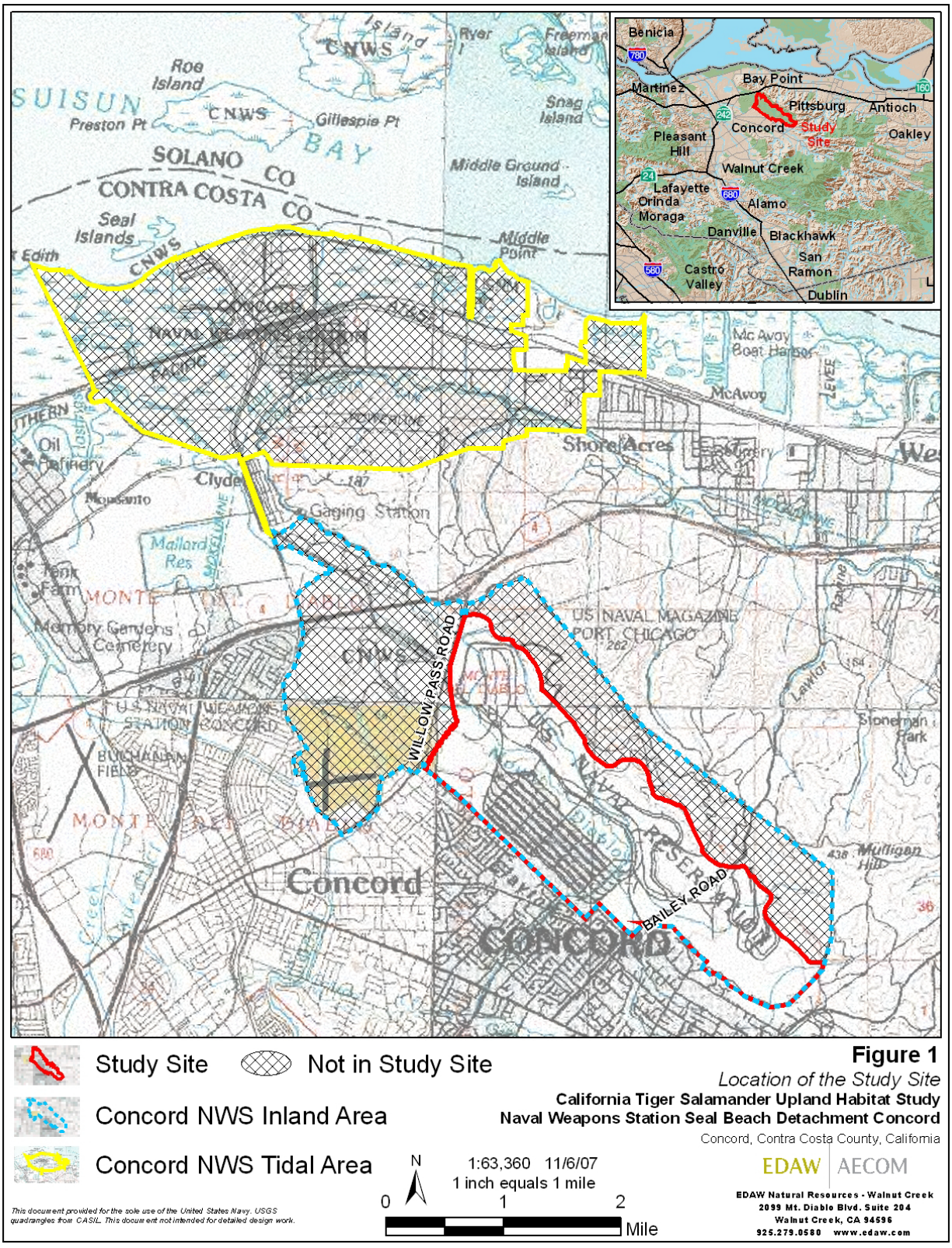


Figure 8. Location of 2008 Study Site

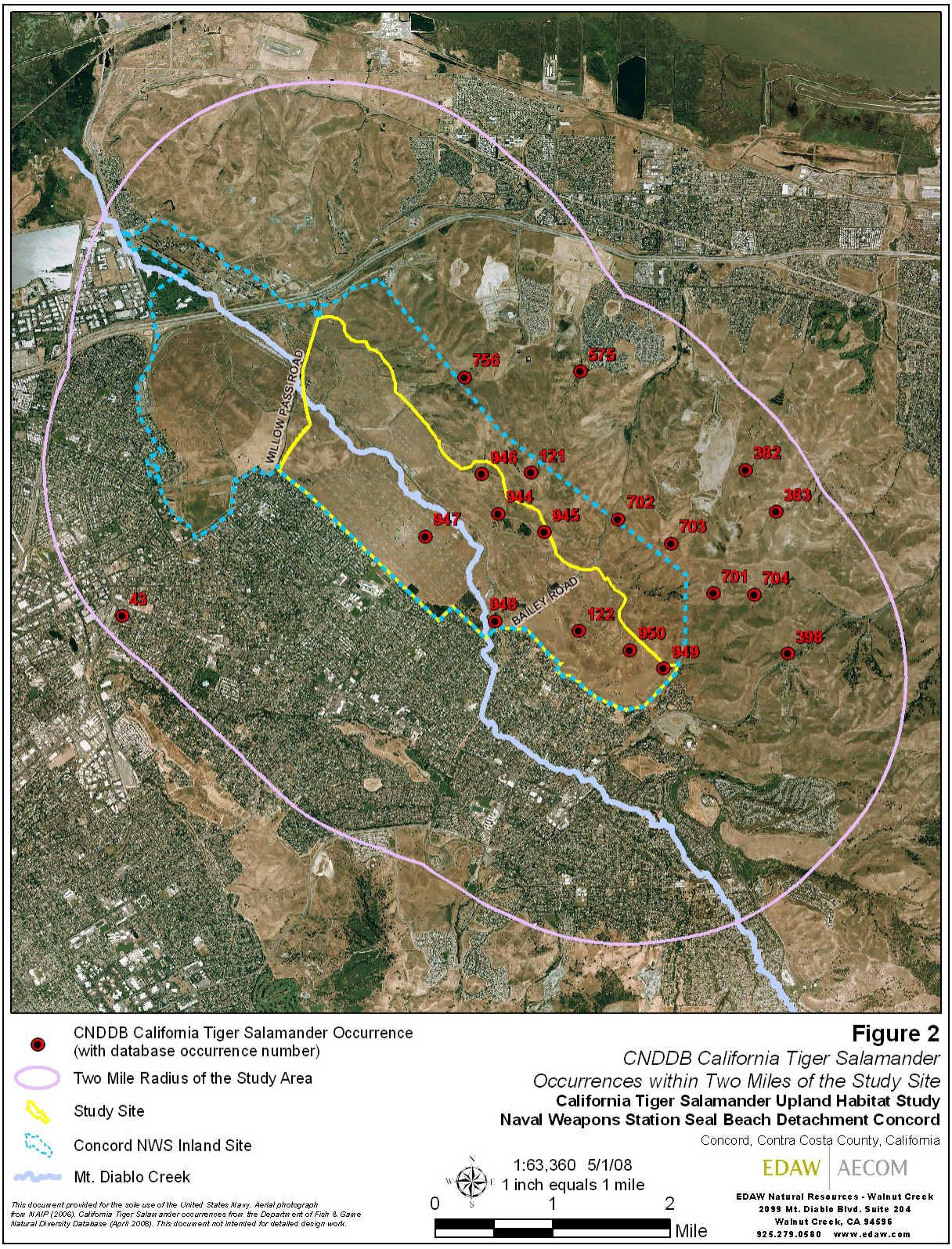


Figure 9. Location of California Tiger Salamander Occurrences within 2 Miles of the Detachment Concord Reuse Area Study Site

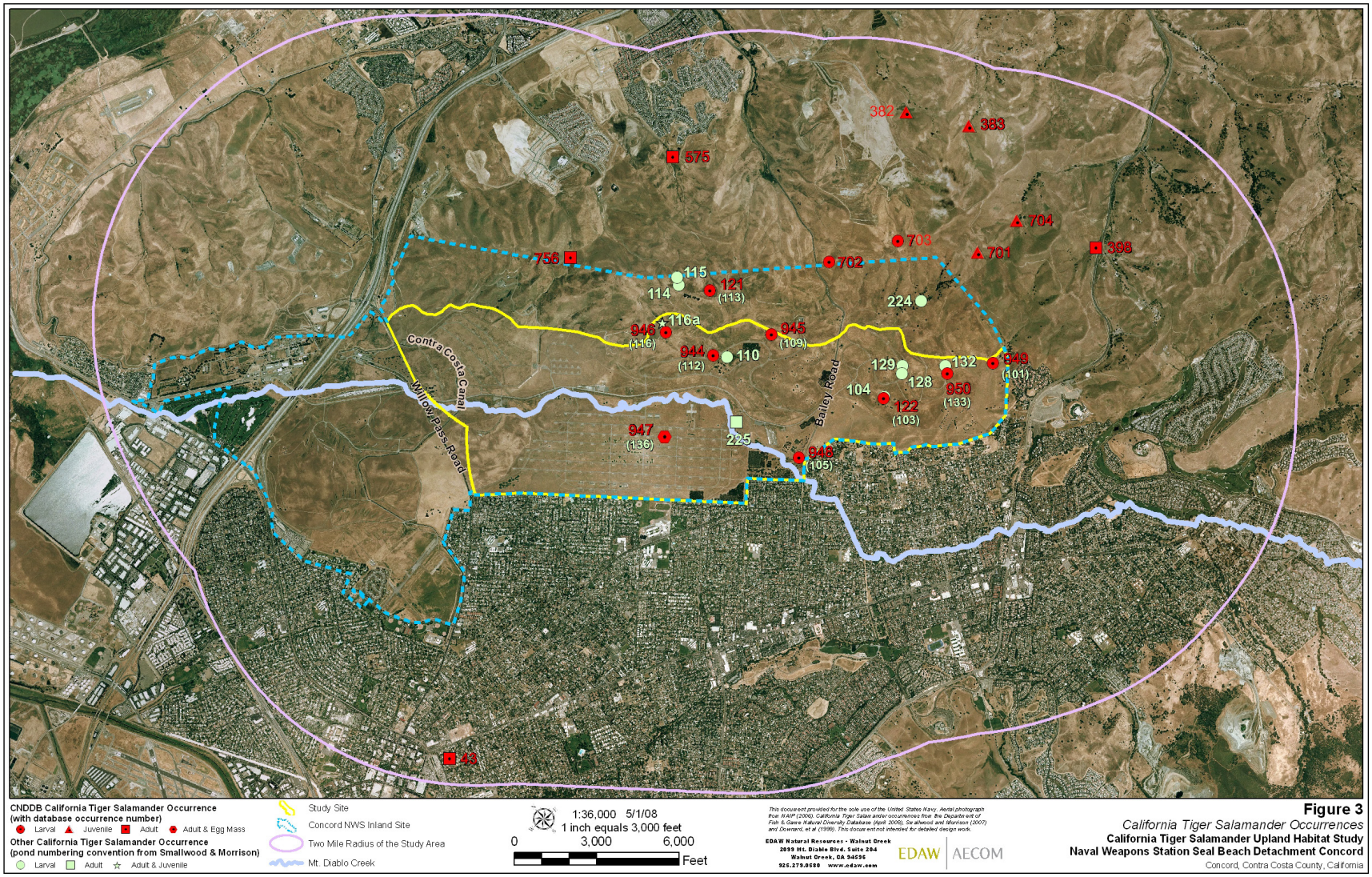


Figure 10. Compilations of Known California Tiger Salamander Occurrences within 2 Miles of the Detachment Concord Reuse Area Study Site

5. Document: Concord Community Reuse Plan, California Salamander Larval Survey Report. Prepared by H.T. Harvey & Associates for the City of Concord. 25 August 2011.

   Summary: California tiger salamander larval surveys were conducted on 30 March, 21 April, and 11 May 2011 per the joint U. S. Fish and Wildlife Service and California Department of Fish and Game 2003 *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger* and in accordance with the protocol described in a survey request letter dated 22 February 2011. The purpose of the surveys was to determine the presence or absence of California tiger salamanders at ponds on the Concord Community Reuse Plan Site (Figure 11). A number of previous surveys on the 5,028-acre site have indicated the presence of this species in ponds in the southeastern portion of the site. However, only one California tiger salamander observation (a deceased adult female and an egg mass in a small pool in "Bunker City") has been reported west of Mt. Diablo Creek, and there are no records of the species on the northwestern half of the site (Figure 12).

   During the survey effort, 96 ponds, pools, and wetlands were surveyed, including six ponds north of SR 4 within the Diablo Creek Golf Course and 90 ponds, pools, and wetlands south of SR 4 within the former Naval Weapons Station (Figure 13). California tiger salamander larvae or adults were not detected in any of the ponded-water features samples. Collectively, these features provide low-quality California tiger salamander breeding habitat.

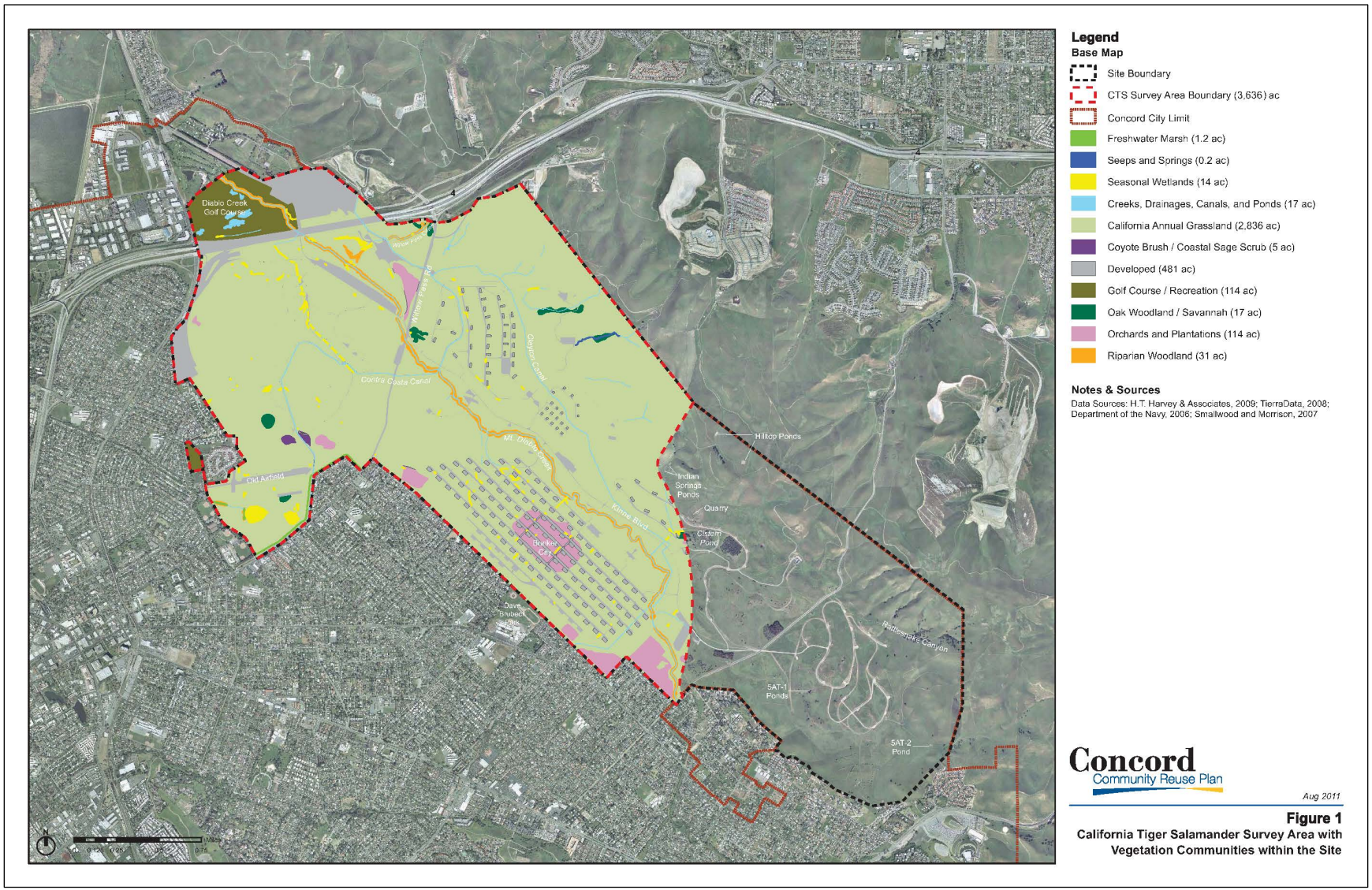


Figure 11. California Tiger Salamander Survey Area at Detachment Concord Reuse Site

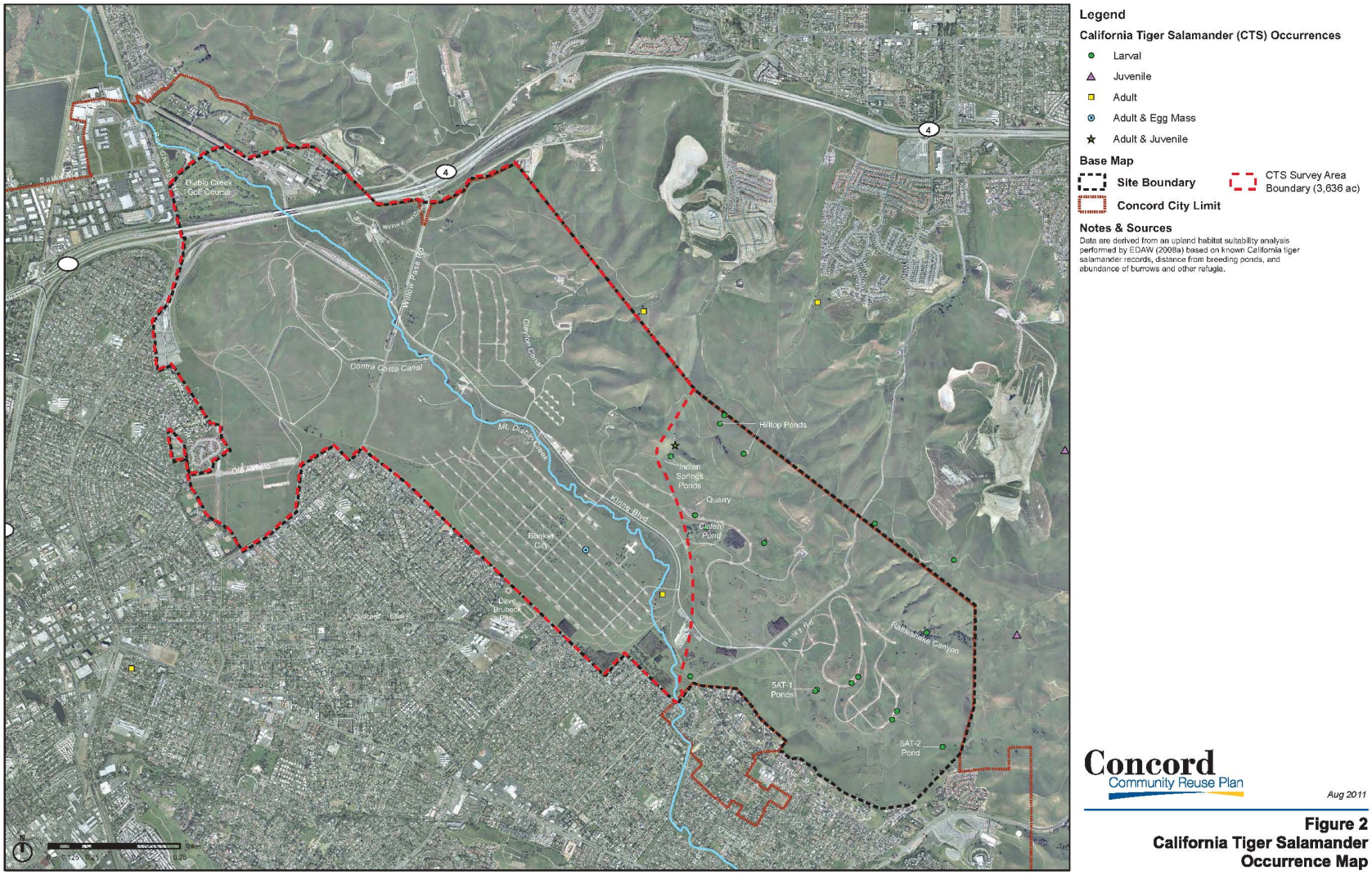


Figure 12. California Tiger Salamander Occurrence Map at Detachment Concord Reuse Site

Figure 13. Location of Surveyed Areas at Detachment Concord Reuse Site

6. Document: Preliminary Wetland Assessment and Habitat Survey for California Tiger Salamanders and California Red-Legged Frogs at the Tidal Explosives Ordinance Disposal Site at the Military Ocean Terminal Concord, Contra Costa County, California. Prepared by Condor Country Consulting, Inc. for PARSONS Government Services, Inc. 21 June 2012.

   Summary: The MOTCO Explosive Ordnance Disposal (EOD) site is located in the western Los Medanos Hills in the MOTCO Tidal Area and is approximately 2,000 by 3,000 feet in size (Figure 14). An informal wetlands assessment was conducted in addition to an assessment to determine whether suitable habitat was present for the California tiger salamander and California red-legged frog. The survey area focuses on potential wetlands, streams, perennial and ephemeral drainages, along with depressions that could have vernal pool characteristics. There were no seasonal ponds or other bodies of water present at the EOD site which could be used as a breeding site for California tiger salamanders or California red-legged frogs. In addition, the upland habitat potential for these two species at the EOD site was characterized as poor.

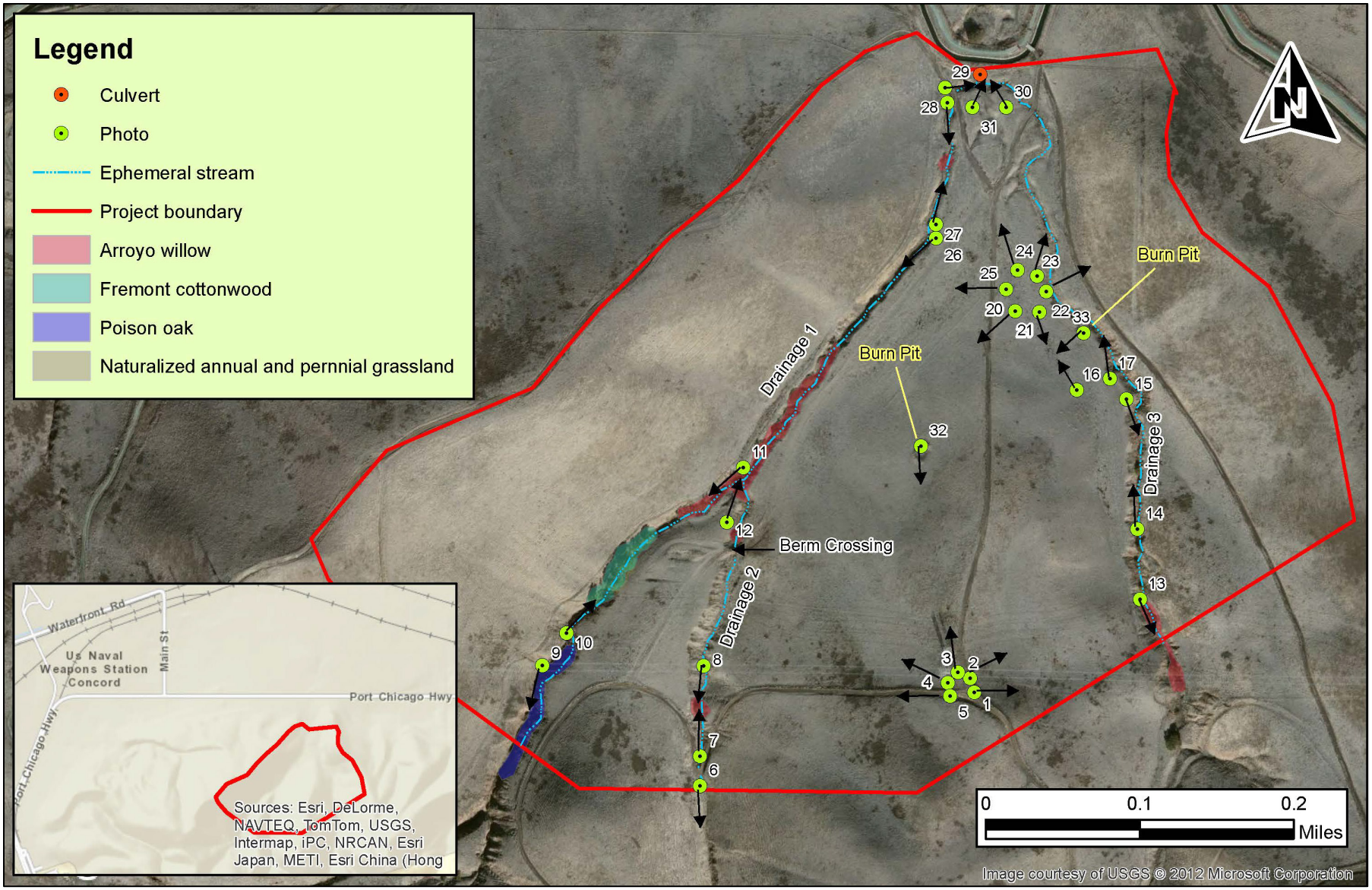


Figure 14. MOTCO Tidal Area EOD Site

From: Cordova, Dan [mailto:dan_cordova@fws.gov]
Sent: Thursday, May 23, 2013 11:57 AM
To: GARBER, KIMBERLY D (Kim) CIV USARMY SDDC (US)
Subject: CRLF/CTS Info

Kim,

Did your people put together that information regarding the potential presence of CTS and CRLF on MOTCO yet? I'd like that as soon as possible please. I plan on folding some of that into the informal consultation.

Dan

Dan Cordova
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Coast Bay Forest Foothills Division
Sacramento Fish and Wildlife Office
2800 Cottage Way
Sacramento, CA 95825
916-414-6600

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

From: GARBER, KIMBERLY D (Kim) CIV USARMY SDDC (US)
Sent: Thursday, May 16, 2013 11:16 AM
To: 'Cordova, Dan'
Subject: Updated EA/BA Category A Projects Figure (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Dan,

Here is the figure I mentioned on the phone. It shows the latest concept location for Gate 5 being west of Nichols Rd.

Thanks for all your help.
Kim

Kim Garber, AICP
Community Planner
SDDC HQ G1/G4
Office: 843.794.0383 x122 DSN 794
Email: kimberly.d.garber.civ@mail.mil

Military Ocean Terminal Concord

Category A Projects

- P76086, Lightning Protection
- P74877, Security Fencing

Category A Projects (continued)

- P74877, Visitor Control Center
- P76087, Equipment Maintenance Building
- P76091, Facilities Maintenance Building
- P76092, Security Headquarters Building
- P76093, Gate 5 Truck Inspection Station

Figure 2-1

LIMITS OF CONSTRUCTION FOR CATEGORY A PROJECTS

From: GARBER, KIMBERLY D (Kim) CIV USARMY SDDC (US) [mailto:kimberly.d.garber.civ@mail.mil]
Sent: Tuesday, March 19, 2013 9:04 AM
To: Cordova, Dan
Cc: Wirth, Carol P.
Subject: FW: MOTCO RPMP and INRMP Consultations (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Dan,

Attached are the responses to your questions on the MOTCO Real Property Master Plan ESA Consultation.

Please let me know if you need further clarification on any of these issues. If possible, can you please provide a schedule for completion of consultation? We are on track to have the construction for the Facility Maintenance and Lightning Protection contracts awarded this April so the schedule is tight.

Respectfully,
Kim

Kim Garber, AICP
Community Planner
SDDC HQ G1/G4
Office: 843.743.0383 x122 DSN 563
Email: kimberly.d.garber.civ@mail.mil

Classification: UNCLASSIFIED
Caveats: NONE

U.S. Fish and Wildlife Service (USFWS) Questions/Comments on Military Ocean Terminal Concord (MOTCO) Real Property Master Plan (RPMP) *with Draft Army Reponses in Italics*

18 March 2013

Dan Cordova, Fish and Wildlife Biologist, USFWS Coast Bay Forest Foothills Division, Sacramento Fish and Wildlife Office submitted these questions to Kim Garber, Community Planner, Surface Deployment and Distribution Command Headquarters G1/G4 on 7 February 2013.

Security Fence:

1. Please give more detail on the vegetation management for maintaining a 20' clear zone.

   In further design for the security fence and in light of funding constraints, it was determined that the clear zone requirements would be met with the following:
   - *Establishment of a 12-foot wide compressed gravel patrol road on the interior portion of the fenceline (within the developed shoulder of the existing adjacent road).*
   - *Post-construction vegetative management would be conducted. Any tall or bushy vegetation that would impede visibility along the fenceline would be trimmed using hand trimmers during initial fence installation and on an as-needed basis thereafter. The dominant cattail vegetation in the affected areas would not require trimming. No vegetative trimming would occur in marsh or wetland areas.*

2. Does "adjacent" to the road mean on the developed shoulder of the road?

   Yes.

3. For the Pier 4 area security fence installation: will the existing fencing be removed or left in place? I ask this question because it looks like there is an existing fence that diverges from the point where the new fence is tied into the existing fence. This existing fence cuts through what appears to be dense vegetation and one watercourse.

   The existing fence will be left in place.

4. Are there any "re-routes" of fencing where the new fence veers from the old fence-line? Will any fence be abandoned in place or removed outside of the new fenceline?

   No, the new fence would follow the existing fenceline and no re-routing would occur. The existing fenceline would not be removed and would be left in-place following the installation of the proposed security fence.

Facility Maintenance Building and Security Headquarters Building:

1. Does the square footage given in the BA for these two facilities include the parking lots?

   No, the Facility Maintenance Building and Security Headquarters Building would have parking lots that are approximately 10,000 SF and 13,000 SF in size, respectively. As noted in the Biological Assessment (BA), all development associated with these projects would be within the 0.3-acre and 0.2-acre approximate areas of disturbance, respectively.

Gate 5 Truck Inspection Station:

1. Does this square footage given in the BA for this facility include all paved areas as well as the building?

   As noted in the BA, P76093, Gate 5 Truck Inspection Station, includes the 5,200 SF facility as well as stevedore/privately-owned vehicle (POV) parking, truck parking/queuing area, search areas, and a safe haven that would be dispersed over an approximate 18.5-acre of potential disturbance. The pavement and impervious surface associated with this project is estimated at 11 acres of previously disturbed, but currently undeveloped, areas of the eastern Tidal Area. As noted in the Environmental Assessment (EA), the construction projects would follow U.S. Environmental Protection Agency Technical Guidance on Implementing the Stormwater Runoff Requirements for Federal Projects under Section 438 of the Energy Independence and Security Ac and proper permits including the National Pollutant Discharge Elimination System permit, including development of a Stormwater Pollution Prevention Plan and use of Best Management Practices and Leadership in Energy and Environmental Design standards would be incorporated into site layout and facility designs.

Equipment Maintenance building:

1. Does this square footage include all paved areas as well as the building?

   Due to funding and other considerations that ensued in further analysis of this project subsequent to preparation of the BA, the P76087, Equipment Maintenance Building project has been re-sited to the Inland Area of MOTCO and is now a Fiscal Year 2015 project. The new site for the equipment maintenance building is at a previously developed site as depicted in Enclosure 1. The estimated pavement for this facility is approximately 25,000 SF.

2. On aerial imagery it looks like there might be a drainage within the footprint of this facility? Has it already been determined that a wetland is not present?

   As indicated in the previous response, the equipment maintenance building has been re-sited to the Inland Cantonment Area adjacent to the existing rail maintenance shop, and no project is currently proposed at the former proposed site that is the subject of this comment.

In-Water Work:

1. The work window for in-water work needs to be changed to August 1 – November 30. This

   *The Army will adhere to the specified August 1 – November 30 work window for the Delta smelt (*Hypomesus transpacificus*) for the projects addressed in this consultation. The Final EA and associated decision document will reflect this agreed upon in-water work window.*

Avoidance and Minimization Measures:

1. Can you add that surveys for T&E species be "appropriately timed"?

   The Army will make the suggested revision in the avoidance and minimization measures outlined in the Final EA and associated decision document.

2. The Service has not been convinced that California red-legged frog and California tiger salamander are absent from the inland portion of MOTCO. Can you add a measure that states; a Service-approved biologist will be present for any ground disturbance at P76087 and P76093 to monitor for the presence of these species?

   The Army will make the suggested revision in the avoidance and minimization measures outlined in the Final EA and associated decision document. However, it will only apply to P76093, Gate 5 Truck Inspection Station because the P76087, Equipment Maintenance Building project has been re-sited to the cantonment area within the Inland Area of MOTCO, where habitat for these species are not present (see Enclosure 1).

3. Can a Service-approved biologist be present during vegetation cutting in marsh or wetland areas to monitor for the presence of SMHM or California red-legged frog (depending on the habitat)?

   No vegetative cutting is proposed within marsh or wetland areas.

4. The BA states that "to the extent practicable, construction and demolition…" for specific project components, will avoid the California clapper rail breeding season. If there is a potential for this avoidance to not be practicable, then we need to assume that project activities will occur during the breeding season. Basically I need to know if you can avoid the breeding season or not.

   For the projects listed below, the Army's primary strategy for avoiding potential impacts to California clapper rail will be to avoid construction and demolition activity during the California clapper rail breeding season (from 1 February through 31 August).

   a. *two RPMP Category A projects: P74877, Security Fencing, and P76086, Lightning Protection;*
   b. *seven RPMP Category B projects located near the MOTCO shoreline: Waterfront Ops Building (111), Shed (144), Smoke Shack (100), Steam Plant for Pier 2 (160), Closed Oil Aboveground Storage Tank (410), Closed Oil Aboveground Storage Tank (411), and Steam Plant Building for Pier 4 (407); and*

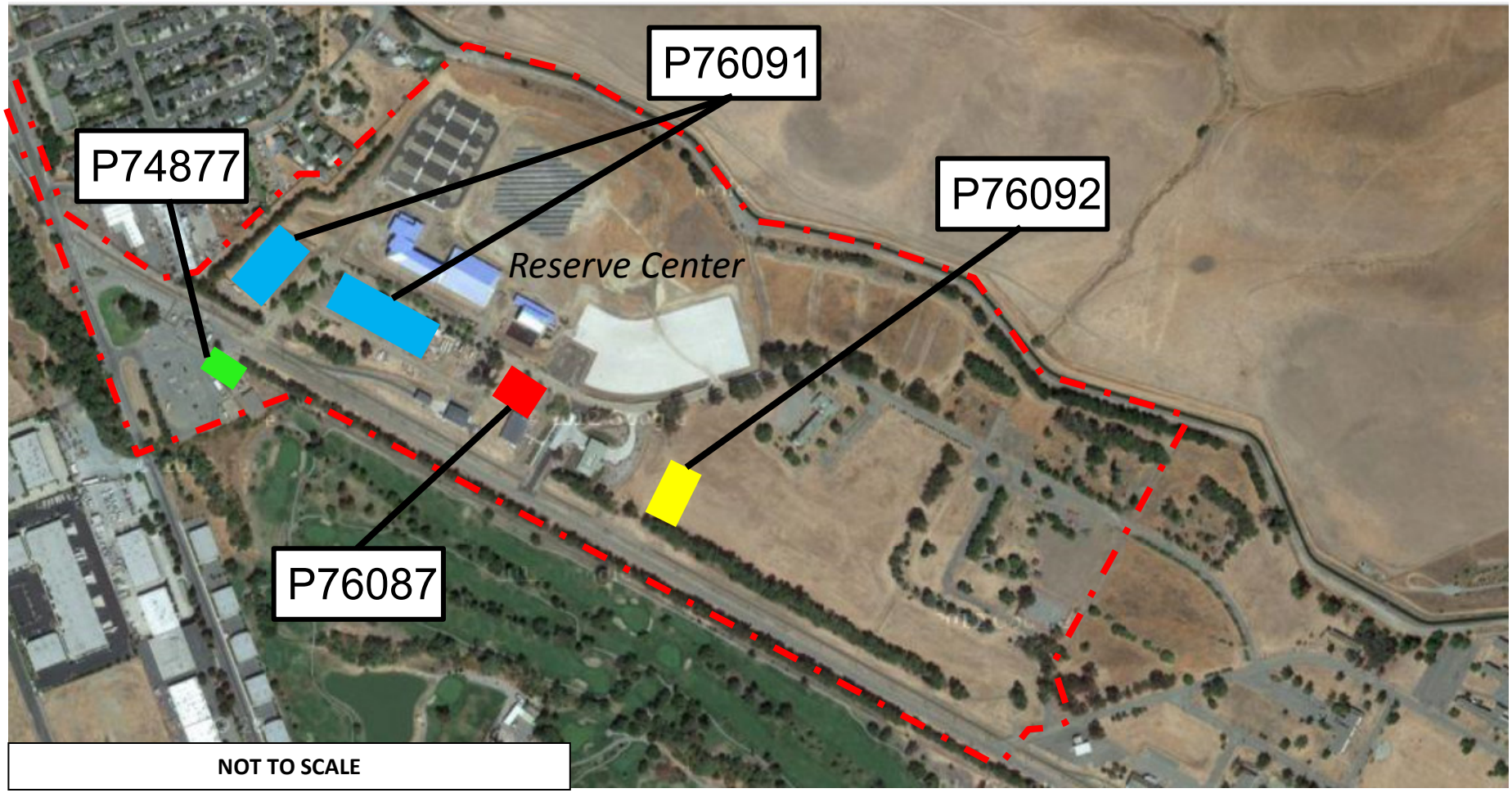
c. *five RPMP Category B projects located near Hasting Marsh: Storage (A-11), Shed (A-19), Ammunition Transfer Building (A-31), Defunct Salvage Yard Office (122), and Closed Lumber Salvage Shop (A-29).*

If, however, it is determined that construction or demolition activity associated with these projects is required during the California clapper rail breeding season, the Army will conduct pre-construction protocol-level surveys for California clapper rails in the same year that work occurs. If breeding clapper rails are determined to be present, activities will not occur within 700 feet of an identified calling center. If the intervening distance across a major slough channel or across a substantial barrier between the clapper rail calling center and any activity area is greater than 200 feet, then it may proceed at that location within the breeding season.

In order to minimize or avoid the loss of individual California clapper rails, activities associated with the above identified projects will not occur within two hours before or after extreme high tides (6.5' or above, as measured at the Golden Gate Bridge), when the marsh plain is inundated.

5. On page 2-16 #3, can you add the language "on-site" to the second sentence to state that the "Containment booms…….will be available **on-site** during…."?

   The Army will make the suggested revision in the avoidance and minimization measures outlined in the Final EA and associated decision document.



Enclosure 1 –Inland Area Updated Project Sites

From: Cordova, Dan [mailto:dan_cordova@fws.gov]
Sent: Thursday, February 07, 2013 3:51 PM
To: GARBER, KIMBERLY D (Kim) CIV USARMY SDDC (US)
Subject: FWS Comments on the MOTCO RPMP

Kim,

Attached is a list of questions and comments on the RPMP BA for MOTCO.

The contact for the upcoming pier replacements is going to be Kim Turner (contact info below). The biologist that will most likely be assigned the project is Brian Hansen "Brian Hansen" <brian_hansen@fws.gov>.

Kim S, Turner
Assistant Field Supervisor
Bay-Delta Fish & Wildlife Office
650 Capitol Mall 8th floor
Sacramento, CA 95814
916-930-5603

"Kim Turner" <kim_s_turner@fws.gov>

I'll be back in the office by 0700 pst on Monday.

Sincerely,

Dan

Dan Cordova
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Coast Bay Forest Foothills Division
Sacramento Fish and Wildlife Office
2800 Cottage Way
Sacramento, CA 95825
916-414-6600

USFWS Questions/Comments on MOTCO RPMP

Security Fence:

5. Please give more detail on the vegetation management for maintaining a 20' clear zone.
6. Does "adjacent" to the road mean on the developed shoulder of the road?
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10. On page 2-16 #3, can you add the language “on-site” to the second sentence to state that the “Containment booms…….will be available **on-site** during….”?

DEPARTMENT OF THE ARMY
MILITARY SURFACE DEPLOYMENT DISTRIBUTION COMMAND
834TH TRANSPORTATION BATTALION
410 NORMAN AVENUE
CONCORD, CA 94520-1142

REPLY TO
ATTENTION OF

10 April 2012

U.S. Fish and Wildlife Service
Ecological Services Field Office
Attn: Mr. Andrew Raabe
650 Capitol Mall, 8th Floor
Sacramento, CA 95814

Re: Request for Concurrence with Findings under Section 7 of the Endangered Species Act

Dear Mr. Raabe:

The U.S. Army, Military Ocean Terminal Concord (MOTCO) initiated informal consultation on an Integrated Natural Resources Management and a Real Property Master Plan for the 6,641-acre military installation located in Contra Costa and Solano Counties, California, on October 17, 2011. The attached letter, dated November 15, 2011, documents U.S. Fish and Wildlife Service concurrence that implementation of the Integrated Natural Resource Management Plan would not likely adversely affect federally listed species and critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act (ESA).

Enclosed please find a final Biological Assessment (BA) prepared to evaluate the potential effects of the Real Property Master Plan on listed species and their critical habitats that are under the jurisdiction of the U.S. Fish and Wildlife Service, pursuant to the Army's compliance with Section 7 of the ESA. The enclosed BA evaluates the proposed action's potential effects on the following ESA-listed species and their critical habitats as found within the MOTCO facility or the waters of Suisun Bay, which border the MOTCO facility:

- Soft bird's-beak, *Cordylanthus mollis ssp. mollis*, Endangered;
- Delta smelt, *Hypomesus transpacificus*, Threatened;
- California clapper rail, *Rallus longirostris obsoletus*, Endangered; and
- Salt marsh harvest mouse, *Reithrodontomys raviventris*, Endangered.

Based on the BA, the Army concludes that the proposed action may affect but is not likely to adversely affect the above species and that the action would not result in the destruction or adverse modification of the designated critical habitat of any of these species. Please note that the BA includes minimization and avoidance measures that will be implemented as part of the proposed action.

The Army hereby requests your concurrence with these findings. We also welcome your input on the proposed action, proposed minimization and avoidance measures, and the analysis of the BA to help ensure our continuing compliance with Section 7 of the ESA. The point of contact for this consultation is Ms. Kim Garber, Community Planner, at (843) 743-0383 x122 or kimberly.garber@us.army.mil.

Sincerely,

Malcolm Charles
Director of Public Works

Enclosure: Final Biological Assessment

United States Department of the Interior

FISH AND WILDLIFE SERVICE
California/Nevada Operations Office
2800 Cottage Way, Suite W-2606
Sacramento, California 95825-1846

In reply refer to:
08ESMF00-2011-CPA-0027

NOV 15 2011

Kimberly Garber, AICP
Community Planner
Military Surface Deployment and Distribution Command
1050 Remount Road
Building 3304
North Charleston, South Carolina 29406-3500

Dear Ms. Garber:

The U.S. Fish and Wildlife Service (Service) has reviewed the Integrated Natural Resources Management Plan (INRMP) for the U.S. Department of the Army's Military Ocean Terminal Concord, California. The Service concurs with the INRMP pursuant to the Sikes Act Improvement Act of 1997 and has made a determination that the proposed management measures prescribed within the plan are not likely to adversely affect federally-listed species and critical habitat under the jurisdiction of the Service pursuant to the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Pursuant to your letter and request dated August 31, 2011, I have signed the enclosed signature page. Once all signatures have been obtained on the INRMP signature page, please return a complete copy of the signed document to this office for our files.

We look forward to future collaboration efforts and actions to accomplish the INRMP's goals and objectives.

Sincerely,

Susan K. Moore

Susan K. Moore
Field Supervisor

Enclosure:
Signature page

Integrated Natural Resources Management Plan
Military Ocean Terminal Concord
2011-2016

Reviewed and Approved by:

Lt. Col. Chris Hart, Commanding Officer,
834th Transportation Battalion

Col. Joseph Calisto, Commanding Officer,
596th Transportation Brigade (Ammunition)

Reflecting Mutual Agreement of:

Susan Moore

Susan Moore, Field Supervisor, Sacramento Field Office, U.S. Fish and Wildlife Service

Chuck Armor, Regional Manager, Bay Delta Region, California Department of Fish and Game

Final

Biological Assessment for Potential Effects on USFWS-Listed Species & Critical Habitat From Implementation of a Real Property Master Plan at Military Ocean Terminal Concord, California

April 2012

Acronyms and Abbreviations

BA	Biological Assessment
BCDC	Bay Conservation and Development Commission
BGEPA	Bald and Golden Eagle Protection Act
BMP	Best Management Practice
CDFG	California Department of Fish and Game
cm/s	centimeters/second
dB	decibel
DoD	Department of Defense
DSRAM	Delta Smelt Risk Assessment Matrix
EA	Environmental Assessment
EOC	Emergency Operations Center
ESA	Endangered Species Act
EFH	Essential Fish Habitat
ft	foot or feet
FY	fiscal year
in	inch
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
LF	linear feet
LPS	Lightning Protection System
m	meter(s)
MBTA	Migratory Bird Treaty Act
MOTCO	Military Ocean Terminal Concord
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
POV	Privately Owned Vehicle
ppt	parts per thousand
RPMP	Real Property Master Plan
SAV	Submerged Aquatic Vegetation
SDDC	Surface Deployment and Distribution Command
SF	square feet
SOP	Standard Operating Procedure
TB	Transportation Battalion
USACE	U.S. Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
VCC	Visitor Control Center

BIOLOGICAL ASSESSMENT
IMPLEMENTATION OF REAL PROPERTY MASTER PLAN AT MILITARY OCEAN TERMINAL CONCORD

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

CHAPTER 1 INTRODUCTION

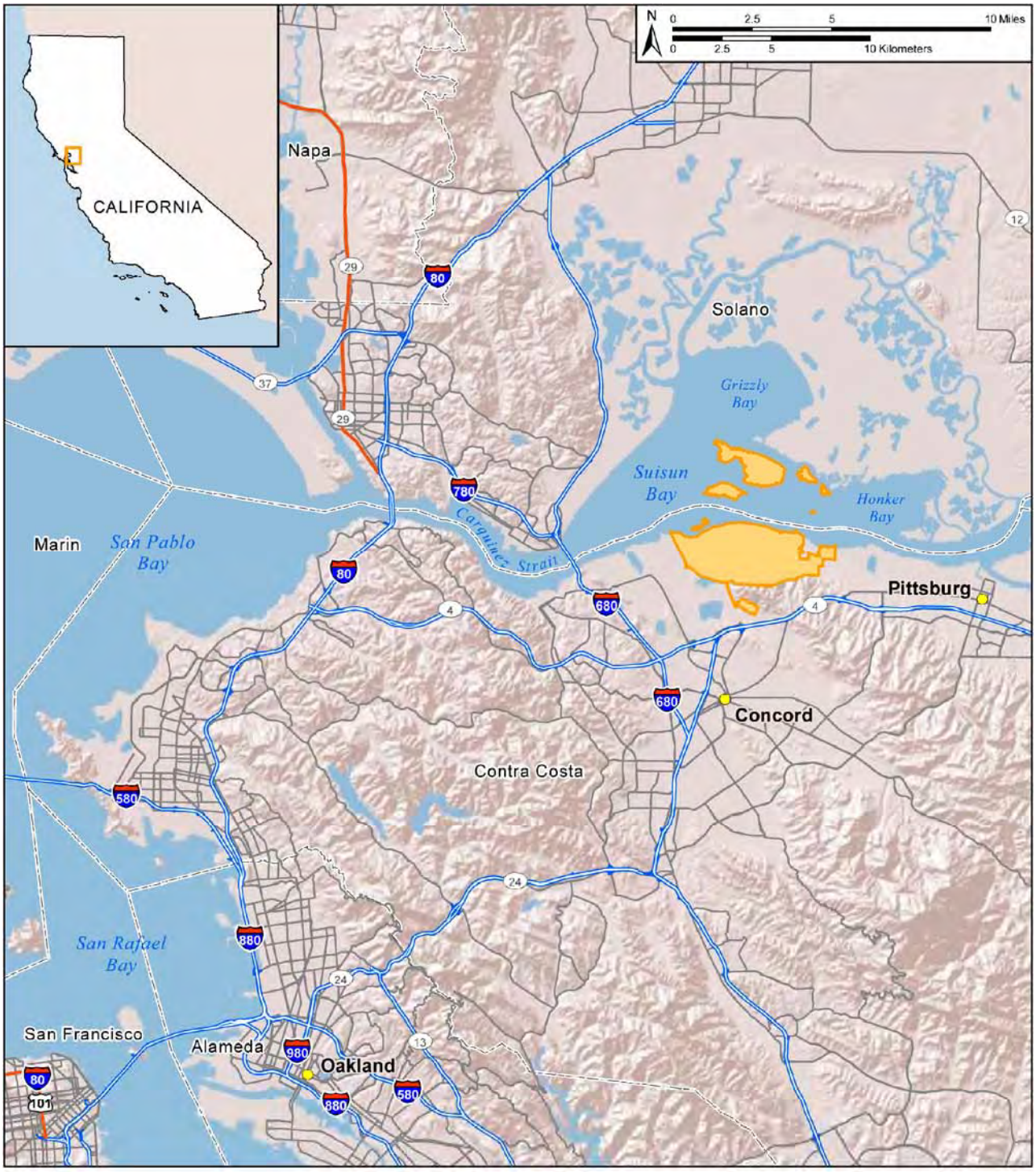
The U.S. Department of the Army (Army) proposes to implement programs for real property management at Military Ocean Terminal Concord (MOTCO) in Contra Costa and Solana Counties, California (Figure 1-1). In accordance with Section 7 of the Endangered Species Act (ESA), this Biological Assessment (BA) has been prepared to analyze the potential impacts of this action on threatened and endangered species and critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS).

MOTCO is a strategically located Army Military Surface Deployment and Distribution Command (SDDC) munitions and general cargo transshipment facility. This Department of Defense (DoD) installation is the primary West Coast common-user ammunition terminal and is home to the SDDC's 834th Transportation Battalion (TB). MOTCO is in the East San Francisco Bay region, approximately 40 nautical miles inland past the Carquinez Strait that connects Suisun Bay to San Pablo Bay. Oakland is 20 miles to the southwest, Sacramento is 65 miles to the northeast, and the City of Concord is located approximately 5 miles south. The installation is composed of an approximately 115-acre Inland Area and an approximately 6,526-acre Tidal Area, which are connected by a road running parallel to and west of Port Chicago Highway. The Tidal Area includes 2,045 acres in offshore islands (Figure 1-2). MOTCO installation lands were formerly Department of the Navy lands within Naval Weapons Station Seal Beach Detachment Concord. On 1 October 2008, MOTCO properties were transferred from the Navy to the Army per 2005 Defense Base Closure and Realignment Commission recommendations. However, the Army's presence at MOTCO dates back to 1 October 1997, when the Army's 1302nd Major Port Command was relocated from the Oakland Army Base to MOTCO and became the 834th TB. The City of Concord has been recognized as the Local Reuse Authority for the approximately 5,028-acres of former Naval Weapons Station Seal Beach Detachment Concord lands that were determined surplus.

The Army has prepared a Real Property Master Plan (RPMP) for MOTCO. The RPMP provides overall direction for a long-term planning horizon of 20 to 50 years and provides more detailed planning and programming for short-term projects to be implemented in the 5 to 7 year timeframe. This BA and associated Environmental Assessment (EA) address those short-term components for which detailed project planning has progressed to the point where it is prudent to analyze potential impacts to threatened and endangered species in detail. Specifically, the focus of this analysis is on RPMP Category A and B projects.

- **RPMP Category A Projects** – projects where detailed planning has been completed and estimated timeline for funding is Fiscal Year (FY) 2013 to FY 2019; these projects are tied to the short-term vision for MOTCO.
- **RPMP Category B Projects** – demolition projects with estimated timeline of FY 2012 and beyond for funding; projects are tied to the short-term vision for MOTCO.

The EA also addresses the implementation of an Integrated Natural Resources Management Plan (INRMP) for MOTCO. The Army, SDDC prepared the INRMP in coordination with USFWS. USFWS is a signatory to the INRMP, reflecting mutual agreement per the Sikes Act Improvement Act of 1997. In a letter dated 15 November 2011, USFWS documented their determination that the proposed management measures within the INRMP are not likely to affect federally listed species and critical habitat under the jurisdiction of USFWS.

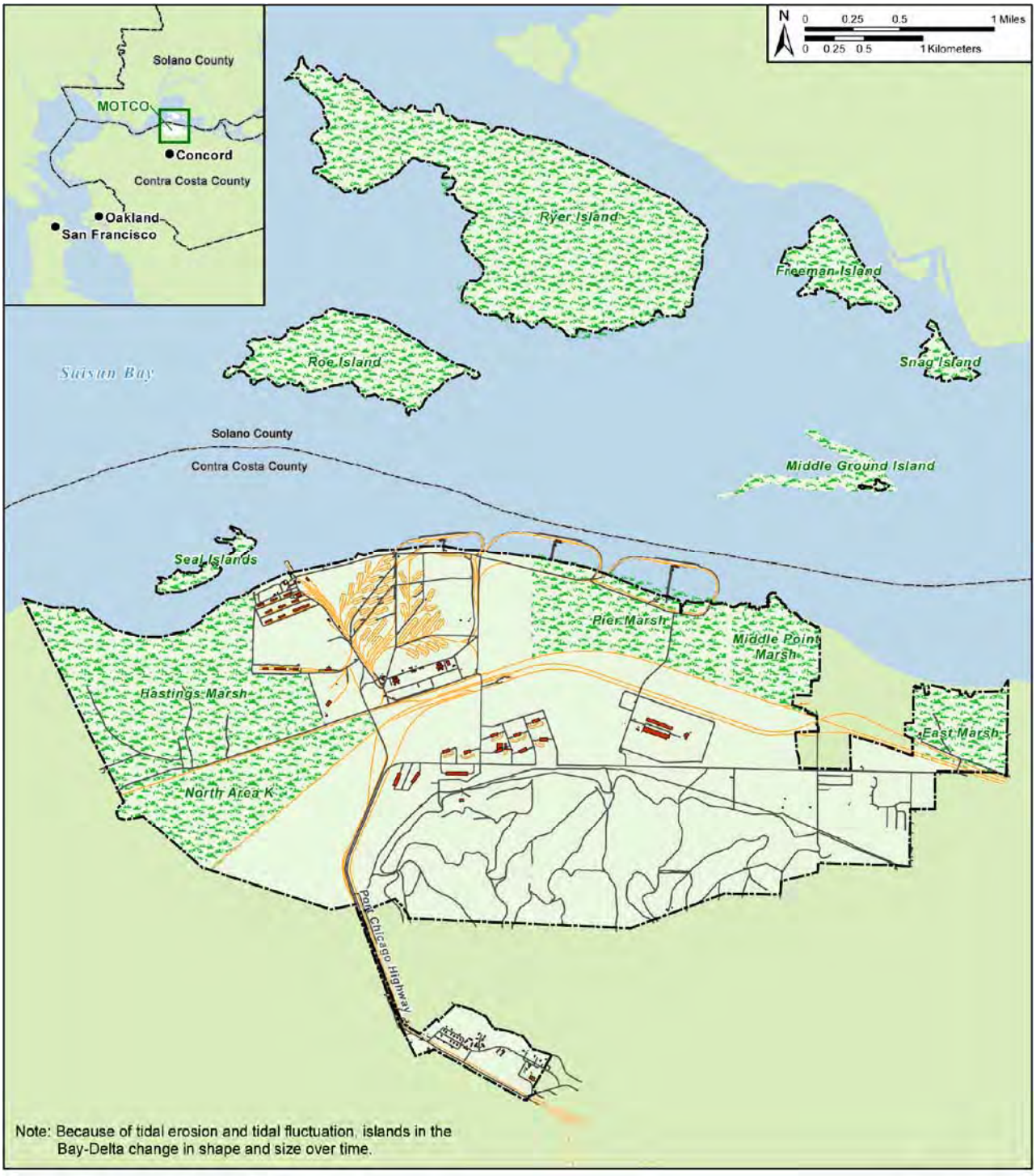


Cities
Military Ocean Terminal Concord
County Boundary
Interstate Highway
US and State Highway
Local Roads

Figure 1-1

REGIONAL LOCATION

Environmental Assessment



Installation Boundary
Facilities
Wetland Preserve
County Boundary
Road
Railroad

Figure 1-2

MOTCO PROPERTY

Environmental Assessment

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CHAPTER 2
PROPOSED ACTION

2.1 Overview

The Army proposes to implement future development and natural and cultural resource management at MOTCO in accordance with the framework provided in the RPMP.

2.1.1 RPMP Proposed Action

The RPMP sets forth a program for orderly development of MOTCO. The following principles have been applied to planned development:

- Eliminate explosive safety waivers wherever feasible,
- Site all new facilities in compliance with explosive safety requirements,
- When considering increase of general cargo operations, ensure that new facilities and functions are compatible with the current and future ammunition mission,
- Maximize efficiencies,
- Consolidate related functions into composite facilities/complexes,
- Comply with all regulatory requirements,
- Continue to recognize the unique and valuable resources of the Wetland Preserve Area (first established in a 1984 Memorandum of Understanding between the Navy and USFWS and superseded by the INRMP), and
- Balance improvement and demolition programs.

2.1.1.1 RPMP Category A Projects

Detailed planning has been completed for the six Category A projects listed in Table 2-1 and depicted on Figure 2-1. The mapped area of each project is based on the anticipated limits of construction for these projects. It is a larger area than the approximate area of disturbance listed in Table 2-1. This allows the National Environmental Policy Act (NEPA) and ESA analysis to have the level of adaptability required by the nature of Army military construction projects, which are often design-build contracts. The specific layout of the facility footprint and associated infrastructure would be determined during the design-build planning process. Should the resultant project footprint extend beyond the depicted limits of construction, the Army will conduct additional supplemental NEPA and ESA analysis to address any additional environmental impacts.

As noted in Table 2-1, the Army has determined that the following projects would have "no effect" on federally listed species and critical habitat under the jurisdiction of the USFWS: Visitor Control Center (VCC) component of P74877, VCC and Security Fencing; P76091, Facilities Maintenance Building; P76093, Gate 5 Truck Inspection Station; P76087, Equipment Maintenance Buildings; and P76092, Security Headquarters Building. These projects would occur in previously disturbed areas, and there would be a lack of potential for direct or indirect effects to listed species and their habitats. Although the

"no effect" conclusion indicates that no further action is required, information on these projects is provided for the record herein to document the Army's ESA compliance. The potential effects of the P76086, Lightning Protection, and security fencing component of P74877, VCC and Security Fencing, are analyzed in detail in Chapter 5.

Table 2-1 RPMP Category A Projects

Project Number and Title	Estimated Funding Timeline	Facility Size	Approx. Area of Disturbance (acres)	Current Land Use	Effects Determination
P76086, Lightning Protection	FY 2013	7,000 LF	3.4	Previously disturbed operational areas in the Tidal Area	May affect[2]
P74877, Visitor Control Center (VCC) and Security Fencing	FY 2017	2,508 SF and 6 miles	58.7[1]	VCC - previously disturbed security areas in the Inland Area Security fencing – alongside existing roads in developed area of Tidal Area	VCC – no effect Security fencing - May affect[2]
P76091, Facilities Maintenance Building	FY 2018	14,500 SF	0.3	Previously disturbed, but currently undeveloped areas of Inland Area	No effect
P76093, Gate 5 Truck Inspection Station	FY 2018	5,200 SF	18.5	Previously disturbed, but currently undeveloped areas of eastern Tidal Area	No effect
P76087, Equipment Maintenance Buildings	FY 2019	43,000 SF	5.0	Previously disturbed, but currently undeveloped areas of eastern Tidal Area	No effect
P76092, Security Headquarters Building	FY 2019	3,000 SF	0.2	Previously disturbed, but currently undeveloped areas of Inland Area	No effect

Notes: 1. The area disturbed for the security fencing reflects a 50-foot buffer along the length of the fenceline to account for disturbance associated with staging, laydown, etc. in addition to the 20-foot vegetation clear zone to be established on both sides of the fenceline.
2. Further detailed analysis of the effect of these projects on listed species is provided in Chapter 5.
LF = linear feet
SF = square feet

P76086, Lightning Protection

The project would install a Lightning Protection System (LPS) at Railroad Classification Yards 1 and 2, Building 177, and at the "R" Building Complex (see Figure 2-1) in accordance with the following requirements: DoD Standard 6055.9-STD, *DoD Ammunition and Explosives Safety Standards* (DoD 1999); Army Regulation 385-64, *U.S. Army Explosives Safety Program* (Army 2000); and Department of the Army Pamphlet 385–64, *Safety Ammunition and Explosives Safety Standards* (Army 1999). The required LPSs are not currently provided at these four locations at MOTCO, and these areas are where the bulk of munitions transfer activities occur. The proposed LPSs would consist of interconnected assemblies of various elements that divert lightning away from personnel, equipment, and structures in accordance with safety standards.

Figure 2-1

LIMITS OF CONSTRUCTION FOR CATEGORY A PROJECTS

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The approximately 60- to 80-foot lightning rods would be set in concrete foundation as stand-alone features of the system. Components include overhead wiring that forms a catenary (curve from a suspended cord) between masts and serves the functions of both a strike termination device and a main conductor. Buried ground loop wires and rods would be connected at certain intervals and powered with underground electrical lines. For the purpose of this BA, an area within 10 feet of the proposed linear features of the LPSs was estimated as the area of potential disturbance. There is a high level of previous disturbance at the sites where the LPSs would be installed.

P74877, Visitor Control Center (VCC) and Security Fencing

The first component of this project would construct a new 2,500 square feet (SF) VCC/access control building to provide an adequate facility to conduct personnel identification and visitor control. This new facility would be constructed at a previously disturbed site in the Inland Area (see Figure 2-1). The project may include some reconfiguration of the existing parking lot and access roads that support the current visitor control function, which is conducted in Building IA-2. The VCC would have an emergency backup generator and an associated approximately 500-gallon Aboveground Fuel Storage Tank.

The second component of this project would address some security shortfalls by installing 6 miles of existing chain link fenceline topped with barbed wire and approximately four swing gates to connect with existing fencelines. The proposed fenceline primarily runs adjacent to existing roadways in the Tidal Area where there has been varying levels of previous disturbance (see Figure 2-1). Two stretches of the existing fenceline to be upgraded are near the Wetlands Preserve Area: the fenceline south of the "R" Buildings and Froid Road and along Rhodes Road adjacent to Hastings Marsh (Figure 2-2) and the fenceline south of White Road in the Pier 4 area adjacent to Pier Marsh and Middle Point Marsh (Figure 2-3). In accordance with current Army regulations, a 20-foot clear zone would be established on both sides of the fenceline wherein any tall or bushy vegetation that would impede visibility along the fenceline would be removed. After construction, periodic vegetation management would be needed to maintain the clear zone adjacent to the fence.

P76091, Facilities Maintenance Building

This project includes the construction of an approximately 14,500-SF facilities maintenance building at a previously disturbed site in the Inland Area (see Figure 2-1). Current facilities maintenance activities take place in dispersed, aged, and dilapidated buildings, including some facilities within the explosive safety arc associated with ammunition activities in the Tidal Area. The new facility would provide space to conduct facilities maintenance and other public works functions associated with MOTCO plant/installation management functions. The new facilities maintenance building would include supporting equipment not presently available at MOTO that would increase the efficiency and capability of public works functions. There would be an associated parking area with approximately 30 spaces for personnel housed in the building and for MOTCO maintenance vehicles, dual-lane entrance and exit roads, sidewalks, curbing, exterior lighting, and landscaping.

P76093, Gate 5 Truck Inspection Station

This project includes the construction of a new Truck Inspection Facility in the previously disturbed but currently undeveloped Gate 5 area of the Tidal Area (see Figure 2-1). The new truck inspection station

would meet current requirements, including the *Army Access Control Points Standard Design/Criteria* (Army 2009) and act as the primary truck inspection for the installation. The infrastructure incorporated in this project includes approximately 5,200 SF of facilities to include a guard booth, gatehouse, over watch location, entrance canopy, police substation with VCC, stevedore/privately-owned vehicle (POV) parking, truck parking/queuing area, search areas, and a safe haven (i.e., an approved place for parking unattended vehicles loaded with explosives). Also included are dual-lane entrance and exit roads, sidewalks, security control devices and barriers, fencing, lighting, and landscaping. Additional utility service infrastructure would be installed to connect with existing systems. The facilities included in this project have been sited in a manner to allow for development of road infrastructure to support orderly circulation of trucks queuing, rejected from, and entering the installation, and to provide parking for stevedores. The sizing of the stevedore/POV parking allows for a reduced parking area at the space-constrained Main Gate VCC. Currently, truck inspection practices are not in compliance with DoD Standard 6055.9-STD, *DoD Ammunition and Explosives Safety Standards*, and safe haven is provided on a case-by-case basis and is accommodated at various operational facilities according to the types and amounts of ammunition present.

P76087, Equipment Maintenance Buildings

This project would construct an approximately 30,000 SF equipment maintenance shop with an area for battery charging and concrete hardstand area in the previously disturbed but currently undeveloped Gate 5 area of the Tidal Area (see Figure 2-1). Currently, equipment maintenance activities take place in aged and dilapidated buildings within the explosives safety arc. The lack of overhead lift or compressed air reduces efficiency, extending the time required to perform maintenance. Some of the equipment at MOTCO is oversized and maintenance on such equipment is performed on unimproved hardstand within the explosive safety arc. The proposed shop will include lift, pit, overhead crane, an oil-water separator, and hazardous materials waste and storage. This project also would construct an approximately 11,000 SF lumber/carpentry shop and associated 2,000 SF storage building and a fueling/defueling facility with pumps and two 1,000 gallon above ground fuel storage tanks. Paving and site improvements would include exterior site and building lighting, hardstand, paved parking for POVs, sidewalks, and landscaping. As with the Gate 5 Truck Inspection Station project, utility infrastructure would be extended to this area of the Tidal Area with connections to the new facilities.

P76092, Security Headquarters Building

This project would construct an approximately 3,000 SF consolidated security facility to include an Emergency Operations Center (EOC) and co-located dispatch for fire response. The current security facility for MOTCO, Building 262, is in a relatively vulnerable location near the MOTCO Inland Area boundary. The proposed new facility would be located in an interior area of the Inland Area adjacent to the Fire Station facility built in 2009 (see Figure 2-1). The new facility would provide a secure, consolidated location for MOTCO security personnel to operate from and gather for briefings, planning, and execution of emergency response operations. Associated POV and security vehicle parking, exterior site and building lighting, sidewalks, and landscaping also would be provided. This facility would include a backup generator and an associated approximately 500-gallon Aboveground Storage Tank.

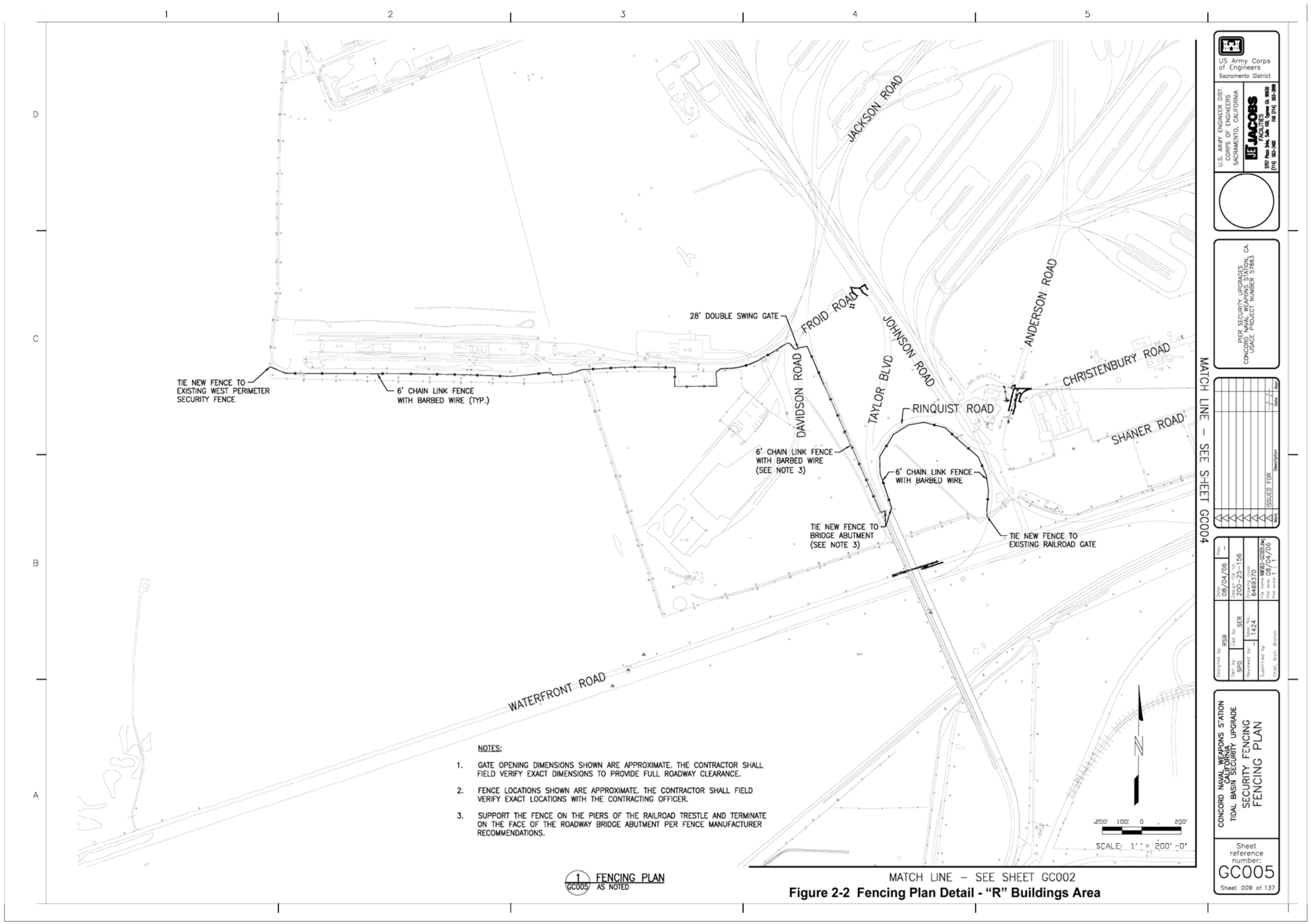

Figure 2-2 Fencing Plan Detail - "R" Buildings Area

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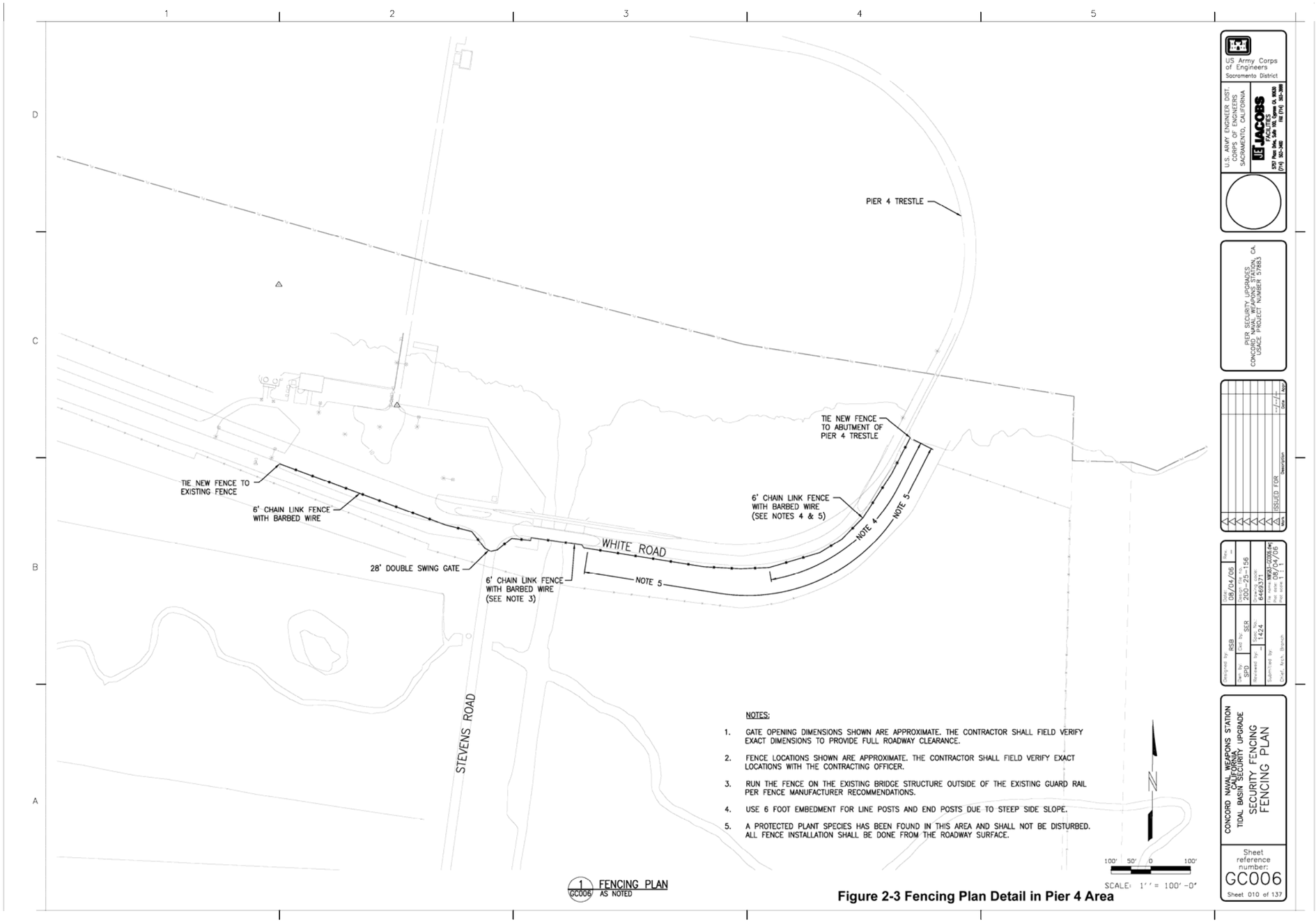

Figure 2-3 Fencing Plan Detail in Pier 4 Area

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2.1.1.2 RPMP Category B Projects

A demolition program is set forth in the RPMP with the focus on demolition to support the short-range vision. The timeline for these demolition projects is 2012 and beyond. The facilities set forth in the demolition program are listed in Table 2-2 and depicted in Figure 2-2. For all but four of the Category B projects involving in-water work (identified in Table 2-2 as Southwest Lighter Berth [123], Tug Pier [125], Seal Island Lighter Berths [172], and Seal Island Lighter Berths [173]), the Army has determined there are no potential direct effects on ESA-listed species under USFWS jurisdiction due to the location of the project in previously disturbed habitats and lack of potential for effects on habitats for these species. As for the Category A projects, information is provided herein to document the Army's thorough analysis and ESA compliance. For those demolition projects noted as "may affect," a more detailed effects analysis is provided in Chapter 5.

The following Standard Operating Procedures (SOPs) would be implemented in the demolition program.

- Barn owls (*Tyto alba)* and barn swallows (*Hirundo rustica*) are known to be nesting in and outside many of the older, World War II era buildings on the installation. Although not observed, bats may also be roosting in these buildings. Therefore, prior to demolition, structures would be inspected for wildlife use. Where birds are found present, demolition would be limited to the non-breeding season (October through March). No active bird nests would be disturbed or removed during the March to September timeframe, as breeding native birds are protected. Where non-pest mammals are present (e.g., bats), a professional, licensed animal control specialist would live-trap and remove such species. Should there be a need to remove or disturb active bird nests during the breeding season, there would be coordination with the USFWS on Migratory Bird Treaty Act (MBTA) compliance.
- Many of the buildings proposed for demolition were constructed or substantially renovated at a time when lead-based paint and asbestos containing material were commonly used. Prior to demolition of any structure, the potential presence of lead-based paint and/or asbestos containing material would be evaluated by a qualified inspector. Where lead-based paint and/or asbestos containing material are present, required abatement and waste management planning and control measures would be implemented in accordance with Federal and California law.
- In accordance with the ICRMP, National Historic Preservation Act Section 110 documentation for the identification and evaluation of historic properties in advance of demolition will occur. All buildings at MOTCO were previously determined ineligible for inclusion in the National Register; however, since the initial evaluation, some buildings and structures proposed for demolition have turned 50 years of age and additional analysis is warranted.
- All possible measures would be taken to avoid impact to wetlands; if impacts could not be avoided, the U.S. Army Corps of Engineers (USACE) San Francisco District and San Francisco Bay Conservation and Development Commission (BCDC) would be consulted on permitting and mitigation requirements in accordance with the Clean Water Act and Coastal Zone Management Act.
- All waste material will be transported off-site to a designated construction or solid waste municipal landfill in accordance with Federal, California, and local laws and regulations.

Table 2-2 RPMP Category B (Demolition) Projects				
Facility No.	**Description**	**Year Built**	**Size**	**Effects Determination**
92	Chlorinator Building	1958	124 SF	No effect
99	Access Control for B-210	1960	144 SF	No effect
100	Smoke Shack	1946	400 SF	May affect*
102	Smoke Shack	1946	800 SF	No effect
105	Smoke Shack	1946	800 SF	No effect
109	Temp Ordnance Operations Building	1946	168 SF	No effect
110	Storage Shed	N/A	600 SF	No effect
111	Waterfront Ops Building	1946	460 SF	May affect*
112	Storage Shed	N/A	820 SF	No effect
113	Storage Shed	N/A	120 SF	No effect
122	Salvage Yard Office (defunct)	1946	432 SF	May affect*
123	Southwest Lighter Berth	1945	1 EA	May affect*
125	Tug Pier (Berths 8 and 9)	1946	1 EA	May affect*
144	Shed with Tank	N/A	96 SF	May affect*
155	Snack Shop	N/A	360 SF	No effect
160	Steam Plant for Pier 2 (defunct)	1965	576 SF	May affect*
172	Seal Island Lighter Berths	1965	1 EA	May affect*
173	Seal Island Lighter Berths	1965	1 EA	May affect*
176	Railroad Sand Shed at Class Yard #1	1967	400 SF	No effect
190	Inland Bathhouse	1971	668 SF	No effect
245	Transient Quarters	1947	8,300 SF	No effect
262	Inland Army Security	1959	3,150 SF	No effect
272	Picnic Shelters	N/A	4 EA	No effect
399	Pump House	1980	400 SF	No effect
407	Steam Plant Building for Pier 4	1980	2,440 SF	No effect
410	Oil Aboveground Storage Tank (Closed)	1980	25,000 GA	May affect*
411	Oil Aboveground Storage Tank (Closed)	1980	25,000 GA	May affect*
600	Security Entry Gate	N/A	60 SF	No effect
92A	Pump House (Water)	N/A	144 KG	No effect
A-10	Rigger Shop	1943	2,412 SF	No effect
A-11	Storage (Formerly Hazardous Materials)	1942	441 SF	May affect*
A-14	Public Works Storage	1942	3,024 SF	No effect
A-16	Boat Shop	1944	7,250 SF	No effect
A-17	Boat Trailer Shed	1944	8,235 SF	No effect
A-19	Shed	N/A	336 SF	May affect*
A-21	Pier 2 Offices/Battery Charging Area	1944	6,160 SF	No effect
A-29	Lumber Salvage Shop (Closed)	1951	14,400 SF	May affect*
A-3	Director of Logistics Equipment Storage	1916	13,800 SF	No effect
A-31	Ammunition Transfer Building	1955	2,392 SF	May affect*
A-32	Administrative/Security (Former)	1955	576 SF	No effect
E-100	Winch Trainer (Closed)	1944	1 EA	No effect
E-101	Tidal Waterfront Equipment	1944	4,004 SF	No effect
E-103	Workshop (former dry cleaning shop)	1945	336 SF	No effect
E-112	Winch Trainer Electrical Building	1953	580 SF	No effect
E-82	Switchgear House (Storage)	1943	817 SF	No effect
E-83	Base Storage	N/A	N/A	No effect
IA-2	Police Station	1951	2,800 SF	No effect
IA-3	Water Distribution Building (defunct)	1945	320 SF	No effect
IA-5	Diesel Aboveground Storage Tank	2006	200 GA	No effect
IA-59	Tennis Court	1957	3 EA	No effect
Notes: In addition to exterior demolition, the interior contents of buildings would be removed and utility connections would be properly closed. SF = Square Feet N/A = Not Available GA = Gallons KG = Thousands of Gallons per Day EA = Each		**Totals**	**89,201 SF** **12 EA** **50,200 GA** **144 KG**	*Further detailed analysis of the effect of these projects on listed species is provided in Chapter 5.

Figure 2-4

CATEGORY B - DEMOLITION PROJECTS

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2.2 Measures Proposed to Avoid, Minimize, and Compensate for Effects to Listed Species and Critical Habitat to be Incorporated into the Proposed Action

The Proposed Action would include implementation of the following six protective measures to avoid and minimize potential effects on ESA-listed species within the action area and under the jurisdiction of USFWS:

1. A USWFS-approved biologist will conduct pre-construction surveys for threatened and endangered species for the following RPMP projects:

    a. two RPMP Category A projects: P74877, Security Fencing, and P76086, Lightning Protection;

    b. eight RPMP Category B projects located near the MOTCO shoreline: Waterfront Ops Building (111), Shed (144), Smoke Shack (100), Steam Plant for Pier 2 (160), Closed Oil Aboveground Storage Tank (410), Closed Oil Aboveground Storage Tank (411), and Steam Plant Building for Pier 4 (407); and

    c. five RPMP Category B projects located near Hasting Marsh: Storage (A-11), Shed (A-19), Ammunition Transfer Building (A-31), Defunct Salvage Yard Office (122), and Closed Lumber Salvage Shop (A-29). Based on the survey results, the USFWS-approved biologist will designate the area to which project activities must be confined. This will include establishment of a 10-ft buffer of open ground between potential salt marsh harvest mouse habitat and project activities.

2. The results of the above surveys will be provided to USFWS. If any threatened or endangered species are found present at the site of the proposed disturbance, no activity will occur until the USFWS has reviewed and approved the site-specific avoidance plan.
3. To the extent practicable, construction and demolition activity for the projects listed in item 1 will be avoided during the California clapper rail breeding season (from 1 February through 31August) and within two hours before or after spring tide events.
4. Prior to ground disturbing for the projects listed in item 1, there will be mandatory training of all construction personnel by a USFWS-approved wildlife biologist to increase awareness of threatened and endangered species presence and minimization and avoidance measures.
5. Equipment access for RPMP Category A project P74877, Security Fence construction, will be limited to the minimum necessary to upgrade the security fence. Security fence installation in the Pier 4 area (where soft bird's beak is known to occur) will be from the roadway surface only.
6. Erosion and sedimentation control and spill prevention and control plans will be developed and implemented at construction sites in accordance with National Pollution Discharge Elimination System (NPDES) requirements.

For in-water RPMP Category B project demolition activities the following nine protective measures, which are aligned with those presented in the NMFS BA, will be implemented:

1. To the extent practicable, all in-water work will be confined to the period of 1 June to 30 November. If necessary, regulatory approval will be obtained for in-water work conducted outside this period on a case-by-case basis.
2. No equipment or vehicles will be stored on the piers when not in use to reduce the potential for any spills or debris entering the water column.
3. All vehicles and equipment will be properly maintained to reduce the potential for spills of petroleum-based products. Containment booms and sorbent materials will available during the activity and will be deployed immediately in the event of a spill to limit its spread.
4. To minimize the potential for impacts from hazardous or regulated materials, all fuel, waste oils, and solvents will be stored well away from the construction zone. Any spill of such materials will be immediately contained by means of an earthen barrier and all affected soils will be removed and placed in appropriate containers for proper disposal offsite;
5. To minimize disruption of the sediment layer, pilings will be carefully removed via the "vibratory hammer" or "direct pull" methods. The vibratory hammer method involves dislodging the pile, and then slowly lifting the pile (in its entirety) from the sediments. The direct pull method involves placing a choker around the pile and slowly pulling upward with a crane or other equipment.
6. If timber pile breakage occurs (World War II-era pilings may be more vulnerable), the stub would be removed utilizing a hydraulic shear and crane or other equipment to cleanly pull out the stub.
7. Minimal cutting and boring will occur over the water; if necessary, however, tarps or other capture devices will be used to reduce the likelihood of materials entering the water.
8. Debris that falls in the water will be captured using a floating surface boom and promptly removed.
9. All debris and damage pilings will be slowly lifted from the water and placed in a containment basin, without attempting to clean or remove any adhering sediment. This material will then be disposed of properly offsite in a manner that does not expose or affect aquatic resources.

In addition, the following would be implemented for protection of migratory birds:

1. No more than 2 weeks prior to demolition, a qualified wildlife biologist will inspect all structures to assess use and occupancy by migratory birds (and other wildlife).

2. For bird nests on or in buildings and other structures, nests will not be disturbed or removed during the March to September timeframe, as breeding native birds are protected by the MBTA and the removal of active bird nests would be limited to the non-breeding season (October through March). Should there be a need to remove or disturb active bird nests during the breeding season, there would be coordination with the USFWS on MBTA compliance requirements.

CHAPTER 3
EXISTING CONDITIONS AND DESCRIPTION OF THE SPECIFIC AREA AFFECTED BY THE ACTION

This chapter describes existing environmental conditions at the MOTCO waterfront, focusing on the natural communities and other features relevant to the potentially affected ESA-listed species under the jurisdiction of USFWS.

3.1 Subtidal Habitats

MOTCO is located on the south side of Suisun Bay, which comprises the eastern, upstream portion of San Francisco Bay and the western extent of the Sacramento-San Joaquin Delta. Suisun Bay represents the central, brackish-transition zone of the largest estuary and contains the largest continuous area of brackish wetlands found anywhere in the western United States. Suisun Bay is a brackish tidal environment with highly variable salinity. Tides along the west coast are mixed semi-diurnally, with two high and low tides of unequal amplitude occurring approximately every 24.8 hours and tidal amplitude increasing or diminishing concurrent with lunar cycles. Except during periods of heavy outflows from the Delta, the dominant currents of Suisun Bay are those associated with the rising or falling tides. Large freshwater inflows enter Suisun Bay from Denverton Creek and the Delta. Because of strong winds and shallow depths, mixing typically occurs throughout the water column leading to well-oxygenated waters.

The habitat in Suisun Bay and the Bay-Delta in general has been altered dramatically over the years as a result of various human activities; this alteration of habitat led to a long-term decline in abundance of several important fish species: Delta smelt (*Hypomesus transpacificus*), longfin smelt (*Spirinchus thaleichthys*), and striped bass (*Morone saxatilis*).

The majority of deepwater subtidal habitat in Suisun Bay is comprised of unconsolidated bottom sediments. Deep bay/channel habitat is associated with the John F. Baldwin Ship Channel, which is just offshore of MOTCO (between the mainland and the islands). The depth at the seaward edge of the MOTCO piers is maintained by dredging.

Shallow bay habitat is found inshore of the MOTCO piers as well as in the sheltered lees of the piers and headlands. Although not common in Suisun Bay, numerous small beds of submerged aquatic vegetation (SAV) consisting of eelgrass (*Zostera marina*) have been observed in this area at MOTCO. SAV is designated as Essential Fish Habitat (EFH) by NMFS. The SAV may constitute important nursery and migratory passage habitat for marine and anadromous fishes.

Aquatic habitats occurring in the project area are mostly brackish, and include open water, artificial substrate (pilings), and moderately deep estuarine benthic habitats. Bottom sediments in the area are expected to be coarse, as Suisun Bay is subjected to strong tidal currents that keep finer sediments suspended. Most of Suisun Bay is best described as a high energy/dynamic environment. Freshwater from the Sacramento and San Joaquin Rivers moves into the bay and mixes with saltwater from the Pacific Ocean thus creating a turbid, brackish environment. Further, the region of the Bay just east of the Carquinez Strait experiences high tidal energy, strong winds, and frequent boat movements, making it unlikely that any water soluble contaminants would remain suspended very long in these waters.

Tidal amplitude is lower in Suisun Bay because it is a larger water body than the Carquinez Straight, which connects Suisun Bay to the San Pablo Bay. The tides propagate through the channels of Suisun Bay as progressive waves, and the water level and tidal currents are roughly in phase. Current velocities are approximately 70 centimeters per second (cm/s) along Suisun Bay's western boundary, 60 cm/s along its eastern boundary at Mallard Island, and 74 cm/s at the project site. Orientation of currents in the area is generally parallel to the prevailing bathymetry contours (U.S. Geological Survey 1995). Wind waves are generated by prevailing winds that blow from the west through the wind gap formed by San Francisco Bay and Carquinez Strait, typically at a mean wind speed of 12 miles per hour (MOTCO 2011). Sediment quality data is not available for the project site; however, results of recent monitoring of Suisun Bay indicate very little aquatic toxicity (San Francisco Estuary Institute 2008). Past practices at MOTCO have been evaluated for the potential to result in contamination under the DoD Installation Restoration Program. No evidence of sediment contamination has ever been identified in the project area. Dispersive (non-depositional) conditions prevail at the MOTCO piers; therefore, maintenance dredging is infrequently required, and the last dredging was performed in the mid-1980s. These conditions make it very unlikely that contaminated sediments (if present) would have persisted.

3.2 Tidally Influenced Habitats

There are a number of tidally influenced habitats within the vertical range of extreme low to extreme high tides at MOTCO. Low Intertidal shores and flats are largely unvegetated areas occurring below mean tide level. There are three different types of substrates and associated biological communities that occur on shores and flats at MOTCO: low tidal marsh mudbanks that front natural shorelines; hard substrates of the piers and developed areas that support sparse, patchy growths of green algae (*Ulva* spp., *Enteromorpha* spp.) and attached epifauna of predominantly barnacles (*Balanus improvisus*); and mudflats that occur around the edges and shallowest portions of muted tidal ponds. These areas are heavily used by shorebirds including American white pelicans (*Pelecanus erythrorhynchos*) and non-native mute swans (*Cygnus olor)*.

Away from the immediate shoreline, the tidal marshlands at MOTCO are a mosaic of marsh vegetation and bodies of water including tidal sloughs, channels, ponds, and manmade ditches, all of which function as a circulatory system for water, oxygen, sediments and nutrient transport and as pathways for the movement of fish and aquatic wildlife. The interface between marsh vegetation and the water throughout the marshes provides a structurally complex and productive habitat that is used for nesting, foraging, nursery, and refuge by a variety of fish and wildlife.

Natural sloughs at MOTCO include Hastings Slough and Lost Slough. East Marsh Slough, Belloma Slough (Pier 3), and Cunningham Slough. These Sloughs have all been channelized from the Bay inland, but they remain relatively wide, deep, open, and connected to remnants of the network of natural tidal channels on the marsh plain between the shore and the railroad tracks. Numerous linear ditches were excavated in the past across the Tidal Area for drainage and agricultural use, resulting in a series of parallel or intersecting ditches that crisscrosses the historic marsh plain. In these areas, the natural tidal channels are largely obliterated. Linear stands of upland (often weedy) vegetation established on the spoils that were excavated and mounded along the banks of the ditches fragment the native marsh habitat. Benthic invertebrate communities in slough channels are similar to those found in the shallow subtidal habitat described above, although species abundance is much lower (NMFS 2007).

The vast majority of marshlands on MOTCO are brackish tidal marshes, either fronting Suisun Bay or connected to it by sloughs, channels, and ditches. On the immediate shoreline and in well-flushed portions of the marshes, the vegetation is dominated by species that occur across a broad range of salinities both up- and downstream in the Bay-Delta. With few exceptions, these marshlands are Muted Tidal Marsh habitats. These areas are subject to regular daily or monthly tidal action, but to an extent that is lessened by the tidal circulation that has been constricted, impeded, or diverted relative to historic conditions. The distribution of tidal marsh plants is strongly (but not exclusively) influenced by tidal elevation and salinity; the low-, mid-, and high marsh habitats at MOTCO are described below:

- Low-Tidal Brackish Marsh: The native low tidal salt marsh vegetation is characterized by a single emergent species, smooth cordgrass (*Spartina foliosa*). Low tidal brackish marsh vegetation is important in stabilizing shorelines, is a major source of primary production in this part of the estuary, and provides a structurally complex habitat for fish and wildlife, especially migratory waterfowl and wading birds. Hardstem tule (*Scirpus acutus*) and, to a lesser extent, California bulrush (*Scirpus californicus*) are the most abundant and structurally dominant low marsh species. On wave-exposed consolidated mud banks there is a low-growing turf made up of dwarf spikerush (*Eleocharis parvula*), low bulrush (*Scirpus cernuus*), Delta mudwort (*Limosella subulata*), and Mason's and western lilaeopsis (*Lilaeopsis masonii* and L. *occidentalis*).
- Mid-Tidal Brackish Marsh: The mid-tidal zone typically supports low-growing herbaceous vegetation patchily dominated by saltgrass (*Distichlis spicata*), pickleweed (*Salicornia virginica*), Baltic rush (the *Juncus balticus-lesueurii* complex), spearscale (*Atriplex triangularis*), jaumea (*Jaumea carnosa*), creeping spikerush (*Eleocharis macrostachya*), alkali heath (*Frankenia salina*), dodder (*Cuscuta salina*), arrowgrass (*Triglochin* spp.) and the extremely invasive perennial pepperweed (*Lepidium latifolium*).
- High-Tidal Brackish Marsh: Areas that were probably native mid-tidal marsh on MOTCO have been converted to high marsh by diking and ditching, which limit tidal flooding onto the former marsh plain. In addition to the high marsh species mentioned above, this zone at MOTCO supports San Francisco Bay gumplant (*Grindelia stricta var. angustifolia*), western goldenrod (*Euthamia occidentalis*), salt marsh baccharis (*Baccharis douglasii*), western ragweed (*Ambrosia psilostachya*), tarragon (*Artemisia dracunculus*), and the rare soft bird's-beak (*Cordylanthus mollis ssp. mollis*) and Suisun Marsh aster (*Aster lentus*). The upland-transition portion of the high marsh zone is structurally dominated by coyote brush (*Baccharis pilularis*) and is exaggerated where manmade linear features such as ditch banks and railroad berms are elevated above the marsh plain.

3.3 Non-Tidal Habitats

Freshwater aquatic habitats are of very limited extent on MOTCO. They are associated with the nearly 6.5 miles of the man-made Contra Costa Canal that passes through the Tidal Area; Mount Diablo/Seal Creek, which drains the north slope of Mount Diablo; and Nichols Creek, which flows across the southeastern corner of MOTCO. The lower limit of freshwater habitat associated with the Mount Diablo/Seal Creek appears to be at a freshwater pond and marsh that lie just north of the MOTCO boundary on the west side of Port Chicago Highway. Downstream (north) of this area, freshwater flows mix with brackish tidal flows from Suisun Bay in the Seal Creek Marsh. A small area of freshwater habitat with marsh vegetation dominated by California bulrush and broad-leaved cattails is associated with the slow-moving, freshwater

stream Nichols Creek. Very small ephemeral drainages or wet depressions and patches of freshwater emergent wetland vegetation may exist in other locations in what are otherwise upland areas of MOTCO; however, these potential wetlands have not been confirmed.

Non-tidal brackish marshes include formerly tidal, but now diked, marshes, and marshes on saline soils in non-tidal depressions and drainages. Non-tidal brackish marsh is highly variable and often includes alkali heath, saltgrass, pickleweed, cattails, alkali and three-square bulrush, creeping spikerush, heliotrope (*Heliotropum currasavicum*), and Italian ryegrass (*Lolium multiflorum*). Two small, non-tidal, saline depressions exist between the railroads and the southern Seal Creek Marsh. These areas are effectively diked by fill material associated with road and railroad berms and are seasonally ponded by rainfall. They have no surface connections to the Seal Creek Marsh, although they may be underlain by shallow saline groundwater. These areas may have some value as foraging or resting habitat for migratory shorebirds and waterfowl.

There are approximately 1,700 acres of non–native annual grasslands at MOTCO on the slopes of the Los Medanos Hills. Grazing is used to control vegetative growth and to reduce fire hazards in this area. The dominant plant species are non-native grass species that include wild oats (*Avena fatua*), ripgut grass (*Bromus diandrus*), Mediterranean barley (*Hordeum marinum*), and Italian ryegrass, along with a heavy infestation of the noxious, invasive yellow star thistle. This habitat is of great value to grassland wildlife, particularly where the grasslands mingle with marshlands along a broad ecotone on the upper edge of the Tidal Area. A relatively high diversity of amphibian, reptile, bird, and mammal species are supported by the grassland areas. The complete listing of these species is available in MOTCO's INRMP.

Developed/disturbed areas on MOTCO support non-native vegetation that includes homestead plantings of fruit, shade, and garden trees on the former Port Chicago town site. Among these planted ornamental trees are large, blue gum eucalyptus trees (*Eucalyptus globulus*). These trees were planted by homesteaders as windbreaks and shade trees during the late 1800s and occur in a number of locations. Many of the trees are now over 100 feet tall and provide nesting, foraging, and roosting habitat for birds, including great horned owls (*Bubo virginianus*) and Swainson's hawks (*Buteo swainsoni*). The earthen berms at ammunition storage facilities are covered by the highly invasive, non-native ice plant (*Carpobrotus edulis*) and inhabited by a dense population of burrowing California ground squirrels (*Spermophilus beechyii*). Other wildlife in developed/disturbed areas is typical of species that live in close proximity to humans. Barn owls (*Tyto alba*) and other bird species have been observed inhabiting unused old buildings with broken windows and damaged eaves. Swallows have been observed nesting on the Barge Pier.

CHAPTER 4
DESCRIPTION OF LISTED (AND/OR PROPOSED) SPECIES OR CRITICAL HABITAT AND SPECIAL STATUS SPECIES THAT MAY BE AFFECTED BY THE PROPOSED ACTION

Based on a review of available information and site conditions, the ESA-listed species under the jurisdiction of USFWS known to occur in the project area for the RPMP Category A and B projects are listed in Table 4-1.

Table 4-1. ESA-Listed Species and Critical Habitat under the Jurisdiction of USFWS Potentially Occurring within the Action Area

Common Name	Scientific Name	ESA Status	Critical Habitat
Soft Bird's-beak	*Cordylanthus mollis* ssp. *mollis*	Endangered	Designated critical habitat not in project area
Delta Smelt	*Hypomesus transpacificus*	Threatened	Designated and includes Suisun Bay (in project area)
California Clapper Rail	*Rallus longirostris obsoletus*	Endangered	No critical habitat rules published
California Least Tern	*Sternula antillarum browni*	Endangered	No critical habitat rules published
Salt Marsh Harvest Mouse	*Reithrodontomys raviventris*	Endangered	No critical habitat rules published

Species protected by the Bald and Golden Eagle Protection Act (BGEPA) and MBTA are addressed in Sections 4.8 and 4.9, respectively.

4.1 Soft Bird's Beak (*Cordylanthus mollis* ssp. *mollis*)

Soft bird's-beak is a hemi-parasitic annual herb in the broomrape family (*Orobanchaceae*). It grows in the coastal salt marshes and brackish marshes of San Pablo and Suisun Bays, in Solano, Contra Costa, Sonoma, and Marin Counties. Its gray-green foliage, often tinged with purple, is covered with soft hairs. The whitish flowers in a spike-like inflorescence are partially hidden by lobed bracts that are densely soft-hairy. The soft hairs distinguish soft bird's-beak from the stiff-bristly hispid bird's-beak (*C. mollis* ssp. *hispidus*), which occurs in more alkaline areas elsewhere.

Soft bird's-beak grows in coastal salt marshes, commonly in the marsh/upland transition zone with pickleweed, jaumea, alkali heath, San Francisco Bay gumplant, and saltgrass. Habitats include seasonally flooded areas in hypersaline (greater than 40 parts per thousand [ppt]) or euhaline environments (30 to 40 ppt). A natural hydrologic connection to a tidal slough system is an important habitat requirement for this species. Diked seasonal wetlands, which are isolated from natural, year round tidal cycle hydrology, do not appear to support this species (California Department of Water Resources 1994). It blooms July through November depending on environmental conditions (Hickman 1993 and California Native Plant Society 2008).

During surveys of the project area on 2-4 August and 16-17 September 2010 (H.T. Harvey & Associates 2011), Soft bird's-beak was identified in 14 locations in the MOTCO Tidal Area, totaling approximately

2,600 individuals. Within the area of potential affect addressed in this BA, this species was detected only near the eastern end of White Road, near Pier 4. In this location, which is near a segment of proposed security fencing (see Figure 2-3), two occurrences totaling approximately 150 to 200 individuals were detected. The occurrence closest to White Road was approximately 49 ft from the road.

General surveys in portions of Middle Point Marsh identified 12 separate populations, with an average population size of 210 individuals. Occurrences of soft bird's-beak were typically found growing in closely spaced groups associated with pickleweed (*Salicornia depressa*), saltgrass (*Distichlis spicata*), marsh Jaumea, and coast gumweed (*Grindelia stricta*). These findings confirm the presence of the populations of soft bird's-beak in Middle Point Marsh that were identified during the 1991, 1998, and 1999 surveys (H. T. Harvey & Associates 1992a, Downard et. al. 1999, U.S. Navy 2002). Locations during the 2010 surveys were similar to what was reported during the previous surveys in Middle Point Marsh (H.T. Harvey & Associates 2011).

4.2 Delta Smelt (*Hypomesus transpacificus*)

The Delta smelt is a small and slender fish found primarily in the Sacramento-San Joaquin Estuary, but can also be observed upstream in several tributary rivers. Adults typically range in size from 2 to 3 inches in length, although some may reach 5 inches. Their preference for the zone between freshwater and marine waters is unique, but this preference makes the species sensitive to physical environmental changes. This species mainly transitions between brackish and fresh water, unlike anadromous species that spend time in truly marine areas with higher salinities (USFWS 1994).

While not an anadromous (migratory) species, Delta smelt move deeper into the Delta in winter to spawn, and then fingerlings remain in deeper in the Delta to feed and mature. Most adults spawn once and then die, but some live to spawn a second year. As a result, this species grows and reaches maturity quickly. Habitat requirements are mainly determined by salinity levels, but during spawning females must find areas with suitable substrate to attach their eggs to (USFWS 1995).

Threats to Delta smelt include reductions in freshwater outflow from streams and rivers, entrainment losses to water diversions, entrainment at power plant intakes, changes in abundance and composition of prey organisms, environmental contaminants, and competition and predation from exotic invasive aquatic species. A Delta Smelt Risk Assessment Matrix (DSRAM) was created to help protect this species. The DSRAM includes various biological and environmental factors crucial to Delta smelt survival and threshold values or conditions that would trigger concern and action by the Delta Smelt Working Group (USFWS 2009).

The Delta smelt was listed as threatened by the USFWS in 1993 (USFWS 1993). A 5-year status review was initiated in spring 2009 and has not yet been completed. Critical habitat for this species was designated in 1994 and includes areas of all water and all submerged lands below ordinary high water and the entire water column bounded by and contained in Suisun Bay (including the contiguous Grizzly and Honker Bays); the length of Goodyear, Suisun, Cutoff, First Mallard (Spring Branch), and Montezuma sloughs; and the existing contiguous waters contained within the Delta (USFWS 1994).

The Delta smelt inhabits the Sacramento-San Joaquin estuary, and is known to occur in nearshore waters of Suisun Bay. Critical habitat has been designated for this species in the project area.

4.3 California Clapper Rail (*Rallus longirostris obsoletus*)

The California clapper rail subspecies is endemic only to California's San Francisco Bay, Monterey Bay, and Morro Bay. Clapper rails are generally 14 to 16 inches in height, males being slightly larger than females, and display long curved bills greater than 2 inches in length (LSA Associates 2004). The upper areas of these birds are greenish-brown, they have a cinnamon coloring to their breast, dark flanks barred by white, and a white undertail (Mossman 2007).

California clapper rails live in salt water and brackish marshes and favor tidal sloughs and marsh channels. Historically, the clapper rail has ranged from the tidal marshes of Humboldt Bay south to Morro Bay as well as within the estuarine marshes of the San Francisco Bay and San Pablo Bay (LSA Associates 2004). Today these birds are limited for the most part to San Francisco Bay.

The California clapper rail was state-listed as an endangered species on 27 June 1971 and federally-listed on 13 October 1970. Pre-1913 sport and professional hunting was the reason for population decline; since then, when it became prohibited to hunt this species, alteration and loss of habitat as well as an increase in the predator population of red fox (*Vulpes fulva*) has been attributed to population decline (LSA Associates 2004).

Currently, there is a single population of breeding California clapper rails found within the geography of the San Francisco Bay. Research has shown that the reason for low fecundity of the California clapper rail is due mainly to environmental contamination, as well as predation of eggs (Schwarzbach et al. 2006). An increase in the number of transmission lines transecting its marsh habitats has been responsible for some of the increased predation, as the lines provide perch sites for predatory raptors (Mossman 2007).

During surveys conducted at MOTCO in 1998-1999 (Downard et al. 1999), the California clapper rail was found in the brackish habitat of Seal Creek Marsh, as well as within Hastings Slough East Marsh. Targeted surveys were conducted for this BA between 17 February and 26 March 2010 in the Tidal Area of MOTCO. No California clapper rails were detected during the focused clapper rail surveys.

Surveys were conducted at dawn (two surveys) and at dusk (three surveys). Dawn surveys were conducted from 45 minutes before sunrise to 1:15 after sunrise and dusk surveys were conducted from 1:15 before sunset to 45 minutes after sunset. At least 7 days were allowed to elapse between each survey. During the first two survey periods a qualified biologist stood at each station for 10 minutes recording all rails detected visually or aurally before moving to the next station. After two passive surveys were conducted at each station no clapper rails had been detected. Therefore, in accordance with the study plan (approved by USFWS by email on 16 February and by phone on 8 March), a third survey was initiated consisting of a 10-minute passive survey followed by playback of pre-recorded clapper rail vocalizations used in an attempt to elicit responses from any clapper rails that might be present. The recording was played for one minute followed by nine minutes of passive listening. The recordings contained at least four complete calls (both duet and clapper calls), with at least five seconds between each call. The volume of the recording was played between 80 to 90 decibels (dB), as measured at 1 meter (m) in front of the speaker. This third survey was performed at 14 of the 37 stations (38 percent) on 30 March 2010. Thereafter, the use of call playbacks was terminated based on USFWS recommendations.

The survey efforts provide adequate indication that clapper rails were absent during the 2010 breeding season. This determination is based on the results from the 14 stations where playbacks were performed

and because no clapper rails were detected during the five surveys (two passive surveys for clapper rails and three surveys for black rails) at the remaining stations.

Clapper rails have previously been recorded at MOTCO, including in the vicinity of Pier 3, in Middle Point Marsh, in the vicinity of Otter Slough, and west of Taylor Bridge (Jones and Stokes 1982; Kuenzi and Morrison 1994; H. T. Harvey & Associates 1996a, 1996b, 1997a; Downard et al. 1999). Kuenzi and Morrison (1994) reported three pairs of clapper rails near Belloma Slough, in the west end of Pier Marsh, but all other detections of clapper rails at MOTCO were sporadic and may have been related to unmated and/or young individuals that were dispersing through the area.

The absence of clapper rails from surveyed portions of the Tidal Area during the 2010 breeding season is not unexpected given that the site largely lacks habitat that clapper rails typically use for breeding. California clapper rails typically nest in extensive salt and brackish marshes in the San Francisco Bay that are dominated by Pacific cordgrass (*Spartina foliosa*), pickleweed, and marsh gumplant (*Grindelia stricta*) and that contain complex networks of tidal channels (Harvey 1980). Clapper rails have been detected using brackish marshes with vegetation communities similar to those observed at the Tidal Area of MOTCO. Surveys conducted during the 1990 breeding season (H. T. Harvey & Associates 1990a) and winter season (H. T. Harvey & Associates 1990b) found a number of California clapper rails occupying salt/brackish transitional marshes and several brackish, alkali bulrush-dominated marshes in South San Francisco Bay. In addition, California clapper rails were found in nearly pure stands of alkali bulrush along Guadalupe Slough, also in the South Bay, in 1990 and 1991 (H. T. Harvey & Associates 1990a, 1990b, 1991). However, at MOTCO, Pier Marsh, much of Middle Point Marsh, and the portions of Hastings Marsh closest to the proposed project activity areas lack extensive, well-developed tidal channels used by clapper rails for breeding, and these marshes do not support stands of cordgrass that represent more typical breeding habitat for this species.

Furthermore, there is evidence that vegetation within marshes at MOTCO has become more typical of brackish or freshwater marshes than was the case in the 1990s and earlier. When performing the salt marsh harvest mouse habitat assessment on the site, Dr. Howard Shellhammer, Ph.D., recalled that Pier Marsh and Middle Point Marsh were previously dominated more by saltmarsh vegetation, such as pickleweed, than is currently the case. This observation is supported quantitatively by a comparison of current site conditions with vegetation collected in 1979. As discussed in greater detail in the salt marsh harvest mouse discussion, below, freshwater-associated species such as cattail (217 acres) and common reed (156 acres) currently dominate approximately 34 percent of the wetland plant cover types in the study area, whereas saltmarsh species such as pickleweed (40 acres) and saltgrass (27 acres) comprise only about 10 percent of wetland cover types. In contrast, along three vegetation transects sampled in 1979 in the eastern part of Pier Marsh, pickleweed represented 31 percent of vegetative cover, followed by broadleaved pepperweed (24 percent) and saltgrass (20 percent) (Harvey & Stanley Associates 1979). Because the vegetation has obviously converted to more freshwater/brackish vegetation within that section of Pier Marsh, it is not unreasonable to assume that vegetation in other areas, such as the remainder of Pier Marsh, Middle Point Marsh, and portions of Hastings Marsh, may have become fresher as well, thus becoming less suitable for use by clapper rails. Results from biological studies conducted in the Tidal Area from 1998 to 1999 provide additional evidence that marshes in the Tidal Area have become less saline, whereas the wetland portions of the Tidal Area were primarily mapped as salt marsh and to a lesser extent brackish marsh (Downard et al. 1999).

During the most recent clapper rail surveys, 52 Virginia rail, 32 California black rail, and two sora detections were recorded, indicating that other rail species were actively vocalizing during the survey period. The numerous detections of the three other rail species, species that are known to more readily use fresh and brackish marshes, further suggest that clapper rails were absent from the study area in 2010. Also, no clapper rails were detected during black rail surveys conducted by WRA Environmental Consultants in Middle Point Marsh during 26 March to 18 May 2010 (WRA 2010), suggesting that clapper rails were absent from the interior of Middle Point Marsh to the east of the study area as well; no formal clapper rail surveys were conducted as part of that study (i.e., with call playback during the peak of the clapper rail breeding season).

Clapper rails have never been recorded regularly in Middle Point Marsh, based on prior surveys by H. T. Harvey & Associates (1992b, 1996a, 1996b, 1997a, 1997d, 1999) and California Natural Diversity Data Base (2010) data, and the species was likely absent from that marsh in 2010. H. T. Harvey & Associates conducted various bird surveys in Middle Point Marsh in the 1990s, including focused clapper rail and black rail surveys (using call playback) in 1992, various breeding and wintering bird surveys in 1995 and 1996, and focused black rail surveys from 1995 through 1999. During the 6 years of bird surveys in Middle Point Marsh, clapper rails were detected on only four occasions. This included individual detections on 15 and 16 June 1995 during clapper rail and black rail surveys (H. T. Harvey & Associates 1996a). It was not determined if the two detections represented one or two birds, but the recording of only one individual on two consecutive days suggested that only one bird was involved (H. T. Harvey & Associates 1996a). A clapper rail was also detected incidentally on 21 December 1995 in the largest slough in Middle Point Marsh (referred to as "Nichols Creek") (H. T. Harvey & Associates 1996b). Another individual clapper rail was detected on 30 April 1996 during a black rail survey (H. T. Harvey & Associates 1997a).

During the 6 years of bird surveys in Middle Point Marsh, black rails were detected frequently (i.e., on hundreds of occasions), whereas clapper rails were detected only on four occasions, and the same individual may have been detected more than once. The paucity of clapper rail detections, despite substantial survey effort, indicates the marsh represents low quality habitat for clapper rails. The authors of H. T. Harvey & Associates' 1992 study noted that Middle Point Marsh did not have small drainage channels and meandering sloughs that afford clapper rails protection from predators and suitable mudflats for foraging (H. T. Harvey & Associates 1992b). If Middle Point Marsh has become less saline since the 1990s, the likelihood that clapper rails currently use the marsh has been further reduced given that they prefer extensive salt and brackish marshes.

The portions of Hastings Marsh to the west of the study area have a somewhat higher potential for supporting clapper rails due to the more intricate network of channels associated with Hastings Slough, as compared with Pier Marsh and Middle Point Marsh (H.T. Harvey & Associates 2011).

4.4 California Least Tern (*Sternula antillarum browni*)

The California least tern is part of the larger family of gulls and terns (*Laridae*), which have long tapered wings, a 30-inch wingspan, and measure about 10 inches in length. Their heads are capped in black as are the tips of their wings and upper wings are pale grey contrasting with their white body and white forehead and yellow bill (California Department of Pesticide Regulation 2003). It is the smallest tern of all North American terns, with a typical colony size of about 25 pairs (USFWS 2006).

The California least tern is a migratory species that arrives to breed in the end of April and leaves breeding grounds in August. Its breeding range extends along the Pacific coast from Monterey County to southern Baja, and nesting sites in the San Francisco Bay area have been documented since 1970 (USFWS 1985).

The California least tern inhabits coastal bays and estuaries and lays its eggs in the open beach areas nearby. Their eggs are laid within depressions in sparsely vegetated areas located near water on gravel to sandy substrate, with clutches of two to three being common (California Department of Pesticide Regulation 2003; USFWS 1985). An important reproductive strategy of this species is to roost at sites well away from breeding locations before egg-laying occurs, in an attempt to minimize predation (USFWS 1985).

Populations of the California least tern are threatened by development and encroachment by humans of their nesting habitat, in addition to predation of eggs and young by other birds and mammals. For example, it was documented in 1988 that red foxes destroyed 75 percent of the California least tern nests in Orange County, California (NatureServe 2009). Other activities that have been documented as detrimental to the California least tern include those that produce noise pollution, such as from military training and helicopters flying low or landing in nesting areas (USFWS 2006).

The California least tern was listed as endangered in June 1970 and remains at this listing level to date (USFWS 1970). The California least tern was not identified within the project area in targeted surveys of MOTCO (H.T. Harvey & Associates 2011, Downard et al. 1999). This species was last observed on the installation in 1982 (Downard et al. 1999).

4.5 Salt Marsh Harvest Mouse (*Reithrodontomys raviventris halicoetes*)

The northern subspecies of salt marsh harvest mouse was previously documented in MOTCO tidal marshes (Downard et al. 1999; H. T. Harvey & Associates 1992c, 1996c, 1997b, 1997d; California Natural Diversity Data Base 2010). The original approach to assess the current status of salt marsh harvest mice in the vicinity of RPMP improvements at MOTCO was to conduct a trapping study. However, it was determined through consultation with the CDFG that trapping was not the preferred approach. Therefore, H. T. Harvey & Associates conducted a detailed vegetation mapping effort and assessed the potential for occurrence of the harvest mouse using the vegetation mapping results.

On 24 June 2010, salt marsh harvest mouse expert Dr. Shellhammer, and wildlife ecologist Scott Demers, M.S., conducted an initial reconnaissance-level survey of the site to inform the development of a more refined habitat assessment. This survey focused on proposed RPMP improvement sites but also included a general inspection of habitat conditions in the larger marshes at MOTCO. Based on the results of this preliminary survey, it was determined that detailed mapping of plant associations would allow for a refined determination of which areas provided potential habitat for the harvest mouse. H. T. Harvey & Associates plant ecologist Brian Cleary, M.S., then mapped approximately 865 acres of vegetation in and near to proposed RPMP improvement sites that could provide suitable habitat for the salt marsh harvest mouse. These areas included the west fringe of Middle Point Marsh along Stevens Road south to Q Area; the entire Pier Marsh from the edge of Suisun Bay south to the Holding Pads located on the north and east sides of Port Chicago Highway and Main Street, respectively; the Barricaded Railcar Area south to Port Chicago Highway; and the Transfer Facility from Barge Pier south to Froid Road, including the eastern part of the Transfer Facility on the east side of Rhodes Road south to Waterfront Road. This mapping

provided a thorough assessment of plant associations that could then be used both to inform harvest mouse impact assessment for the proposed RPMP improvements and future management decisions (e.g., to improve habitat conditions for the salt marsh harvest mouse and other tidal marsh species).

The habitat mapping was conducted on 20 to 24 September 2010 and 27 to 30 September 2010. Mapping consisted of using high-resolution aerial imagery provided by the U.S. Geological Survey and plotted onto sheets that were transported to the field. Mr. Cleary performed site visits to match vegetation signatures visible on the aerial imagery with plant associations in the field. The surveys allowed the development of a "catalogue" of vegetation signatures. For the purpose of this mapping, "plant associations" were categorized based on the dominant and subdominant species, providing a finer level of vegetation mapping than is currently available for MOTCO.

Any plant species that occurred as a dominant, sub-dominant, or associate plant species in any portion of the study area was mapped. For the purposes of this study, a dominant species had a percent cover of 51 to 100 percent, sub-dominant species had roughly 15 to 49 percent cover, and associate plant species, when present, had 5 to 14 percent cover. Additional plant species occurring at less than 5 percent cover were not included, as these species were present in numbers below the resolution of this mapping effort. Each species was then assigned to a vegetation classification scheme as described below:

Dominant – An area that consists of one dominant species that comprises approximately 85 to 100 percent of the cover is named solely for that species. For example, if the vegetation association is mapped as broad-leaved cattail (*Typha latifolia*), it consists of 85 to 100 percent broad-leaved cattail and less than 15 percent of other, unspecified species.

Dominant/Sub-dominant – If one dominant species comprises 51 to 85 percent of the cover in a particular area, and another sub-dominant species comprises 15 to 49 percent cover in that same area, then that area was designated with a dominant/sub-dominant vegetation classification. The classification is named for both species, with the more abundant species listed first. Therefore, if the category is mapped as broad-leaved cattail/alkali bulrush (*Scirpus robustus*), the habitat consists of 51 to 85 percent cover of broad-leaved cattail and 15 to 49 percent cover of alkali bulrush.

Dominant/Sub-dominant/Associate(s) – If one dominant species comprises 51 to 85 percent of the cover in a particular area, another sub-dominant species comprises 15 to 49 percent cover in that same area, and a third species comprises 5 to 14 percent in that same area, then that area was designated with a dominant/sub-dominant/associate vegetation classification. The classification is named for all species, with the two more abundant species listed first. Therefore, if the category is mapped as broad-leaved cattail/alkali bulrush/marsh jaumea (*Jaumea carnosa*), the habitat consists of 51 to 85 percent cover of broad-leaved cattail, 15 to 49 percent cover of alkali bulrush and 5 to 14 percent cover of marsh jaumea.

Mr. Cleary and GIS staff then digitized the plant association mapping, using the aerial imagery, to create digital shapefiles in GIS. In easily accessible areas, Mr. Cleary mapped plant associations in the field, rather than relying solely on vegetation signatures. For areas with access constraints or more distant from accessible areas, Mr. Cleary used binoculars to inform his mapping of plant associations, but relied more heavily on vegetation signatures visible on the aerial photos. As a result, it should be noted that the accuracy of plant association mapping is presumed to be highest in areas closer to roads, railroad tracks, and other easily accessible areas and lower in the interiors of broad marshes.

During the initial salt marsh harvest mouse habitat assessment on 24 June 2010, salt marsh harvest mouse expert Dr. Shellhammer determined that there was a low potential for occurrence of the harvest mouse near any of the proposed project activity areas. The primary reason the probability of occurrence was thought to be low was that areas dominated by plants with which the salt marsh harvest mouse is typically associated (i.e., pickleweed and, to a lesser extent, alkali bulrush and others) were not widespread, and were often separated from other suitable habitat areas by extensive areas providing lower-quality habitat, or were isolated altogether by roads, railways, and other barriers to harvest mouse dispersal. Nevertheless, Dr. Shellhammer determined that the possibility of occurrence of harvest mice could not be eliminated over large areas. Vegetation mapping was then performed to refine the determination of potential for occurrence of the salt marsh harvest mouse in various portions of the Tidal Area.

Vegetation mapping in the Tidal Area resulted in the classification of 64 distinct plant associations in addition to four other non-vegetation cover types (i.e., water, bare ground, rocky shoreline, and developed; Figure 4-1). To facilitate interpretation of the habitat mapping results, the 64 plant associations were grouped into 17 dominant plant species cover types (Figure 4-2). The area of each dominant cover type and all the plant associations within each cover type are presented in Attachment A.

The vegetation mapping confirmed Dr. Shellhammer's initial impression that the surveyed portions of the Tidal Area represent low-quality habitat for salt marsh harvest mice due to the abundance of freshwater marsh plant species, the low quantity and fragmented nature of suitable habitat, and the high proportion of developed areas (which represent barriers to mouse dispersal) within the site. Results of trapping studies in San Francisco Bay indicate that salt marsh harvest mice strongly prefer pickleweed cover (Fisler 1965, Geissel et al. 1988, Shellhammer 1982, Shellhammer et al. 1988). Also, trapping efforts conducted by H. T. Harvey & Associates located a population of salt marsh harvest mice in Middle Point Marsh, east of the study area, primarily in pickleweed (H. T. Harvey & Associates 1996c). However, in addition to pickleweed, salt marsh harvest mice were captured in alkali bulrush in Middle Point Marsh, and have been captured in alkali bulrush in South San Francisco Bay as well (H. T. Harvey & Associates 2007). Trapping efforts conducted in salt marsh harvest mice reserves in Suisun Bay, to the east of MOTCO, located large numbers of salt marsh harvest mice, largely in Olney's bulrush with a mature, well-developed understory of thatch (Sustaita et al. 2004). This suggests that some brackish marshes are also used by salt marsh harvest mice in addition to more saline marsh habitats.

Currently, most of the dominant wetland plant species in the Tidal Area are species associated with freshwater marshes. For instance, freshwater-associated species such as cattail (217 acres) and common reed (156 acres) comprise approximately 34 percent of the wetland plant cover types in our study area; these species were not found to support salt marsh harvest mice in Suisun Bay (Sustaita et al. 2004). In contrast, saltmarsh species such as pickleweed (40 acres) and saltgrass (27 acres), vegetation known to support salt marsh harvest mice, comprise only about 10 percent of wetland cover types (see Figure 4-1). This is in contrast to results from a vegetation analysis conducted for a mammal study in the eastern portion of Pier Marsh in 1979 (Harvey & Stanley Associates 1979).

In sampled quadrats, pickleweed represented 31 percent of vegetative cover, followed by broadleaved pepperweed (24 percent), and saltgrass (20 percent). The study consisted of 300 trap nights and resulted in the capture of western harvest mice (*Reithrodontomys megalotis*) and house mice (*Mus musculus*), but no salt marsh harvest mice. Currently, the same portion of Pier Marsh that was surveyed in 1979 is

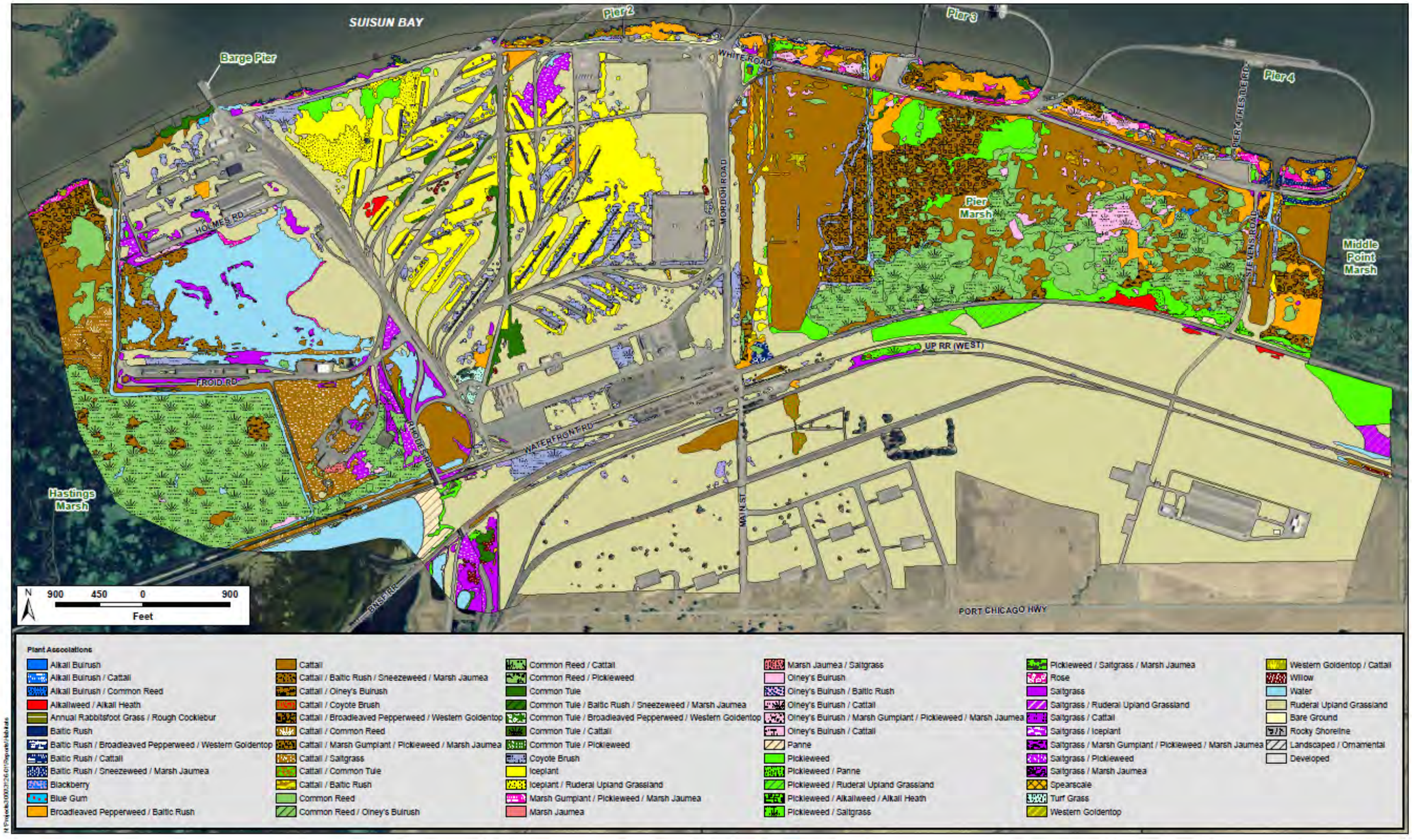

Figure 4-1 Plant Associations Map

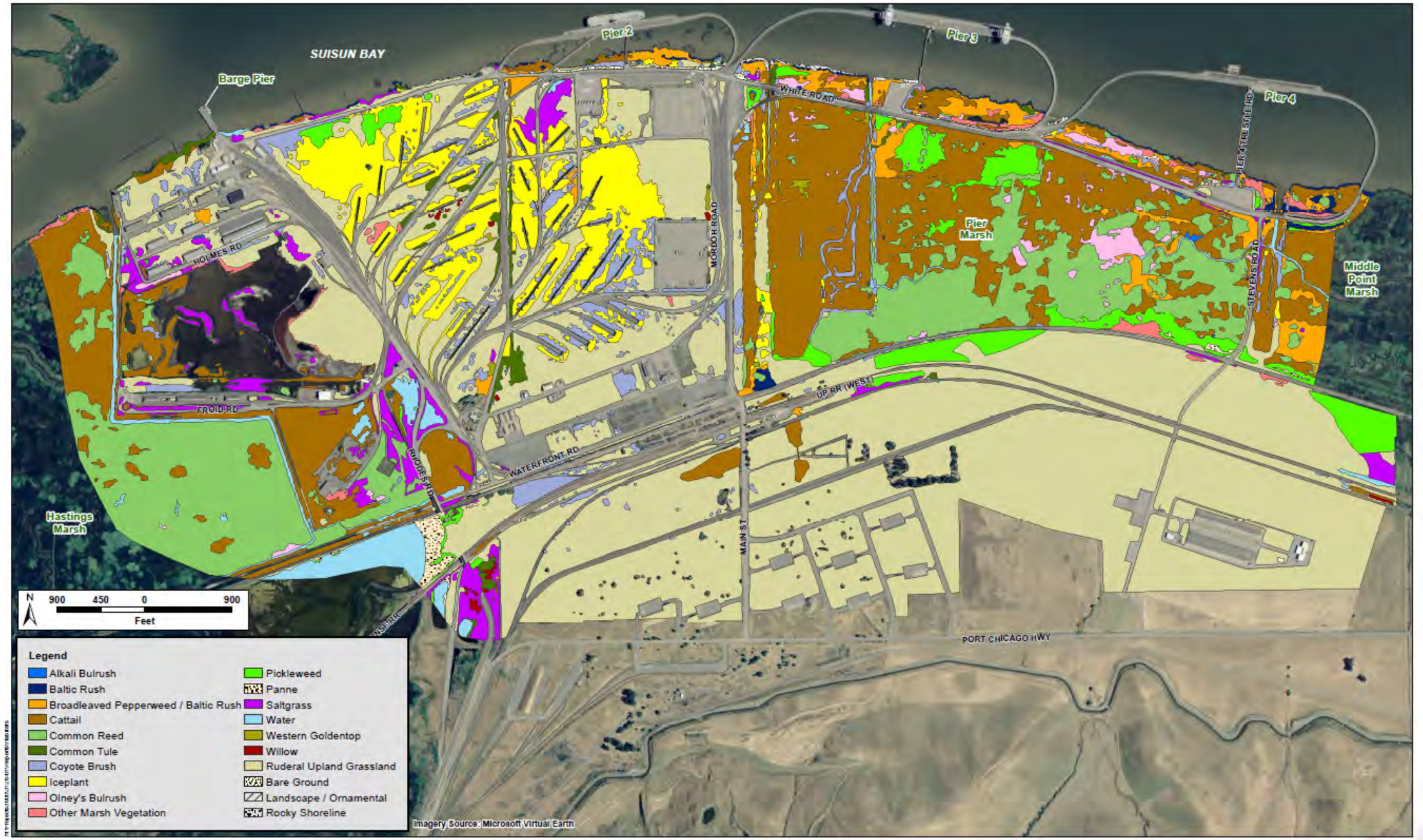

Figure 4-2 Dominant Plant Species/Cover Types

dominated by cattail and common reed, indicating the marsh has become much less saline in the last three decades. Results from biological studies conducted in the Tidal Area in 1998 to 1999 provide additional evidence that marshes in the Tidal Area have become fresher, as the wetland portions of the Tidal Area were primarily mapped as salt marsh, and to a lesser extent brackish marsh (Downard et al. 1999). Trapping efforts in that study resulted in no salt marsh harvest mice captures in Pier Marsh as well (Downard et al. 1999). Since no salt marsh harvest mice were captured in Pier Marsh when the marsh was dominated by salt marsh vegetation, salt marsh harvest mice are much less likely to inhabit the same marsh under current, less saline conditions. Further, trapping efforts as part of the Downard et al. (1999) study resulted in low numbers of salt marsh harvest mice captures in Hastings Marsh, at the western extent of our study area (i.e., in the vicinity of Froid Road). These areas are now dominated by freshwater marsh species (i.e., cattail and common reed), and a former salt marsh harvest mouse capture site north of Froid Road is now mostly open water. It is unlikely that salt marsh harvest mice have persisted in these areas now that the site is less saline.

Coupled with habitat change (i.e., salt marsh to freshwater marsh), the amount of developed areas within the Tidal Area fragment and isolate the few more suitable areas that salt marsh harvest mice could occupy. For instance, Shellhammer and Duke (2004) have hypothesized that barren areas of land more than 5 m wide, reaches of water more than 13 m wide, and brackish or freshwater marsh more than 250 m wide act as barriers to movement of the southern subspecies of the harvest mouse, and hence barriers to gene flow. Because of these obstacles, many areas in the Tidal Area are likely unsuitable for sustainable populations of harvest mice, although remnant populations could remain and portions of the site could be used for dispersal by this species.

Figure 4-3 depicts the assessment of the probability of occurrence of salt marsh harvest mice in various portions of the Tidal Area, focusing on the vicinity of proposed activity areas. Probability of occurrence was determined based on several factors, including presence or absence of cover types in which the species is known to occur (e.g., pickleweed), cover types that are not considered suitable habitat (e.g., iceplant [*Carpobrotus* sp.]), cover types that are suitable only for dispersal (e.g., ruderal grassland), and the size and connectivity (or isolation) of cover types. Because the site is generally of low quality habitat for salt marsh harvest mice, areas with any potential for occurrence were delineated into three categories, with the highest category representing "low potential for occurrence" (i.e., 20 to 30 percent probability of occurrence). These areas (highlighted in green, see Figure 4-3) contain the largest contiguous patches of pickleweed on the site and thus have the highest potential for salt marsh harvest mouse occurrence. These areas, although having potential to support this species, are mapped as "low potential" because they are isolated from other patches by infrastructure or other unsuitable cover types. For instance, the two areas mapped with this designation in Pier Marsh are separated by more than 200 m of cattail, reed, and other freshwater cover types that are largely unsuitable for salt marsh harvest mice. Also, Stevens Road and the UPRR tracks separate four patches of potentially suitable habitat (i.e., in Pier Marsh, Middle Point Marsh, and two areas south of the UPRR tracks), effectively reducing or eliminating potential for harvest mouse dispersal between them; thus they are categorized as "low potential" for harvest mouse occurrence.

Four areas were identified as potential habitat for salt marsh harvest mice based on the presence of pickleweed, but were categorized as "lower potential for occurrence" (i.e., less than 10 percent probability of occurrence) because they are small patches that are isolated from other areas that could support harvest mice. These include two areas immediately to the south of the western extent of White Road (highlighted in blue, see Figure 4-3). These small patches of pickleweed are surrounded by ruderal grassland, iceplant,

and coyote brush, which would likely preclude any harvest mouse movement in or out of these areas. Two other areas were mapped as "lower potential" for harvest mouse occurrence, one in the southwest corner of Pier Marsh and another to the south of the Union Pacific Railroad tracks (see Figure 4-3). These two areas are also isolated by unsuitable habitat and development, severely reducing the potential for harvest mouse occurrence. Other areas, including the remainder of Pier Marsh and Middle Point Marsh, the outer marsh north of White Road (not including areas of rocky shoreline), three patches south of White Road consisting primarily of saltgrass (a cover type known to be used by this species), and Hastings Marsh, including remnant patches of marsh along Holmes Road, Froid Road, and Rhodes Road, were mapped as "very low potential for occurrence" for salt marsh harvest mice (highlighted in orange, see Figure 4-3). These areas of "very low potential" are very unlikely to support harvest mice. However, the potential for occurrence cannot be eliminated, and there is at least a minimal probability that these areas could be used on occasion for dispersal or may represent "sink" habitat that mice disperse into from higher quality areas but that do not provide habitat of sufficient quality to support a self-sustaining population.

Because harvest mice could still disperse through portions of the study site from higher quality areas, the mapping of potential salt marsh harvest mouse occurrence is conservative and could only be refined with very intensive trapping efforts. Such trapping would need to include intensive sampling in a variety of habitats, including fresh, brackish, and saline habitats, and over extended periods (i.e., multiple seasons) to ensure that surveys would detect the presence of salt marsh harvest mice if the species were present in only extremely low numbers.

Given the overall low quality habitat in the Tidal Area, due in part to a change from generally saline/brackish marsh to freshwater marsh, it is possible that salt marsh harvest mice are absent from most of the Tidal Area, particularly the areas on which the H. T. Harvey & Associates efforts were focused in 2010. H. T. Harvey & Associates conducted small mammal trapping studies in Middle Point Marsh in 1991, 1995, 1996, and 1997 (H. T. Harvey & Associates 1992c, 1996c, 1997b, 1997c). Each trapping effort, consisting of multiple 6 m by 8 m trapping grids in Middle Point Marsh, resulted in captures of salt marsh harvest mice, including 200 in 1991 (3,290 trap nights), 24 in 1995 (1,504 trap nights), 48 in 1996 (1,200 trap nights), and seven in 1997 (1,200 trap nights) (H. T. Harvey & Associates 1992c, 1996c, 1997b, 1997c). In 1996 and 1997 additional trapping transects, with varying number of traps, were placed in marsh and upland habitats. These additional trapping transects resulted in additional salt marsh harvest mouse captures of four and nine individuals in 1996 and 1997, respectively (H. T. Harvey & Associates 1997b, 1997c). During these studies, salt marsh harvest mice were generally captured in areas with dense pickleweed cover, often mixed with other salt marsh vegetation (e.g., saltgrass), whereas traps placed in areas without dense pickleweed cover generally resulted in few captures. Traps located in upland habitats did not result in the capture of salt marsh harvest mice, but they did capture the western harvest mouse (*Reithrodontomys megalotis*), the congener of the salt marsh harvest mouse. These results suggest that a fairly robust population of salt marsh harvest mice previously occurred in Middle Point Marsh in the 1990s and may still occur there unless the marsh has become less saline, as Pier Marsh apparently has.

Hastings Marsh, to the west of the study area, may also support areas with pickleweed, saltgrass, alkali bulrush, and other species suitable for salt marsh harvest mice based on the heterogeneity of vegetation that is visible on aerial photos. However, there is an abundance of cattail, common reed, and other freshwater vegetation in this marsh as well, indicating that the marsh is not high quality habitat for salt

Figure 4-3 Areas of Potential Salt Marsh Harvest Mouse Occurrence

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marsh harvest mice. Nonetheless, salt marsh harvest mice could still occur there if areas consisting of suitable vegetation remain in the marsh, although abundance of this species is likely to be low.

4.6 Golden Eagle (*Aguila chrysaetos*)

The golden eagle is a large, dark-brown raptor with long, broad wings and a golden nape (Kochert et al. 2002). Throughout most of the western United States, golden eagles are mostly year-long residents, breeding from late January through August with peak activity in March through July (Polite and Pratt 1999). Migratory patterns are usually fairly local in California where adults are relatively sedentary, but dispersing juveniles sometimes migrate south in the fall (Kaufman 1996).

Golden eagles nest primarily on cliffs and hunt in nearby open habitats, such as grasslands, oak savannas, and open shrublands (Grinnell and Miller 1944). Rugged, open habitats with canyons and escarpments are used most frequently for nesting (Polite and Pratt 1999). Trees may also be used for nesting and are more commonly used in the interior Coast Ranges where suitable cliff nesting habitat is scarce. Golden eagles construct a large nest of branches, twigs, and stems of any kind (Kochert et al. 2002). Maintenance on the nest can occur at any time of year (Kochert et al. 2002). Golden eagles often maintain alternate nest sites within a breeding territory, and old nests are refurbished and reused (Zeiner et al. 1990).

Females lay 1 to 3 eggs in early February to mid-May. Incubation typically takes 43 to 45 days and the nestling period is usually 65 to 70 days (Polite and Pratt 1999). The young fledge at about 50 days, remaining near the nest site for a few weeks (Baicich and Harrison 1997, Zeiner et al. 1990). Breeding site fidelity in adults is high (U.S. Forest Service 2008).

Golden eagles are considered to be long-lived birds, with captive golden eagles often living more than 40 years. Home ranges are likely the same as territory size (Polite and Pratt 1999), and territories are well defined and actively defended (U.S. Forest Service 2008). Pairs tend to nest on the periphery of their territories. Golden eagles primarily prey on lagomorphs and rodents but will also take other mammals, birds, reptiles, and some carrion.

In California, the species is an uncommon permanent resident and migrant throughout the state, except for the center of the Central Valley (Polite and Pratt 1999). Throughout its range, the golden eagle is threatened by habitat loss and degradation, human disturbances, and direct fatalities from wind turbine strikes, electrocution, and poisoning. The Contra Costa County Breeding Bird Atlas reports both probable and possible breeding pairs of golden eagles not far from MOTCO, with confirmed breeding pairs elsewhere in the county. If present at MOTCO, they are most likely to occur foraging in upland-grassland habitats on Inland Area.

4.7 Migratory Birds

As detailed in the INRMP, a variety of migratory bird species are known to occur at MOTCO including birds of conservation concern, waterbirds, waterfowl, and “Partners in Flight” species. Implementation of the following management measures will minimize, mitigate and allow for monitoring the take of migratory birds from military readiness activities at MOTCO.

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CHAPTER 5
ANALYSIS OF EFFECTS AND DESCRIPTION OF THE MANNER IN WHICH THE ACTION MAY AFFECT ANY LISTED SPECIES OR CRITICAL HABITAT

5.1 Approach to Analysis

This chapter presents an analysis of potential direct, indirect, temporary, and permanent effects on the soft bird's-beak, Delta smelt, California clapper rail, California least tern, and salt marsh harvest mouse that may result from the implementation of the proposed RPMP Category A and B projects. BGEPA and MBTA protected species are addressed in Sections 5.3.3 and 5.3.7, respectively.

Direct effects are associated with habitat-disturbing activities resulting from proposed demolition and construction activities related to RPMP projects. Direct effects may be either temporary (reversible) or permanent (irreversible). For this project, most direct effects will be contained within footprints of direct activity identified in Section 2.0. *Indirect effects* are caused by or result from project-related activities, but occur later in time and are reasonably certain to occur. Indirect effects are diffuse, resource-specific, and less amenable to quantification or mapping than direct effects, but still need to be considered. Potential project effects on protected species are further classified and evaluated based on their anticipated longevity as temporary or permanent effects.

Project effects are evaluated based upon an understanding of project site configuration and components, and the construction methods and equipment that would be used. All project effects are described as they would occur after the avoidance and minimization measures described in Section 2.5 are implemented. Spill prevention and control measures provide for a discountable potential impact and, therefore, the use of fuel, oil, lubricants, etc. as required to operate construction equipment is not further evaluated.

The potential effects for Delta smelt are limited to the four proposed demolition projects that would involve in-water work: Southwest Lighter Berth (123), Tug Pier (125), Seal Island Lighter Berths (172), and Seal Island Lighter Berths (173).

For all other species, the potential effects are limited to the following:

- two RPMP Category A projects: P74877, Security Fencing, and P76086, Lightning Protection; and

- eight RPMP Category B projects located near the MOTCO shoreline: Waterfront Ops Building (111), Shed (144), Smoke Shack (100), Steam Plant for Pier 2 (160), Closed Oil Aboveground Storage Tank (410), Closed Oil Aboveground Storage Tank (411), and Steam Plant Building for Pier 4 (407); and

- five RPMP Category B projects located near Hasting Marsh: Storage (A-11), Shed (A-19), Ammunition Transfer Building (A-31), Defunct Salvage Yard Office (122), and Closed Lumber Salvage Shop (A-29).

Because it is not anticipated that the project would affect any of the listed species differently, the affects conclusion for each is based on the analysis provided below. Most anticipated effects would be indirect, temporary, and intermittent in association with construction and/or demolition activities. There are no negative impacts anticipated for critical habitat.

5.2 Threatened and Endangered Species and Critical Habitat Affected

Construction and demolition activities could result in injury or behavior modification to ESA-listed species under the jurisdiction of USFWS. With the protective measures outlined in Section 2.2, there would be minimal potential for direct impacts of direct injury or death to these species. Indirect temporary and intermittent impacts to these species would be expected from visual and auditory disturbances associated with human activity and noise resulting from proposed construction and demolition activities. Baseline human activity and noise levels in the project area are already high due to the industrial activities on and near the MOTCO cantonment areas and waterfront. While the waters of Suisun Bay are designated as critical habitat for all Delta smelt, no adverse impact to critical habitat is anticipated.

5.3 Soft Bird's Beak (*Cordylanthus mollis* ssp. *mollis*)

5.3.1.1 Direct Effects

The installation of the security fence in the Pier 4 area includes requirement that the fence shall be installed from the roadway surface in recognition that soft bird's beak are known to occur in the adjacent marshlands. This protective measure eliminates the potential for direct impacts to soft bird's beak with the proposed security fence installation (see Figure 2-3).

5.3.1.2 Indirect Effects

The potential for indirect effects to soft bird's beak from proposed RPMP construction and demolition activities, such as increased sedimentation or releases of pollutants into the habitat for this endangered plant, would be discountable with the required adherence to NPDES permit requirements.

5.3.1.3 Conclusion

With the implementation of the protective measures outlined in Section 2.5, the implementation of the proposed action **may affect, but is not likely to adversely affect** soft bird's beak.

5.3.2 Delta Smelt (*Hypomesus transpacificus*)

Delta smelt are most likely to occur in the project area during spawning migrations, which take place from late winter to early summer. Delta smelt occurrence in the project area during the proposed timeline for in-water work is expected to be minimal.

5.3.2.1 Direct Effects

Possible direct impacts to Delta smelt include behavioral modifications or barotraumatic injury from pile driving activities (see Section 5.2). Although the occurrence of Delta smelt in the project area is possible during migration movements, they are highly mobile and would not linger long. The likelihood of this species residing within a distance known to cause injury or adverse behavioral effects is low; if an

individual was nearby during pile driving activities, it would likely avoid or temporarily leave the area until the noise subsides.

5.3.2.2 Indirect Effects

All indirect impacts are expected to be minimal and temporary. Indirect impacts may occur from noise or visual disturbances displacing Delta smelt in the project area, but these impacts would be minimal, as baseline noise levels are already high from frequent vessel traffic in the area. Other indirect impacts may include a localized disturbance of sediments resulting in increased turbidity that might inhibit Central Valley spring-run Chinook salmon from entering the project area or temporarily disturb their food source. Delta smelt feed exclusively on zooplankton, thus, their food source is sensitive to changes in water turbidity. Natural turbidity levels at the project site are high; so a slight, localized and short-term increase in turbidity from pier piling removal and replacement would not negatively impact local zooplankton communities.

The timber pilings to be removed at the Southwest Lighter Berth (123), Tug Pier (125), Seal Island Lighter Berths (172), and Seal Island Lighter Berths (173) are primarily 1944-era pilings treated with creosote. The concern is that contaminants potentially lying in bay sediments would be re-suspended when wood debris is removed during demolition, but measures will be implemented to minimize this potential sediment re-suspension. Specifically, to minimize disruption of the sediment layer bellow the pier, pilings will be carefully removed via the "vibratory hammer" or "direct pull" methods. The vibratory hammer method involves dislodging the pile and then slowly lifting the pile, in its entirety, from the sediments. The direct pull method involves placing a choker around the pile and slowly pulling upward with a crane or other equipment. Further, if a timber pile breaks (World War II-era pilings may be more vulnerable), the stub would be removed utilizing a hydraulic shear and crane or other equipment to cleanly pull out the stub. Other measures to minimize contaminant mobilization include: in-water work will be limited to a narrow window of time (1 June through 30 November); cutting and boring work over the water surface will be limited to only that which is necessary; the prefabrication of wood off-site will be maximized; falling debris will either be trapped by tarps or a floating boom; and debris and waste piling will be promptly removed and properly disposed of offsite.

The above analysis for impacts of creosote-treated wood can be applied to all fish species considered in this BA. The use of Best Management Practices (BMPs), the small-scale of the project, and the high current velocities in the area will result in adequate flushing and minimal mobilization of sediments and any associated contaminants. Thus, Delta smelt will not be negatively impacted by removal of the creosote-treated pilings.

5.3.2.3 Conclusion

The majority of potential project impacts are predicted to be minimal and temporary. Pile driving could produce more permanent impacts such as injury or mortality. As a result, the proposed action **may affect, but is not likely to adversely affect** the Delta smelt. No permanent impacts would occur to Delta smelt habitat (critical habitat).

5.3.3 California Clapper Rail (*Rallus longirostris obsoletus*)

5.3.3.1 Direct Effects

With the protective measures outlined in Section 2.2, no direct impacts to California clapper rail would occur as a result of implementing the RPMP Category A and B projects at MOTCO.

5.3.3.2 Indirect Effects

Some elements of RPMP Category A projects P74877, Security Fencing, and P76086 Lightning Protection, and some elements of Category B projects adjacent to Hastings Marsh have the potential for indirect effects to California clapper rail as a result of the increased levels of noise and human activity associated with proposed construction and demolition activities. The presence of nesting California clapper rails is unlikely and the overall potential for occurrence is low given the relatively low quality of habitat for the species at MOTCO. California clapper rail present in the area could be disturbed by the increased levels of human activity and noise associated with construction and/or demolition activities. Such effects would be minimized with the implementation of the protective measures outlined in Section 2.2.

5.3.3.3 Conclusion

With the protective measures outlined in Section 2.2, the proposed action **may affect, but is not likely to adversely affect** California clapper rail.

5.3.4 California Least Tern (*Sternula antillarum browni*)

5.3.4.1 Direct Effects

Due to the unlikely occurrence of California least tern at MOTCO (not observed present since 1982 despite numerous surveys in the area), there would be no direct effects to this species from implementation of proposed project activities.

5.3.4.2 Indirect Effects

For the same reason as stated above, indirect effects to California least tern from implementation of project activities would not occur.

5.3.4.3 Conclusion

The proposed action would have **no effect** on the California least tern.

5.3.5 Salt Marsh Harvest Mouse (*Reithrodontomys raviventris halicoetes*)

5.3.5.1 Direct Effects

With the protective measures outlined in Section 2.2, no direct impacts to salt marsh harvest mouse would occur as a result of implementing the proposed RPMP Category A and B projects at MOTCO.

5.3.5.2 Indirect Effects

If present, salt marsh harvest mouse could potentially be indirectly impacted by increased human activity and noise associated with the proposed RPMP construction and demolition projects. These impacts would be negligible given the protective measures outlined in Section 2.2.

5.3.5.3 Conclusion

With the protective measures outlined in Section 2.2, the proposed action **may affect, but is not likely to adversely affect** salt marsh harvest mouse.

5.3.6 Golden Eagle

If present in the area, golden eagle could be disrupted by increased human activity and noise associated with proposed real property management actions. Golden eagle would be expected to avoid the area during high activity periods and return upon their completion. These indirect impacts would be temporary and intermittent.

5.3.7 Migratory Birds

As noted in Section 2.2, standard procedures would be implemented for demolition projects to protect migratory birds, which is consistent with the INRMP's Migratory Bird Management Plan for MOTCO. Implementation of the proposed RPMP would not adversely affect migratory bird populations.

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CHAPTER 6
CUMULATIVE EFFECTS ANALYSIS

"Cumulative effects" under the ESA are those effects of future state, municipal, or private activities, not involving federal activities, that are reasonably certain to occur within the action area of the federal action subject to consultation [50 Code of Federal Regulation 402.02]. The analysis of cumulative effects includes consideration of any interrelated and interdependent effects from such projects that may result in an effect on federally listed species or their habitat. The following non-federal projects have been identified in the vicinity of the proposed Pier 4 structural repair project location:

- East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan – This plan is intended to provide an effective framework to protect natural resources in eastern Contra Costa County, while improving and streamlining the environmental permitting process for impacts on endangered species. The primary goal of this Plan is to obtain authorization for take of species covered under the ESA and the Natural Community Conservation Planning Act for future urban development in accordance with approved land use plans in the cities of Clayton, Pittsburg, Brentwood, and Oakley and specific areas of unincorporated Contra Costa County. Covered activities within distinctly defined urban boundaries are broadly defined to include all ground-disturbing activities controlled by permit holders via their land use planning process. This plan proposes to provide take authorization for 28 listed and non-listed terrestrial species. None of these are the species addressed in this BA. The conservation strategy includes a preserve system, habitat restoration, and adaptive management and monitoring. The intent of the plan is to avoid project-by-project permitting that is generally costly and time consuming for applicants and often results in uncoordinated and biologically ineffective mitigation (East Contra Costa County Habitat Conservation Plan Association 2006).

- The San Francisco Bay Area Water Trail Plan – This plan, under development, would formalize a network of access sites, or “trailheads,” that allow people in small, non-motorized boats (e.g., kayaks, canoes, sailboards, and dragon boats), to safely enjoy the historic, scenic, and environmental richness of San Francisco Bay through single and multiple-day trips on the Bay. The Water Trail includes 112 proposed trailheads located along the shoreline of the nine San Francisco Bay Area counties, the majority of which currently exist and are used by the public. One planned launch site is located east of MOTCO and Pier 4 at the East Bay Regional Park District’s Bay Point Regional Shoreline park, which is undeveloped open space and marsh habitat that currently provides opportunities for hiking, birdwatching, shoreline fishing, and nature study. This site is not identified as a High Opportunity Site (i.e., where initial implementation is prioritized because the site would require minimal planning, management changes, and improvements); one alternative under consideration would limit the water trail to improvements at only High Opportunity Sites (California State Coastal Conservancy 2011).

- Ongoing use of Bay Point Regional Park west of the MOTCO Tidal Area, managed by the East Bay Regional Shoreline Park District, and ongoing use of Point Edith Wildlife Area managed by CDFG – East Bay Regional Shoreline Park is open to the public and consists of nearly 150 acres of marshland and undeveloped open space for hiking, bird watching, and shoreline fishing. Shoreline access for fishing is available via the McAvoy Harbor (East Bay Regional Park District

2009). Point Edith is an approximately 760-acre marsh consists of numerous water channels and ponds and is used primarily for hunting waterfowl (in accordance with CDFG requirements) and wildlife viewing. Point Edith Wildlife Area is open seven days per week and no permits, passes, or reservations are required for entry. Access to the wildlife area is only available by boat from Suisun Bay. Together, these areas provide contiguous habitat for a number of the ESA-listed species addressed in this BA.

- Aside from the two recreational areas noted above, land uses adjacent to MOTCO are predominantly residential and industrial in nature. Most of these uses have resulted in large-scale conversion of natural systems and do not support high-value habitat for the ESA-listed species addressed in this BA.

- Ongoing use of the Stockton Deep Water Shipping Channel – An estimated 2.8 million short tons of cargo were received and/or shipped from the Port of Stockton in calendar year 2007 by a wide variety of commercial transport ships using the shipping channel located approximately 300 ft north of Pier 4 (USACE 2007). Such use is ongoing but can be variable based on supply and demand and other economic factors.

- Ongoing water-based recreational activities on Suisun Bay – boating, non-motorized watercraft, fishing, and other water-related recreation occurs in the river delta region, Suisun Bay, and San Pablo Bay on an ongoing basis. In the vicinity of Pier 4, water-based recreation is restricted due to safety and security considerations.

Other major planning projects affecting the region include the Bay-Delta Conservation Plan and the Suisun Marsh Plan. Since these projects are joint state-federal projects, these projects are not analyzed for cumulative effects analysis in this BA (i.e., they are actions involving federal activities).

The proposed action has a limited potential for additive or interactive impacts with other non-federal actions in the area due to the minimal area affected by the proposed activities and the small scale of the projects. Although ESA-listed species under the jurisdiction of USFWS would potentially be exposed to effects associated with the above-listed projects, such as human activity and noise associated with ongoing use of Suisun Bay and surrounding lands, such effects would be discountable.

CHAPTER 7
CONCLUSION

Based on the analysis of effects presented in Chapter 5, the Army has made the following effects determination for listed species (Table 7-1) as a result of the proposed RPMP Category A and B projects analyzed in this BA.

Table 7-1. Effects Determination

Species or Habitat	Effects Determination
Soft Bird's-beak	may affect, not likely to adversely affect
Delta Smelt	may affect, not likely to adversely affect
California Clapper Rail	may affect, not likely to adversely affect
California Least Tern	no effect
Salt Marsh Harvest Mouse	may affect, not likely to adversely affect

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ATTACHMENT A

PLANT ASSOCIATIONS/COVER TYPES

Plant Associations			
Dominant Plant Species	**Sub-dominant Plant Species (if any)**	**Important Associate Plants (if any)**	**Hectares / Acres**
Alkali Bulrush			0.04 / 0.10
		Cattail	0.08 / 0.20
		Common Reed	0.04 / 0.10
		Sub-total	0.16 / 0.40
Baltic Rush			0.04 / 0.10
	Sneezeweed/Marsh Jaumea		1.94 / 4.79
		Broadleaved Pepperweed/Western Goldentop	0.28 / 0.69
		Cattail	0.00 / 0.00
		Sub-total	2.31 / 5.71
Broadleaved Pepperweed/ Baltic Rush			11.30 / 27.91
Cattail			53.44 / 132.00
		Broadleaved Pepperweed/ Western Goldentop	17.98 / 44.41
		Saltgrass	6.28 / 15.51
		Baltic rush/ Sneezeweed/Marsh Jaumea	3.20 / 7.90
		Common Reed	2.23 / 5.51
		Olney's Bulrush	2.19 / 5.41
		Common Bulrush	1.21 / 2.99
	Baltic rush		0.57 / 1.41
		Marsh Gumplant/ Pickleweed/Marsh Jaumea	0.49 / 1.21
		Coyote Brush	0.04 / 0.10
		Sub-total	87.65 / 216.50
Common Bulrush			3.16 / 7.81
		Cattail	0.08 / 0.20
		Broadleaved Pepperweed/ Western Goldentop	0.08 / 0.20
		Pickleweed	0.04 / 0.10
		Baltic Rush/Sneezeweed/ Marsh Jaumea	0.04 / 0.10
		Sub-total	3.40 / 8.40
Common Reed			14.49 / 35.79
		Cattail	47.65 / 117.70
		Olney's Bulrush	0.45 / 1.11
		Pickleweed	<0.01 / <0.01
		Sub-total	62.63 / 154.70
Coyote Brush			17.41 / 43.00

Plant Associations			
Dominant Plant Species	**Sub-dominant Plant Species (if any)**	**Important Associate Plants (if any)**	**Hectares / Acres**
Iceplant			25.99 / 64.20
		Ruderal Upland Grassland	3.68 / 9.09
		Sub-total	29.68 / 73.31
Olney's Bulrush			1.78 / 4.40
		Cattail	1.21 / 2.99
	Cattail		1.13 / 2.79
		Marsh Gumplant/Pickleweed/Marsh Jaumea	0.20 / 0.49
		Baltic Rush	0.04 / 0.10
		Sub-total	4.33 / 10.70
Other Marsh Vegetation			<0.01 / <0.01
	Marsh Gumplant/Pickleweed/Marsh Jaumea		2.27 / 5.61
	Alkaliweed/Alkali Heath		0.97 / 2.40
	Marsh Jaumea	Saltgrass	0.16 / 0.40
	Spearscale		0.08 / 0.20
	Marsh Jaumea		0.04 / 0.10
		Sub-total	3.48 / 8.60
Pickleweed			12.47 / 30.80
		Saltgrass	1.34 / 3.31
		Ruderal Upland Grassland	1.09 / 2.69
	Saltgrass/Marsh Jaumea		0.40 / 0.99
		Panne	0.20 / 0.49
		Alkaliweed/Alkali Heath	0.08 / 0.20
		Sub-total	15.63 / 38.61
Panne			1.70 / 4.20
Saltgrass			5.43 / 13.41
		Pickleweed	3.77 / 9.31
		Ruderal Upland Grassland	0.89 / 2.20
		Cattail	0.69 / 2.20
		Marsh Gumplant/Pickleweed/Marsh Jaumea	0.49 / 1.70
	Saltgrass/Marsh Jaumea		0.04 / 1.21
		Iceplant	0.04 / 0.10
		Sub-total	11.30 / 27.91
Water			10.24 / 25.29

Plant Associations			
Dominant Plant Species	**Sub-dominant Plant Species (if any)**	**Important Associate Plants (if any)**	**Hectares / Acres**
Western Goldentop			0.40 / 0.99
		Cattail	0.20 / 0.20
		Sub-total	0.57 / 1.41
Willow			0.49 / 1.21
Ruderal/Grassland			<0.01 / <0.01
	Ruderal Upland Grassland		209.11 / 516.60
	Annual Rabbitsfoot Grass/Rough Cocklebur		0.08 / 0.20
		Sub-total	209.15 / 516.60
Bare Ground			0.77 / 1.90
Landscaped/Ornamental			2.35 / 5.80
	Blackberry		0.57 / 1.41
	Turf Grass		0.32 / 0.79
	Blue Gum		0.08 / 0.20
	Rose		0.08 / 0.20
		Sub-total	3.40 / 8.40
Rocky Shoreline			0.57 / 1.41
Total Area			474.78 / 1172.71

From: Korie Schaeffer - NOAA Federal [mailto:korie.schaeffer@noaa.gov]
Sent: Monday, March 18, 2013 9:39 AM
To: Charles, Malcolm E CIV (US)
Subject: Re: MOTCO INRMP (UNCLASSIFIED)

Hello Malcom-
Thank you for the interim response. We look forward to receiving the final decision document and any survey results. Feel free to contact me if you have further questions regarding implementation of the conservation recommendations.
-Korie Schaeffer
707-575-6087

On Thu, Mar 14, 2013 at 3:36 PM, Charles, Malcolm E CIV (US) <malcolm.e.charles.civ@mail.mil> wrote:

Mr. McInnis,

This email is intended to serve as a preliminary response to the NOAA National Marine Fisheries Service (NMFS) letter dated 6 August 2012 regarding NMFS review and comment on the Biological Assessment for Potential Effects on NMFS-listed Species and Critical Habitat from Implementation of Real Property and Natural Resources Management Programs at Military Ocean Terminal Concord, California. The letter states the following position from NMFS:

> "As described in the effects analysis, NMFS has determined that the proposed action would adversely affect EFH for various federally managed fish species within Pacific Groundfish, Pacific Salmon, and Coastal Pelagic FMPs. NMFS provides the following EFH Conservation Recommendation pursuant to section305 (b)(4)(a) of the MSA: A qualitative eelgrass survey should be conducted immediately prior to piling removals (if proposed within the April - October growing season) for presence/absence of eelgrass shoots by examining the activity footprint and immediate vicinity (10 meter buffer) at low tide. If any eelgrass shoots are present, turbidity control measures (e.g., silt curtains) should be implemented to prevent impacts to eelgrass.
>
> Please be advised that regulations (50 CFR 600.920(k)) to implement the EFH provisions of the MSA require your office to provide a written response to this letter within 30 days of its receipt and prior to the final action. A preliminary response is acceptable if final response cannot be completed within 30 days. Your final response must include a description of how the EFH Conservation Recommendations will be implemented and any other measures that will be required to avoid, mitigate, or offset the adverse impacts of the activity. If your response is inconsistent with our EFH Conservation Recommendations, you must provide an explanation for not implementing recommendations at least 10 days prior to final approval of the action."

The U.S. Army's proposed action at Military Ocean Terminal Concord (MOTCO) will comply with the EFH Conservation Recommendation as stated above. The recommendation for a qualitative eelgrass survey

and any associated turbidity control measures will be included in the Final Environmental Assessment (EA) and associated decision document. The requirement for turbidity control measures, such as silt curtains and turbidity barriers, would be employed if eel grass is present within the action area during the April - October growing season. We had intended to communicate this preliminary response to you within the requested 30-day timeframe; however, we recently discovered that we failed to do so due to an administrative oversight. The timing of the decision document is pending concurrence from the U.S. Fish and Wildlife Service, but is tentatively scheduled for the end of April 2013. We will ensure that you receive a copy of the Final EA and decision document that will include the EFH Conservation Recommendation provided by NMFS.

If you have any questions or concerns, please do not hesitate to contact me.

Malcolm Charles
Director of Public Works
Military Ocean Terminal, Concord
410 Norman Ave.
Concord, CA 94520
(925) 246-4023
DSN: 686
Fax: (925) 246-4171

"Do what you can, with what you have, where you are."
Theodore Roosevelt

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802- 4213

August 6, 2012

In response, refer to:
2011/05691

Malcolm Charles
Director of Public Works
Department of the Army
Military Ocean Terminal Concord
843th Transportation Battalion
410 Norman Avenue
Concord, California 94520-1142

Dear Mr. Charles:

Thank you for your letters of October 17, 2011, and April 10, 2012, requesting initiation of consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. § 1531 *et seq.*), for the proposed implementation of a Real Property Master Plan (RPMP), Integrated Natural Resources Management Plan (INRMP), and Integrated Cultural Resources Management Plan (ICRMP) at the Department of the Army's (Army) Military Ocean Terminal Concord (MOTCO) facility in Concord, California. This letter also serves as consultation under the authority of, and in accordance with, the Essential Fish Habitat (EFH) provisions of the Magnuson Stevens Fishery Conservation and Management Act (MSA), and the provisions of the Fish and Wildlife Coordination Act of 1934 (FWCA), as amended.

With your October 17, 2011, request for consultation, the Army submitted to NMFS the project's *Draft Biological Assessment for Potential Effects on NMFS-listed Species and Critical Habitat from Implementation of Real Property and Natural Resources Management Programs at Military Ocean Terminal Concord, California* (Draft BA), and the *Draft Military Ocean Terminal Concord Integrated Natural Resources Management Plan, 2010-2015*. Staff with NMFS and the Army discussed various components of the INRMP by telephone in March 2012, and NMFS provided comments on the Draft BA. By letter dated April 10, 2012, the Army transmitted to NMFS the project's *Final Biological Assessment for Potential Effects on NMFS-listed Species and Critical Habitat from Implementation of Real Property and Natural Resources Management Programs at Military Ocean Terminal Concord, California* (Final BA). The Army proposes to implement programs for real property, natural resources, and cultural resources management at the MOTCO facility for a five-year period from 2010 to 2015.

MOTCO is a strategically located Army Military Surface Deployment and Distribution Command munitions and general cargo transshipment facility. The facility is located along the southeastern shore of Suisun Bay and the site includes both upland areas and estuarine areas. Implementation of the RPMP, INRMP, and ICRMP (hereinafter referred to as "Plans") will result in the construction of several new facilities: (1) a Lightning Protection System, which includes rods approximately 60 to 80 feet in length that would be set in concrete foundation; (2) a new 2,500 square-foot visitor control center and security fencing; (3) a new 14,500 square-foot maintenance building; (4) a new truck inspection facility; (5) a new 30,000 square-foot equipment maintenance shop; and (6) a new 3,000 square foot consolidated security facility. Additional management actions proposed by the Plans are: (1) demolition of vacant, deteriorated buildings; (2) wildland fire control; and (3) grazing outlease program. The above activities would occur in upland areas away from Suisun Bay and the Army has concluded in the project's Final BA that these actions will have no effect on listed fish and designated critical habitat under the jurisdiction of NMFS. NMFS has also evaluated these upland activities, including the Army's proposed new equipment maintenance buildings, truck inspection facility, equipment maintenance shop, and Lightening Protection System, and concluded the potential effects to listed fish and designated critical habitat are discountable due to their location in upland areas and sufficient procedures for management of hazardous materials and waste will prevent the discharge of contaminants into the waters of Suisun Bay.

The Army has requested informal consultation with NMFS to address four RPMP projects that may affect listed fish and designated critical habitat. These projects consist of demolition of four deteriorated berths and piers along the shoreline of Suisun Bay. Based on comments provided by NMFS in March 2012, the Army has withdrawn their previously proposed pepperweed (*Lepidium latifolium*) control program due to uncertainties associated with methods and implementation. In the future, the Army plans to engage collaboratively with researchers focused on this plant species to determine if a large scale program could be implemented at MOTCO. If a pepperweed control program is developed and proposed for MOTCO, the Army will initiate a future, separate consultation with NMFS.

Demolition of four berths and piers at MOTCO are the subject of this consultation and consist of the Southwest Lighter Berth, Tug Pier, and two of the Seal Island Lighter Berths along the shoreline of Suisun Bay. Timber piles would be removed with a vibratory hammer or by direct pull with a crane. If a timber pile breaks, the stub would be removed to cleanly pull out the remainder of the piling. In-water work would be restricted to the period between September 1 and November 30. During demolition activities, any falling debris would be contained using tarps or a floating boom. All debris and waste pilings will be removed and properly disposed of at an appropriate upland site.

The Army has concluded that the proposed removal of three deteriorated berths and one pier at MOTCO are not likely to adversely affect ESA-listed salmonids, green sturgeon, or critical habitat, and requested NMFS' concurrence with this finding.

Endangered Species Act

Available information indicates the following listed Distinct Population Segments (DPS) under the jurisdiction of NMFS may be affected by the proposed project:

Sacramento River winter-run Chinook salmon ESU (*Oncorhynchus tshawytscha*)
endangered (70 FR 37160; June 28, 2005)
critical habitat (58 FR 33212; June 16, 1993);
Central Valley spring-run Chinook salmon ESU (*Oncorhynchus tshawytscha*)
threatened (70 FR 37160; June 28, 2005);
Central California Coast steelhead DPS (*Oncorhynchus mykiss*)
threatened (71 FR 834; January 5, 2006);
Central Valley steelhead DPS (*Oncorhynchus mykiss*)
threatened (71 FR 834; January 5, 2006); and
North American green sturgeon southern DPS (*Acipenser medirostris*)
threatened (71 FR 17757; April 7, 2006)
critical habitat (74 FR 52300; October 9, 2009).

The life history of steelhead is summarized in Busby *et al.* (1996) and Chinook salmon life history is summarized in Myers *et al.* (1998). Central California Coast (CCC) steelhead, Central Valley steelhead, Sacramento River winter-run Chinook salmon, and Central Valley spring-run Chinook salmon use Suisun Bay adjacent to MOTCO primarily as a migration corridor; however intermittent foraging and rearing by juvenile salmonids may occur in the estuary during the migration season. These anadromous salmonids pass through San Francisco Bay to rear as juveniles or to upstream areas to spawn as adults. Their migrations generally take place in the winter and spring months; their migration season does not include the project's proposed September 1-November 30 in-water work period.

The life history of threatened green sturgeon in California is summarized in Adams *et al.* (2002) and NMFS (2005). The southern DPS of North American green sturgeon include a single spawning population in the Sacramento River. They are anadromous, making migrations to the Sacramento River in the spring, with peaks in April-June (Moyle 1995). They hold in deep pools or holes in the mainstem Sacramento River to stage for spawning. Eggs are broadcast spawned over large cobble substrate, where they settle into the spaces between the cobbles. The juveniles spend one to four years in freshwater, before migrating to the ocean. As juvenile green sturgeon age, they migrate downstream and live in the lower delta and bays, such as Suisun Bay, spending from three to four years there before entering the ocean. Once in the ocean, green sturgeon range in coastal waters from Mexico to the Bering Sea. Green sturgeons have delayed sexual maturity, somewhere between 13-20 years and only spawn every two to five years. They have strong homing capabilities, which lead to high spawning site fidelity. Green sturgeon may be present in Suisun Bay and in the vicinity of MOTCO facilities year-round.

NMFS has evaluated the proposed demolition activities at MOTCO for potential effects to ESA-listed anadromous salmonids, green sturgeon, and designated critical habitat. Suisun Bay within

the project area is characterized as having turbid, brackish water due to freshwater from the Sacramento and San Joaquin rivers mixing with saltwater from the Pacific Ocean. Suisun Bay is subject to strong tidal currents, which keeps finer sediments suspended and creates a coarse bottom. Under the Department of Defense Installation Restoration Program, the sediments of Suisun Bay in the project area were evaluated and were found to not be contaminated.

Although juvenile and adult ESA-listed salmonids from Central Valley streams migrate through Suisun Bay, there are no nearby freshwater tributary streams to Suisun Bay that support runs of listed steelhead or salmon. With the Army's proposed restriction of in-water construction to the period of September 1 to November 30, the schedule for in-water demolition activities avoids adult and juvenile listed salmonid migration periods. As presented below, impacts associated with construction will be temporary and fully dissipate when construction activities cease; therefore, any construction effects related to anadromous salmonids are anticipated to be discountable.

For threatened green sturgeon, demolition activities at the Southwest Lighter Berth, Tug Pier, and the two Seal Island Lighter Berths may have temporary effects on water quality. Removal of pilings is expected to disturb soft bottom sediments and generate increased levels of turbidity within the water column. Increases in turbidity in the project area may affect fish by disrupting normal feeding behavior, reducing growth rates, increasing stress levels, and reducing respiratory functions (Benfield and Minello, 1996; Nightingale and Simenstad, 2001). Although water quality data associated with pile removal activities are not available, tidal circulation in the action area is anticipated to rapidly disperse the suspended sediment plume and turbidity is expected to return to background levels within minutes of each pile removal event. Green sturgeon in the San Francisco Bay estuary commonly encounter areas of increased turbidity due to storm flow runoff events, wind and wave action, and benthic foraging activities of other aquatic organisms. The increased turbidity levels due to this project are expected to be considerably less than the thresholds commonly cited as the cause of the above possible behavioral and physical impacts. To prevent the discharge of debris and other contaminants, the Army proposes to use tarps and floating booms to collect and contain materials during demolition. With regard to construction activities, the resulting effects on water quality and green sturgeon in the project area are expected to be insignificant due to the small size of the turbidity plume, low concentration of suspended sediment levels, short duration of the activity, and the use of tarp and floating booms for debris collection.

Noise associated with demolition activities could startle green sturgeon and result in dispersion from the action area. However, demolition activities would not generate high sound pressure levels underwater. If green sturgeon react behaviorally to the sound produced by the pulling of piles, adequate water depths and carrying capacity in Suisun Bay adjacent to the project sites provide sufficient area for fish to disperse, and noise disturbance by this project's demolition activities should not result in more than an insignificant effect on them.

The project's action area is located within designated critical habitat for endangered Sacramento River winter-run Chinook salmon and threatened southern DPS of green sturgeon. The physical

and biological features essential for the conservation of winter-run Chinook salmon in the action area are: (1) access from the Pacific Ocean to appropriate areas in the upper Sacramento River; (2) habitat areas and adequate prey that are not contaminated; and (3) access downstream so that juveniles can migrate from spawning grounds to San Francisco Bay and the Pacific Ocean. PCEs of critical habitat for North American green sturgeon in the action area include depth, food, flow, water quality, and sediment quality. Potential effects to critical habitat include short-term disturbance of bottom sediments during removal of the pile structures. However, as discussed above, the effects of construction disturbance and turbidity are expected to be insignificant. Upon completion of the project, the removal of the four deteriorated structures along the shoreline of Suisun Bay is expected to benefit critical habitat by improving water quality in the action area. The deteriorated berths and piers are supported by creosote-treated wood pilings and these pilings are an on-going source of leaching contaminants. Creosote wood, a distillate of coal tar, is a complex chemical mixture, up to 80% of which is comprised of polycyclic aromatic hydrocarbons (PAHs). PAHs are acutely toxic to aquatic life. The project will also benefit designated critical habitat in the project area by removing existing overwater structures. This action will allow additional light to penetrate into the water column, which will promote the establishment of submerged aquatic vegetation in the project area. For the reasons presented above, the potential effects of this project are considered insignificant or beneficial, and are not expected to degrade existing habitat values or result in adverse impacts to designated critical habitat.

Based on the best available information, NMFS concurs with the Army's determination that the above proposed actions at the MOTCO facility in Concord, Contra Costa County, California is not likely to adversely affect ESA listed salmonids, green sturgeon, or designated critical habitat. This concludes consultation in accordance with 50 C.F.R. § 402.13(a) for the Army's proposed demolition of four deteriorated berths and piers along the shoreline of Suisun Bay. However, further consultation may be required if: (1) new information becomes available indicating that listed species or critical habitat may be affected by the project in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action.

Magnuson-Stevens Fishery Conservation and Management Act

EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity. EFH includes all associated physical, chemical and biological properties of aquatic habitat that are used by fish. The project is located within an area identified as EFH for various life stages of fish species managed with the following Fishery Management Plans (FMP) under the MSA:

Pacific Groundfish FMP – various rockfishes, sole and sharks;
Pacific Salmon FMP – Chinook salmon, Coho salmon; and
Coastal Pelagic FMP – northern anchovy, Pacific sardine.

In addition, the project occurs within an area designated as Habitat Areas of Particular Concern

(HAPC) for various federally managed fish species within the Pacific Groundfish FMP. HAPC are described in the regulations as subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially ecologically important, or located in an environmentally stressed area. Designated HAPC are not afforded any additional regulatory protection under MSA; however, federal projects with potential adverse impacts to HAPC are more carefully scrutinized during the consultation process. As defined in the Pacific Groundfish FMP, San Francisco Bay, including the project area, is within estuary HAPC. Submerged aquatic vegetation (SAV) including eelgrass (*Zostera* sp.), has been documented within the project area, and is also designated as HAPC. Eelgrass beds are highly functional habitat providing prey, refuge, and physical structure in nearshore marine systems and provide a high level of primary production, forming the base of detrital-based food webs. Secondary production of eelgrass includes support of larval and juvenile fish.

NMFS has evaluated the proposed project for potential adverse effects to EFH pursuant to Section 305(b)(2) of the MSA. Under the EFH implementing regulations [50 C.F.R. § 600.810(a)], the term "adverse effect" is defined as any impact that reduces quality and/or quantity of EFH and may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce quantity and/or quality of EFH. Based on information provided in the EFH assessment and developed during consultation, potential adverse effects to EFH and HAPC from project activities are temporary turbidity/siltation effects, including potential impacts to eelgrass. In addition, removal of creosote pilings and overwater structures at the site is expected to provide some benefit to EFH by minimizing potential sources of contamination and reducing overwater shading.

NMFS anticipates that the proposed pile removal activities will result in short-term degradation and/or loss of EFH through increased turbidity from disturbed sediments within the action area. Fish may suffer reduced feeding ability (Benfield & Minello 1996) and be prone to fish gill injury (Nightingale & C.A. Simenstad 2001) if exposed to excessive high levels of turbidity. In response to temporary impacts associated with turbidity, fish are expected to move out of the project area. Increased levels of turbidity may also impact nearby eelgrass. Resuspension of bottom sediments into the water column can reduce light penetration and lower the rate of photosynthesis for subaquatic vegetation (Dennison 1987). While eelgrass has been documented at the site in areas sheltered from strong waves and currents, the project area is at or near the upstream limit of eelgrass occurrence in the San Francisco Bay-Delta. Relatively high salinity due to recent years of persistent drought conditions may have facilitated the expansion of eelgrass into this area. Depending on hydrologic conditions at the time proposed activities are scheduled to occur, eelgrass may or may not be present.

As described in the above effects analysis, NMFS has determined that the proposed action would adversely affect EFH for various federally managed fish species within Pacific Groundfish, Pacific Salmon, and Coastal Pelagic FMPs. NMFS provides the following EFH Conservation Recommendation pursuant to section 305 (b)(4)(a) of the MSA:

1. A qualitative eelgrass survey should be conducted immediately prior to piling removals (if proposed within the April - October growing season) for presence/absence of eelgrass shoots by examining the activity footprint and immediate vicinity (10 meter buffer) at low tide. If any eelgrass shoots are present, turbidity control measures (*e.g.*, silt curtains) should be implemented to prevent impacts to eelgrass.

Please be advised that regulations (50 CFR 600.920(k)) to implement the EFH provisions of the MSA require your office to provide a written response to this letter within 30 days of its receipt and prior to the final action. A preliminary response is acceptable if final response cannot be completed within 30 days. Your final response must include a description of how the EFH Conservation Recommendations will be implemented and any other measures that will be required to avoid, mitigate, or offset the adverse impacts of the activity. If your response is inconsistent with our EFH Conservation Recommendations, you must provide an explanation for not implementing recommendations at least 10 days prior to final approval of the action.

This concludes EFH consultation for the proposed implementation of a RPMP, INRMP, and ICRMP at the Army's MOTCO facility in Concord, Contra Costa County, California. Pursuant to 50 CFR 600.920(l) of the EFH regulations, the action agency must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH Conservation Recommendations.

Fish and Wildlife Coordination Act

The purpose of the FWCA is to ensure that wildlife conservation receives equal consideration, and is coordinated with other aspects of water resources development (16 U.S.C. § 661). The FWCA establishes a consultation requirement for federal departments and agencies that undertake any action that proposes to modify any stream or other body of water for any purpose, including navigation and drainage (16 U.S.C. § 662(a)). Consistent with this consultation requirement, NMFS provides recommendations and comments to federal action agencies for the purpose of conserving fish and wildlife resources. The FWCA allows the opportunity to offer recommendations for the conservation of species and habitats beyond those currently managed under the ESA and MSA. With implementation of the above EFH conservation recommendation, NMFS has no further comments to provide.

If you have any questions about these comments related to EFH, please contact Korie Schaeffer at (707) 575-6087 or Korie.Schaeffer@noaa.gov. If your comments related to ESA, please contact Gary Stern at (707) 575-6060 or gary.stern@noaa.gov.

Sincerely,

for Rodney R. McInnis
Regional Administrator

cc: Eric Chavez, NMFS Long Beach
Kim Garber, Community Planner, Department of the Army
Copy to File # 151422SWR2011SR00563

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Adams, P.B., C.B. Grimes, J.E. Hightower, S.T. Lindley, and M.L. Moser. 2002. Status Review for North American Green Sturgeon, Acipenser medirostris. National Marine Fisheries Service, Southwest Fisheries Science Center. 49 pages. [Document available at: http://www.nwr.noaa.gov/Other-Marine-Species/upload/grn-sturgeon-status.pdf]

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Nightingale, B. and J. C.A. Simenstad (2001). Dredging activities: marine issues. Seattle, WA 98105, University of Washington.

From: Wirth, Carol P.
Sent: Wednesday, May 02, 2012 4:36 PM
To: 'Gary Stern'
Cc: Garber, Kimberly D Ms CIV USA SDDC; Charles, Malcolm E CIV USA SDDC; Maureen Goff; Dungan, Mike; Everson, Chrystal L.
Subject: RE: FW: MOTCO INRMP consultation with NMFS (UNCLASSIFIED)

Gary,

Here are the clarifications you requested.

A. Correct.
B. Correct.
C. No, will only be as practicable. There are too many factors that are difficult to predict associated with construction timelines and inability to phase some aspects for work, scheduling of demolition activities to deconflict with mission activities, etc.
D.1 Piles to be removed at each facility - each lighter berth consists of a cluster of approximately 10 piles. There are an estimated 190 piles at facility 173 (Seal Island Lighter Berths West), 120 piles at facility 172 (Seal Island Lighter Berths East), and 220 piles at facility 123 (Southwest Lighter Berth). There are an estimated 300 piles at the Tug Pier, facility 125.
D.2 Overwater surface area - Overwater surface area at the Tug Pier, facility 125, is estimated at approximately 4,750 square feet. There is little shading associated with the lighter berths at facilities 173, 172, and 123.
D.3 How long will removal take - It is estimated that 4 pilings could be removed per day. The estimated work days are 48 for facility 173 (Seal Island Lighter Berths West), 30 for facility 172 (Seal Island Lighter Berths East), 55 for facility 123 (Southwest Lighter Berth), and 75 for facility 125 (Tug Pier).
D.4 Are the piles creosote timber - As stated in various analyses in Chapter 5 the BA, all timber pilings are primarily 1944-era pilings treated with creosote.

I've attached a few photos of the lighter berths and Tug Pier for your reference. Please let me know if you have additional questions.

Lighter Berth

Lighter Berth

Tug Pier


Tug Pier

Carol Wirth
SENIOR ASSOCIATE
CARDNO TEC
Phone (+1) 904-363-3727 Fax (+1) 904-363-3808 Mobile (+1) 904-434-2246
Address 7406 Fullerton Street Suite 110, Jacksonville, FL 32256 USA

From: Gary Stern [mailto:gary.stern@noaa.gov]
Sent: Tuesday, April 17, 2012 5:37 PM
To: Wirth, Carol P.
Cc: Antolik, Frances G.; Garber, Kimberly D Ms CIV USA SDDC; Charles, Malcolm E CIV USA SDDC; Maureen Goff
Subject: Re: FW: MOTCO INRMP consultation with NMFS (UNCLASSIFIED)

Carol -

Thank you for providing the final Biological Assessment for the MOTCO INRMP projects. I have read through the document and I wanted to clarify the following items with you:

(A) The Army has determined that only four projects (all in Category B) may affect listed species (i.e. fish) under the jurisdiction of NMFS. The four projects are identified in Table 2-2 of the BA and are (1) Facility No. 123 Southwest Lighter Berth, (2) Facility No. 125 Tug Pier, (3) Facility No. 172 Seal Island Lighter Berths, and (4) Facility No. 173 Seal Island Lighter Berths. These projects are all demolition of existing structures. Therefore, the Army is only requesting consultation with NMFS on these four projects. For all other projects in Categories A and B, the Army has determined "no effect" on listed species under the jurisdiction of NMFS.

(B) The Army is still developing information regarding methods for the pepperweed control project. At this time there is not a complete project description. Therefore, the Army is not requesting consultation with NMFS on the pepperweed control program at this time. When methods and details become available in the future, the Army will initiate consultation with NMFS on this program with a separate written request and complete project description.

(C) Page 2-11 of the BA lists measures to avoid and minimize impacts. Number 1 on the list states "to the extent practicable" the Army will conduct in-water work between June 1 and November 30. However, the assessment of effects on page 5-2 states more definitively that in-water activities will occur between June 1 and November 30. Can the Army commit to only conducting in-water work on the above four demolition projects during the period between June 1 and November 30?

(D) Please provide more detail regarding the above four facilities that will be demolished. Specifically, how many piles will be removed at each structure? What is the existing overwater surface area of each structure? How long will it take to remove each structure? Are all the pilings creosote timber?

Gary Stern

On 4/13/2012 1:59 PM, Wirth, Carol P. wrote:
Gary,

On behalf of Military Ocean Terminal Concord, please see attached request for concurrence with findings under the Endangered Species Act along with the Final Biological Opinion for Implementation of Real Property Master Plan at Military Ocean Terminal Concord. A hard copy is being sent to you today via FedEx.

Carol Wirth
SENIOR ASSOCIATE
CARDNO TEC
Phone (+1) 904-363-3727 Fax (+1) 904-363-3808 Mobile (+1) 904-434-2246
Address 7406 Fullerton Street Suite 110, Jacksonville, FL 32256 USA

From: GARBER, KIMBERLY D (Kim) CIV (US) [mailto:kimberly.d.garber.civ@mail.mil]
Sent: Thursday, March 22, 2012 3:13 PM
To: Wirth, Carol P.
Subject: FW: MOTCO INRMP consultation with NMFS (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Kim Garber, AICP
Community Planner
SDDC HQ G1/G4
Office: 843.743.0383 x122 DSN 563
Email: kimberly.d.garber.civ@mail.mil

From: Gary Stern [mailto:gary.stern@noaa.gov]
Sent: Tuesday, March 20, 2012 8:04 PM
To: GARBER, KIMBERLY D (Kim) CIV (US)
Cc: Maureen Goff
Subject: MOTCO INRMP consultation with NMFS

Kim,

I left you a voice mail message this afternoon about our section 7 consultation for the MOTCO INRMP and Real Property programs. I thinking we have an opportunity here to narrow the scope of our consultation and it will make things a lot easier for NMFS. I can explain more to you by telephone. Here's what I'm thinking for a new approach:

Approach - The Army take all the Category A projects and Category B projects (except for Southwest Lighter Berth, Tug Pier, Seal Island Lighter Berths) out of the request for consultation. Army should make a "no effect" determination for all these components of the INRMP and Real Property Programs. This "no effect" finding should be presented in Chapter 1 of the BA. Then, clearly state that the Army has concluded that only the demolition of the piers and berths "may affect" listed fish and critical habitat under the jurisdiction of NMFS. The proposed action (presented in Chapter 2) for consultation with NMFS is the pier demolitions only (Thus, NMFS and the Army are not consulting on the entire INRMP and Real Property Programs). The rest of the BA should present information only related to the pier demolition actions.

Regarding the pepperweed control program, this program is not well-enough defined for either NMFS or the Army to make a finding now. Should be removed from the consultation request and proposed action in the BA. You can state in Chapter 1 that Army is going to be working with UC Davis to prepare a pilot program for pepperweed control and Army will initiate a separate section 7 consultation with NMFS when a plan has been developed. (need to remove Figure 2-3).

Hope to speak with you on Wednesday. I'll be in the office after 1:00 pm Pacific Time.

Gary Stern
707-575-6060

Classification: UNCLASSIFIED
Caveats: NONE

DEPARTMENT OF THE ARMY
MILITARY SURFACE DEPLOYMENT DISTRIBUTION COMMAND
834TH TRANSPORTATION BATTALION
410 NORMAN AVENUE
CONCORD, CA 94520-1142

REPLY TO
ATTENTION OF

10 April 2012

National Marine Fisheries Service
Attn: PRD Division (Mr. Gary Stern)
777 Sonoma Ave., Room 325
Santa Rosa, CA 95404

Re: Request for Concurrence with Findings under Section 7 of the Endangered Species Act

Dear Mr. Stern:

As noted in our request for informal consultation transmitted on October 17, 2011, the U.S. Army, Military Ocean Terminal Concord (MOTCO) proposes to implement a Real Property Master Plan and an Integrated Natural Resources Management Plan for the 6,641-acre military installation located in Contra Costa and Solano Counties, California. Enclosed please find a final Biological Assessment (BA) prepared to evaluate the action's potential effects on listed species and their critical habitats that are under the jurisdiction of the National Marine Fisheries Service, pursuant to the Army's compliance with Section 7 of the Endangered Species Act (ESA).

The enclosed BA evaluates the proposed action's potential effects on the following ESA-listed species and their critical habitats in the waters of Suisun Bay, which border the MOTCO facility:

- Southern Green Sturgeon, *Acipenser medirostris*, Threatened;
- Central California Coastal Steelhead, *Oncorhynchus mykiss*, Threatened;
- Central Valley Steelhead, *Oncorhynchus mykiss*, Threatened;
- Central Valley Spring-run Chinook Salmon, *Oncorhynchus tshawytscha*, Threatened; and
- Sacramento River Winter-run Chinook Salmon, *Oncorhynchus tshawytscha*, Endangered.

Based on the BA, the Army concludes that the proposed action may affect but is not likely to adversely affect the above species and that the action would not result in the destruction or adverse modification of the designated critical habitat of any of these species. Please note that the BA includes minimization and avoidance measures that will be implemented as part of the proposed action.

The Army hereby requests your concurrence with these findings. We also welcome your input on the proposed action, proposed minimization and avoidance measures, and the analysis of the BA to help ensure our continuing compliance with Section 7 of the ESA. The point of contact for this consultation is Ms. Kim Garber, Community Planner, at (843) 743-0383 x122 or kimberly.garber@us.army.mil.

Sincerely,

Malcolm Charles
Director of Public Works

Enclosure: Final Biological Assessment

Final

Biological Assessment for Potential Effects on NMFS-Listed Species & Critical Habitat From Implementation of Real Property and Natural Resources Management Programs at Military Ocean Terminal Concord, California

April 2012

Acronyms and Abbreviations

AR	Army Regulation
BA	Biological Assessment
BCDC	Bay Conservation and Development Commission
BMP	Best Management Practice
CDFG	California Department of Fish and Game
cm/s	centimeters/second
DoD	Department of Defense
DPS	Distinct Population Segment
EA	Environmental Assessment
EFH	Essential Fish Habitat
EOC	Emergency Operations Center
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
ft	foot or feet
FY	fiscal year
HAPC	Habitat Areas of Particular Concern
in	inch
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
LF	linear feet
LPS	Lightning Protection System
m	meter(s)
MOTCO	Military Ocean Terminal Concord
NFH	National Fish Hatchery
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
POV	Privately Owned Vehicle
RPMP	Real Property Master Plan
SDDC	Surface Deployment and Distribution Command
SF	square feet
SOP	Standard Operating Procedures
TB	Transportation Battalion
USFWS	United States Fish and Wildlife Service
VCC	Visitor Control Center

BIOLOGICAL ASSESSMENT
IMPLEMENTATION OF REAL PROPERTY AND NATURAL RESOURCE MANAGEMENT PROGRAMS AT MILITARY OCEAN TERMINAL CONCORD

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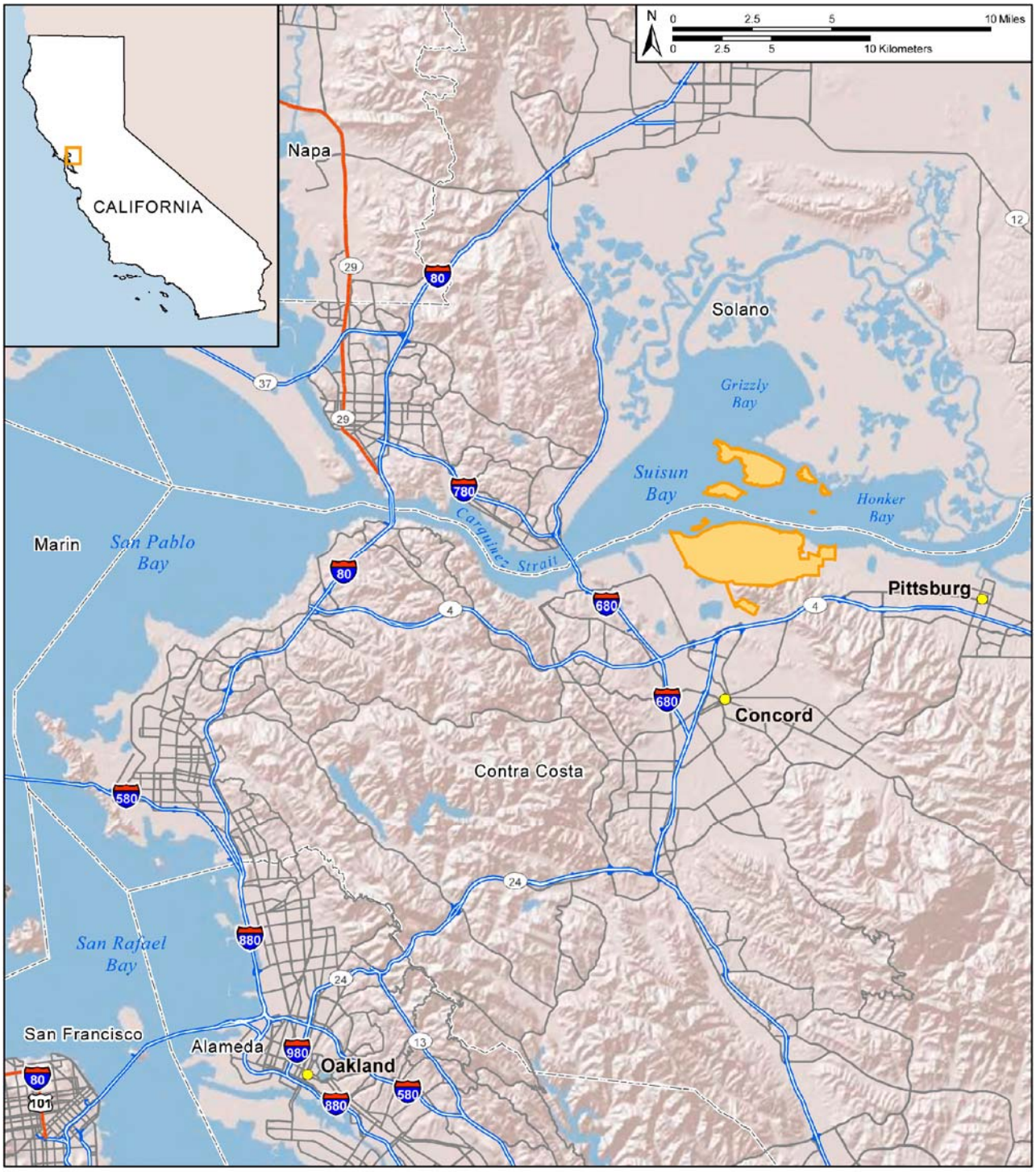
CHAPTER 1
INTRODUCTION

The U.S. Department of the Army (Army) proposes to implement programs for real property and natural resources management at Military Ocean Terminal Concord (MOTCO) in Contra Costa and Solano Counties, California (Figure 1-1). In accordance with Section 7 of the Endangered Species Act (ESA), this Biological Assessment (BA) has been prepared to analyze the potential impacts of this action on threatened and endangered species and critical habitat under the jurisdiction of the National Marine Fisheries Service (NMFS).

MOTCO is a strategically located Army Military Surface Deployment and Distribution Command (SDDC) munitions and general cargo transshipment facility. This Department of Defense (DoD) installation is the primary West Coast common-user ammunition terminal and is home to the SDDC's 834th Transportation Battalion (TB). MOTCO is in the East San Francisco Bay region, approximately 40 nautical miles inland past the Carquinez Strait that connects Suisun Bay to San Pablo Bay. Oakland is 20 miles to the southwest, Sacramento is 65 miles to the northeast, and the City of Concord is located approximately 5 miles south. The installation is composed of an approximately 115-acre Inland Area and an approximately 6,526-acre Tidal Area, which are connected by a road running parallel to and west of Port Chicago Highway. The Tidal Area includes 2,045 acres in offshore islands (Figure 1-2). MOTCO installation lands were formerly Department of the Navy lands within Naval Weapons Station Seal Beach Detachment Concord. On 1 October 2008, MOTCO properties were transferred from the Navy to the Army per 2005 Defense Base Closure and Realignment Commission recommendations. However, the Army's presence at MOTCO dates back to 1 October 1997, when the Army's 1302nd Major Port Command was relocated from the Oakland Army Base to MOTCO and became the 834th TB. The City of Concord has been recognized as the Local Reuse Authority for the approximately 5,028-acres of former NWSSBD Concord lands that were determined surplus.

The Army has prepared a Real Property Master Plan (RPMP) and Integrated Natural Resources Management Plan (INRMP) for MOTCO. These documents provide overall direction for a long-term planning horizon of 20 to 50 years and provide more detailed planning and programming for short-term projects to be implemented in the 5 to 7 year timeframe. This BA and associated Environmental Assessment (EA) address those short-term components for which detailed project planning has progressed to the point where it is prudent to analyze potential impacts to threatened and endangered species in detail. Specifically, the focus is on RPMP Category A and B projects and those elements of the INRMP that may have both beneficial and detrimental effects.

- **RPMP Category A Projects** – projects where detailed planning has been completed and estimated timeline for funding is Fiscal Year (FY) 2013 to FY 2019; these projects are tied to the short-term vision for MOTCO.
- **RPMP Category B Projects** – demolition projects with an estimated funding timeline of FY 2012 and beyond; projects are tied to the short-term vision for MOTCO.

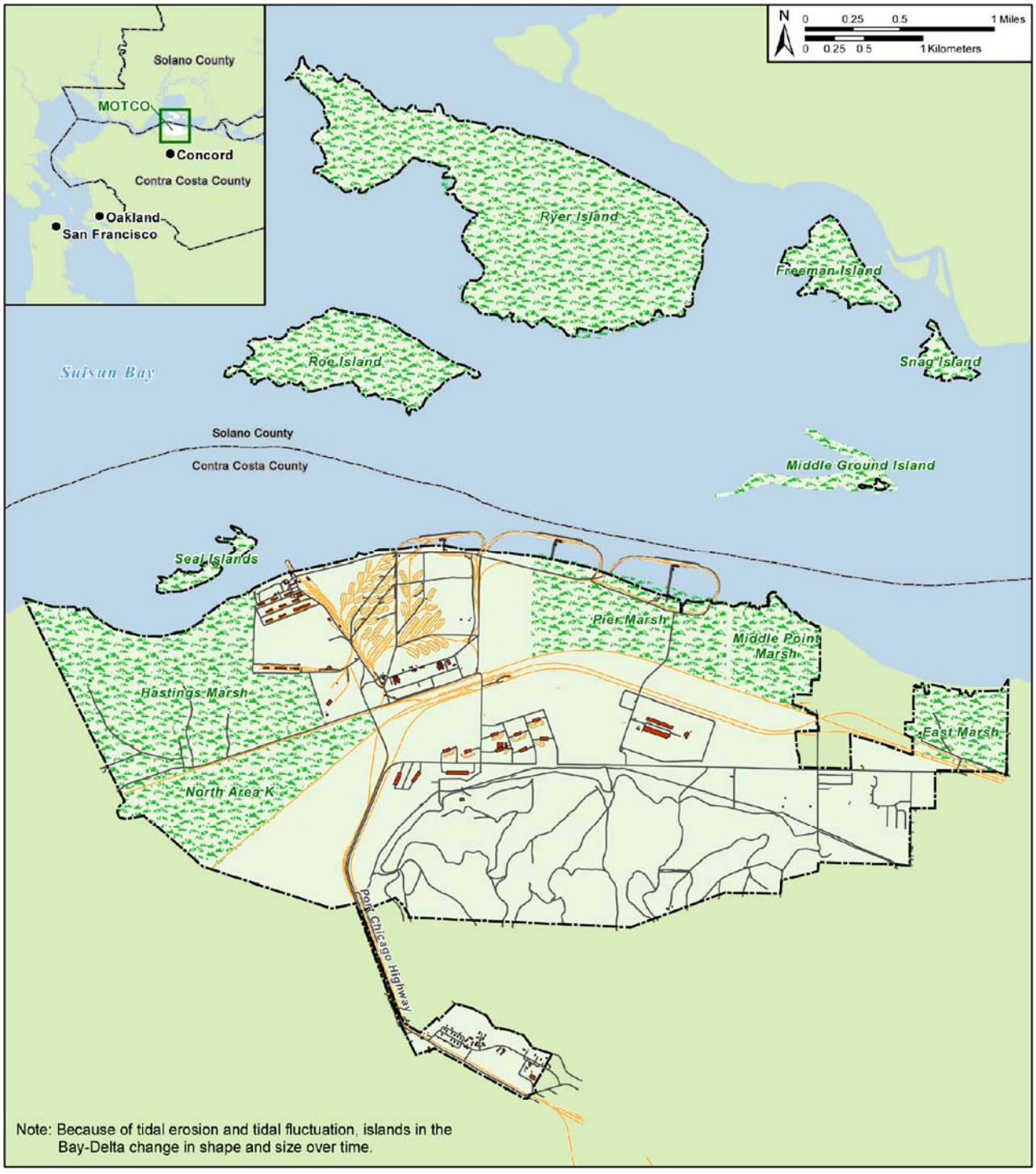


- Cities
- Military Ocean Terminal Concord
- County Boundary
- Interstate Highway
- US and State Highway
- Local Roads

Figure 1-1

REGIONAL LOCATION

Environmental Assessment



Installation Boundary
Facilities
Wetland Preserve
County Boundary
Road
Railroad

Figure 1-2

MOTCO PROPERTY

Environmental Assessment

- **INRMP Livestock Grazing/Fire Management/Upland Invasive Species Control and Management:** continued implementation of this ongoing integrated program for the upland areas of MOTCO may have unintended negative impacts on non-targeted species; air emissions; potential for fire escapes; discing of fire breaks; use and maintenance of grazing infrastructure (i.e., access roads, wells, pumps, troughs, cattle exclusion fencing, etc.); soil disturbance/accelerated erosion; and toxicity impacts from improper use of herbicides.

- **INRMP Cantonment Area Wildlife Control:** elements of this program to address nuisance species, California ground squirrel, and other wildlife in developed cantonment areas of the installation may result in impacts to non-targeted species.

- **INRMP Perennial Pepperweed Control and Management:** the Army will be coordinating with the University of California, Davis, to prepare a pepperweed control pilot program at MOTCO. A separate Section 7 consultation with NMFS will be initiated when a specific plan has been developed.

The project area is located in Essential Fish Habitat (EFH) and a Habitat Area of Particular Concern (HAPC) for several Fishery Management Plan species; potential impacts to these habitats are addressed in the associated EA.

CHAPTER 2
PROPOSED ACTION

2.1 Overview

The Army proposes to implement future development and natural and cultural resource management at MOTCO in accordance with the framework provided in the RPMP, INRMP, and Integrated Cultural Resources Management Plan (ICRMP).

2.1.1 RPMP Proposed Action

The RPMP sets forth a program for orderly development of MOTCO. The following principles have been applied to planned development:

- Eliminate explosive safety waivers wherever feasible,
- Site all new facilities in compliance with explosive safety requirements,
- When considering increase of general cargo operations, ensure that new facilities and functions are compatible with the current and future ammunition mission,
- Maximize efficiencies,
- Consolidate related functions into composite facilities/complexes,
- Comply with all regulatory requirements,
- Continue to recognize the unique and valuable resources of the Wetland Preserve Area (first established in a 1984 Memorandum of Understanding between the Navy and U.S. Fish and Wildlife Service [USFWS] and superseded by the INRMP), and
- Balance improvement and demolition programs.

2.1.1.1 RPMP Category A Projects

Detailed planning has been completed for the six Category A projects listed in Table 2-1 and depicted on Figure 2-1. The mapped area of each project is based on the anticipated limits of construction for these projects. It is a larger area than the approximate area of disturbance listed in Table 2-1. This allows the National Environmental Policy Act (NEPA) and ESA analysis to have the level of adaptability required by the nature of Army military construction projects, which are often design-build contracts. The specific layout of the facility footprint and associated infrastructure would be determined during the design-build planning process. Should the resultant project footprint extend beyond the depicted limits of construction, the Army will conduct additional supplemental NEPA and ESA analysis to address any additional environmental impacts. The RPMP Category A projects would not be expected to result in any direct or indirect effects to NMFS-listed species. Although the "no effect" conclusion indicates that no further action is required, information on these projects is provided for the record herein to document the Army's ESA compliance.

Table 2-1 RPMP Category A Projects					
Project Number and Title	**Estimated Funding Timeline**	**Facility Size**	**Approx. Area of Disturbance (acres)**	**Current Land Use**	**Effects Determination**
P76086, Lightning Protection	FY 2013	7,000 LF	3.4	Previously disturbed operational areas in the Tidal Area	No effect
P74877, Visitor Control Center (VCC) and Security Fencing	FY 2017	2,508 SF and 6 miles	58.7[1]	VCC - previously disturbed security areas in the Inland Area Security fencing – alongside existing roads in developed area of Tidal Area	No effect
P76091, Facilities Maintenance Building	FY 2013	14,500 SF	0.3	Previously disturbed, but currently undeveloped areas of Inland Area	No effect
P76093, Gate 5 Truck Inspection Station	FY 2018	5,200 SF	18.5	Previously disturbed, but currently undeveloped areas of eastern Tidal Area	No effect
P76087, Equipment Maintenance Buildings	FY 2019	43,000 SF	5.0	Previously disturbed, but currently undeveloped areas of eastern Tidal Area	No effect
P76092, Security Headquarters Building	FY 2019	3,000 SF	0.2	Previously disturbed, but currently undeveloped areas of Inland Area	No effect

Notes: 1. The area disturbed for the security fencing reflects a 50-foot buffer along the length of the fenceline to account for disturbance associated with staging, laydown, etc. in addition to the 20-foot vegetation clear zone to be established on both sides of the fenceline.
2. Further detailed analysis of the effect of these projects on listed species is provided in Chapter 5.
LF = linear feet
SF = square feet

P76086, Lightning Protection

This project would install a Lightning Protection System (LPS) at Railroad Classification Yards 1 and 2, Building 177, and the "R" Building Complex (see Figure 2-1) in accordance with the following requirements: DoD Standard 6055.9-STD, *DoD Ammunition and Explosives Safety Standards* (DoD 1999); Army Regulation (AR) 385-64, *U.S. Army Explosives Safety Program* (Army 2000); and Department of the Army Pamphlet 385–64, *Safety Ammunition and Explosives Safety Standards* (Army 1999). The required LPSs are not currently provided at these locations at MOTCO, and these areas are where the bulk of munitions transfer activities occur. The proposed LPSs would consist of interconnected assemblies of various elements that divert lightning away from personnel, equipment, and structures in accordance with safety standards.

The approximately 60- to 80-foot lightning rods would be set in concrete foundations as stand-alone features of the system. Components include overhead wiring that forms a catenary (curve from a suspended cord) between masts and serves the functions of both a strike termination device and a main conductor. Buried ground loop wires and rods would be connected at certain intervals and powered with underground electrical lines. For the purpose of this BA, an area within 10 feet of the proposed linear

Military Ocean Terminal Concord

Category A Projects
- P76086, Lightning Protection
- P74877, Security Fencing

Category A Projects (continued)
- P74877, Visitor Control Center
- P76087, Equipment Maintenance Building
- P76091, Facilities Maintenance Building
- P76092, Security Headquarters Building
- P76093, Gate 5 Truck Inspection Station

Figure 2-1

LIMITS OF CONSTRUCTION FOR CATEGORY A PROJECTS

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features of the LPSs was estimated as the area of potential disturbance. There is a high level of previous disturbance at the sites where the LPSs would be installed.

P74877, Visitor Control Center (VCC) and Security Fencing

The first component of this project would construct a new 2,500 square feet (SF) VCC/access control building to provide an adequate facility to conduct personnel identification and visitor control. This new facility would be constructed at a previously disturbed site in the Inland Area (see Figure 2-1). The project may include some reconfiguration of the existing parking lot and access roads that support the current visitor control function, which is conducted in Building IA-2. The VCC would have an emergency backup generator and an associated approximately 500-gallon Aboveground Fuel Storage Tank.

The second component of this project would address some security shortfalls by installing 6 miles of existing chain link fenceline topped with barbed wire and approximately 4 swing gates to connect with existing fencelines. The proposed fenceline primarily runs adjacent to existing roadways in the Tidal Area where there has been varying levels of previous disturbance (see Figure 2-1). Two stretches of the existing fenceline to be upgraded are near the Wetlands Preserve Area: the fenceline south of the "R" Buildings and Froid Road and along Rhodes Road adjacent to Hastings Marsh and the fenceline south of White Road in the Pier 4 area adjacent to Pier Marsh and Middle Point Marsh. In accordance with current Army regulations, a 20-foot clear zone would be established on both sides of the fenceline wherein any tall or bushy vegetation that would impede visibility along the fenceline would be removed. After construction, periodic vegetation management would be needed to maintain the clear zone adjacent to the fence.

P76091, Facilities Maintenance Building

This project includes the construction of an approximately 14,500-SF facilities maintenance building at a previously disturbed site in the Inland Area (see Figure 2-1). Current facilities maintenance activities take place in dispersed, aged, and dilapidated buildings, including some facilities within the explosive safety arc associated with ammunition activities in the Tidal Area. The new facility would provide space to conduct facilities maintenance and other public works functions associated with MOTCO plant/installation management functions. The new facilities maintenance building would include supporting equipment not presently available at MOTO that would increase the efficiency and capability of public works functions. There would be an associated parking area with approximately 30 spaces for personnel housed in the building and for MOTCO maintenance vehicles, dual-lane entrance and exit roads, sidewalks, curbing, exterior lighting, and landscaping.

P76093, Gate 5 Truck Inspection Station

This project includes the construction of a new Truck Inspection Facility in the previously disturbed but currently undeveloped Gate 5 area of the Tidal Area (see Figure 2-1). The new truck inspection station would meet current requirements, including the *Army Access Control Points Standard Design/Criteria* (Army 2009) and act as the primary truck inspection for the installation. The infrastructure incorporated in this project includes approximately 5,200 SF of facilities to include a guard booth, gatehouse, over watch location, entrance canopy, police substation with VCC, stevedore/privately-owned vehicle (POV)

parking, truck parking/queuing area, search areas, and a safe haven (i.e., an approved place for parking unattended vehicles loaded with explosives). Also included are dual-lane entrance and exit roads, sidewalks, security control devices and barriers, fencing, lighting, and landscaping. Additional utility service infrastructure would be installed to connect with existing systems. The facilities included in this project have been sited in a manner to allow for development of road infrastructure to support orderly circulation of trucks queuing, rejected from, and entering the installation, and to provide parking for stevedores. The sizing of the stevedore/POV parking allows for a reduced parking area at the space-constrained Main Gate VCC. Currently, truck inspection practices are not in compliance with DoD Standard 6055.9-STD, *DoD Ammunition and Explosives Safety Standard,s* and safe haven is provided on a case-by-case basis and is accommodated at various operational facilities according to the types and amounts of ammunition present.

P76087, Equipment Maintenance Buildings

This project would construct an approximately 30,000 SF equipment maintenance shop with an area for battery charging and concrete hardstand area in the previously disturbed but currently undeveloped Gate 5 area of the Tidal Area (see Figure 2-1). Currently, equipment maintenance activities take place in aged and dilapidated buildings within the explosives safety arc. The lack of overhead lift or compressed air reduces efficiency, extending the time required to perform maintenance. Some of the equipment at MOTCO is oversized and maintenance on such equipment is performed on unimproved hardstand within the explosive safety arc. The proposed shop will include lift, pit, overhead crane, an oil-water separator, and hazardous materials waste and storage. This project also would construct an approximately 11,000 SF lumber/carpentry shop and associated 2,000 SF storage building and a fueling/defueling facility with pumps and two 1,000-gallon above ground fuel storage tanks. Paving and site improvements would include exterior site and building lighting, hardstand, paved parking for POVs, sidewalks, and landscaping. As with the Gate 5 Truck Inspection Station project, utility infrastructure would be extended to this area of the Tidal Area with connections to the new facilities.

P76092, Security Headquarters Building

This project would construct an approximately 3,000 SF consolidated security facility to include an Emergency Operations Center (EOC) and co-located dispatch for fire response. The current security facility for MOTCO, Building 262, is in a relatively vulnerable location near the MOTCO Inland Area boundary. The proposed new facility would be located in an interior area of the Inland Area adjacent to the Fire Station facility built in 2009 (see Figure 2-1). The new facility would provide a secure, consolidated location for MOTCO security personnel to operate from and gather for briefings, planning, and execution of emergency response operations. Associated POV and security vehicle parking, exterior site and building lighting, sidewalks, and landscaping also would be provided. This facility would include a backup generator and an associated approximately 500-gallon Aboveground Storage Tank.

2.1.1.2 RPMP Category B Projects

A demolition program is set forth in the RPMP with the focus on demolition to support the short-range vision. The timeline for these demolition projects is 2012 and beyond. The facilities set forth in the demolition program are listed in Table 2-2 and depicted in Figure 2-2. For all but four of the Category B projects (identified in Table 2-2), the Army has determined there are no potential effects on ESA-listed

Figure 2-2

CATEGORY B - DEMOLITION PROJECTS

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Table 2-2 RPMP Category B (Demolition) Projects

Facility No.	Description	Year Built	Size	Effects Determination
92	Chlorinator Building	1958	124 SF	No effect
99	Access Control for B-210	1960	144 SF	No effect
100	Smoke Shack	1946	400 SF	No effect
102	Smoke Shack	1946	800 SF	No effect
105	Smoke Shack	1946	800 SF	No effect
109	Temp Ordnance Operations Building	1946	168 SF	No effect
110	Storage Shed	N/A	600 SF	No effect
111	Waterfront Ops Building	1946	460 SF	No effect
112	Storage Shed	N/A	820 SF	No effect
113	Storage Shed	N/A	120 SF	No effect
122	Salvage Yard Office (defunct)	1946	432 SF	No effect
123	Southwest Lighter Berth	1945	1 EA	May affect*
125	Tug Pier (Berths 8 and 9)	1946	1 EA	May affect*
144	Shed with Tank	N/A	96 SF	No effect
155	Snack Shop	N/A	360 SF	No effect
160	Steam Plant for Pier 2 (defunct)	1965	576 SF	No effect
172	Seal Island Lighter Berths	1965	1 EA	May affect*
173	Seal Island Lighter Berths	1965	1 EA	May affect*
176	Railroad Sand Shed at Class Yard #1	1967	400 SF	No effect
190	Inland Bathhouse	1971	668 SF	No effect
245	Transient Quarters	1947	8,300 SF	No effect
262	Inland Army Security	1959	3,150 SF	No effect
272	Picnic Shelters	N/A	4 EA	No effect
399	Pump House	1980	400 SF	No effect
407	Steam Plant Building for Pier 4	1980	2,440 SF	No effect
410	Oil Aboveground Storage Tank (Closed)	1980	25,000 GA	No effect
411	Oil Aboveground Storage Tank (Closed)	1980	25,000 GA	No effect
600	Security Entry Gate	N/A	60 SF	No effect
92A	Pump House (Water)	N/A	144 KG	No effect
A-10	Rigger Shop	1943	2,412 SF	No effect
A-11	Storage (Formerly Hazardous Materials)	1942	441 SF	No effect
A-14	Public Works Storage	1942	3,024 SF	No effect
A-16	Boat Shop	1944	7,250 SF	No effect
A-17	Boat Trailer Shed	1944	8,235 SF	No effect
A-19	Shed	N/A	336 SF	No effect
A-21	Pier 2 Offices/Battery Charging Area	1944	6,160 SF	No effect
A-29	Lumber Salvage Shop (Closed)	1951	14,400 SF	No effect
A-3	Director of Logistics Equipment Storage	1916	13,800 SF	No effect
A-31	Ammunition Transfer Building	1955	2,392 SF	No effect
A-32	Administrative/Security (Former)	1955	576 SF	No effect
E-100	Winch Trainer (Closed)	1944	1 EA	No effect
E-101	Tidal Waterfront Equipment	1944	4,004 SF	No effect
E-103	Workshop (former dry cleaning shop)	1945	336 SF	No effect
E-112	Winch Trainer Electrical Building	1953	580 SF	No effect
E-82	Switchgear House (Storage)	1943	817 SF	No effect
E-83	Base Storage	N/A	N/A	No effect
IA-2	Police Station	1951	2,800 SF	No effect
IA-3	Water Distribution Bldg (defunct)	1945	320 SF	No effect
IA-5	Diesel Aboveground Storage Tank	2006	200 GA	No effect
IA-59	Tennis Court	1957	3 EA	No effect
Notes: In addition to exterior demolition, the interior contents of buildings would be removed and utility connections would be properly closed. SF = Square Feet N/A = Not Available GA = Gallons KG = Thousands of Gallons EA = Each per Day		**Totals**	**89,201 SF 12 EA 50,200 GA 144 KG**	*Further detailed analysis of the effect of these projects on listed species is provided in Chapter 5.

species under NMFS jurisdiction due to the location of the project in upland, previously disturbed habitats and lack of potential indirect effects on aquatic habitats. As for the Category A projects, information is provided herein to document the Army's thorough analysis and ESA compliance. The Army considers that projects involving in-water or over-water work may affect NMFS-listed species, and these projects are the subject of a more detailed effects analysis in Chapter 5.

The following Standard Operating Procedures (SOPs) would be implemented in the demolition program.

- Barn owls (*Tyto alba)* and barn swallows (*Hirundo rustica*) are known to be nesting in and outside many of the older, World War II era buildings on the installation. Although not observed, bats may also be roosting in these buildings. Therefore, prior to demolition, structures would be inspected for wildlife use. Where birds are found present, demolition would be limited to the non-breeding season (October to March). No active bird nests would be disturbed or removed during the March to September timeframe, as breeding native birds are protected. Where non-pest mammals are present (e.g., bats), a professional, licensed animal control specialist would live-trap and remove such species. Should there be a need to remove or disturb active bird nests during the breeding season, there would be coordination with the USFWS on Migratory Bird Treaty Act compliance.

- Many of the buildings proposed for demolition were constructed or substantially renovated at a time when lead-based paint and asbestos containing material were commonly used. Prior to demolition of any structure, the potential presence of lead-based paint and/or asbestos containing material would be evaluated by a qualified inspector. Where lead-based paint and/or asbestos containing material are present, required abatement and waste management planning and control measures would be implemented in accordance with Federal and California law.

- In accordance with the ICRMP, National Historic Preservation Act Section 110 documentation for the identification and evaluation of historic properties in advance of demolition will occur. All buildings at MOTCO were previously determined ineligible for inclusion in the National Register; however, since the initial evaluation, some buildings and structures proposed for demolition have turned 50 years of age and additional analysis is warranted.

- All possible measures would be taken to avoid impact to wetlands; if impacts could not be avoided, the U.S. Army Corps of Engineers San Francisco District and San Francisco Bay Conservation and Development Commission (BCDC) would be consulted on permitting and mitigation requirements in accordance with the Clean Water Act and Coastal Zone Management Act.

- All waste material will be transported off-site to a designated construction or solid waste municipal landfill in accordance with Federal, California, and local laws and regulations.

2.1.2 INRMP Proposed Action

The Army has coordinated with California Department of Fish and Game (CDFG), USFWS, and NMFS in the development of the INRMP for MOTCO and the Final INRMP reflects mutual agreement of these agencies concerning conservation, protection, and management of fish and wildlife resources. Ten

categories of resource management were identified in the INRMP: special status species management, wetlands/shoreline management, invasive species control and management, cantonment area wildlife control, water quality and erosion management, migratory bird management, recreation management, wildland fire management, grazing outlease program, and environmental restoration. The management strategies/recommendations for each of these are addressed in Sections 4.1 through 4.10 of the MOTCO INRMP. Implementation of the INRMP overall and the majority of the individual proposed INRMP management actions would result in beneficial impacts to NMFS-listed species.

Only one proposed project, perennial pepperweed control, would have the potential for direct or indirect impacts to NMFS-listed species given that the treatment would be implemented at the MOTCO shoreline where the invasive occurs. The approach for the perennial pepperweed control program will be to test and analyze control methods in small scale test plots to monitor and minimize potential impacts to non-targeted species and other natural resources. These efforts will be coordinated with CDFG, USFWS, and NMFS at each step – development of planned approach, implementation, monitoring, and adaptive management. If, at any point in this process, it is determined by the Army and these agencies that the program may affect federally and/or state-listed species, the appropriate consultation(s) will be initiated.

2.2 Measures Proposed to Avoid, Minimize, and Compensate for Effects to Listed Species and Critical Habitat to be Incorporated into the Proposed Action

The Proposed Action would include implementation of the following nine protective measures to avoid and minimize potential effects on listed species and critical habitat within the action area:

1. To the extent practicable, all in-water work will be confined to the period of 1 June to 30 November. If necessary, regulatory approval will be obtained for in-water work conducted outside this period on a case-by-case basis.
2. No equipment or vehicles will be stored on the piers when not in use to reduce the potential for any spills or debris entering the water column.
3. All vehicles and equipment will be properly maintained to reduce the potential for spills of petroleum-based products. Containment booms and sorbent materials will be available during the activity and will be deployed immediately in the event of a spill to limit its spread.
4. To minimize the potential for impacts from hazardous or regulated materials, all fuel, waste oils, and solvents will be stored well away from the construction zone. Any spill of such materials will be immediately contained by means of an earthen barrier and all affected soils will be removed and placed in appropriate containers for proper disposal offsite.
5. To minimize disruption of the sediment layer, pilings will be carefully removed via the "vibratory hammer" or "direct pull" methods. The vibratory hammer method involves dislodging the pile, and then slowly lifting the pile (in its entirety) from the sediments. The direct pull method involves placing a choker around the pile and slowly pulling upward with a crane or other equipment.
6. If timber pile breakage occurs (World War II-era pilings may be more vulnerable), the stub would be removed utilizing a hydraulic shear and crane or other equipment to cleanly pull out the stub.
7. Minimal cutting and boring will occur over the water; if necessary, tarps or other capture devices will be used to reduce the likelihood of materials entering the water.

8. Debris that falls in the water will be captured using a floating surface boom and promptly removed.
9. All debris and damage pilings will be slowly lifted from the water and placed in a containment basin, without attempting to clean or remove any adhering sediment. This material will then be disposed of properly offsite in a manner that does not expose or affect aquatic resources.

CHAPTER 3
EXISTING CONDITIONS AND DESCRIPTION OF THE SPECIFIC AREA AFFECTED BY THE ACTION

This chapter describes existing environmental conditions at the MOTCO waterfront, focusing on the natural communities and other features relevant to the determination of occurrence of ESA-listed species under the jurisdiction of NMFS.

3.1 Aquatic Habitats

Some of the proposed demolition projects occur in the waterfront area of MOTCO including in-water and over-water activities on Suisun Bay, which comprises the eastern portion of San Francisco Bay and the western extent of the Sacramento-San Joaquin Delta (Bay-Delta estuary) (see Figure 1-1). As noted in the introduction, Suisun Bay encompasses EFH and a HAPC for several Fishery Management Plan species. These species, EFH, and HAPC are addressed in the EA associated with this BA.

Ecologically, the nearshore waters of Suisun Bay are considered estuarine habitat, with typical salt marsh zones (low, mid, and upper marsh), mud flats exposed during low tide, open sloughs, and brackish tributaries. Estuaries provide excellent foraging and rearing habitat for many fish and invertebrate species. Waterfowl, shorebirds, and some mammals use this habitat for foraging. The type of species and use of this habitat type is dependent upon a variety of physical parameters, such as depth, the type of vegetation present along the shoreline, and salinity ranges.

3.2 Water and Sediment Quality

Aquatic habitats occurring in the project area are mostly brackish and include open water, artificial substrate (pilings), and moderately deep estuarine benthic habitats. Bottom sediments in the area are expected to be coarse, as Suisun Bay is subjected to strong tidal currents that keep finer sediments suspended. Most of Suisun Bay is best described as a high energy/dynamic environment, where freshwater from the Sacramento and San Joaquin Rivers moves into the bay and mixes with saltwater from the Pacific Ocean, creating a turbid, brackish environment. Further, this region just east of the Carquinez Strait experiences high tidal energy, strong winds, and frequent boat movements, making it unlikely that any water soluble contaminants would remain suspended very long in these waters.

Tidal amplitude is lower in Suisun Bay because it is a larger water body than the Carquinez Straight, which connects Suisun Bay to the San Pablo Bay. The tides propagate through the channels of Suisun Bay as progressive waves, and the water level and tidal currents are roughly in phase. Current velocities are approximately 70 centimeters per second (cm/s) along Suisun Bay's western boundary, 60 cm/s along its eastern boundary at Mallard Island, and 74 cm/s at the project site. Orientation of currents in the area is generally parallel to the prevailing bathymetry contours (U.S. Geological Survey 1995). Wind waves are generated by prevailing winds that blow from the west through the wind gap formed by San Francisco Bay and Carquinez Strait, typically at a mean wind speed of 12 miles per hour 65 percent of the time (MOTCO 2011). Sediment quality data is not available for the project site; however, results of recent monitoring of Suisun Bay indicate very little aquatic toxicity (San Francisco Estuary Institute 2008). Past practices at MOTCO have been evaluated for the potential to result in contamination under the DoD

Installation Restoration Program. No evidence of sediment contamination has ever been identified in the project area. Dispersive (non-depositional) conditions prevail at the MOTCO piers; therefore, maintenance dredging is infrequently required, and the last dredging was performed in the mid-1980s. These conditions make it very unlikely that contaminated sediments (if present) would have persisted.

CHAPTER 4
DESCRIPTION OF LISTED (AND/OR PROPOSED) SPECIES OR CRITICAL HABITAT AND SPECIAL STATUS SPECIES THAT MAY BE AFFECTED BY THE PROPOSED ACTION

Based on a review of available information and site conditions, the following listed species are known to occur in the aquatic environs of the project area: the Southern Distinct Population Segment (DPS) of green sturgeon, central California coast steelhead, Central Valley steelhead, Central Valley spring-run Chinook salmon, and Sacramento River winter-run Chinook salmon. These species are addressed below in detail, and Table 4-1 summarizes each species' listing status, critical habitat status, and approximate spawning season. NMFS is the responsible agency for all of these species.

Table 4-1. ESA-Listed Species and Critical Habitat under the Jurisdiction of NMFS Potentially Occurring within the Action Area

Common Name	Scientific Name	ESA Status	Critical Habitat	Spawning Migration
Green Sturgeon Southern DPS	*Acipenser medirostris*	Threatened	Designated, located in project area	Spring to early summer
Central California Coastal Steelhead	*Oncorhynchus mykiss*	Threatened	Designated, but not located in project area	Winter and spring
Central Valley Steelhead	*Oncorhynchus mykiss*	Threatened	Designated, but not located in project area	Winter and spring
Central Valley Spring-run Chinook Salmon	*Oncorhynchus tshawytscha*	Threatened	Designated, but not located in project area	Spring
Sacramento River Winter-run Chinook Salmon	*Oncorhynchus tshawytscha*	Endangered	Designated, located in project area	Winter

Sources: CDFG 1996; NMFS 2005b; NMFS 2009c.

4.1 Federally Listed (and/or Proposed) Species

4.1.1 Green Sturgeon Southern DPS (*Acipenser medirostris*)

Green sturgeon is a long-lived anadromous fish species that ranges from the Bering Sea, Alaska to Ensenada, Mexico. DPSs were designated to differentiate between genetically unique populations that spawn in geographically separate locations. The northern DPS, which is not listed, spawns in the Rogue, Klamath-Trinity, and Eel River systems, whereas the listed southern DPS spawns only in the Sacramento River system (NMFS 2005a, 2009a; USFWS 1995). Individuals from the northern and southern DPS

apparently overlap and are widely distributed along the Pacific coast during their oceanic phase. Although anadromous, green sturgeons are found more often in coastal marine or estuarine waters, rather than in inland fresh waters. Adults migrate into freshwater during spring and early summer to spawn, and at other times for unknown reasons. Information on current and historical spawning locations is limited, as this species has been reduced in number due to harvest and anthropogenic disturbances (NMFS 2009a). General habitat types where this species is known to reside include nearshore marine, estuaries, bays, sounds, lower reaches of large rivers, upper reaches of rivers, and salt or brackish waters off river mouths (NMFS 2005a).

NMFS designated the southern DPS of green sturgeon as threatened in April 2006 (NMFS 2006a). Currently, there is no recovery plan the southern DPS of green sturgeon. Critical habitat was proposed in 2008 for the southern DPS, including numerous freshwater and marine areas within California and Oregon, but a final rule has not yet been issued. The waters and shorelines of Suisun Bay, including the project action area have been designated critical habitat for the southern DPS of green sturgeon (NMFS 2009c). In spring 2009, a proposal to extend the take prohibitions defined under Section 4(d) of the ESA for the southern DPS was submitted by NMFS. A decision is pending while NMFS evaluates the past, current, and future threats to this species (NMFS 2009b).

Juveniles, sub-adults, and adults of the green sturgeon southern DPS have been identified in Suisun Bay in the general project area and use these waters for migration, feeding, and maturation (NMFS 2009c). Adults are thought to migrate from the San Pablo and San Francisco Bays into Suisun Bay and the Delta and move upstream to spawning grounds in the Sacramento River and its tributaries during the spring (NMFS 2009c; USFWS 1995). Outmigration occurs during the summer, and individuals may linger in bays and estuaries for extended periods. Juveniles move gradually downstream, utilizing freshwater and estuarine habitats as they develop over the next 1 to 2 years. They are bottom feeders and a variety of benthic invertebrates and fishes have been identified as prey. Green sturgeon in the Bay-Delta region typically occur in shallow waters (less than 10 meters [m] in depth) near the bottom, but require a range of depths, with adults favoring deeper pools and juveniles tending to concentrate in shallows (1 to 3 m deep) (NMFS 2009c).

4.1.2 Central California Coast Steelhead (*Oncorhynchus mykiss*)

Steelhead is an anadromous form of rainbow trout, which is difficult to distinguish from rainbow trout living exclusively in freshwater streams. In the U.S., steelhead are distributed along the entire Pacific coast. Steelhead and salmon populations are further split into distinctive groups known as Evolutionarily Significant Units (ESUs). The central California coast steelhead ESU is large and includes all naturally spawned anadromous populations of steelhead below natural and manmade impassable barriers in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers. It also includes tributary streams to Suisun Marsh including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek). This ESU excludes the Sacramento-San Joaquin River Basin, as well as two artificial propagation programs: the Don Clausen Fish Hatchery and Kingfisher Flat Hatchery/Scott Creek (Monterey Bay Salmon and Trout Project) steelhead hatchery programs (NMFS 1997; NMFS 2006b; NMFS 2009a).

During the spawning season, males undergo minor changes to their head, mouth, and body coloring. Typically, steelhead migrate to freshwater for spawning after spending anywhere from 1 to 4 years in marine habitats. Steelhead are capable of spawning more than once during their lifetimes, unlike other salmonids. In central California, peak spawning occurs from December through April. General habitat types where this species is known to reside include nearshore marine, estuarine, and cool, shallow streams (NMFS 2009a). The most serious threat for the survival of central California coast steelhead populations is the loss of watershed habitat from coastal development, blocked access to headwater spawning areas from dams in the Russian River, and potential interactions with hatchery-reared fish (Good et al. 2005).

The central California coast steelhead ESU was listed as threatened by NMFS in 1997 (NMFS 1997). Critical habitat was designated for this DPS in 2005, and although deemed important areas for steelhead, Suisun Bay and Suisun Creek were entirely excluded from the designation (NMFS 2005b). NMFS extended the take prohibitions for threatened and endangered species defined under Section 4(d) of the ESA to all threatened steelhead and salmon populations in 2005. Specific details of the take prohibitions can be found in the subject federal register notice (NMFS 2005c).

Suisun Bay, including the project area, is presumed to provide rearing and migratory habitat for this ESU (NMFS 2005b). Since the project location is near its upstream distributional limit in the San Francisco Bay-Delta ecosystem, and no suitable spawning habitat exists near MOTCO, the central California coast steelhead ESU is expected to occur infrequently in the project action area.

4.1.3 Central Valley Steelhead (*Oncorhynchus mykiss*)

General descriptions of steelhead habitat, spawning, population threats, and distribution were provided for the central California coast ESU, above, and this information is applicable to the Central Valley ESU. The Central Valley steelhead ESU includes all naturally spawned populations of steelhead below natural and manmade impassable barriers in the Sacramento and San Joaquin Rivers and their associated tributaries, as well as two artificial propagation programs: the Coleman National Fish Hatchery (NFH), and Feather River Hatchery steelhead hatchery programs. This ESU excludes steelhead from San Francisco and San Pablo Bays and their tributaries (NMFS 1998; NMFS 2006b; NMFS 2009a).

The Central Valley steelhead ESU was listed as threatened by NMFS in 1998 (NMFS 1998). Critical habitat was designated for this DPS in 2005, but the Suisun Bay area is not included in the designation (NMFS 2005b). NMFS extended the take prohibitions for threatened and endangered species defined under Section 4(d) of the ESA to all threatened steelhead and salmon populations in 2005. Specific details of the take prohibitions can be found in the subject federal register notice (NMFS 2005c).

Spawning locations for this ESU are upstream of the project action area in the Sacramento and San Joaquin river systems. Suisun Bay, including the project area, is presumed to provide juvenile rearing and migratory habitat (NMFS 2005b).

4.1.4 Central Valley Spring-run Chinook Salmon (*Oncorhynchus tshawytscha*)

Chinook salmon are an anadromous fish species, and the largest in body size of any salmon species. In the U.S., Chinook salmon occur from the Bering Strait area off Alaska south to southern California. Four distinct runs of Chinook salmon spawn in the Sacramento-San Joaquin River system, named for the season when the majority of the run enters freshwater as adults. Spring-run Chinook enter the Sacramento

River from late March through September. Adults hold in cool water habitats through the summer and spawn in the fall from mid-August through early October. Spring-run juveniles migrate soon after emergence as young-of-the-year or remain in fresh water and migrate as yearlings (CDFG 2009). The Central Valley spring-run ESU includes all naturally spawned populations in the Sacramento River and its tributaries in California, including the Feather River and the Feather River Hatchery spring-run Chinook program (NMFS 2009a).

Most Chinook salmon remain at sea from 1 to 6 years before returning to fresh water to spawn. One form named "Jack salmon" either remain and mature in freshwater or return to freshwater after spending only 2 or 3 months in the marine environment. Seasonality of Chinook salmon migration varies greatly between river systems, and the timing is dependent on various biological and environmental factors. This species spawns only one time and then dies. General habitat requirements include nearshore marine areas and relatively large, deep streams (NMFS 2009a).

The major threats to Central Valley spring run Chinook salmon include loss of historical spawning habitat, degradation of remaining habitat, and potential interactions with hatchery-reared fish. There is concern that spring-run and fall-run fish have hybridized in a hatchery, although this is difficult to confirm (Good et al. 2005).

In 1999, the Central Valley spring-run ESU, which had been previously proposed for listing as endangered, was instead listed as threatened (NMFS 1999). Critical habitat was designated by NMFS in 2005 for this ESU but does not include the Suisun Bay area (NMFS 2005b). NMFS extended the take prohibitions for threatened and endangered species defined under Section 4(d) of the ESA to all threatened steelhead and salmon populations in 2005. Specific details of the take prohibitions can be found in the subject federal register notice (NMFS 2005c).

Suisun Bay, including the project area, is presumed to provide juvenile rearing and migratory habitat for this ESU (NMFS 2005b).

4.1.5 Sacramento River Winter-run Chinook Salmon (*Oncorhynchus tshawytscha*)

General descriptions of Chinook salmon habitat, spawning, and distribution were provided for the Central Valley spring-run ESU, above, and this information is applicable to the Sacramento River winter-run ESU. The Sacramento River winter-run Chinook salmon ESU includes all naturally spawned populations in the Sacramento River and its tributaries in California, as well as two artificial propagation programs: winter-run Chinook from the Livingston Stone NFH, and winter run Chinook in a captive broodstock program maintained at Livingston Stone NFH and the University of California Bodega Marine Laboratory (NMFS 2009a).

The major threats to the Sacramento River winter-run ESU include threats to genetic integrity created by damming, unsustainable harvest rates, and predation at manmade structures. The construction of the Shasta dam blocked access to the entire historical spawning habitat, and this alteration led to forced use of new areas for spawning (Good et al. 2005).

In 1994, the Sacramento River winter-run ESU was listed as endangered (NMFS 1994). Critical habitat was designated by NMFS in 1993 for this ESU and includes "all waters from Chipps Island westward to Carquinez Bridge, including Honker Bay, Grizzly Bay, Suisun Bay, and Carquinez Straight" (NMFS

1993). NMFS extended the take prohibitions for threatened and endangered species defined under Section 4(d) of the ESA to all threatened steelhead and salmon populations in 2005. Specific details of the take prohibitions can be found in the subject federal register notice (NMFS 2005c).

Sacramento River winter-run Chinook salmon are known to migrate through the project area seasonally to access the Sacramento River. Suisun Bay is part of the critical habitat designation for this species.

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CHAPTER 5
ANALYSIS OF EFFECTS AND DESCRIPTION OF THE MANNER IN WHICH THE ACTION MAY AFFECT ANY LISTED SPECIES OR CRITICAL HABITAT

5.1 Approach to Analysis

This chapter presents an analysis of potential direct, indirect, temporary, and permanent effects on the southern DPS of green sturgeon, central California coast steelhead, Central Valley steelhead, Central Valley spring-run Chinook salmon, and Sacramento River winter-run Chinook salmon that may result from the four proposed demolition projects that would involve in-water work: Southwest Lighter Berth (123), Tug Pier (125), Seal Island Lighter Berths (172), and Seal Island Lighter Berths (173).

Direct effects are associated with bottom sediment or water column-disturbing activities resulting from the demolition activities. Direct effects may be either temporary (reversible) or permanent (irreversible). For this project, most direct effects will be contained within footprint of the proposed demolition. *Indirect effects* are caused by or result from project-related activities but occur later in time and are reasonably certain to occur. Indirect effects are diffuse, resource-specific, and less amenable to quantification or mapping than direct effects, but still need to be considered. Potential project effects on protected species are further classified and evaluated based on their anticipated longevity as temporary or permanent effects.

Project effects are evaluated based upon an understanding of project site configuration and components and the methodology and equipment that would be used. All project effects are described as they would occur after the avoidance and minimization measures described in Section 2.5 are implemented.

Because it is not anticipated that individual demolition projects would affect any of the listed species differently, the affects conclusion for each is based on the analysis provided below. With the exception of the permanent removal of substrate for algae and invertebrates that may provide a food source for listed species, anticipated effects would be temporary. The potential for mortality to individuals from proposed demolition activity is discountable. No negative impacts are anticipated for critical habitat.

5.2 Analysis of Pilings Removal

The timber pilings to be removed at the Southwest Lighter Berth (123), Tug Pier (125), Seal Island Lighter Berths (172), and Seal Island Lighter Berths (173) are primarily 1944-era pilings treated with creosote. The concern is that contaminants potentially lying in bay sediments will be re-suspended when wood debris is removed during demolition, but measures will be implemented to minimize this potential re-suspension. Specifically, to minimize disruption of the sediment layer below the pier, pilings will be carefully removed via the “vibratory hammer” or “direct pull” methods. The vibratory hammer method involves dislodging the pile, and then slowly lifting the pile, in its entirety, from the sediments. The direct pull method involves placing a choker around the pile and slowly pulling upward with a crane or other equipment. Further, if a timber pile breaks (World War II-era pilings may be more vulnerable), the stub would be removed utilizing a hydraulic shear and crane or other equipment to cleanly pull out the stub.

Other measures to minimize contaminant mobilization include: in-water work will be limited to a narrow window of time (1 June to 30 November); cutting and boring work over the water surface will be limited to only that which is necessary; the prefabrication of wood off-site will be maximized; falling debris will either be trapped by tarps or a floating boom; and debris and waste piling will be promptly removed and properly disposed of offsite.

The above analysis for impacts of creosote-treated wood can be applied to all fish species considered in this BA. The use of Best Management Practices (BMPs), the small-scale of the project, and the high current velocities in the area will result in adequate flushing and minimal mobilization of sediments and any associated contaminants. Thus, threatened and endangered fish species in the area will not be negatively impacted by removing the creosote-treated pilings.

5.3 Threatened and Endangered Species and Critical Habitat Affected

Potential impacts to threatened or endangered species are similar for all fish species described in this BA and are generally described here. Slight variations occur for each species, so potential impacts to each are described below in more detail. The in-water activities involve removal of pilings and other parts of the piers and berths to be demolished and are described hereafter as "demolition activities." Impacts for all species addressed in this analysis are regarded as unlikely due the following key factors:

- In-water activities are proposed to occur between 1 June and 30 November, which is outside the spawning (i.e., migrating) season for all of the species included in the analysis.

- There is no evidence that any of the species addressed in this analysis are attracted to artificial structures, such as pilings to be removed; thus, the regular occurrence of any of the species addressed in this analysis is not expected.

- All species addressed in this evaluation are highly mobile and most are migratory, so if they were to occur in the project area it would not be for any extended period of time.

The impacts described are those that might occur if threatened or endangered fish species were to venture into the project area or zone of impact. Demolition activities could result in behavior modification to fish in the immediate area as a result of underwater noise and visual impacts of pile removal. These impacts would be temporary and minor. Baseline noise levels in the project area are already high due to vessel movement within the nearby Stockton Bay Shipping Channel, located approximately 300 ft north of the MOTCO piers. In addition, potential prey attached to the substrates would be removed, resulting in a potential minor and highly localized indirect impact. Indirect impacts could also occur from exposure to the sediment plume created by a pile being removed, including the potential for sediments laden with creosote. The potential for negative impacts from exposure to such sediments are highly unlikely given combination of the low likelihood of the listed fish species in question occurring in the project area and the fact that the area already experiences adequate flushing.

No critical habitat is being removed by implementing the project. Further, with application of mitigation measures in project execution, no short or long-term effects on water quality from sediment disruption would occur.

5.3.1 Green Sturgeon Southern DPS (*Acipenser medirostris*)

The green sturgeon southern DPS is known to occur in Suisun Bay in spring to early summer during migration to nearby rivers where adults go to spawn and for growing and feeding activities. Outmigration occurs during the summer, and individuals may linger in bays and estuaries for extended periods. This species is highly mobile, and if it did occur in the project location during the proposed timeframe for in-water work it is not likely to remain for any extended period of time. There is no evidence that green sturgeons are attracted to artificial structures such as pier pilings.

5.3.1.1 Direct Effects

Possible direct effects to green sturgeon include behavioral modifications during demolition activities. If a green sturgeon was present near the project area during demolition activities, the individual would likely avoid or temporarily leave the area until the activity subsides.

5.3.1.2 Indirect Effects

All indirect impacts are expected to be minimal and temporary. Indirect impacts may occur from noise or visual disturbances displacing green sturgeon or their prey species in the project area. These impacts would be minimal in comparison to frequent vessel movement through the area. Other indirect impacts may include a localized disturbance of sediments resulting in increased turbidity that might inhibit green sturgeon from entering the project area. Indirect impacts are also possible from removal of pilings, as the associated algae and invertebrates that may be prey items for fish would be removed. The food source disruption would be very minor and localized. Indirect impacts associated with any temporary and minimal exposure to contaminants suspended during removal of creosote-treated wood piles is unlikely.

5.3.1.3 Conclusion

The majority of potential impacts are predicted to be minimal and temporary. As a result, the proposed action **may affect, but is not likely to adversely affect** the green sturgeon southern DPS or critical habitat.

5.3.2 Central California Coast Steelhead (*Oncorhynchus mykiss*)

The Suisun Bay is presumed to provide rearing and migratory habitat for the central California coast steelhead ESU, but occurrence would be infrequent in the project action area as it would be associated with transient seasonal occurrence during winter and spring to nearby rivers where adults go to spawn. This species is highly mobile, and if it were to occur in the project location it is not likely to remain for any extended period of time. There is no evidence that central California coast steelhead are attracted to artificial structures such as pier pilings.

5.3.2.1 Direct Effects

Possible direct impacts to central California coast steelhead include behavioral modifications during project activities. Although the occurrence of Central Valley steelhead in the project area is possible during migration, they are highly mobile and would not linger long. The likelihood of this species residing within a distance known to cause injury or adverse behavioral effects is low. If Central Valley

steelhead was to be nearby during demolition activities, the individual would likely avoid or temporarily leave the area until the activity subsides.

5.3.2.2 Indirect Effects

All indirect impacts are expected to be minimal and temporary. Indirect impacts may occur from noise or visual disturbances displacing central California coast steelhead in the project area, but these impacts would be minimal as baseline noise levels are already high from frequent vessel traffic in the area. Other indirect impacts may include a localized disturbance of sediments resulting in increased turbidity that might inhibit central California coast steelhead from entering the project area. Although the project area is not known to be an important foraging area for this species, very minor indirect impacts are also possible from removal of the pilings and associated algae and invertebrates. Indirect impacts associated with any temporary and minimal exposure to contaminants from the removal of creosote-treated wood pilings (described in detail in Section 5.2) are unlikely.

5.3.2.3 Conclusion

Potential impacts are predicted to be minimal and temporary. As a result, the proposed action **may affect, but is not likely to adversely affect** the central California coast steelhead ESU or associated habitat (not critical habitat).

5.3.3 Central Valley Steelhead (*Oncorhynchus mykiss*)

The Central Valley steelhead is known to migrate through and forage in Suisun Bay during winter and spring movements upstream to interior spawning areas. This species is highly mobile and would not linger long in the project area. Also, there is no evidence that Central Valley steelhead are attracted to artificial structures such as pier pilings.

5.3.3.1 Direct Effects

Possible direct impacts to Central Valley steelhead include behavioral modifications from demolition activities (see Section 5.2). Although the occurrence of Central Valley steelhead in the project area is possible during migration movements, they are highly mobile and would not linger long. The likelihood of this species residing within a distance known to cause injury or adverse behavioral effects is low; if an individual was nearby during demolition activities it would likely avoid or temporarily leave the area until the noise subsides.

5.3.3.2 Indirect Effects

All indirect impacts are expected to be minimal and temporary. Indirect impacts may occur from noise or visual disturbances displacing Central Valley steelhead in the project area, but these impacts would be minimal as baseline noise levels are already high from frequent vessel traffic in the area. Other indirect impacts may include a localized disturbance of sediments resulting in increased turbidity that might inhibit Central Valley steelhead from entering the project area. Although the project area is not known to be an important foraging area for this species, indirect impacts are also possible from removal of the pier pilings and associated algae and invertebrates. Indirect impacts associated with any temporary and

minimal exposure to contaminants leaching from creosote-treated wood in timber pilings (described in detail in Section 5.2) are unlikely.

5.3.3.3 Conclusion

The majority of potential impacts are predicted to be minimal and temporary. As a result, the proposed action **may affect, but is not likely to adversely affect** the Central Valley steelhead ESU. No permanent impacts would occur to Central Valley steelhead ESU habitat (not critical habitat).

5.3.4 Central Valley Spring-run Chinook Salmon (*Oncorhynchus tshawytscha*)

The Central Valley spring-run Chinook salmon ESU is presumed to migrate through and forage in Suisun Bay during spring movements upstream to interior spawning areas. This species is highly mobile and would not linger long in the project area. Also, there is no evidence that Central Valley spring-run Chinook salmon are attracted to artificial structures such as pier pilings.

5.3.4.1 Direct Effects

Possible direct impacts to Central Valley spring-run Chinook salmon include behavioral modifications from disturbance related to demolition activities (see Section 5.2). Although the occurrence of Central Valley spring-run Chinook salmon in the project area is possible during migration movements, they are highly mobile and would not linger long. The likelihood of this species residing within a distance known to cause injury or adverse behavioral effects is low; if an individual was nearby during demolition activities it would likely avoid or temporarily leave the area until the demolition activity subsides.

5.3.4.2 Indirect Effects

All indirect impacts are expected to be minimal and temporary. Indirect impacts may occur from noise or visual disturbances displacing Central Valley spring-run Chinook salmon in the project area, but these impacts would be minimal as baseline noise levels are already high from frequent vessel traffic in the area. Other indirect impacts may include a localized disturbance of sediments resulting in increased turbidity that might inhibit Central Valley spring-run Chinook salmon from entering the project area. Although the project area is not known to be an important foraging area for this species, indirect impacts are also possible from removal of the pier pilings and associated algae and invertebrates. Indirect impacts associated with any temporary and minimal exposure to contaminants leaching from creosote-treated wood in timber pilings (described in detail in Section 5.2) are unlikely.

5.3.4.3 Conclusion

The majority of potential impacts are predicted to be minimal and temporary. As a result, the proposed action **may affect, but is not likely to adversely affect** the Central Valley spring-run Chinook salmon. No permanent impacts would occur to Central Valley spring-run Chinook salmon ESU habitat (not critical habitat).

5.3.5 Sacramento River Winter-run Chinook Salmon (*Oncorhynchus tshawytscha*)

The Sacramento River winter-run Chinook salmon is known to migrate through and forage in Suisun Bay during spring movements upstream to interior spawning areas. This species is highly mobile and would not linger long in the project area. Also, there is no evidence that Sacramento River winter-run Chinook salmon are attracted to artificial structures such as pier pilings.

5.3.5.1 Direct Effects

Possible direct impacts to Sacramento River winter-run Chinook salmon include behavioral modifications from demolition activities (see Section 5.2). Although the occurrence of Sacramento River winter-run Chinook salmon in the project area is possible, during migration movements they are highly mobile and would not linger long. If an individual was nearby during demolition activities, it would likely avoid or temporarily leave the area until the noise subsides.

5.3.5.2 Indirect Effects

Indirect impacts may occur from noise or visual disturbances displacing Sacramento River winter-run Chinook salmon in the project area, but these impacts would be minimal as baseline noise levels are already high from frequent vessel traffic in the area. Other indirect impacts may include a localized disturbance of sediments resulting in increased turbidity that might inhibit Sacramento River winter-run Chinook salmon from entering the project area. Although the project area is not known to be an important foraging area for this species, indirect impacts are also possible from removal of the pier pilings and associated algae and invertebrates. Indirect impacts associated with any temporary and minimal exposure to contaminants leaching from creosote-treated wood in timber pilings (described in detail in Section 5.2) are unlikely.

5.3.5.3 Conclusion

The majority of potential impacts are predicted to be minimal and temporary. As a result, the proposed action **may affect, but is not likely to adversely affect** the Sacramento River winter-run Chinook salmon. No permanent impacts would occur to Sacramento River winter-run Chinook salmon ESU habitat (critical habitat).

CHAPTER 6
CUMULATIVE EFFECTS ANALYSIS

"Cumulative effects" under the ESA are those effects of future state, municipal, or private activities, not involving federal activities, that are reasonably certain to occur within the action area of the federal action subject to consultation [50 Code of Federal Regulations 402.02]. The analysis of cumulative effects includes consideration of any interrelated and interdependent effects from such projects that may result in an effect on federally listed species or their habitat. The following non-federal projects have been identified in the vicinity of the proposed demolition project locations:

- East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan – This plan is intended to provide an effective framework to protect natural resources in eastern Contra Costa County while improving and streamlining the environmental permitting process for impacts on endangered species. The primary goal of this Plan is to obtain authorization for take of species covered under the ESA and the Natural Community Conservation Planning Act for future urban development in accordance with approved land use plans in the cities of Clayton, Pittsburg, Brentwood, and Oakley and specific areas of unincorporated Contra Costa County. Covered activities within distinctly defined urban boundaries are broadly defined to include all ground-disturbing activities controlled by permit holders via their land use planning process. This plan proposes to provide take authorization for 28 listed and non-listed terrestrial species. None of these are the species addressed in this BA. The conservation strategy includes a preserve system, habitat restoration, and adaptive management and monitoring. The intent of the plan is to avoid project-by-project permitting that is generally costly and time consuming for applicants and often results in uncoordinated and biologically ineffective mitigation (East Contra Costa County Habitat Conservation Plan Association 2006).

- The San Francisco Bay Area Water Trail Plan – This plan formalizes a network of access sites, or "trailheads," that allow people in small, non-motorized boats (e.g., kayaks, canoes, sailboards, and dragon boats) to safely enjoy the historic, scenic, and environmental richness of San Francisco Bay through single and multiple-day trips on the Bay. The Water Trail includes 112 proposed trailheads located along the shoreline of the nine San Francisco Bay Area counties, the majority of which currently exist and are used by the public. One planned launch site is located east of MOTCO at the East Bay Regional Park District's Bay Point Regional Shoreline Park, which is undeveloped open space and marsh habitat that currently provides opportunities for hiking, birdwatching, shoreline fishing, and nature study. This site is not identified as a High Opportunity Site (i.e., where initial implementation is prioritized because the site would require minimal planning, management changes, and improvements); one alternative under consideration would limit the water trail to improvements at only High Opportunity Sites (California State Coastal Conservancy 2011).

- City of Antioch Marina Boat Launch Facility – The City of Antioch is constructing a boat launch ramp and associated facilities at Barbara Price Marina Park, adjacent to the existing Antioch Marina. The purpose of this project is to provide access to the San Joaquin River and to the Antioch Marina facilities to meet the following objectives: to provide a small boat launching facility that meets current State of California Department of Boating and Waterways guidelines;

to increase access to the San Joaquin River Delta for all types of recreational users; and to increase safety to water users by providing direct access to the Antioch Marina (a strategic location for a staging area and victim processing area in the event of a maritime incident of significance under the United States Coast Guard's Disaster Preparedness Plan) (City of Antioch 2007). Construction began in summer 2010 and is the facility is scheduled to open in April 2012.

- Ongoing use of the Stockton Deep Water Shipping Channel – An estimated 2.8 million short tons of cargo was received/shipped from the Port of Stockton in calendar year 2007 by a wide variety of commercial transport ships using the shipping channel located approximately 300 ft north of the MOTCO piers (USACE 2007). Such use is ongoing but can be variable based on supply and demand and other economic factors.

- Ongoing water-based recreational activities on Suisun Bay – boating, non-motorized watercraft, fishing, and other water-related recreation occurs in the river delta region, Suisun Bay, and San Pablo Bay on an ongoing basis. In the project vicinity, water-based recreation is restricted within MOTCO boundaries.

Other major planning projects affecting the region include the Bay-Delta Conservation Plan and the Suisun Marsh Plan. Since these projects are joint state-federal projects, these projects are not analyzed for cumulative effects analysis in this BA (i.e., they are actions involving federal activities).

The proposed demolition activities would have a limited potential for additive or interactive impacts with other non-federal actions in the area due to the minimal area affected by the proposed activities and the small scale of the projects. Although salmonids would potentially be exposed to effects associated with the above-listed projects, such as noise, disturbance, or increased turbidity, such effects would be discountable.

CHAPTER 7
CONCLUSION

Based on the analysis of effects presented in Chapter 5, the Army has made the following effects determination for listed species (Table 7-1) as a result of the proposed implementation of real property and natural resource management programs at MOTCO.

Table 7-1. Effects Determination

Species or Habitat	Effects Determination
Southern Green Sturgeon	May affect, not likely to adversely affect
Central California Coast Steelhead	May affect, not likely to adversely affect
Central Valley Steelhead	May affect, not likely to adversely affect
Central Valley Spring-run Chinook Salmon	May affect, not likely to adversely affect
Sacramento River Winter-run Chinook Salmon	May affect, not likely to adversely affect

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CHAPTER 8
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APPENDIX B

COASTAL CONSISTENCY DETERMINATION

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Coastal Consistency Determination
Implementation of Real Property Master Plan (RPMP), Integrated Natural Resources Management Plan (INRMP), and Integrated Cultural Resources Management Plan (ICRMP)
Military Ocean Terminal Concord (MOTCO)

1. AUTHORITY

This Coastal Consistency Determination is submitted in compliance with 15 CFR Section 930.34 *et seq* of the National Oceanic and Atmospheric Administration Federal Consistency Regulations (15 CFR 930).

2. DETERMINATION

MOTCO is an Army Military Surface Deployment and Distribution Command (SDDC) munitions and general cargo transshipment facility located at a strategic site in north central Contra Costa County, California (see Figure 1-1 of the Environmental Assessment [EA]). This Department of Defense (DoD) installation is the primary West Coast common-user ammunition terminal and is home to the SDDC's 834th Transportation Battalion (TB). MOTCO is in the East San Francisco Bay region, approximately 40 nautical miles inland past the Carquinez Strait that connects Suisun Bay to San Pablo Bay.

The installation is composed of an approximately 115-acre Inland Area and an approximately 6,526-acre Tidal Area, which are connected by a road running parallel and west of Port Chicago Highway. The Tidal Area includes 2,045 acres in offshore islands. MOTCO installation lands were formerly Department of the Navy lands within Naval Weapons Station Seal Beach Detachment (NWSSBD) Concord (see Figure 1-3 of the EA). On 1 October 2008, MOTCO properties were transferred from the Navy to the Army per recommendation of the 2005 Defense Base Closure and Realignment Commission.

The Army has evaluated the RPMP, INRMP, and ICRMP and has found these planning documents to be consistent to the maximum extent practicable with the San Francisco Bay Conservation and Development Commission (BCDC) coastal management program for the San Francisco Bay segment of the California coastal zone. The BCDC coastal management program is based on the provisions and policies of the McAteer-Petris Act, Suisun Marsh Preservation Act of 1977, San Francisco Bay Plan, Suisun Marsh Protection Plan, and BCDC administrative regulations. MOTCO is located in the Suisun Bay and Marsh area of the San Francisco Bay Plan (Plan Map 3).

3. PROJECT DESCRIPTION

The consistency determination evaluates only the Proposed Action – the Proposed RPMP, INRMP, and ICRMP, since these are the plans and programs that the Army proposes to implement at MOTCO.

3.1 REAL PROPERTY MASTER PLAN

The proposed RPMP sets forth a program for orderly development of MOTCO. The following principles have been applied to planned development:

- Eliminate explosive safety waivers wherever feasible,
- Site all new facilities in compliance with explosive safety requirements,

- When considering increase of general cargo operations, ensure that new facilities and functions are compatible with the current and future ammunition mission,
- Maximize efficiencies,
- Consolidate related functions into composite facilities/complexes,
- Comply with all regulatory requirements,
- Continue to recognize the unique and valuable resources of the Wetland Preserve Area (first established in a 1984 Memorandum of Understanding between the Navy and U.S. Fish and Wildlife Service [USFWS] and superseded by the INRMP), and
- Balance improvement and demolition programs.

While the long-term vision frames the overall development plan, the focus of the analysis in this Coastal Consistency Determination are the short-term components for which detailed project planning has progressed to the point where it is prudent to analyze potential environmental impacts in detail. These include the Category A projects – projects tied to the short-term vision for MOTCO where detailed planning has been completed and estimated timeline for funding is Fiscal Year (FY) 2013 to FY 2019, and Category B demolition projects that are also tied to the short-term vision for MOTCO with an estimated timeline of FY 2012 and beyond for funding. Detailed planning has been completed for the six Category A projects listed in Table B-1 and depicted in Figure B-1.

Table B-1 RPMP Category A Projects

Project Number and Title	Estimated Funding Timeline	Facility Size	Approx. Area of Disturbance (acres)	Current Land Use
P76086, Lightning Protection	FY 2013	7,000 LF	3.4	Previously disturbed operational areas in the Tidal Area
P74877, Visitor Control Center and Security Fencing	FY 2017	2,508 SF and 6 miles	58.7[1]	VCC - previously disturbed security areas in the Inland Area Security fencing – alongside existing roads in developed area of Tidal Area
P76091, Facilities Maintenance Building	FY 2013	14,500	0.3	Previously disturbed, but currently undeveloped areas of Inland Area
P76093, Gate 5 Truck Inspection Station	FY 2018	5,200	18.5	Previously disturbed, but currently undeveloped areas of eastern Tidal Area
P76087, Equipment Maintenance Buildings	FY 2019	43,000	5.0	Previously disturbed, but currently undeveloped areas of eastern Tidal Area
P76092, Security Headquarters Building	FY 2019	3,000	0.2	Previously disturbed, but currently undeveloped areas of Inland Area

Notes: 1. The area disturbed for the security fencing reflects a 50-foot buffer along the length of the fenceline to account for disturbance associated with staging, laydown, etc. in addition to the 20-foot vegetation clear zone to be established on both sides of the fenceline.

LF = linear feet

SF = square feet

Military Ocean Terminal Concord

Category A Projects

P76086, Lightning Protection

P74877, Security Fencing

Category A Projects (continued)

P74877, Visitor Control Center

P76087, Equipment Maintenance Building

P76091, Facilities Maintenance Building

P76092, Security Headquarters Building

P76093, Gate 5 Truck Inspection Station

Figure B-1

LIMITS OF CONSTRUCTION FOR CATEGORY A PROJECTS

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The Category B demolition projects are listed in Table B-2 and depicted in Figure B-2. Some demolition projects would be programmed to occur with Category A projects.

Table B-2 RPMP Category B (Demolition) Projects

Facility No.	Description	Year Built	Size
92	Chlorinator Building	1958	124 SF
99	Access Control for B-210	1960	144 SF
100	Smoke Shack	1946	400 SF
102	Smoke Shack	1946	800 SF
105	Smoke Shack	1946	800 SF
109	Temp Ordnance Operations Building	1946	168 SF
110	Storage Shed	N/A	600 SF
111	Waterfront Ops Building	1946	460 SF
112	Storage Shed	N/A	820 SF
113	Storage Shed	N/A	120 SF
122	Salvage Yard Office (defunct)	1946	432 SF
123	Southwest Lighter Pier	1945	1 EA
125	Tug Pier (Berths 8 and 9)	1946	1 EA
144	Shed with Tank	N/A	96 SF
155	Snack Shop	N/A	360 SF
160	Steam Plant for Pier 2 (defunct)	1965	576 SF
172	Seal Island Lighter Berths	1965	1 EA
173	Seal Island Lighter Berths	1965	1 EA
176	Railroad Sand Shed at Class Yard #1	1967	400 SF
190	Inland Bathhouse	1971	668 SF
245	Transient Quarters	1947	8,300 SF
262	Inland Army Security	1959	3,150 SF
272	Picnic Shelters	N/A	4 EA
399	Pump House	1980	400 SF
407*	Steam Plant Building for Pier 4	1980	2,440 SF
410	Oil Aboveground Storage Tank (Closed)	1980	25,000 GA
411	Oil Aboveground Storage Tank (Closed)	1980	25,000 GA
600	Security Entry Gate	N/A	60 SF
92A	Pump House (Water)	N/A	144 KG
A-10*	Rigger Shop	1943	2,412 SF
A-11*	Storage (Formerly Hazardous Materials)	1942	441 SF
A-14*	Public Works Storage	1942	3,024 SF
A-16*	Boat Shop	1944	7,250 SF
A-17*	Boat Trailer Shed	1944	8,235 SF
A-19	Shed	N/A	336 SF
A-21	Pier 2 Offices/Battery Charging Area	1944	6,160 SF
A-29*	Lumber Salvage Shop (Closed)	1951	14,400 SF
A-3*	Director of Logistics Equipment Storage	1916	13,800 SF
A-31*	Ammunition Transfer Building	1955	2,392 SF
A-32*	Administrative/Security (Former)	1955	576 SF

Table B-2 RPMP Category B (Demolition) Projects

Facility No.	Description	Year Built	Size
E-100	Winch Trainer (Closed)	1944	1 EA
E-101*	Tidal Waterfront Equipment	1944	4,004 SF
E-103*	Workshop (former dry cleaning shop)	1945	336 SF
E-112	Winch Trainer Electrical Building	1953	580 SF
E-82*	Switchgear House (Storage)	1943	817 SF
E-83	Base Storage	N/A	N/A
IA-2*	Police Station	1951	2,800 SF
IA-3	Water Distribution Bldg (defunct)	1945	320 SF
IA-5	Diesel Aboveground Storage Tank (closed)	2006	200 GA
IA-59	Tennis Court	1957	3 EA
Totals			**89,201 SF** **12 EA** **50,200 GA** **144 KG**

Notes: In addition to exterior demolition, the interior contents of buildings including furnishings and built-in equipment would be removed and utility connections would be properly closed.

* Demolition project currently identified in programming for Category A projects.
SF = Square Feet
GA = Gallons
EA = Each
N/A = Not Available
KG = Thousands of Gallons per Day

The proposed RPMP provides for a pattern of orderly development consistent with the INRMP and would not have significant adverse effects, either individually or cumulatively, on coastal resources. Proposed adequate, modern facilities to provide for antiterrorism and force protection, perimeter security, and access control consistent with existing guidelines explosive safety hazards would increase the security posture of MOTCO. No change in explosive safety hazard exposure areas would occur and the proposed projects would allow for the Army to appropriately locate functions not essential to the execution of ammunition missions to locations outside the explosive safety hazard areas.

Military Ocean Terminal Concord

Buildings Included in Category B

Figure B-2

CATEGORY B - DEMOLITION PROJECTS

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3.2 INTEGRATED NATURAL RESOURCES MANAGEMENT PLAN

The proposed INRMP has a threefold purpose: 1) to transform the former Navy INRMP into an Army INRMP, 2) to revise the scope of the INRMP to apply to the MOTCO property, and 3) to update management actions for a 2011 to 2015 schedule of implementation. The INRMP is intended to provide the Commanding Officer of MOTCO with an adaptive plan for managing natural resources to support and be consistent with the military mission while protecting and enhancing those resources for multiple use, sustainable yield, and ecological integrity. The INRMP is also designed to meet statutory requirements of the Sikes Act (16 U.S. Code § 670a *et seq*.), as amended by the Sikes Act Improvement Act (16 U.S. Code § 670b *et seq*.), and Army Regulation 200-1. The preparation and implementation of an INRMP for MOTCO is required due to the significant natural resources present at the installation. The INRMP is required to reflect the "mutual agreement" of the USFWS and California Department of Fish and Game concerning conservation, protection, and management of fish and wildlife resources.

The overall goal of the INRMP is to integrate natural resources stewardship and compliance responsibilities with operational requirements to sustain MOTCO and to develop, initiate, and maintain programs for the conservation, utilization, and rehabilitation of natural resources on MOTCO. The following general objectives to achieve this goal have been identified:

- Ensure no net loss in the capability of MOTCO lands to support the current and future military missions of the 834th TB and SDDC.
- Ensure compliance with applicable federal laws and regulations as they pertain to natural resources.
- Maintain and enhance the level of biodiversity within the constraints of the military mission.
- Outlease lands that are suitable and available for livestock grazing consistent with the military mission.
- Implement adaptive management strategies using flexible and responsive management techniques based upon scientific data gathered from monitoring programs, literature, and resource experts.
- Conserve the quality of habitat for federally and state-listed endangered and threatened species.
- Maintain sufficient natural resources support personnel to implement, manage, and monitor the management strategies of the INRMP.
- Provide for an institutional memory and Geographic Information System (GIS) based data inventory that may be used as a framework for future resources personnel on which to make installation management decisions.

3.3 INTEGRATED CULTURAL RESOURCES MANAGEMENT PLAN

The proposed ICRMP is designed to facilitate the implementation of historic preservation compliance actions by MOTCO in accordance with DoD Instruction 4715.03, *Natural Resources Conservation Program* and Army Regulation 200-1, *Environmental Protection and Enhancement*. The ICRMP supports MOTCO's mission and meets the legal compliance requirements of federal historic preservation laws and regulations in a manner consistent with the sound principles of cultural resources stewardship. The ICRMP establishes priorities for the identification and evaluation of historic properties located at MOTCO, and provides a schedule designed to accomplish program objectives during a five-year period from 2011 to 2016. It also includes a set of Standard Operating Procedures tailored specifically to the needs of MOTCO that provide for ready identification of potential conflicts between MOTCO's mission and cultural resources and it identifies compliance actions necessary to maintain the mission-essential properties and acreage.

4. CONSISTENCY WITH PROVISIONS OF THE COASTAL ZONE MANAGEMENT PROGRAM FOR THE SAN FRANCISCO BAY SEGMENT OF THE CALIFORNIA COASTAL ZONE

The policies of the San Francisco Bay Plan at http://www.bcdc.ca.gov/laws_plans/plans/sfbay_plan and Suisun Marsh Protection Plan at http://www.bcdc.ca.gov/laws_plans/laws/suisun_marsh.shtml were reviewed for applicability and consistency with the proposed action. The conclusions and supporting analysis is provided below.

4.1 SAN FRANCISCO BAY PLAN

4.1.1 Fish, Other Aquatic Organisms, and Wildlife - Consistent

In accordance with Section 7 of the Endangered Species Act (ESA), the Army consulted with the USFWS and National Marine Fisheries Service (NMFS) regarding the potential for implementation of the Proposed Action to affect threatened and endangered (T&E) species or critical habitat. Specifically, the consultations addressed two Category A RPMP projects: Lightning Protection (P76086) and security fencing associated with the Visitor Control Center project (P74877), and 19 Category B demolition projects including four in-water projects (Facilities 123, 125, 172, and 173), 12 land-based projects near the shoreline or Hastings Marsh (Facilities 100, 111, 144, 160, 407, 410, 411, A-11, A-19, A-31, 122, and A-29), and three over-water projects (Facilities 102, 105, and A-21). The Proposed Action includes special status species management measures listed in Table A. In these consultations, the Army determined that the Proposed Action may affect, but is not likely to adversely affect threatened and endangered species protected under the ESA and that the action would not result in the destruction or adverse modification of designated critical habitat of any of the following eight species:

- Soft bird's-beak, *Cordylanthus mollis spp. Mollis*, Endangered;
- California clapper rail, *Rallus longirostris obsoletus*, Endangered;
- Salt marsh harvest mouse, *Reithrodontomys raviventris*, Endangered;
- Southern Green Sturgeon, *Acipenser medirostris*, Threatened;
- Central California Coastal Steelhead, *Oncorhynchus mykiss*, Threatened;
- Central Valley Steelhead, *Oncorhynchus mykiss*, Threatened,
- Central Valley Spring-run Chinook Salmon, *Oncorhyncus tshawytscha*, Threatened; and
- Sacramento River Winter-run Chinook Salmon, *Oncorhynchus tshawytscha*, Endangered.

The soft bird's-beak, California clapper rail, and salt marsh harvest mouse are under the jurisdiction of USFWS and the remaining ESA-listed salmonids and green sturgeon are under the jurisdiction of NMFS. In August 2012, NMFS concurred with the Army's determination of "may affect, not likely to adversely affect" for the southern green sturgeon, Central California coastal steelhead, Central Valley steelhead, Central Valley spring-run Chinook Salmon, and Sacramento River winter-run Chinook salmon. The Army completed consultation NMFS on potential ESA effects of four in-water Category B projects (Facilities 123, 125, 172, and 173), before omitting them from the Proposed Action in June 2013. In June 2013, USFWS concurred with the Army's determinations of "may affect, but is not likely to adversely affect" for the soft bird's-beak, California clapper rail, and salt marsh harvest mouse. Upon completion of surveys for the California red-legged frog (*Rana draytoni*) and Central California tiger salamander (*Ambystoma californiense*), the Army will reinitiate consultation prior to any ground-disturbing activity to implement the Gate 5 Truck Inspection Station (P76093). With respect to Essential Fish Habitat (EFH), the Army concluded that there will be no adverse effect on EFH. In August 2012, NMFS agreed with this EFH assessment with a conservation recommendation for EFH that the Army has agreed to and is included in the Proposed Action. Potential impacts to the California black rail, which is not an ESA listed

species, but which is state listed as threatened by California Department of Fish and Wildlife (CDFW), are minimized with management measures included in the Proposed Action.

Impacts to other wildlife would be localized and short-term, with protective measures for migratory birds identified. Follow-on analysis, including consultation under Section 7 of the Endangered Species Act would occur as needed for future implementation of RPMP Category C and D projects.

The proposed action, with implementation of the INRMP, would provide for the conservation of the tidal marshes, tidal flats, and/or subtidal habitats and protected species habitats. Implementation of the INRMP would result in overall beneficial impacts to native fish and wildlife species, as well as special status species. The proposed livestock grazing, fire management, and upland invasive species control and management measures would result in long-term benefits to the habitat and wildlife and are consistent with Bay Area habitat goals and objectives.

4.1.2 Water Quality - Consistent

Construction stormwater permitting under the National Pollutant Discharge Elimination System would be obtained and adhered to with respect to RPMP projects. Three proposed Category B demolition projects, Southwest Lighter Pier (123), Seal Island Lighter Berths (172), and Seal Island Lighter Berths (173) would require obtaining and adhering to provisions of the Clean Water Act Section 404 and 401 permitting. This permitting process would minimize potential impacts to wetland and surface water resources as a result of fallback and temporary sedimentation increases. The implementation of the INRMP would have long-term beneficial impacts as a result of implementation of Water Quality and Erosion Management and Wetlands/Shoreline Management measures and minor, indirect benefits as a result of grounds maintenance and integrated pest management.

4.1.3 Water Surface Area and Volume – Consistent

The implementation of the INRMP would be consistent with BCDC policies regarding water circulation in the Bay as the INRMP would provide for a systematic assessment of the current extent and limitations to tidal circulation and evaluation of measures. Measures include removing fills and barriers to circulation, installing culverts, repairing or removing tide gates, and enlarging or excavating channels which could, if implemented, improve tidal flow in portions of the MOTCO Tidal Area that are impaired, or “muted.” No action would be taken without further agency consultation, including coastal consistency review.

4.1.4 Marshes and Tidal Flats - Consistent

The proposed action would continue to conserve the Wetlands Preserve Area that encompasses the tidal marsh areas at MOTCO to the fullest extent possible. RPMP projects have been sited and designed to avoid the wetland areas and retain a transition zone to between the tidal and upland habitats. As noted above, evaluation of the restoration work within the tidal area to diked areas is prescribed in the INRMP. In addition, the INRMP addresses programs for addressing invasive species such as such as perennial pepperweed, yellow starthistle, Italian thistle, and artichoke thistle including coordination and alignment with other Bay-wide eradication efforts.

4.1.5 Smog and Weather – Not Applicable

This policy is not applicable to the proposed action.

4.1.6 Shell Deposits – Not Applicable

This policy is not applicable to the proposed action. No known shell deposits are located at or near MOTCO.

4.1.7 Fresh Water Inflow – Not Applicable

These policies are not applicable to the proposed action. There are no proposals that would reduce or impact diversions of fresh water inflow into the Bay at or near MOTCO.

4.1.8 Subtidal Areas - Consistent

None of the Category A RPMP projects would impact subtidal areas. The Category B projects for the demolition of lighter berths would potentially have minor, localized short-term adverse impacts to subtidal areas during the demolition. The INRMP does not prescribe and direct management of subtidal areas, although these habitats would potentially indirectly benefit from the overall management program prescribed in the INRMP.

4.1.9 Safety of Fills - Consistent

Two RPMP proposed Category A construction projects (P74877, VCC, and the "R" Buildings portion of P76086, Lightning Protection System) would be located in a 100-year floodplain, but cannot be sited elsewhere due to logistical and operational requirements. Sixteen Category B projects (Projects 105, 122, 123, 125, 144, 172, 173, 262, 407, 410, 411, 600, A-29, A-31, IA-2, and IA-5) would involve the demolition of aging structures which would provide a benefit in offsetting the development footprint in the 100-year floodplain. Also, in accordance with EO 11988, *Floodplain Management,* facilities are not sited in a flood zone unless there is no practicable alternative; facilities sited in flood zones would be designed and engineered in a manner that minimizes flood damage.

4.1.10 Protection of the Shoreline – Not Applicable

No proposals for shoreline protection projects are included in the RPMP or INRMP.

4.1.11 Dredging – Not Applicable

The Army requires the MOTCO berths be maintained at a minimum depth of 35 feet below Mean Lower Low Water, but maintenance dredging is rarely required due to natural conditions (the last maintenance dredging at MOTCO occurred in the mid-1980s). Although long-term plans would dredge the MOTCO piers to a greater depth than already dredged, this project is within the 20- to 50-year long-term vision for MOTCO. No proposals for dredging are included as a RPMP proposed Category A or B project, or included in the INRMP; thus, dredging is not included in this coastal consistency determination.

4.1.12 Ports – Consistent

The RPMP, INRMP, and ICRMP are aligned with the San Francisco Bay Area Seaport Plan, which determined the MOTCO Tidal Area is necessary for future port development and designated it as a port priority use area, which indicates that the port and associated marine terminal is to be reserved for port-related and other uses that would not impede development of the sites for port purpose.

4.1.13 Airports – Not Applicable

The proposed action would not directly or indirectly affect airport facilities on the bay.

4.1.14 Transportation – Not Applicable

The proposed action would not result in any changes in Bay Area transportation. Although the Gate 5 truck inspection station would change traffic patterns associated with truck traffic entering and leaving MOTCO, no appreciable change in vehicle miles traveled is expected with implementation of the proposed action.

4.1.15 Fishing – Not Applicable

The proposed action would not affect any commercial fishing facilities, mooring areas, or berths; future commercial shellfish harvesting; or mariculture operations.

4.1.16 Recreation – Not Applicable

Outdoor recreation opportunities at MOTCO are extremely limited because of security needs and the human safety factor associated with weapons and ammunition storage. Because of the Explosive Safety Quantity-Distance (ESQD) arcs at MOTCO, hunting and fishing are not permitted. Generally, recreation access is limited to visitors to the National Park Service's Port Chicago Memorial. The proposed RPMP, INRMP, and ICRMP do not change recreation conditions for MOTCO.

4.1.17 Public Access – Not Applicable

Public access to MOTCO is generally restricted for national security and public health and safety. Access to the installation is granted on an individual basis for biological surveys, including an annual bird count by the local chapter of the National Audubon Society; for public access to the National Park Service's Port Chicago Memorial; and for individuals and groups who request access for historical or cultural resources reviews. The proposed RPMP, INRMP, and ICRMP would not change public access conditions for MOTCO.

4.1.18 Design, and Scenic Views – Consistent

The proposed RPMP, INRMP, and ICRMP would have little impact on views of the MOTCO shoreline and coastal area. The views of residents and visitors to the adjacent East Bay Shoreline Regional Park and Point Edith Wildlife Management Area, would potentially be minimally impacted by new development, but the development would be consistent and visually compatible with the character of surrounding areas.

As noted above, public access to the waterfront at MOTCO is limited to organized activities associated with public access to the National Park Service's Port Chicago Memorial, and for individuals and groups who request access for natural or cultural resources reviews.

4.1.19 Salt Ponds – Not Applicable

The proposed action would not have any impacts on the use and maintenance of salt ponds in the Bay Area.

4.1.20 Managed Wetlands – Consistent

The proposed INRMP provides for maintenance, enhancement, and restoration of the tidal wetlands and Wetland Preserve of MOTCO and improvement of biological productivity and water quality. The Army would continue management of the Wetland Preserve Area in collaboration with the USFWS and in coordination with other stakeholders in tidal wetland management issues. The INRMP calls for adaptive management of the wetlands based on improved understanding of the hydrology and its effects on native plant and fish species and wildlife habitats and to maintain and improve wetland functions and values.

4.1.21 Other Uses of the Bay and Shoreline – Not Applicable

The proposed action would not result in a change in reservation of MOTCO shore areas for priority military use.

4.1.22 Fills in Accord with the Bay Plan – Not Applicable

The proposed action would not result in filling for Bay-oriented commercial recreation and Bay-oriented public assembly on privately owned property.

4.1.23 Fill for Bay-Oriented Commercial Recreation and Bay-Oriented Public Assembly on Privately-Owned or Publicly-Owned Property – Not Applicable

The proposed action would not result in filling for Bay-oriented commercial recreation and Bay-oriented public assembly on privately or publicly owned property.

4.1.24 Mitigation – Consistent

Environmentally sensitive habitat areas at MOTCO include the Wetland Preserve Area and other areas at MOTCO that provide habitat for special status species. The proposed RPMP outlines a plan for orderly and efficient development of MOTCO that avoids or minimizes impacts on these habitats. There is no significant disruption of habitat value associated with the implementation of the proposed action. The INRMP protects the habitat values of the Wetland Preserve area and sensitive species habitat by outlining programs that provide for the management, protection, and enhancement of these resources. The INRMP reflects mutual agreement of the USFWS and the California Department of Fish and Game regarding the conservation, protection, and management of fish and wildlife resources. The implementation of the IRNMP would benefit shared habitat and other resources of the two parks adjacent to MOTCO's Tidal Area: Point Edith Wildlife Area (located to the west) managed by the California Department of Fish and Game, or the Bay Point Regional Shoreline Park (located to the east) managed by East Bay Regional Park District. The proposed future use of MOTCO would be compatible with the continuance of the habitat and recreation values of these adjacent areas.

4.1.25 Public Trust – Not Applicable

The proposed action would not affect lands subject to the public trust.

4.1.26 Navigational Safety and Oil Spill Prevention – Consistent

There would be no change to navigational safety at MOTCO. The Army's ongoing programs for Spill Prevention Control and Countermeasures would protect against the spillage of oil and hazardous substance spills as a result of activities at MOTCO.

4.1.27 Bay Plan Map 3 Policies – Consistent

The San Francisco Bay Plan maps are an integral part of the Bay Plan. They are based on-and show how to apply-the Bay Plan policies. The maps also identify the shoreline priority use areas and illustrate BCCD's Bay. The corresponding Bay Plan Policies are enforceable policies and have the same authority as the policies in the text of the Bay Plan. MOTCO is located in the Suisun Bay and Marsh area of the San Francisco Bay Plan (Plan Map 3). Figure B-3 depicts a portion of Bay Plan Map 3 for the MOTCO vicinity. There are two areas near MOTCO addressed in these policies, denoted as Areas 7 (Bay Point Wetlands) and 8 (Concord Naval Weapons Station).

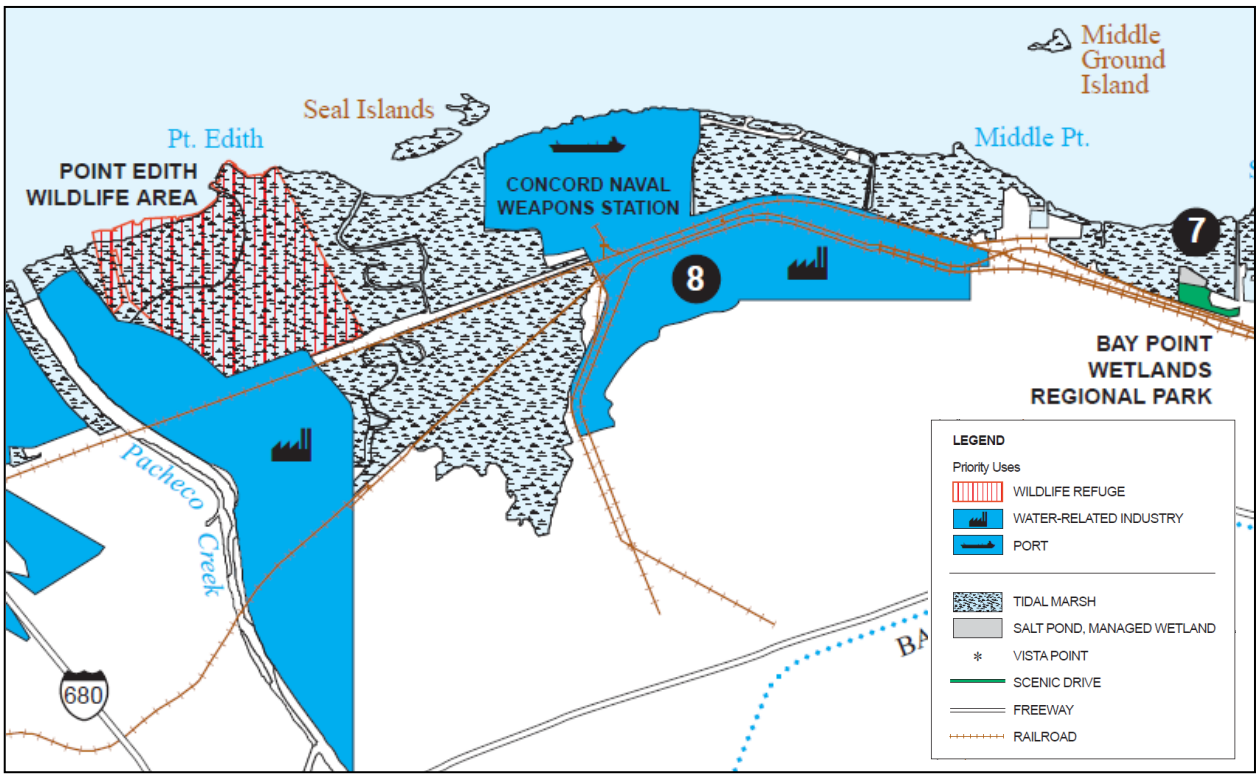

Figure B-3. MOTCO Vicinity Portion of Bay Plan Map 3

The policy for Area 7, Bay Point Wetlands located to the east of the MOTCO Tidal Area is to restore tidal wetlands and provide opportunities for shoreline trail access, wildlife observation, and non-motorized small boat access. The implementation of the RPMP, INRMP, and ICRMP for MOTCO would be consistent with policies for Bay the Bay Point Regional Shoreline Park (located to the east) managed by East Bay Regional Park District.

The policy for Area 8, which encompasses the MOTCO Tidal Area (denoted as the Concord Naval Weapons Station in the map), addresses potential future use of the area at such time as the area may no longer be owned or controlled by the federal government. The policy calls for first consideration to port or water-related industrial use noting that port and industrial use should be restricted so that they do not adversely affect marshes. The Seaport Plan is incorporated by reference. The policy states that if the area is not needed for port or water-related industry use under this future scenario, waterfront park use should be considered. The RPMP, INRMP, and ICRMP all address long-term future DoD ownership of MOTCO lands and management by the Army. However, the proposed action provides for use and management of MOTCO lands in a manner that would be consistent with this policy should MOTCO lands no longer be owned or controlled by DoD in the future.

MOTCO's Seaport and Water-Related Industry designations would not change under the proposed action and the RPMP, INRMP, and ICRMP provide for a long-term plan for the orderly development of the installation in a consistent manner. Implementation of the proposed action would optimize the Army's land use to perform MOTCO's mission. Accomplishing the goals of the proposed action would not be feasible without the improvement of efficiencies of MOTCO operations within the existing boundaries of the installation.

4.2 SUISUN MARSH PROTECTION PLAN, PART II, POLICIES

The Suisun Marsh Protection Plan (adopted December 1976) applies to the Suisun Marsh in Solano County. As shown in Figure B-4, most of MOTCO is within Contra Costa County; however, the offshore islands of Roe Island, Ryer Island, Freeman Island, Snag Island, and Middle Ground Island are within Solano County. These areas are part of the Wetlands Preserve Area and they are within the ESQD arc for MOTCO ammunition operations. The islands are undeveloped, with the exception of natural gas wells operated on the southern shore of Ryer Island. No RPMP proposed Category A or B projects would occur in the Suisun Marsh in Solano County. The following sections address the applicability and consistency of the Suisun Marsh policies to the proposed action.

4.2.1 Environment – Consistent

The proposed action allows for the continued preservation of the Suisun Marsh in the continuation of the policies for protection of the Wetland Preserve Area tidal marsh habitats (which includes the offshore islands within the Suisun Marsh Protection Plan Special Area, including marsh-related wildlife. The INRMP calls for studies, surveys, and other research (as determined by availability of funds and personnel) on the fish and wildlife resources and wetland functions and values, of the Wetland Preserve Area (including the offshore islands). The USFWS would continue to be a partner in management of the Wetland Preserve Area.

4.2.2 Water Supply and Quality – Not Applicable

The proposed action would not result in the dredging of the John F. Baldwin Shipping Channel nor increased diversions that would cause violations of existing Delta Decision or Basin Plan standards.

Although the long-term (50 year) vision of the RPMP evaluates the potential deepening of the shipping channel, no RPMP proposed Category A or B projects include such a proposal. In addition, no proposals

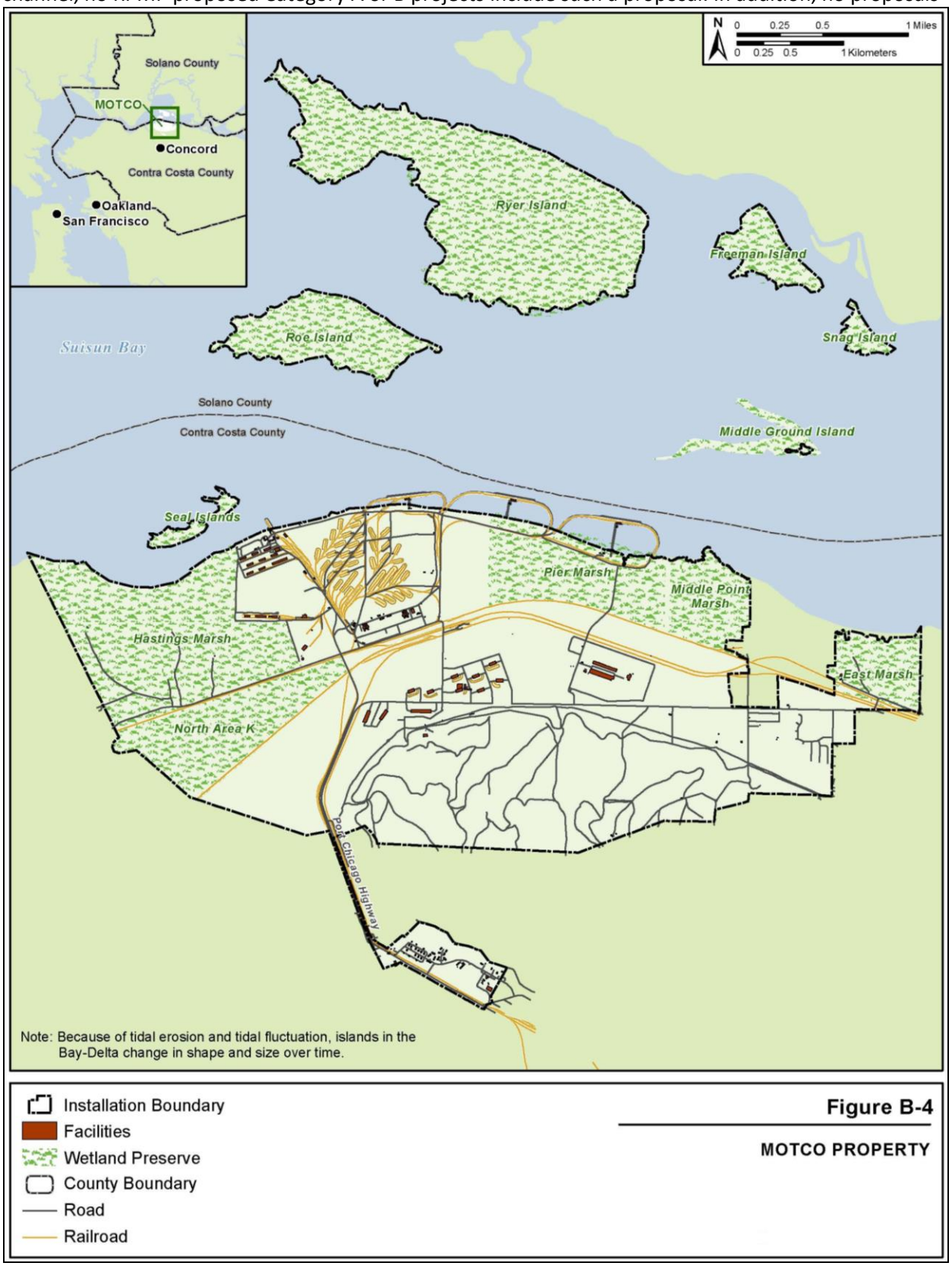

Figure B-4

MOTCO PROPERTY

would change inflow rates from the Delta or disruption or impediments to runoff and stream flow in the Suisun Marsh watershed.

4.2.3 Natural Gas Resources – Consistent

The proposed action would not affect natural gas transportation, exploration, production, or injection within the Suisun Marsh. The Ryer Island gas field is accessed via directional drilling into holdings from an off-Installation location in the Los Medanos Hills and no change would occur under the proposed action. Any future mineral exploration, development, and production and surface access for such purposes to privately owned mineral estate underlying MOTCO lands would be subject to a number of requirements. These requirements include DoD directives, as well as Army-specific safety and security requirements associated with the ongoing and contingency missions at MOTCO and potential for natural and cultural resource impacts. Adherence with California Division of Oil and Gas regulations and other California and federal review and compliance requirements would continue.

4.2.4 Utilities, Facilities, and Transportation – Not Applicable

The proposed action does not include improvements to public utilities, facilities, and/or transportation systems potentially affecting Suisun Marsh.

4.2.5 Recreation Access – Not Applicable

The proposed action would not affect recreation-related land acquisition efforts or recreational activities within the Suisun Marsh.

4.2.6 Water-Related Industry – Consistent

The proposed action would not affect policies for management of the Wetland Preserve Areas in Suisun Marsh. Any restoration or enhancement program would be carried out in a manner that would not restrict possible future development and operation of marine terminals and marine terminal berths on the deep water shoreline, or the movement of waterborne cargo, materials and products from the shoreline terminal to the upland portions of the site. The planned future development of MOTCO would conform to the planning guidelines outlined in the Suisun Marsh Protection Plan.

4.2.7 Land Use and Marsh Management – Consistent

As noted in Section 4.2.1, the Wetland Preserve Area, including the offshore islands in Suisun Marsh, would continue to be protected and managed to enhance the quality and diversity of the habitats and preserve tidal marshes. Mosquito control would continue through the cooperative relationship with the Contra Costa County mosquito abatement program to control mosquito larvae where and when necessary. The use of native killifish, as opposed to nonnative mosquitofish, as a means of biological control of mosquito larvae would be encouraged.

APPENDIX C

COMMENTS AND RESPONSES TO COMMENTS RECEIVED ON THE DRAFT EA

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This appendix contains comments received from federal, state, and local agencies, organizations, and the general public on the Draft Environmental Assessment (EA) for Implementation of Real Property, Natural Resources, and Cultural Resources Management Programs at Military Ocean Terminal Concord, California during the comment period which began on 17 October, 2011 and closed on 16 November, 2011. A letter was received during this comment period from the Chevron Environmental Management Company. Comments were also received after the comment period ended from the San Francisco Bay Conservation and Development Commission (BCDC) on November 18, 2011. Based on the comments received, several minor changes were incorporated into the Final EA. Refer to Table C-1 for a list of comments and their subsequent response; copies of all letters are included immediately following Table C-1.

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Table C-1 Comments and Responses to Comments Received on the Draft EA

Commenter	Comment/ Comment Summary	Action Taken to Address the Comment
Chevron Environmental Management Company (CEMC); SAIC Energy, Environment & Infrastructure, LLC	Portions of the former Old Valley Pipeline (OVP) and Tidewater Associated Oil Company (TAOC) pipelines were located within your installation boundary. Residual weathered crude oil, abandoned pipelines, and asbestos-containing materials (ACM) could potentially be encountered during subsurface construction activities in these former pipeline rights of way (ROWs). Analytical results from… risk assessments indicated that the crude-contaminated soil was non-hazardous. Accordingly, it is likely that if soil affected by the historical release of crude oil from these former pipelines is encountered during construction activities, it may be reused as backfill on site. Properly abandoned crude-oil pipelines may be left in the ground.	Text has been added to Section *3.10.1 Hazardous Materials and Waste/ Existing Conditions* describing potential for construction crews to encounter pipeline remnants. Text has been added to Section *3.10.2 Hazardous Materials and Waste/ Environmental Consequences* describing protocols for the management of historical pipeline remnants or potentially contaminated soils if encountered through activities related to the proposed actions.
San Francisco Bay Conservation and Development Commission (BCDC)	The revised DEA should include a figure that illustrates the entirety of the Commission's jurisdictional boundaries. Also, in Section 3.5, Land Use and Coastal Zone Management, the revised DEA should state that the Commission's coastal zone includes in its Bay jurisdiction areas filled or diked after the time of passage of the McAteer-Petris Act in 1965.	Please refer to the Coastal Consistency Determination located in Appendix B.
BCDC	Because of the small scale of the maps provided in the DEA, and because some of the more long-term projects are not described in detail, identifying the projects that lie within the Commission's jurisdiction will require further analysis at the time you submit consistency determinations for site-specific projects. You will need,	A figure depicting Category A and B projects within the Commission’s jurisdictional boundaries has been created. Please refer to revised Coastal Consistency Determination located in Appendix B.

Table C-1 Comments and Responses to Comments Received on the Draft EA

Commenter	Comment/ Comment Summary	Action Taken to Address the Comment
	at that time, to provide maps clearly showing the relation of project boundaries to the Commission jurisdictional boundaries.	
BCDC	I have attached Plan Map No. 3 from the San Francisco Bay Plan, which shows the extent of the priority use area within the Commission's jurisdiction, including the Bay. As shown on the attached map, the western end of the MOTCO property located north of the railroad tracks lies generally within a Port Priority Use area while some of the area located south of the railroad tracks lies within a Water-Related Industry Priority Use area. The eastern part of the property located north of the railroad tracks is located within a tidal marsh and, therefore, lies within the Commission's Bay jurisdiction.	Comment noted.
BCDC	From reviewing the document, it appears that, at a minimum, the following projects (numbered per the DEA) would lie within the Commission's jurisdictional boundaries: **In the Bay:** 4 Rebuild Pier 4 8 Add Jetty /Finger Platform to Pier 4 12 Dredge all piers to -37ft mean lower low water 100 Smoke Shack 102 Smoke Shack 105 Smoke Shack 123 Southwest Lighter Pier 125 Tug Pier (Berths 8 and 9) 144 Shed with Tank 172 Seal Island Lighter Berths 173 Seal Island Lighter Berths RPMP-20 Marina for Security Boats and Berthing for Fire Boat	Only Category A and B projects are analyzed in the Coastal Consistency Determination, located in Appendix B. Additional detail has been added to the Coastal Consistency Determination regarding where the Category A and B projects lie within the Commission’s jurisdictional boundaries.

Table C-1 Comments and Responses to Comments Received on the Draft EA

Commenter	Comment/ Comment Summary	Action Taken to Address the Comment
	RPMP-22 Restore Barge Pier **Port Priority Use Area:** P76086 Lightning Protection **Water-Related Industry Priority Use Area** P74877 Visitor Control Center and Security Fencing P76087 Equipment Maintenance Buildings **100-foot Shoreline Band** 100 Smoke Shack 111 Smoke Shack 160 Smoke Shack 123 Southwest Lighter Pier 144 Shed with Tank 173 Seal Island Lighter Berths 172 Seal Island Lighter Berths 407 Steam Plant Building 410 Oil Aboveground Storage Tank 411 Oil Aboveground Storage Tank 7 4877 Security fencing A-10 Rigger Shop A-17 Boat Trailer Shed A-19 Shed A-21 Pier 2 Offices/Battery Charging Area RPMP-25 Pier 4 Parking Lot	
BCDC	Any projects and associated activities located within a Port or Water-Related Industry Priority Use area must be consistent with the policies contained in Bay Plan Map No.3, specifically the following policy for the Concord Naval Weapons Station (the institutional predecessor of MOTCO): "When no longer owned or controlled by the federal government, give first consideration to port or water-related industrial use.	Comment noted; as discussed in the Coastal Consistency Determination located in Appendix B, the RPMP, INRMP, and ICRMP address long-term future DoD ownership and are consistent with this policy.

Table C-1 Comments and Responses to Comments Received on the Draft EA

Commenter	Comment/ Comment Summary	Action Taken to Address the Comment
BCDC	Port and industrial use should be restricted so that they do not adversely affect marshes. See Seaport Plan. If not needed for port or water-related industry use, consider waterfront park use." Additionally, such projects and activities would need to take into consideration the policies specified in the Port and Water Related Industry policies contained in the Bay Plan (available at: http: *I I* www .bcdc.ca.gov /laws_plans/ plans/ sfbay _plan.shtml).	Comment noted; as discussed in the Coastal Consistency Determination in Appendix B, the RPMP, INRMP, and ICRMP are aligned with the San Francisco Bay Area Seaport Plan.
BCDC	All projects involving fill in the Bay must be consistent with the Commission's laws and policies about fill and, among other things, be the minimum necessary to achieve the project purpose, have no upland alternative, and minimize impacts to Bay resources, including threatened and endangered wildlife and plant species. All unavoidable adverse environmental impacts would need to be mitigated in accordance with the Bay Plan policies regarding mitigation.	Comment noted; as discussed in the Coastal Consistency Determination in Appendix B, the proposed action would not involve fill in the Bay.
BCDC	Further, any proposed fill or dredging at terminal areas would need to be in accord with the applicable policies in the Commission's Seaport Plan	Comment noted; as discussed in the Coastal Consistency Determination located in Appendix B, no proposals for dredging are included in the RPMP or INRMP.

Table C-1 Comments and Responses to Comments Received on the Draft EA

Commenter	Comment/ Comment Summary	Action Taken to Address the Comment
BCDC	In addition, where feasible, the incorporation of public access or recreation opportunities at the site or nearby should be considered. While security and safety concerns likely limit public access at the site, to the extent possible, proposed facilities should be designed so as not to impair the usability of the site or nearby areas for public access or recreation in the future.	Comment noted; as discussed in the Coastal Consistency Determination located in Appendix B, no recreation opportunities exist due to Explosive Safety Quantity Distance arcs at MOTCO.
BCDC	The proposed master plans include large areas of dredging at all piers to a depth of up to minus 37 feet. All proposed dredging and material disposal must be consistent with the Commission's law and policies regarding dredging. We encourage you to contact the Dredged Material Management Office (DMMO) at the U.S. Army Corps of Engineers at the earliest date possible to discuss proposed projects and obtain information about material sampling and testing, disposal options, in-Bay environmental work windows, and authorization requirements.	Dredging the piers to 37 ft MLLW is a Category D project and is not included in the Coastal Consistency Determination located in Appendix B (only Category A and B projects are included).
BCDC	According to the Bay Plan policies regarding Fish, Other Aquatic Organisms, and Wildlife: "to assure the benefits of fish, other aquatic organisms and wildlife for future generations, to the greatest extent feasible, the Bay's tidal marshes, tidal flats, and subtidal habitat should be conserved, restored and increased."	As discussed in the Coastal Consistency Determination located in Appendix B, the proposed action, with implementation of the INRMP, would provide for the conservation of the tidal marshes, tidal flats, and/or subtidal habitats and protected species habitats. Implementation of the INRMP would result in overall beneficial impacts to native fish and wildlife species, as well as special status species. The proposed livestock grazing, fire management, and upland invasive species control

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		and management measures would result in long-term benefits to the habitat and wildlife and are consistent with Bay Area habitat goals and objectives.
BCDC	The DEA identifies a number of special status plants and animals in the planning area. As discussed above, all proposed projects and associated activities should consider resource impacts and avoidance mechanisms and/ or mitigation. The Bay Plan policies regarding Subtidal Habitats provide additional guidance.	As discussed in the Coastal Consistency Determination located Appendix B, SDDC is consulting with the U.S. Fish and Wildlife Service and National Marine Fisheries Service per Section 7 of the Endangered Species Act and has concluded that implementation of Category A and B projects may affect, but not likely to adversely affect soft bird's beak, Delta smelt, green sturgeon, Central Valley steelhead, Central California Coast steelhead, Sacramento Chinook salmon (Winter run), Central Valley Chinook salmon (Spring run), California clapper rail, and salt marsh harvest mouse. In August 2012, NMFS concurred with the Army's determination of "may affect, not likely to adversely affect" for the aforementioned species under NMFS jurisdiction. In May 2013, USFWS concurred with the Army's determinations of "may affect, not likely to adversely affect" for the aforementioned species under USFWS jurisdiction.

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BCDC	The Bay Plan policies regarding water quality state, in part, that "bay water pollution should be prevented to the greatest extent possible." Any proposed demolition in or above the water would require best management practices to limit negative impacts to water quality. In the event that the San Francisco Bay Regional Water Quality Control Board ("Board") certification is required for any proposed activities or projects, please advise us. For your information, the Commission would not be able to concur with a project-specific consistency determination without a final certification from the Board.	As discussed in the Coastal Consistency Determination located in Appendix B, a National Pollutant Discharge Elimination System permit would be obtained and adhered to with respect to RPMP projects. The Category B projects to demolish the lighter berths would require obtaining and adhering to provisions of the Clean Water Act Section 404 and 401 permitting. This permitting process would minimize potential impacts to wetland and surface water resources as a result of fallback and temporary sedimentation increases. The implementation of the INRMP would have long-term beneficial impacts as a result of implementation of Water Quality and Erosion Management and Wetlands/Shoreline Management measures and minor, indirect benefits as a result of grounds maintenance and integrated pest management.
BCDC	According to the Bay Plan policies regarding public access: "maximum feasible access to and along the waterfront and any permitted fills should be provided in and through every new development on the shoreline, whether it be for housing, industry, port, airport, public facility, wildlife area, or other use, except in cases where public access would be clearly inconsistent with the project because of public safety considerations or significant use conflicts, including unavoidable, significant adverse effects on Bay natural resources. In these cases, in lieu access at another location preferably near the project should be provided."	Comment noted; as discussed in the Coastal Consistency Determination located in Appendix B, no recreation opportunities exist due to location of Explosive Safety Quantity Distance arcs and/or to maintain national security at MOTCO.

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	For the proposed project and site activities, in cases where public access would be clearly inconsistent because of public safety or other considerations, access at another location preferably near the project site could be provided.	
BCDC	The DEA should note that the waters adjacent to MOTCO are part of the planned San Francisco Bay Area Water Trail, which includes potential landing and launching sites to the west and east of MOTCO in Martinez and the Bay Point Regional Shoreline. We understand that the close approach or landing of recreational craft on MOTCO property is forbidden for safety and security reasons. However, where feasible, future projects should minimize impacts on public access to the water. We recommend that MOTCO consult with the Commission's staff to address potential public access issues. For the safety of small non-motorized watercraft, such as kayaks using the water adjacent to the shoreline as part of the Water Trail, future site planning could include education and/ or signage to direct boaters away from the prohibited areas as well as provisions for dealing with emergency small boat landings, whether through a designated emergency landing area or operational protocols for assisting small boats in distress. The MOTCO site is entirely restricted to the general public. However, it is located in an area that is challenging for non-motorized boats because of strong currents and high winds and, if an emergency landing were necessary, a resting stop might be useful at or near the site and could prevent unauthorized landings along the MOTCO shoreline.	Sections 4.3.2 and 4.4.11 of the Final EA has been amended to add relevant information regarding the San Francisco Bay Area Water Trail and assess potential cumulative effects. Due to location of Explosive Safety Quantity Distance arcs and/or to maintain national security at MOTCO, public access cannot be granted at MOTCO. Non-motorized boaters launching from Water Trail access points would continue to be required to maintain a distance of 100 yards at all times from MOTCO's three existing piers, and 500 yards from MOTCO's three existing piers during periods when military shipments are moored. Emergency situations would be addressed by MOTCO security personnel on a case-by-case basis.

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BCDC	In the draft revised Draft Environmental Impact Report (DEIR) for the San Francisco Bay Water Trail dated August 2010, sunken debris is noted as a hazard for users of the Water Trail. The DEIR notes that this kind of debris exists along the Contra Costa County shoreline. In project planning and design, you could also consider removing submerged debris that poses a hazard to boaters in the area.	Comment noted.
BCDC	The Commission's Bay Plan policies regarding Appearance, Design, and Scenic Views state, in part, "Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore." Therefore, views of MOTCO from the Bay should be considered in the planning of new or renovated facilities. The plan also states, "Views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water." While there is currently no public access to the hills within the central part of the master plan area, these hills provide unique open views of the Suisun Bay and Suisun Marsh. Therefore, proposed construction that potentially impacts views should be designed to enhance or avoid blocking the views to the maximum extent possible.	As discussed in the Coastal Consistency Determination located at Appendix B, the proposed RPMP, INRMP, and ICRMP would have little impact on views of the MOTCO shoreline and coastal area. The views of residents and visitors to the adjacent East Bay Shoreline Regional Park and Point Edith Wildlife Management Area would potentially be minimally impacted by new development, but the development would be consistent and visually compatible with the character of surrounding areas. Public access to the waterfront at MOTCO is limited to organized activities associated with public access to the National Park Service's Port Chicago Memorial and for individuals and groups who request access for natural or cultural resources reviews.
BCDC	The Bay Plan states: "To prevent damage from flooding, structures on fill or near the shoreline should have adequate flood protection including consideration of future relative sea level rise as determined by competent engineers." Any proposed projects occurring within the Commission's bay jurisdiction should account	As discussed in the Coastal Consistency Determination located in Appendix B, two Category A RPMP construction projects would be located in a 100-year floodplain and cannot be sited elsewhere due to logistical and operational requirements.

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	for the impacts of future sea level rise.	Sixteen Category B projects would involve the demolition of aging structures, which would provide a benefit in offsetting the development footprint in the 100-year floodplain. Also, in accordance with EO 11988, *Floodplain Management,* facilities are not sited in a flood zone unless there is no practicable alternative; facilities sited in flood zones would be designed and engineered in a manner that minimizes flood damage.
BCDC	In addition, the Commission on October 6, 2011 adopted new amendments to Bay Plan policies- including Tidal Marsh and Tidal Flats, Safety of Fills, Protection of Shoreline, and Public Access policies-related to sea level rise. These amendments are currently undergoing federal review. After federal review of the new sea level rise policies is complete, future projects submitted to the Commission for a consistency determination should reference and be consistent with these policies.	Comment noted.