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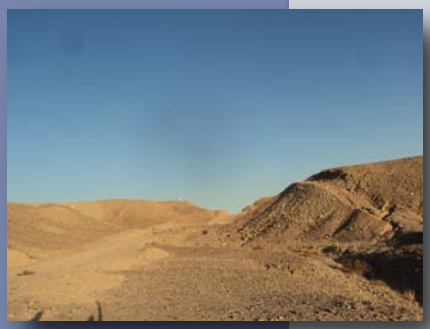
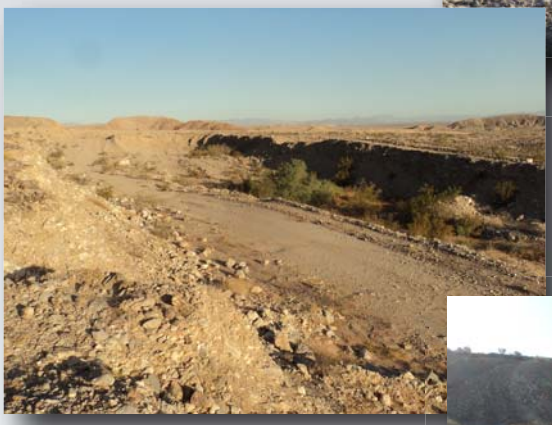
ENVIRONMENTAL ASSESSMENT

FOR THE IMPROVEMENT AND CONSTRUCTION, OPERATION, AND MAINTENANCE OF PROPOSED ALL-WEATHER ROAD IN THE EL CENTRO STATION AREA OF RESPONSIBILITY U.S. CUSTOMS AND BORDER PROTECTION, EL CENTRO SECTOR

U.S. Customs and Border Protection
Department of Homeland Security
Washington, DC





NOVEMBER 2012

DRAFT
FINDING OF NO SIGNIFICANT IMPACT
FOR THE IMPROVEMENT AND CONSTRUCTION, OPERATION, AND MAINTENANCE OF PROPOSED ALL-WEATHER ROAD IN THE EL CENTRO STATION AREA OF RESPONSIBILITY U.S. CUSTOMS AND BORDER PROTECTION, EL CENTRO SECTOR

PROJECT HISTORY: U.S. Border Patrol (USBP) is a law enforcement entity of U.S. Customs and Border Protection (CBP) within Department of Homeland Security (DHS). USBP's priority mission is to prevent the entry of terrorists and their weapons of terrorism and to enforce the laws that protect the U.S. homeland. This is accomplished by the detection, interdiction, and apprehension of those who attempt to illegally enter or smuggle any person or contraband across the sovereign borders of the United States.

CBP prepared an Environmental Assessment (EA), which is incorporated herein by reference, to address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 1.6 miles of all-weather road near the U.S./Mexico border within USBP El Centro Station's Area of Responsibility (AOR). The proposed all-weather roads are located west of the All-American Canal adjacent to and within U.S. Bureau of Land Management (BLM) lands, near the U.S./Mexico border in Imperial County, California.

This EA was prepared in accordance with the National Environmental Policy Act (NEPA) and analyzes the project alternatives and potential impacts on the human and natural environment from two action alternatives and a No Action Alternative.

PURPOSE AND NEED: The purpose of the Proposed Action is to increase border security within the USBP El Centro Sector with an ultimate objective of reducing illegal cross-border activity by providing safer and more efficient access for USBP agents along the U.S./Mexico border in the west desert area of the USBP El Centro Station's AOR and to BP Hill. The primary need for the Proposed Action is because of the remoteness of the west desert area and the impassability of the existing road, which creates long drive times for agents to reach patrol areas and limits their ability to assist with interdictions and apprehensions. An additional need for the Proposed Action is to provide agents with the infrastructure necessary to carry out USBP's mission

PROPOSED ACTION: The Proposed Action would include improvement and construction, operation, and maintenance of approximately 1.6 miles of all-weather roads. The Proposed Action would involve improvement of an existing border road and construction of a new access road to the top of BP Hill, where CBP operates a RVSS tower. The border road improvements would occur from near Border Monument 224 (approximately N 32° 38.96544, W 115° 42.1974), to near Border Monument 225 (approximately N32° 38.89518, W115° 43.52994). The border road would be improved to an all-weather surface road (1.4 miles long) approximately 20 feet wide with 2-foot shoulders and would include any necessary drainage structures (i.e., culverts, low-water crossing, or bridge). A drag road would also be constructed along the north side of the all-weather surface. Staging areas would be located approximately every 0.3 mile

within the construction corridor. In addition to the 1.4 miles of road improvement, a new access road (approximately 0.2 mile) leading to the BP Hill RVSS tower from the improved border road would be constructed. This road would be a 16-foot-wide road with necessary drainage structures an include all-weather surfacing.

ALTERNATIVES CONSIDERED: In addition to the No Action Alternative, two action alternatives were identified and considered during the planning stages of the proposed project and all are carried forward for analysis in this EA: the Proposed Action Alternative (Preferred Alternative) and the BP Hill Improvement Alternative. Under the BP Hill Improvement Alternative, the improvements to the existing border road, staging areas, and maintenance activities as presented in the Proposed Action Alternative would occur. However, rather than construct a new access road to the BP Hill RVSS tower site, CBP would improve the existing access road, which is approximately 0.3 mile long, by widening it to 16 feet, installing ancillary structures, all-weather surfacing, and reducing the grade through cut and fill activities. The No Action Alternative has also been evaluated, as required by NEPA. The No Action Alternative would require the USBP agents to continue to have long drive times to reach patrol areas, agent safety issues while trying to maintain and access the BP Hill RVSS tower, and would be restricted in their abilities to assist with interdictions and apprehensions. This alternative will serve as the baseline to which the two action alternatives are compared.

ENVIRONMENTAL CONSEQUENCES: The Proposed Action would potentially result in minimal to moderate impacts, including temporary increased air pollution from soil disturbance and minor increases in water use and ambient noise. No adverse impacts on historic or cultural resources would occur. No residences or children are found near the project corridor; thus, the road improvements and construction would have no effect relative to environmental justice or protection of children issues. Up to 7.5 acres of vegetation and wildlife habitat would be permanently impacted by the Proposed Action. However, due to the vegetation and wildlife habitat being locally and regionally common, these impacts are not considered major.

Up to 7.5 acres of BLM lands, specifically within the Yuha Area of Critical Environmental Concern and flat-tailed horned lizard (*Phrynosoma mcallii*) (FTHL) Yuha Desert Management Area (YDMA), would be permanently impacted. This permanent residual disturbance would not cause the BLM to exceed its cumulative residual disturbance cap of not more than one percent of the management area (i.e., 572 acres) as mandated by the FTHL Rangewide Management Strategy, to which BLM is a signatory. Impacts on land use are not considered major.

It is highly unlikely that Federally-listed or state-listed threatened or endangered species or their habitats would be impacted, as no known habitat exists within the project corridor. However, the Proposed Action could potentially impact four BLM sensitive species: the western burrowing owl (*Athene cunicularia*), kit fox (*Vulpes macrotis*), badger (*Taxidea taxus*), and FTHL. Although potential habitat for the western burrowing owl, kit fox, and badger would be impacted, these species or their burrows were not observed in the project corridor during recent biological surveys, and the habitat for these species is both locally and regionally common. Therefore, no direct impacts on occupied burrows are expected. Impacts from the improvements to the existing roadway would not constitute major impacts or cause additional fragmentation of habitat. FTHL habitat would be impacted by the construction activities, and there is the potential

for taking individuals. Best Management Practices (BMP) such as preconstruction surveys and monitoring for the presence of FTHL during construction, as well as compensation for loss of habitat would reduce impacts on FTHL. Impacts from the Proposed Action can be mitigated in accordance with the FTHL Rangewide Management Strategy; therefore, no major impacts would occur.

The potential impacts resulting from the Proposed Action (Preferred Alternative), in combination with impacts resulting from other development in the project region, would have minimal permanent cumulative effects on air quality, noise, aesthetics, and biological resources. No major impacts on any resources would occur regardless of the alternative chosen.

BEST MANAGEMENT PRACTICES: The following BMPs will be implemented to minimize impacts on the human and natural environment:

Project Planning/Design – General Construction

The all-weather road will be sited, designed, and improved/constructed to avoid or minimize habitat loss within or adjacent to the footprint. The amount of aboveground obstacles associated with the site will be minimized.

CBP will ensure that all construction will follow DHS *Directive 025-01* for Sustainable Practices for Environmental, Energy, and Transportation Management.

CBP will incorporate BMPs relating to project area delineation, water sources, waste management, and site restoration into project planning and implementation for construction and maintenance.

General Construction Activities

CBP will clearly demarcate project construction area perimeters with a representative from the land management agency. No disturbance outside that perimeter will be authorized.

Within the designated disturbance area, CBP will minimize the area to be disturbed by limiting deliveries of materials and equipment to only those needed for effective project implementation.

CBP will avoid contamination of ground and surface waters by storing any water that has been contaminated with construction materials, oils, equipment residue, etc., in closed containers on-site until removed for disposal. This wash water is toxic to wildlife. Storage tanks must have proper air space (to avoid rainfall-induced overtopping), be on-ground containers, and be located in upland areas instead of washes.

In the event that CBP contaminates soil or water resources as a result of the proposed project, the contaminated soil or water will be remediated as per BLM requirements.

CBP will avoid transmitting disease vectors, introducing invasive non-native species, and depleting natural aquatic systems by using wells, irrigation water sources, or treated municipal sources for construction or irrigation purposes instead of natural sources.

CBP will place drip pans under parked equipment and establish containment zones when refueling vehicles or equipment.

Vegetation

CBP will minimize habitat disturbance by restricting vegetation removal to the smallest possible project footprint. Native seeds or plants, which are compatible with the enhancement of protected species will be used to the greatest extent practicable to rehabilitate staging areas and other temporarily disturbed areas.

Construction equipment will be cleaned at temporary at a central wash station, in accordance with BMPs, prior to entering and departing project areas to minimize the spread and establishment of non-native invasive plant species.

Wildlife Resources

The Migratory Bird Treaty Act (16 USC 703-712, [1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989]) requires that Federal agencies coordinate with the USFWS if a construction activity would result in the take of a migratory bird. If construction or clearing activities are scheduled during nesting season (February 15 through September 1) surveys will be performed to identify active nests. If impacts on migratory birds are unavoidable and construction activities will result in the disturbance or take of a migratory bird, then coordination with the USFWS and California Department of Fish and Game will be required and applicable permits would be obtained prior to construction or clearing activities. Another mitigation measure that would be considered is to schedule all construction activities outside nesting season, negating the requirement for nesting bird surveys.

CBP will not, for any length of time, permit any pets inside the project area or adjacent native habitats. This BMP does not pertain to law enforcement animals.

Protected Species

Construction equipment will be cleaned prior to entering and departing the project corridor area to minimize the spread and establishment of non-native invasive plant species. Soil disturbances in temporary impact areas will be rehabilitated. To minimize critical habitat impacts, designated travel corridors will be marked with easily observed removable or biodegradable markers, and travel will be restricted to the established tower site construction areas.

A qualified monitor will be present during the improvement, construction and maintenance of the proposed roads in FTHL habitat. Duties of the monitor(s) will include surveying the roadways prior to and during improvement/construction and removing and relocating lizards outside the project area. The FTHL Rangewide Management Strategy contains a comprehensive list of avoidance and minimization measures to limit adverse effects on the lizard. In addition, CBP will compensate for loss of habitat using the compensation formulas outlined in the FTHL Rangewide Management Strategy. Based upon field visits, aerial photography, and discussions with BLM, CBP has determined that of the potential 7.5 acres of habitat permanently impacted only 3.5 of those acres are considered undisturbed native habitat. The remaining 4 acres consists of previously disturbed habitat in the form of the existing roadway and the extant Imperial Irrigation District gravel/sand quarry area (the eastern 2,300 feet of the project corridor). CBP

proposes to mitigate up to 3.6 acres at a 5:1 ratio (18 acres) and will mitigate the remaining 3.9 acres at a 4:1 ratio (15.6 acres). The total mitigation acreage is up to 33.6 acres.

Water Resources

Standard construction procedures will be implemented to minimize the potential for erosion and sedimentation during construction. All work will cease during heavy rains and would not resume until conditions are suitable for the movement of equipment and material. No refueling or storage will take place within 100 feet of drainages.

CBP will avoid contaminating natural aquatic systems with runoff by limiting all equipment maintenance, staging, laydown, and dispensing of fuel, oil, etc., to designated upland areas.

A Storm Water Pollution Prevention Plan will be prepared. A Spill Prevention Control and Countermeasures Plan will be maintained to ensure that all are aware of its implementation requirements in the event of a spill.

Air Quality

In order to minimize the amount of project-related dust emissions, all construction activities will comply with Imperial County Air Pollution Control District's requirements (Rule 800) for control of particulate matter (PM-10). Rule 800 provides guidance for contractors that: (1) minimize land disturbance; and (2) ensure saturation of exposed areas and control of fugitive dust caused by hauling activities and vehicular travel on unpaved road surfaces. In addition, all construction equipment shall be maintained and operated in a manner that produces the least amount of emissions. All construction equipment and vehicles and must be maintained in good operating condition, free from leaks.

Cultural Resources

Should any archaeological artifacts be found during staging or installation activities, the appropriate BLM archaeologist or cultural resources specialist will be notified immediately. All work will cease until an evaluation of the discovery is made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values.

Noise

During the construction and improvement and maintenance of the proposed roadways, short-term noise impacts are anticipated. All applicable Occupational Safety and Health Administration regulations and requirements will be followed. On-site activities will be restricted to daylight hours, to the greatest extent practicable. All equipment will possess properly working mufflers and would be kept properly tuned to reduce backfires.

Hazardous Materials

BMPs will be implemented as standard operating procedures during all construction activities, and will include proper handling, storage, and/or disposal of hazardous and/or regulated materials. To minimize potential impacts from hazardous and regulated materials, all fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein. The refueling of machinery will be completed in accordance with accepted industry and regulatory guidelines, and all vehicles will

have drip pans during storage to contain minor spills and drips. Although it is unlikely that a major spill would occur, any spill of reportable quantities will be contained immediately within an earthen dike, and the application of an absorbent (e.g., granular, pillow, sock) will be used to absorb and contain the spill.

CBP will contain non-hazardous waste materials and other discarded materials, such as construction waste, until removed from the construction and maintenance sites. This will assist in keeping the project area and surroundings free of litter and reduce the amount of disturbed area needed for waste storage.

CBP will minimize site disturbance and avoid attracting predators by promptly removing waste materials, wrappers, and debris from the site. Any waste onsite will be properly stored and tightly covered with a wildlife-proof material until disposal.

All waste oil and solvents will be recycled. All non-recyclable hazardous and regulated wastes will be collected, characterized, labeled, stored, transported, and disposed of in accordance with all applicable Federal, state, and local regulations, including proper waste manifesting procedures.

Solid waste receptacles will be maintained at the construction staging area. Non-hazardous solid waste (trash and waste construction materials) will be collected and deposited in on-site receptacles. Solid waste will be collected and disposed of by a local waste disposal contractor.

FINDINGS AND CONCLUSIONS: No significant adverse impacts are anticipated for any resource analyzed within this document. Therefore, no further analysis or documentation (i.e., Environmental Impact Statement) is warranted. CBP, in implementing this decision, would employ all practical means to minimize and mitigate the potential adverse impacts on the human and biological environment.

Project Proponent: _____ _____

Glenn Bixler Date
Director
Border Patrol Tactical Infrastructure
Office of Border Patrol

Approved: _____ _____

Karl Calvo Date
Executive Director
Facilities Management and Engineering
U.S. Customs and Border Protection

DRAFT

ENVIRONMENTAL ASSESSMENT FOR THE IMPROVEMENT AND CONSTRUCTION, OPERATION, AND MAINTENANCE OF PROPOSED ALL-WEATHER ROAD IN THE EL CENTRO STATION AREA OF RESPONSIBILITY U.S. CUSTOMS AND BORDER PROTECTION, EL CENTRO SECTOR

November 2012

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EXECUTIVE SUMMARY

INTRODUCTION:

The U.S. Border Patrol (USBP) is a law enforcement entity of U.S. Customs and Border Protection (CBP) within the Department of Homeland Security (DHS). USBP's priority mission is to prevent the entry of terrorists and their weapons of terrorism and to enforce the laws that protect the U.S. homeland. This is accomplished by the detection, interdiction, and apprehension of those who attempt to illegally enter or smuggle any person or contraband across the sovereign borders of the United States between the land Ports of Entry. The addition of new agents, personnel, and resources will enhance the operational capabilities of USBP.

The existing U.S./Mexico border road in the USBP El Centro's Station's Area of Responsibility (AOR) is impassable. This creates long drive times for agents to reach patrol areas and limits their abilities to assist with interdictions and apprehensions. This Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) and analyzes the project alternatives and potential impacts on the human and natural environment from road corridor improvements and construction.

PURPOSE AND NEED:

The purpose of the Proposed Action is to increase border security within the USBP El Centro Sector with an ultimate objective of reducing illegal cross-border activity by providing safer and more efficient access for USBP agents along the U.S./Mexico border in the west desert area of the USBP El Centro Station's AOR and to BP Hill. The primary need for the Proposed Action is because of the remoteness of the west desert area and the impassability of the existing road, which creates long drive times for agents to reach patrol areas and limits their abilities to assist with interdictions and apprehensions. An additional need for the Proposed Action is to provide agents with the infrastructure necessary to carry out USBP's mission.

DESCRIPTION OF PROPOSED ACTION:	The Proposed Action would improve and construct, operate, and maintain approximately 1.6 miles of all-weather road near the U.S./Mexico border within USBP El Centro Station's AOR. The existing 1.4-mile road that would be improved is west of the All-American Canal and adjacent to and within U.S. Bureau of Land Management's (BLM) Yuha Desert Area of Critical Environmental Concern. The Proposed Action includes improvements to the existing border road, construction of a new access road to the top of BP Hill, and required maintenance activities upon completion of the proposed project. The Proposed Action also includes the construction of a new access road to the top of BP Hill (0.2 mile in length).
PROPOSED ACTION AND ALTERNATIVES CONSIDERED:	One other viable action alternative was identified and considered during the planning stages of the proposed project. This alternative would consist of the Proposed Action but with no new road construction to BP Hill. Instead, only road improvements to the existing BP Hill access road would be implemented. The No Action Alternative, which would preclude the construction, operation, and maintenance of border road, was also evaluated. Two alternatives were considered but eliminated from further consideration. The first alternative was to construct a new road parallel to the U.S./Mexico border within the 60-foot Roosevelt Reservation. Extensive earth moving and engineering would be required for this alternative due to the impassability of the entire road. The other alternative considered but eliminated was to improve limited areas within the existing border road and BP Hill. Only improving segments of the road, as proposed in the second eliminated alternative, would not meet the purpose and need of the proposed project.
AFFECTED ENVIRONMENT AND CONSEQUENCES:	The improvement, construction, operation, and maintenance of 1.6 miles of all-weather road would potentially result in minimal to moderate impacts, including temporary increased air pollution from soil disturbance, permanent loss of up to 7.5 acres of vegetation and wildlife habitat, and minor increases in water use and ambient noise. No adverse impacts on historic properties or threatened or endangered species would occur. No residences or children are found near the project corridor; thus, the road improvements and construction would have no effect relative to environmental justice or protection of children issues.
FINDINGS AND CONCLUSIONS:	No major adverse impacts are anticipated for any resource analyzed within this document. Therefore, no further analysis or documentation (i.e., Environmental Impact Statement or

Environmental Impact Report) is warranted. CBP, in implementing this decision, would employ all practical means to minimize and mitigate the potential adverse impacts on the human and biological environment.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1-1

1.1 STUDY LOCATION 1-2
1.2 CBP HISTORY 1-2
1.3 CBP INTENT AND STRATEGIES 1-2
1.4 REGULATORY AUTHORITY 1-2
1.5 PURPOSE AND NEED 1-4
1.6 SCOPE OF THE ANALYSIS 1-4
1.7 APPLICABLE ENVIRONMENTAL GUIDANCE, STATUTES, AND REGULATIONS 1-4
1.8 PUBLIC INVOLVEMENT 1-4
1.8.1 Cooperating Agency 1-10
1.8.2 California Environmental Quality Act (CEQA) Lead Agency 1-10
1.9 REPORT ORGANIZATION 1-10

2.0 PROPOSED ACTION AND ALTERNATIVES 2-1

2.1 NO ACTION ALTERNATIVE 2-1
2.2 PROPOSED ACTION ALTERNATIVE 2-1
2.2.1 Road Improvements 2-1
2.2.2 Staging Areas 2-2
2.2.3 Water Usage 2-4
2.2.4 Construction Personnel and Equipment 2-4
2.3 BP HILL IMPROVEMENT ALTERNATIVE 2-4
2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED 2-4
2.5 SUMMARY 2-6

3.0 AFFECTED ENVIRONMENT AND CONSEQUENCES 3-1

3.1 PRELIMINARY IMPACT SCOPING 3-1
3.2 LAND USE 3-2
3.2.1 Affected Environment 3-2
3.2.2 Environmental Consequences 3-4
3.2.2.1 No Action Alternative 3-4
3.2.2.2 Proposed Action Alternative 3-4
3.2.2.3 BP Hill Improvement Alternative 3-4
3.3 SOILS 3-4
3.3.1 Affected Environment 3-4
3.3.2 Environmental Consequences 3-6
3.3.2.1 No Action Alternative 3-6
3.3.2.2 Proposed Action Alternative 3-6
3.3.2.3 BP Hill Improvement Alternative 3-6
3.4 GEOLOGY 3-6
3.4.1 Affected Environment 3-6
3.4.2 Environmental Consequences 3-7

3.4.2.1 No Action Alternative 3-7
3.4.2.2 Proposed Action Alternative 3-7
3.4.2.3 BP Hill Improvement Alternative 3-7
3.5 VEGETATION 3-7
3.5.1 Affected Environment 3-7
3.5.2 Environmental Consequences 3-8
3.5.2.1 No Action Alternative 3-8
3.5.2.2 Proposed Action Alternative 3-8
3.5.2.3 BP Hill Improvement Alternative 3-9
3.6 WILDLIFE 3-9
3.6.1 Affected Environment 3-9
3.6.2 Environmental Consequences 3-10
3.6.2.1 No Action Alternative 3-10
3.6.2.2 Proposed Action Alternative 3-10
3.6.2.3 BP Hill Improvement Alternative 3-11
3.7 THREATENED AND ENDANGERED SPECIES 3-11
3.7.1 Affected Environment 3-11
3.7.1.1 Federal 3-11
3.7.1.2 Critical Habitat 3-12
3.7.1.3 State 3-12
3.7.1.4 BLM Sensitive Species 3-13
3.7.2 Environmental Consequences 3-13
3.7.2.1 No Action Alternative 3-13
3.7.2.2 Proposed Action Alternative 3-13
3.7.2.3 BP Hill Improvement Alternative 3-14
3.8 WATER RESOURCES 3-14
3.8.1 Affected Environment 3-14
3.8.1.1 Surface Waters 3-14
3.8.1.2 Groundwater 3-14
3.8.1.3 Waters of the United States and Wetlands 3-15
3.8.2 Environmental Consequences 3-15
3.8.2.1 No Action Alternative 3-15
3.8.2.2 Proposed Action Alternative 3-15
3.8.2.3 BP Hill Improvement Alternative 3-17
3.9 AIR QUALITY 3-17
3.9.1 Affected Environment 3-17
3.9.1.1 Greenhouse Gases and Climate Change 3-19
3.9.2 Environmental Consequences 3-20
3.9.2.1 No Action Alterative 3-20
3.9.2.2 Proposed Action Alternative 3-20
3.9.2.3 BP Hill Improvement Alternative 3-22
3.10 NOISE 3-22
3.10.1 Affected Environment 3-22
3.10.2 Environmental Consequences 3-23
3.10.2.1 No Action Alternative 3-23
3.10.2.2 Proposed Action Alternative 3-23

3.10.2.3 BP Hill Improvement Alternative 3-24
3.11 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES 3-24
3.11.1 Affected Environmental 3-24
3.11.1.1 Current Investigations 3-24
3.11.1.2 Tribal Concerns 3-25
3.11.2 Environmental Consequences 3-25
3.11.2.1 No Action Alternative 3-25
3.11.2.2 Proposed Action Alternative 3-25
3.11.2.3 BP Hill Improvement Alternative 3-25
3.12 ROADWAYS AND TRAFFIC 3-26
3.12.1 Affected Environment 3-26
3.12.2 Environmental Consequences 3-26
3.12.2.1 No Action Alternative 3-26
3.12.2.2 Proposed Action Alternative 3-26
3.12.2.3 BP Hill Improvement Alternative 3-26
3.13 AESTHETICS AND VISUAL RESOURCES 3-26
3.13.1 Affected Environment 3-26
3.13.2 Environmental Consequences 3-27
3.13.2.1 No Action Alternative 3-27
3.13.2.2 Proposed Action Alternative 3-27
3.13.2.3 BP Hill Improvement Alternative 3-27
3.14 HAZARDOUS MATERIALS 3-27
3.14.1 Affected Environment 3-27
3.14.2 Environmental Consequences 3-28
3.14.2.1 No Action Alternative 3-28
3.14.2.2 Proposed Action Alternative 3-28
3.14.2.3 BP Hill Improvement Alternative 3-28
3.15 SOCIOECONOMICS 3-28
3.15.1 Affected Environment 3-28
3.15.1.1 Population 3-28
3.15.1.2 Employment, Poverty Levels, and Income 3-29
3.15.1.3 Housing 3-31
3.15.2 Environmental Consequences 3-31
3.15.2.1 No Action Alternative 3-31
3.15.2.2 Proposed Action Alternative 3-31
3.15.2.3 BP Hill Improvement Alternative 3-32
3.16 HUMAN HEALTH AND SAFETY 3-32
3.16.1 Affected Environment 3-32
3.16.2 Environmental Consequences 3-32
3.16.2.1 No Action Alternative 3-32
3.16.2.2 Proposed Action Alternative 3-32
3.16.2.3 BP Hill Improvement Alternative 3-32
3.17 SUSTAINABILITY AND GREENING 3-32
3.17.1 Affected Environment 3-32
3.17.2 Environmental Consequences 3-33
3.17.2.1 No Action Alternative 3-33

3.17.2.2 Proposed Action Alternative 3-33
3.17.2.3 BP Hill Improvement Alternative 3-33
3.18 PALEONTOLOGICAL RESOURCES 3-33
3.18.1 Affected Environment 3-33
3.18.2 Environmental Consequences 3-33
3.18.2.1 No Action Alternative 3-33
3.18.2.2 Proposed Action Alternative 3-33

4.0 CUMULATIVE IMPACTS 4-1

4.1 CBP PROJECTS 4-1
4.2 PRIVATE/OTHER AGENCY/ORGANIZATION PROJECTS 4-2
4.3 IDENTIFICATION OF CUMULATIVE EFFECTS ISSUES 4-3
4.3.1 Land Use 4-3
4.3.2 Soils 4-3
4.3.3 Geology 4-4
4.3.4 Vegetation 4-4
4.3.5 Wildlife 4-4
4.3.6 Protected Species and Critical Habitats 4-4
4.3.7 Water Resources 4-4
4.3.8 Air Quality 4-5
4.3.9 Noise 4-5
4.3.10 Cultural Resources 4-5
4.3.11 Aesthetics and Visual Resources 4-5
4.3.12 Hazardous Materials 4-5
4.3.13 Socioeconomic 4-6
4.3.14 Human Health and Safety 4-6

5.0 BEST MANAGEMENT PRACTICES 5-1

5.1 PROJECT PLANNING/DESIGN – GENERAL CONSTRUCTION 5-1
5.2 GENERAL CONSTRUCTION ACTIVITIES 5-1
5.3 VEGETATION 5-2
5.4 WILDLIFE RESOURCES 5-2
5.5 PROTECTED SPECIES 5-2
5.6 WATER RESOURCES 5-5
5.7 CULTURAL RESOURCES 5-5
5.8 AIR QUALITY 5-5
5.9 NOISE 5-5
5.10 HAZARDOUS MATERIALS 5-6

6.0 REFERENCES 6-1

7.0 ACRONYMS AND ABBREVIATIONS 7-1

8.0 LIST OF PREPARERS 8-1

LIST OF FIGURES

Figure 1-1. Vicinity Map 1-3
Figure 2-1. Proposed Action Alternative Map 2-3
Figure 2-2. BP Hill Improvement Alternative Map 2-5
Figure 3-1. Land Use Map 3-5
Figure 3-2. Waters of the U.S. within the Project Area 3-16
Figure 5-1. Schematic Showing Disturbed Versus Undisturbed Areas 5-4

LIST OF TABLES

Table 1-1. Relevant Policy Documents, Invoking Actions, Regulatory Requirements, and Status of Compliance 1-5
Table 2-1. Alternatives Matrix 2-6
Table 2-2. Summary of Impacts 2-7
Table 3-1. Summary of Impacts of Project Components by Alternative 3-3
Table 3-2. Federally Listed Species for Imperial County, California 3-12
Table 3-3. National Ambient Air Quality Standards 3-18
Table 3-4. NAAQS and CAAQS Air Quality Status in Imperial County 3-19
Table 3-5. Total Air Emissions (tons/year) from the Proposed Action Construction versus the *de minimis* Threshold Levels-Imperial County 3-21
Table 3-6. A-Weighted (dBA) Sound Levels of Construction Equipment and Modeled Attenuation at Various Distances 3-24
Table 3-7. Population 3-28
Table 3-8. Race and Ethnicity 3-29
Table 3-9. Educational Attainment 3-29
Table 3-10. Employment by Industry Sector (Percent of Total) 3-30
Table 3-11. Income and Poverty 3-30
Table 3-12. Housing Units 3-31
Table 5-1. Compensation for Impacts on FTHL habitat 5-3

LIST OF PHOTOGRAPHS

Photograph 2-1. Existing border road in eastern portion of project area. 2-2
Photograph 2-2. Existing border road in western portion of project area. 2-2
Photograph 3-1. Vegetation in the project corridor, facing west. 3-8
Photograph 3-2. Facing west with creosote bush in foreground. 3-8

LIST OF APPENDICES

Appendix A. Correspondence
Appendix B. Biological Survey Report
Appendix C. Protected Species: Federal, State, and BLM Sensitive
Appendix D. Air Quality Calculations

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SECTION 1.0
INTRODUCTION

1.0 INTRODUCTION

U.S. Customs and Border Protection (CBP) has prepared this Environmental Assessment (EA) to address the potential effects, beneficial and adverse, resulting from the proposed improvement and construction, operation, and maintenance of approximately 1.6 miles of all-weather road near the U.S./Mexico border within U.S. Border Patrol (USBP) El Centro Station's Area of Responsibility (AOR). The existing border road is impassable and creates long drive times for agents to reach patrol areas, limiting their ability to assist with interdictions and apprehensions. The border road improvements would occur from near Border Monument 224 (approximately N 32° 38.96544, W 115° 42.1974), to near Border Monument 225 (approximately N32° 38.89518, W115° 43.52994). The border road would be improved to an all-weather surface road (1.4 miles long) approximately 20 feet wide with 2-foot shoulders and include any necessary drainage structures. A drag road would also be constructed along the north side of the all-weather surface. Staging areas would be located approximately every 0.3 mile within the construction corridor. In addition to the 1.4 miles of road improvement, a new access road (approximately 0.2 mile) would be constructed leading to the BP Hill Remote Video Surveillance System (RVSS) tower from the improved border road. This road would be a 16-foot-wide road with necessary drainage structures and all-weather surfacing.

On April 1, 2008, the Secretary of the U.S. Department of Homeland Security (DHS), pursuant to his authority under Section 102(c) of Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), exercised his authority to waive certain environmental and other laws in order to ensure the expeditious construction of tactical infrastructure (TI) along the U.S./Mexico border. The proposed improvement and construction, operation, and maintenance of approximately 1.6 miles of all-weather road addressed in this EA is part of a larger TI project, portions of which are waived from National Environmental Policy Act (NEPA) and other Federal regulatory compliance by the Secretary of DHS. The other elements of the larger TI project include the improvement, operation, and maintenance of two staging areas, two access roads, and border road to the east and west of the proposed project area. As part of the Secretary of the DHS's commitment to environmental stewardship under the waiver, CBP published the May 2008 Environmental Stewardship Plan (ESP) for the Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Border Patrol, El Centro Sector, California, which describes the proposed TI and any potential environmental impacts.

USBP El Centro Station is one of four stations composing the El Centro Sector, along with the Calexico, Indio, and Riverside stations in California. USBP El Centro Station's AOR includes 37.1 linear miles of the U.S./Mexico border. The remoteness of, and travel time to, the west desert area of USBP El Centro Station's AOR limits the capability of law enforcement agents to rapidly respond to illegal activity. By providing an all-weather road near the border, agent response time to illegal cross-border activities would be greatly enhanced, and agents could be more efficiently and safely deployed to patrol the more remote sections of USBP El Centro Station's AOR.

1.1 STUDY LOCATION

The proposed all-weather roads are located west of the All-American Canal adjacent to and within U.S. Bureau of Land Management (BLM) lands, near the U.S./Mexico border within USBP El Centro Station's AOR. Specifically, the project is located adjacent to and within the BLM's Yuha Desert Area of Critical Environmental Concern (ACEC). The City of Calexico, California, is located approximately 10 miles east of the project area, while the City of El Centro, California, is located approximately 11.5 miles northeast of the project area (Figure 1-1). Access to the project area is limited to primitive roads with ingress and egress locations along State Route (SR) 98.

1.2 CBP HISTORY

In 1924, Congress created the USBP to serve as the law enforcement entity of the Immigration and Naturalization Service (INS), and it did so until November 25, 2002, when Congress transferred all INS responsibilities to the newly created DHS with the passage of the Homeland Security Act of 2002 (Public Law [PL] 107-296). USBP was officially transferred to DHS/CBP on March 1, 2003.

1.3 CBP INTENT AND STRATEGIES

In the aftermath of the September 11, 2001 terrorist attacks on the United States and the subsequent formation of DHS, CBP was created by unifying all frontline personnel and functions with law enforcement responsibilities at our Nation's borders. The mission of CBP is to secure the borders of the United States and to prevent terrorists and terrorist weapons from entering the United States (CBP 2012). As an important component of CBP, USBP's mission is to detect and prevent terrorists and terrorist weapons from entering the country between official Ports of Entry (POE). USBP will continue to advance its mission to detect, interdict, and apprehend those who attempt to illegally enter or smuggle any person or contraband across the sovereign borders of the United States. While previous years' strategies have applied an appropriate mix of infrastructure, technology, and personnel to effectively manage land borders in a resource-based approach to border security, the new USBP National Strategy (2012-2016) extends a risk-based approach to countering the threat environment through information, integration, and rapid response. Assets are used to execute the mission functions of predicting illicit activity, detecting and tracking border crossings, identifying and classifying the detections, and responding to and resolving suspect border crossings as threats are identified through intelligence efforts and prioritized for response and targeted enforcement.

1.4 REGULATORY AUTHORITY

The primary sources of authority granted to USBP agents are the Immigration and Nationality Act (INA) of 1952 (PL 82-414) contained in Title 8 of the United States Code (USC) "Aliens and Nationality" and other statutes relating to the immigration and naturalization of aliens. The secondary sources of authority are administrative regulations implementing those statutes, judicial decisions, and administrative decisions of the Board of Immigration Appeals. In addition, the IIRIRA of 1996 (PL 104-208) and, subsequently, the Homeland Security Act

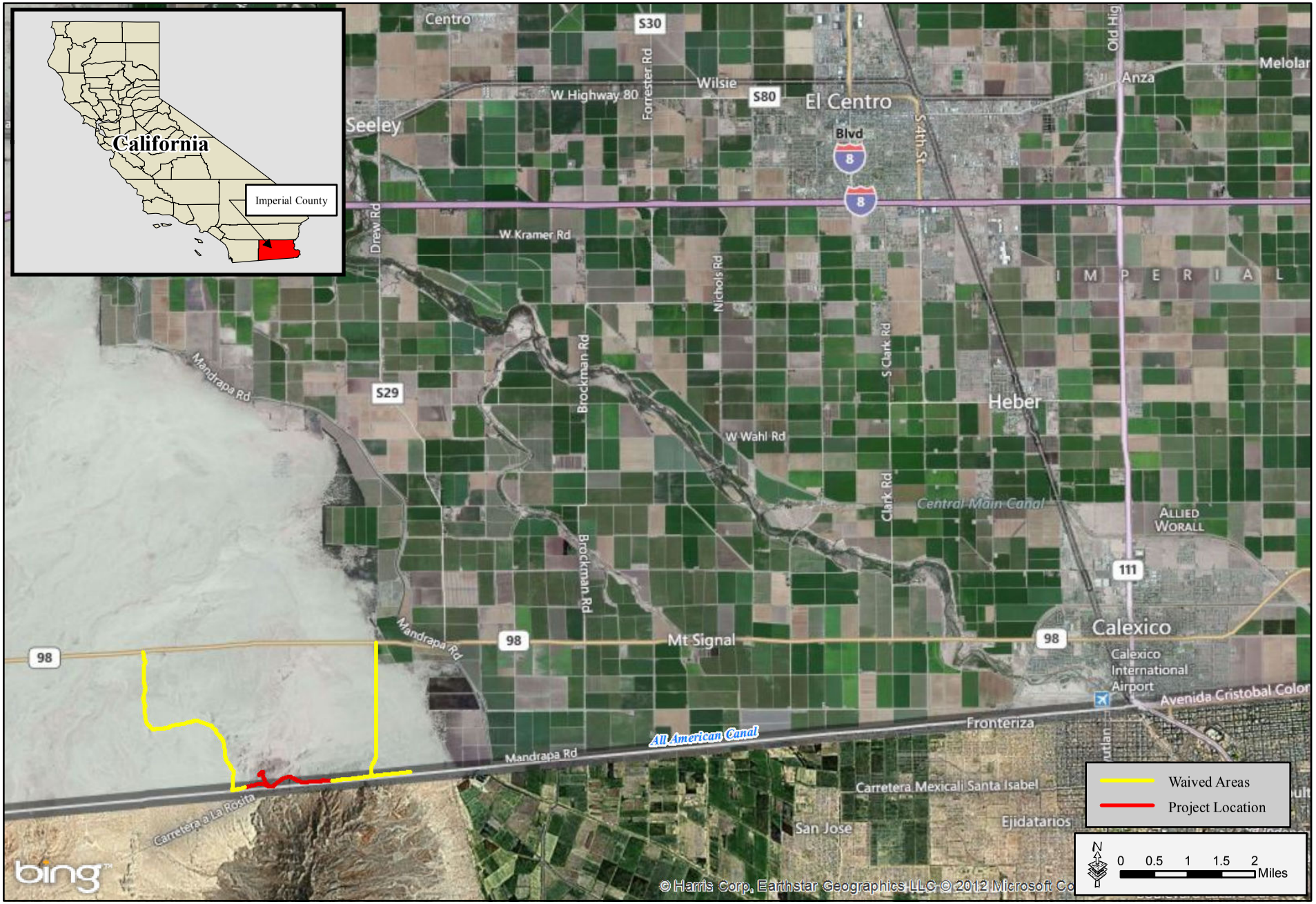

Figure 1-1: Vicinity Map

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mandate that DHS acquire and improve equipment and technology along the border, hire and train new agents for the border region, and develop effective border enforcement strategies.

1.5 PURPOSE AND NEED

The purpose of the Proposed Action is to increase border security within the USBP El Centro Sector with an ultimate objective of reducing illegal cross-border activity by providing safer and more efficient access for USBP agents along the U.S./Mexico border in the west desert area of the USBP El Centro Station's AOR and to BP Hill. The primary need for the Proposed Action is because of the remoteness of the west desert area and the impassability of the existing road, which creates long drive times for agents to reach patrol areas and limits their ability to assist with interdictions and apprehensions. An additional need for the Proposed Action is to provide agents with the infrastructure necessary to carry out USBP's mission.

1.6 SCOPE OF THE ANALYSIS

The EA will include the analysis of effects resulting from the improvement, operation, and maintenance of an all-weather road and construction, operation, and maintenance of a new access road to BP Hill. The proposed road improvements and construction would include development of lands within El Centro Station's AOR in the Yuha Desert ACEC/Yuha Desert flat-tailed horned lizard (FTHL) Management Area, both of which are managed by the BLM. The potentially affected biological and human environment would include resources associated with the undeveloped land located in south-central Imperial County; however, most potential effects would be limited to the construction site and immediately adjacent resources.

1.7 APPLICABLE ENVIRONMENTAL GUIDANCE, STATUTES, AND REGULATIONS

The EA will be prepared by CBP in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 USC 4321-4347) and the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), BLM planning guide (BLM NEPA Handbook H-1790-1), as well as the DHS "Environmental Planning Directive" (Directive 023-01). Other pertinent environmental statutes, regulations, and compliance requirements that will guide the preparation of the EA are summarized in Table 1-1. This list, however, is not intended to be an all-inclusive list of applicable Federal laws and regulations.

1.8 PUBLIC INVOLVEMENT

Consultation and coordination with Federal and state agencies would occur during preparation of the document. The list below includes contacts that were made during the development of the action alternatives and writing of the EA. Copies of correspondence are provided in Appendix A. Formal and informal coordination will be conducted with the following agencies:

- U.S. Fish and Wildlife Service (USFWS)
- U.S. Army Corps of Engineers, Los Angeles District (USACE)
- U.S. Section, International Boundary and Water Commission (USIBWC)

Table 1-1. Relevant Policy Documents, Invoking Actions, Regulatory Requirements, and Status of Compliance*

Policy Document	Administrative Authority	Invoking Action	Requirements for Compliance	Status of Compliance
Archaeological Resources Protection Act of 1979 16 United States Code (USC) § 470 et seq.	Department of Interior	Excavation, removal, damage, or other alteration or defacing; or attempt to excavate, remove, damage, or otherwise alter or deface any archaeological resource located on public lands 43 Code Federal Regulations (CFR) 7.4	Because activities are exclusively for purposes other than the excavation and/or removal of archaeological resources, even though those activities might incidentally result in the disturbance of archaeological resources, no permit shall be required	No adverse impact on historic properties. Section 106 consultation is ongoing
Bureau of Indian Affairs (BIA) Policy, Requirements, and Responsibilities for NEPA Compliance 59 AIM 3	BIA	Any undertaking by Federal agencies on lands administered by a sovereign Native American tribe 40 CFR Parts 1500-1508	Adherence to guidelines set forth by the Council on Environmental Quality (CEQ) for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508) on lands administered by a sovereign Native American on tribal property	Project is not located on tribal lands
Clean Air Act of 1963 16 USC § 470 et seq.	Environmental Protection Agency (USEPA)	Any Federal action where the total of direct and indirect emissions in a non-attainment area would equal or exceed the provided rates 40 CFR 51	Project emission levels were determined to be less than *de minimis* thresholds; therefore, a determination of conformity with applicable implementation plan is not required	Only minor emissions would occur during construction
Comprehensive Environmental Response, Compensation and Liability Act of 1980 42 USC § 9601 et seq.	USEPA	Release or threatened release of a hazardous substance 40 CFR 302	Development of emergency response plans, notification, and cleanup	To be completed by U.S. Customs and Border Protection (CBP) during design and operation
Endangered Species Act (ESA) of 1973 16 USC § 1531 et seq.	U.S. Fish and Wildlife Service (USFWS)	All actions in which there is discretionary Federal involvement or control and potential to affect protected species. 50 CFR 402.03	Determination of no jeopardy to listed species and no destruction or adverse modification of critical habitat through consultation with the USFWS	No effect on any Federally protected species
Farmland Protection Policy Act of 1981 7 USC § 9601 et seq.	Natural Resources Conservation Service	Any Federal action 7 CFR 658	Identify and take into account the adverse effects on the protection of farmland	No prime farmland soils would be impacted

Table 1-1, continued

Policy Document	Administrative Authority	Invoking Action	Requirements for Compliance	Status of Compliance
Federal Water Pollution Control Act of 1977 (also known as Clean Water Act or CWA) 33 USC § 1251 et seq. CWA	USEPA	Storage, use, or consumption of oil and oil products, which could discharge oil in quantities that could affect water quality standards, into or upon the navigable Waters of the U.S. 40 CFR 112	Preparation of a Spill Prevention, Control, and Countermeasures Plan	To be completed by CBP or contractor
		Discharge of pollutants 40 CFR 122	Obtain a general National Pollutant Discharge Elimination System Permit	To be completed by CBP or contractor. Minor impacts on Waters of the United States, a USACE Nationwide Permit 14 would be used
IIM Land Use Agreement Direct Payment Arrangement 25 CFR Part 162	BIA	Any Federal action resulting in a trust land use agreement for use of tribal property between a Federal agency and a sovereign Native American tribe 25 CFR Part 169	Agreement between CBP and the respective Native American tribe for payment of trust land use	Project is not located on tribal lands
Migratory Bird Treaty Act of 1918 16 USC § 703	USFWS	Any Federal action resulting in the potential take of any migratory bird, or the parts, nests, or eggs of such bird 50 CFR 21.11	Avoidance of take or application for permit	Proposed surveys prior to any construction beginning during nesting season
National Historic Preservation Act of 1966 16 USC § 470 et seq.	Advisory Council on Historic Preservation	Any undertaking by Federal 36 CFR 800.3	Assessment of effects through consultation with the Advisory Council on Historic Preservation	No adverse impact on historic properties Section 106 consultation is ongoing

Table 1-1, continued

Policy Document	Administrative Authority	Invoking Action	Requirements for Compliance	Status of Compliance
Occupational Health and Safety Act of 1970 29 USC § 651 et seq.	Occupational Safety and Health Administration, Department of Labor	Employees performing in a workplace 29 CFR 1910.5(a)	Adherence to occupational health and safety standards	To be completed by CBP during design and operation
Resource Conservation and Recovery Act (RCRA) of 1976 42 USC § 6901 et seq.	USEPA	Collection of residential, commercial, and institutional solid wastes and street wastes 40 CFR 243	Adherence to guidelines for waste storage and safety and collection equipment, frequency, and management	To be completed by CBP during design and operation
		Procurement of more than $10,000 annually of products containing recovered materials 40 CFR 247	Procure designated items composed of the highest percentage of recovered materials practicable	To be completed by CBP during design and operation
		Recovery of resources from solid waste through source separation 40 CFR 246	Recovery of high-grade paper, residential materials, and corrugated containers	To be completed by CBP during design and operation
		Treatment, storage, or disposal of hazardous waste on-site 40 CFR 262.10(c)	Determination of hazardous or non-hazardous nature of solid waste, obtain an EPA identification number if necessary, properly accumulate hazardous waste, and maintain a record	To be completed by CBP during design and operation
Executive Order (EO) 11988: Floodplain Management 42 Federal Register (FR) 26,951 (May 24, 1997)	Water Resources Council, Federal Emergency Management Agency, Council on Environmental Quality (CEQ)	Acquisition and management of Federal lands; Federally undertaken, financed, or assisted construction; conducting Federal activities affecting land use within a floodplain	Determine whether the proposed action would occur in a floodplain, then evaluate potential effects of any action in a floodplain	No floodplains would be impacted by the Proposed Action
EO 11990: Protection of Wetlands 42 FR 26,691 (May 24, 1977)	U.S. Army Corps of Engineers, USEPA	Federally undertaken, financed, or assisted construction, and improvements; conducting Federal activities affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities	Take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands	No impacts on wetlands

Table 1-1, continued

Policy Document	Administrative Authority	Invoking Action	Requirements for Compliance	Status of Compliance
EO 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations 59 FR 7629 (February 11, 1994)	USEPA	All programs or activities receiving Federal financial assistance that affect human health or the environment	Analyze the environmental effects, including human health, economic, and social effects of CBP actions, including effects on minority communities and low-income communities	No effects on minority communities or low-income communities. Item eliminated from EA
EO 13045: Protection of Children from Environmental Health Risks and Safety Risks 62 FR 19883 (April 23, 1997)	USEPA	Any Federal action that has the potential to place children at higher health and safety risks	Identify and assess environmental health risks and safety risks that may disproportionately affect children	No effects on minority communities or low-income communities. Item eliminated from EA
EO 13423: Strengthening Federal Environmental, Energy, and Transportation Management 72 FR No. 17,3919 (January 24, 2007)	CEQ	Reduction of energy, waste production, and water consumption, and improved efficiency of transportation within Federal agencies	Incorporate waste prevention, energy efficiency, and recycling in the agency's daily operations	To be completed by CBP during design and operation as appropriate
EO 13123: Greening the Government Through Efficient Energy Management 64 FR 30851 (June 3, 1999)	USEPA, Department of Energy (DOE)	Operation and maintenance of a Federal facility	Reduce emissions of greenhouse gases, reduce energy consumption, strive to expand use of renewable energy, reduce use of petroleum, and reduce water consumption	To be completed by CBP during design and operation as appropriate

Table 1-1, continued

Policy Document	Administrative Authority	Invoking Action	Requirements for Compliance	Status of Compliance
EO 13514: Federal Leadership in Environmental, Energy, and Economic Performance 74 FR 52117 (October 8, 2009)	CEQ	Construction, operation, and maintenance of a Federal facility; aircraft operations and worker commutes	Increase energy efficiency; measure, report, and reduce greenhouse gas emissions from direct and indirect activities; conserve and protect water resources through efficiency, reuse, and stormwater management; eliminate waste, recycle, and prevent pollution; design, construct, maintain, and operate high-performance sustainable buildings in sustainable locations	To be completed by CBP during design and operation as appropriate

*Not All-Inclusive

- California Department of Fish and Game (CDFG)
- California Environmental Protection Agency (CalEPA)
- California Regional Water Quality Control Board (RWQCB)
- California State Historical Preservation Officer (SHPO)
- BLM
- Imperial Irrigation District (IID)
- Native American Tribes

This draft EA will be made available for public review for 30 days, and the Notice of Availability (NOA) will be published in the *Imperial Valley Press* on November, 15, 2012. The draft EA will also be available electronically at http://ecso.swf.usace.army.mil/Pages/Publicreview.cfm. In addition, the draft EA will be available for review at El Centro Public Library, 539 West State Street, El Centro, California 92243 and the Calexico City Library, 850 Encinas Avenue, Calexico, California 92231, from November 15, 2012 to December 15, 2012.

1.8.1 Cooperating Agency

A request to be a cooperating agency was submitted to and accepted by BLM, since all of the proposed project would be located within lands managed by BLM. A copy of the cooperation letter is in Appendix A. BLM is required to manage the natural resources on their lands to ensure sustainability of grazing leases, recreational opportunities, cultural resources, and natural resources.

1.8.2 California Environmental Quality Act (CEQA) Lead Agency

Identification of the appropriate CEQA lead agency is the necessary first step toward compliance with CEQA. Because the RWQCB is the only state agency with permitting authority over the proposed project, it is the appropriate lead agency. It is assumed that the RWQCB will determine that a Mitigated Negative Declaration would be the appropriate CEQA document and that this EA can be used in lieu of it.

1.9 REPORT ORGANIZATION

The EA is organized into eight major sections. Section 1.0 is the introduction, and Section 2.0 describes all alternatives considered for the project. Section 3.0 discusses the environmental resources potentially affected by the project and the environmental consequences for each of the viable alternatives. Section 4.0 discusses cumulative impacts, and environmental design measures are discussed in Section 5.0. Sections 6.0, 7.0, and 8.0 present a list of the references cited in the document, a list of acronyms and abbreviations used in the document, and a list of the persons involved in the preparation of the document, respectively. Correspondence generated during the preparation of the EA is presented in Appendix A. Appendix B is the Biological Survey Report, Appendix C is the BLM and California list of protected species, and Appendix D is the Air Quality Calculations completed for this project.

SECTION 2.0
PROPOSED ACTION AND ALTERNATIVES

2.0 PROPOSED ACTION AND ALTERNATIVES

There are three alternatives carried forward for evaluation in the EA: 1) the No Action Alternative, 2) the Proposed Action Alternative (Preferred Alternative), 3) and the BP Hill Improvement Alternative. The following sections discuss the components necessary for the proposed road improvements and the proposed alternatives for this project.

On April 1, 2008, the Secretary of DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain environmental and other laws in order to ensure the expeditious construction of TI along the U.S./Mexico border. The proposed improvement and construction, operation, and maintenance of approximately 1.6 miles of all-weather road addressed in this EA is part of a larger TI project, portions of which are waived from NEPA and other Federal regulatory compliance by the Secretary of DHS. The other elements of the larger TI project include the improvement, operation, and maintenance of two staging areas, two access roads, and border road to the east and west of the proposed project area. As part of the Secretary of the DHS's commitment to environmental stewardship under the waiver, CBP published the May 2008 ESP for the Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Border Patrol, El Centro Sector, California, which describes the proposed TI and any potential environmental impacts.

2.1 NO ACTION ALTERNATIVE

The No Action Alternative would preclude the improvement and construction, operation, and maintenance of approximately 1.6 miles of road as described in the Proposed Action. USBP agents would continue to face safety related issues while trying to maintain and access the BP Hill RVSS tower, would have long drive times to reach patrol areas, and would be restricted in their abilities to assist with interdictions and apprehensions. The No Action Alternative does not meet the purpose and need for the proposed project but will be carried forward for analysis, as required by the CEQ regulations, and will serve as the baseline for comparison to other action alternatives.

2.2 PROPOSED ACTION ALTERNATIVE

CBP proposes to improve and construct, operate, and maintain approximately 1.6 miles of road near the U.S./Mexico border (see Figure 1-1). The Proposed Action comprises improvement of an existing border road and construction of a new access road to the top of BP Hill. The Proposed Action Alternative is CBP's Preferred Alternative.

2.2.1 Road Improvements

Improvements would include widening the existing border road (Photographs 2-1 and 2-2) for 1.4 miles from a width of 15 feet to a width of 20 feet with 2-foot shoulders, installing drainage ditches, rip-rap lining at inlet and outlet structures, and other ancillary structures (e.g., low-water crossings and culverts), and applying an all-weather surface. There is a possibility that bridges would be used in lieu of low-water crossings or culverts. These bridges would be one-piece, prefabricated, delivered onsite, and installed within the road footprint. A drag road approximately 10 feet wide would also be constructed along the northern boundary of the

improved border road. The combined temporary and permanent footprint of the road improvements would be approximately 120 feet wide by 1.4 miles long. Within this footprint, approximately 80 feet would be temporary and 40 feet would be permanent.

Photograph 2-1. Existing border road in eastern portion of project area.

Photograph 2-2. Existing border road in western portion of project area.

The new access road to BP Hill (0.2 mile in length) would be constructed to 16 feet wide and designed to not exceed a 12 percent slope. Construction would include the installation of drainage ditches and other ancillary structures, as well as the application of all-weather surfacing. The total permanent footprint for the new access road to BP Hill could be 30 feet wide by 0.2 mile long. The temporary footprint could be 90 feet wide by 0.2 mile long. Upon completion of the improvements and construction activities, all temporarily disturbed areas would be rehabilitated per BLM guidelines.

All-weather surfacing consists of adding aggregate and a soil-stabilizing or binding agent (e.g., PennzSuppress®) to the surface of the road. This would be done once the construction is completed to reduce erosion and maintenance activities. Maintenance of this road would include filling holes with aggregate, smoothing the road, and applying a top shot of the soil-stabilizing agent to the surface on at least an annual basis to ensure road surface longevity. Water bars or other water conveyance techniques would be installed at various locations along the road to direct stormwater into parallel ditches or downslope to reduce erosion of the road surface.

2.2.2 Staging Areas

Five staging areas (50 feet by 50 feet) would be constructed along the proposed all-weather road (Figure 2-1). The total footprint of the staging areas would not exceed 0.3 acres. Upon completion of the improvement activities, all temporarily impacted areas, such as the staging areas, would be rehabilitated.

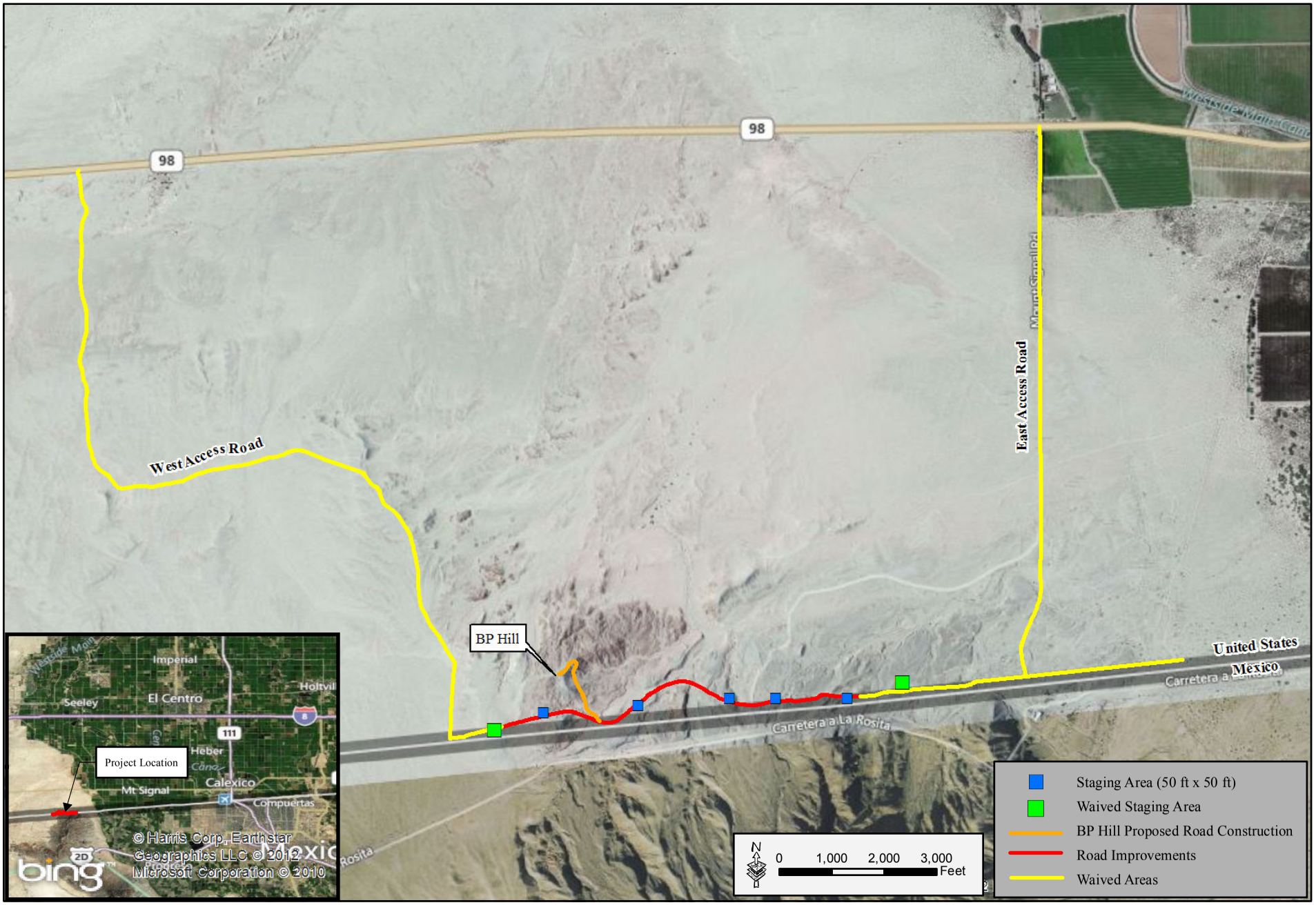

Figure 2-1: Proposed Action Alternative Map

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2.2.3 Water Usage

In order to accomplish the road improvements and construction efforts, CBP would use mobile water pumps to pump water from the West Desert Main canal at the junction of the canal and SR 98. Water would be pumped into a water truck or portable water tank and delivered to the project area in order to provide the correct moisture content for the soil during improvement and construction activities. Water would also be used to control fugitive dust emissions during those activities. It is estimated that approximately 4.9 acre-feet per mile of roadway would be needed for construction purposes (Fitts 2012).

2.2.4 Construction Personnel and Equipment

CBP maintenance staff, Joint Task Force North units, National Guard units, or private contractors would complete the proposed construction and improvements of the roadways. Equipment staging would occur at the staging areas discussed above. The equipment anticipated to be used during the construction includes a backhoe, trencher, bulldozer, grader, dump truck, front-end loader, flatbed truck, water truck, and roller/compactor.

2.3 BP HILL IMPROVEMENT ALTERNATIVE

The third alternative carried forward for analysis includes the improvement, operation, and maintenance of the existing border road and construction and use of the five new staging areas as presented in the Proposed Action Alternative. However, rather than construct a new access road to the BP Hill RVSS tower site, CBP would improve the existing access road, which is approximately 0.3 mile long, by widening it to 16 feet, installing ancillary structures, all-weather surfacing, and reducing the grade through cut and fill activities (Figure 2-2). The total footprint for the improvement of the existing BP Hill access road would be 30 feet wide by 0.3 mile long. Only an area 16 feet wide would be permanently disturbed. The remaining 14 feet of footprint would be disturbed temporarily during improvement efforts. Additionally, all temporarily impacted areas would be rehabilitated upon completion of the construction and improvement activities.

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED

Two alternatives were considered but eliminated from further consideration. The first alternative was to construct a new road parallel to the U.S./Mexico border within the 60-foot Roosevelt Reservation. However, the local topography includes towering hills and deep ravines that would require extensive earth moving and engineering. Therefore, this alternative was eliminated from further consideration.

The other alternative considered but eliminated was to only improve limited areas within the existing border road and BP Hill. Due to the impassability of the entire road, only improving limited areas would still leave a vulnerable gap in the border road and would not meet the purpose and need of the proposed project. Therefore, this alternative was eliminated from further consideration.

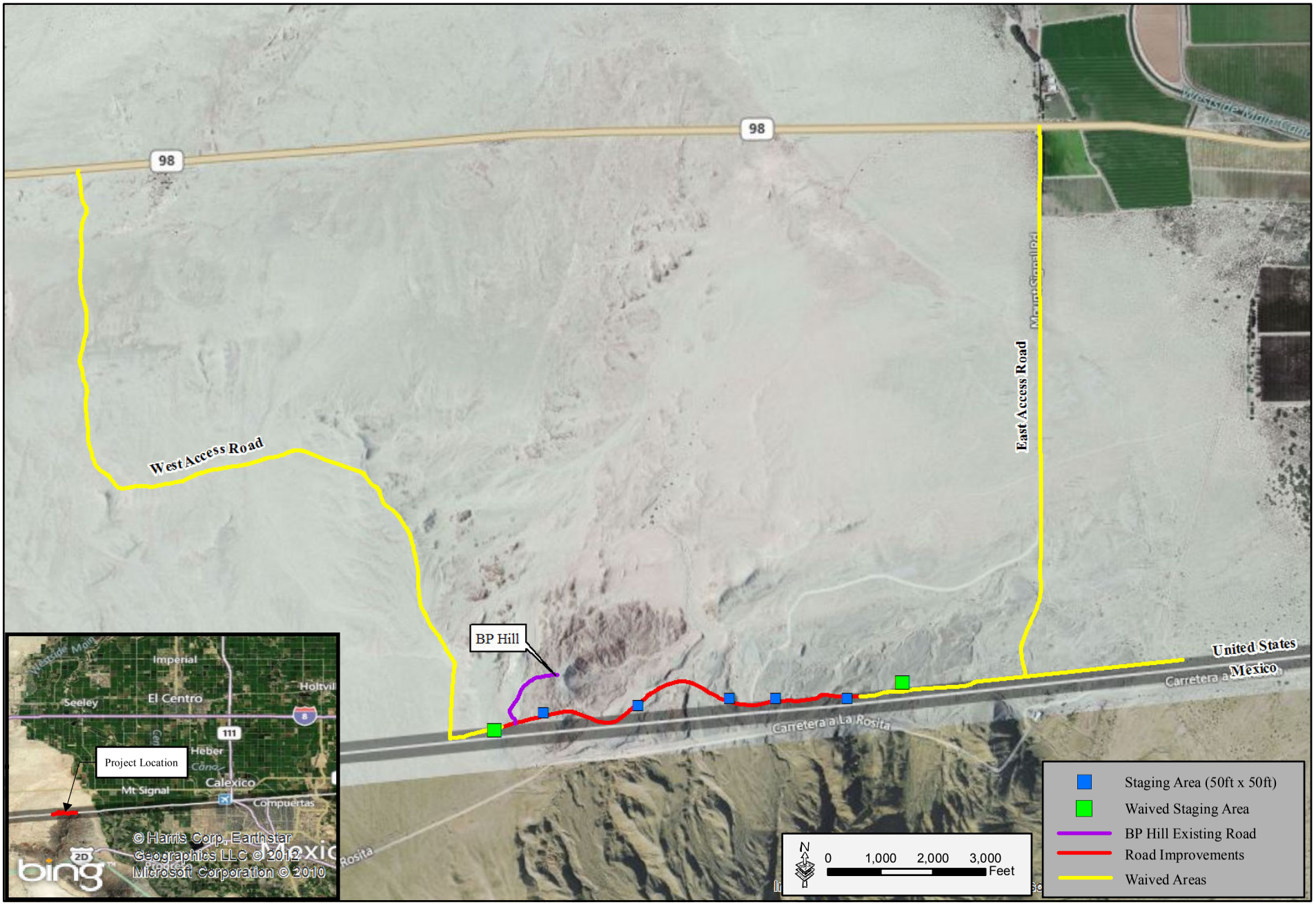

Figure 2-2: BP Hill Improvement Alternative Map

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2.5 SUMMARY

The No Action Alternative, Proposed Action Alternative, and BP Hill Improvement Alternative have been carried forward for analysis. As shown in Table 2-1, only the Proposed Action and BP Hill Improvement Alternative fully support the purpose and need as described in Section 1.3. Table 2-2 summarizes the impacts of the Proposed Action Alternative, No Action Alternative, and the BP Hill Improvement Alternative on the resources evaluated in the EA.

Table 2-1. Alternatives Matrix

Purpose and Need	No Action Alternative	Proposed Action Alternative	BP Hill Improvement Alternative
Will the alternative provide increased effectiveness for USBP agents in the performance of their duties?	No	Yes	Yes
Will the alternative provide safe access to the west desert area within the El Centro Station's AOR?	No	Yes	Yes
Will the alternative provide a more safe, effective, and efficient working environment for USBP agents?	No	Yes	Yes

Table 2-2. Summary of Impacts

Affected Environment	No Action Alternative	Proposed Action Alternative	BP Hill Improvement Alternative
Land Use	No improvements or construction would occur within the project area. Therefore, there would be no direct impacts. However, long-term indirect impacts on land use would continue as a result of illegal cross-border violator (CBV) activities.	The Proposed Action would change the land use of up to 7.5 acres from undeveloped to CBP infrastructure, which is considered a moderate impact on land use. This land use would be in compliance with BLM guidance and policy for the proposed project.	This alternative would have impacts similar to those described for the Proposed Action Alternative. However, up to 0.2 acre less would be developed under this alternative.
Soils	No direct impacts on soils would occur. However, long-term indirect impacts on soils would continue as a result of CBV activities.	Up to 7.5 acres of soils would be lost as a result of the Proposed Action Alternative. Temporary impacts on up to 23.5 acres would occur; however, this area would be rehabilitated upon completion of the construction activities. Negligible impacts on soils would occur as a result of the Proposed Action.	This alternative would have impacts similar to those described for the Proposed Action Alternative. However, up to 0.2 acre less would be developed under this alternative.
Geology	No direct impacts on geologic resources would occur.	Negligible impacts on geologic resources would occur as a result of this alternative.	The same impacts would occur as described in the Proposed Action Alternative.
Vegetation	No direct impacts would occur. However, long-term indirect impacts on vegetation communities would continue as a result of illegal CBV activities that create trails, damage vegetation, and promote the dispersal and establishment of invasive species.	Up to 7.5 acres of vegetation would be lost as a result of the Proposed Action Alternative. Temporary impacts on up to 23.5 acres would occur; however, this area would be rehabilitated upon completion of the construction activities. Negligible impacts on vegetation would occur as a result of the Proposed Action Alternative.	This alternative would have impacts similar to those described for the Proposed Action Alternative. However, up to 0.2 acre less would be developed under this alternative.
Wildlife	Under the No Action Alternative, no direct impacts on wildlife habitats would occur. However, illegal cross-border activity would continue to disturb wildlife and degrade wildlife habitat.	Wildlife habitat would be permanently and temporally impacted. However, due to the habitat being locally and regionally common any impacts are considered negligible.	This alternative would have impacts similar to those described for the Proposed Action Alternative. However, up to 0.2 acre less would be developed under this alternative.

Table 2-2, continued

Affected Environment	No Action Alternative	Proposed Action Alternative	BP Hill Improvement Alternative
Protected Species	Under the No Action Alternative, there would be no direct impacts on threatened or endangered species or their habitats. However, the indirect and long-term impacts of CBV activity on habitats throughout the project region and surrounding areas would continue to disturb threatened or endangered species and their habitats.	The Proposed Action Alternative would have no effects on Federally listed or state-listed species. However, the FTHL (*Phrynosoma mcallii*), which is a conservation species was observed within the project area. CBP would mitigate impacts per the Flat-Tailed Horned Lizard Rangewide Management Strategy to a negligible level. No major impacts would occur on the FTHL.	The same impacts would occur as described in the Proposed Action Alternative.
Cultural Resources	Under the No Action Alternative, no direct impacts on cultural resources would occur. However, cultural resources sites would continue to be impacted by illegal CBV activities.	No adverse effects on architectural or aboveground resources that are eligible for the National Register of Historic Places (NRHP) are anticipated, and no adverse effects on cultural resources are anticipated from the implementation of the Proposed Action Alternative.	The same impacts would occur as described in the Proposed Action Alternative.
Air Quality	No equipment would be installed, so no direct impacts on air quality from construction would occur.	Temporary and minor increases in air emissions would occur from the use of heavy equipment during improvement or construction of the roads. Minor, long-term beneficial impacts would occur do the use of the all-weather surface. There would be no violations of air quality standards and no conflicts with the state implementation plans (SIP); therefore, impacts on air quality from the implementation of the Proposed Action Alternative would be minor.	The same impacts would occur as described in the Proposed Action Alternative.
Noise	Under the No Action Alternative, no direct impacts on noise would occur.	The noise impacts from construction and maintenance activities would be short-term and minor.	The same impacts would occur as described in the Proposed Action Alternative.
Aesthetics and Visual Resources	No impacts on aesthetic or visual resources would occur because no construction activities would take place. However, a reduction of aesthetic and visual resources created by CBV activities and resulting law enforcement actions would continue and likely increase.	The Proposed Action Alternative would have a long-term, minor adverse effect on the viewshed and aesthetic qualities of the project area.	The same impacts would occur as described in the Proposed Action Alternative.

Table 2-2, continued

Affected Environment	No Action Alternative	Proposed Action Alternative	BP Hill Improvement Alternative
Hazardous Materials	The No Action Alternative would not contribute any hazardous waste or materials to the project area, as no construction would take place.	The Proposed Action Alternative would not result in the exposure of the environment or the public to any hazardous materials. The potential exists for minor releases of petroleum, oil, and lubricants (POL) during construction or operational activities. Best management practices (BMP) would be put in place to minimize any potential contamination at the proposed site during construction activities and operation.	The same impacts would occur as described in the Proposed Action Alternative.
Socioeconomics	The No Action Alternative would result in no new impacts on socioeconomics within the region, as no road construction and improvements would occur.	No major adverse impacts would occur as a result of the Proposed Action Alternative.	The same impacts would occur as described in the Proposed Action Alternative.
Human Health and Safety	No construction or improvements would occur, so no direct impacts would occur. However, USBP agents would continue to face safety related issues while trying to maintain and access the BP Hill RVSS tower, as well as patrol the existing border road.	No major adverse impacts would occur as a result of the Proposed Action Alternative.	The same impacts would occur as described in the Proposed Action Alternative.
Sustainability and Greening	No construction or improvements would occur, so no direct impacts would occur.	No major adverse impacts would occur as a result of the Proposed Action Alternative.	The same impacts would occur as described in the Proposed Action Alternative.

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SECTION 3.0
AFFECTED ENVIRONMENT AND CONSEQUENCES

3.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 PRELIMINARY IMPACT SCOPING

This section of the EA describes the natural and human environment that exists within the project site and region of influence (ROI), and the potential impacts of the Proposed Action Alternative, BP Hill Improvement Alternative, and No Action Alternative outlined in Section 2.0 of this document. The ROI for this project is Imperial County. Only those resources with the potential to be affected by the Proposed Action are described, per CEQ regulation (40 CFR 1501.7 [3]). The impact analysis presented in this EA is based upon existing regulatory standards, scientific and environmental knowledge, and best professional opinions.

Impacts (consequence or effect) can be either beneficial or adverse, and can be either directly related to the action or indirectly caused by the action. Direct impacts are those effects that are caused by the action and occur at the same time and place (40 CFR 1508.8[a]). Indirect impacts are those effects that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR 1508.8[b]). As discussed in this section, the alternatives evaluated may create temporary (lasting the duration of construction), short-term (up to 3 years), long-term (greater than 3 years), or permanent impacts or effects.

Impacts on each resource can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis, the intensity of impacts will be classified as negligible, minor, moderate, or major. The intensity thresholds are defined as follows:

- Negligible: A resource would not be affected or the effects would be at or below the level of detection, and changes would not result in any measurable or perceptible consequences.
- Minor: Effects on a resource would be detectable, although the effects would be localized, small, and of little consequence to the sustainability of the resource. Mitigation measures, if needed to offset adverse effects, would be simple and achievable.
- Moderate: Effects on a resource would be readily detectable, long-term, localized, and measurable. Mitigation measures, if needed to offset adverse effects, would be extensive and likely achievable.
- Major: Effects on a resource would be obvious, long-term, and would have substantial consequences on a regional scale. Extensive mitigation measures to offset the adverse effects would be required, and success of the mitigation measures would not be guaranteed.

Some resource discussions are limited in scope due to the lack of direct effect from the proposed project on the resource, or because that particular resource is not located within the project area. Resources dismissed from further discussion are:

Wild and Scenic Rivers

The proposed road improvements and construction would not affect any reach of river designated as Wild and Scenic, as none are located in the vicinity of the proposed corridor.

Utilities and Infrastructure

The road improvements would not require an increase in electrical demand, and no increase on other infrastructure is anticipated.

Aquatic Resources

There are no perennial waterbodies near the project area. Only intermittent waterbodies, which are predominantly dry most of the year and have no flowing water except directly after a rainfall event, are found in the project area. Therefore, no impacts on aquatic environments or species would be anticipated.

Floodplains

The Federal Emergency Management Agency (FEMA) indicates that the project corridor area is located within a 500-year floodplain (FEMA 2008). This area has a 0.002 percent annual chance to flood; therefore, the risk of flooding is very low. The proposed road construction and improvements would not result in an increase of flood risk, duration, elevation, or patterns.

Environmental Justice

EO 12898 *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* requires the consideration of impacts and adverse effects on minority populations and low-income populations. The project corridor is located along an existing highway in rural areas with no surrounding community nearby. Adverse impacts on minority and low-income populations would not occur.

Protection of Children

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires each Federal agency to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks. No children live in proximity to the project corridor; therefore, the road improvements and construction would not adversely affect any children.

The anticipated permanent and temporary impacts resulting from the proposed infrastructure in the project corridor are summarized in Table 3-1. These impacts are considered worst case scenario and represent the maximum acreage anticipated as a result of improvement and construction activities.

3.2 LAND USE

3.2.1 Affected Environment

The project corridor is located within the Yuha Basin ACEC on lands managed by BLM. The Yuha Basin ACEC was designated by the BLM for the purpose of protecting sensitive natural and cultural resources as part of the BLM California Desert District multiple use plan (BLM

Table 3-1. Summary of Impacts of Project Components by Alternative

Type of Project	Proposed Action Alternative			BP Hill Improvement Alternative		
	Miles	Number	Acres	Miles	Number	Acres
PERMANENT IMPACTS						
Roadway Improvements (All-Weather Road, 40-foot Right-of-Way [ROW])	1.4		6.8	1.4		6.8
BP Hill Roadway Construction All-Weather Road, up to 30-foot ROW)	0.2		0.7			
BP Hill Roadway Improvement (All-Weather Road, up to 16-foot ROW)				0.3		0.5
Total Permanent Impacts			**7.5**			**7.3**
TEMPORARY IMPACTS						
Roadway Improvements (80-foot ROW)	1.4		13.5	1.4		13.5
BP Hill Roadway Construction (90-foot ROW)	0.2		2.2			
BP Hill Roadway Improvement (24-foot ROW)				0.3		0.6
Staging Area (50 feet by 50 feet)		5	0.3		5	0.3
Total Temporary Impacts			**16**			**14.4**
TOTAL ACRES IMPACTED IN PROJECT FOOTPRINT			**23.5**			**21.7**

*Acreages and widths of road improvements or construction are considered maximum anticipated.

1999). This area is also classified as the Yuha Desert Management Area (YDMA) for the FTHL (*Phrynosoma mcallii*). The YDMA encompasses approximately 60,000 acres. Approximately 57,200 acres of the YDMA are under Federal ownership. As part of the FTHL Rangewide Management Strategy, the cumulative new disturbance per management area since 1997 may not exceed 1 percent of the total management area acreage on Federal lands (i.e., 572 acres).

Other than the presence of the existing border road and BP Hill access road and RVSS site, the area including and surrounding the project corridor is largely undisturbed (Figure 3-1). IID has an extant gravel/sand quarry located near the eastern terminus of the project area. This site is currently not in use; however, IID could continue operations in the future. In general, vacant desert land exists adjacent to the project corridor in all directions. Agricultural fields, which surround the cities of Calexico (U.S.) and Mexicali (Mexico), begin approximately 1.6 miles to the east, with the residential portions of Calexico and the smaller city of Seeley beginning approximately 10 miles to the east and northeast.

3.2.2 Environmental Consequences

3.2.2.1 No Action Alternative

Under the No Action Alternative, no road improvements or construction would occur; therefore, no new impacts, either beneficial or adverse, would occur on land use within the project region.

3.2.2.2 Proposed Action Alternative

Through the implementation of the Proposed Action Alternative, moderate impacts on land use are expected. The permanent disturbance of up to 7.5 acres of the YDMA would occur as a result of the improvement and construction activities. This amount of disturbance would not cause the BLM to exceed its cumulative cap of one percent of the total area of the YDMA. Further, CBP would compensate BLM for all impacts within the YDMA. Land in the immediate surrounding area would remain uninhabited, and the presence of the proposed roadway would not have an impact on local agricultural or residential areas.

3.2.2.3 BP Hill Improvement Alternative

Impacts for this alternative would be similar to those outlined for the Proposed Action Alternative. However, only up to 7.3 acres of YDMA would be permanently disturbed.

3.3 SOILS

3.3.1 Affected Environment

The Imperial Valley, located within the Salton Trough, is a broad, flat, alluvial area that lies partly below sea level, bounded to the east by branches of the San Andreas Fault and the Brawley Seismic Zone, and to the west by the San Jacinto-Coyote Creek and Elsinore-Laguna Salada Faults (Imperial County/BLM 2012).

Soils found in the project area remain unclassified by the Natural Resource Conservation Service (NRCS) Database; however, soil surveys from similar areas of comparable elevation located approximately 13 miles to the west classify the soil as Rositas. Rositas soils are very deep, formed in sand aeolian material, and are somewhat excessively drained with negligible to low runoff and rapid permeability.

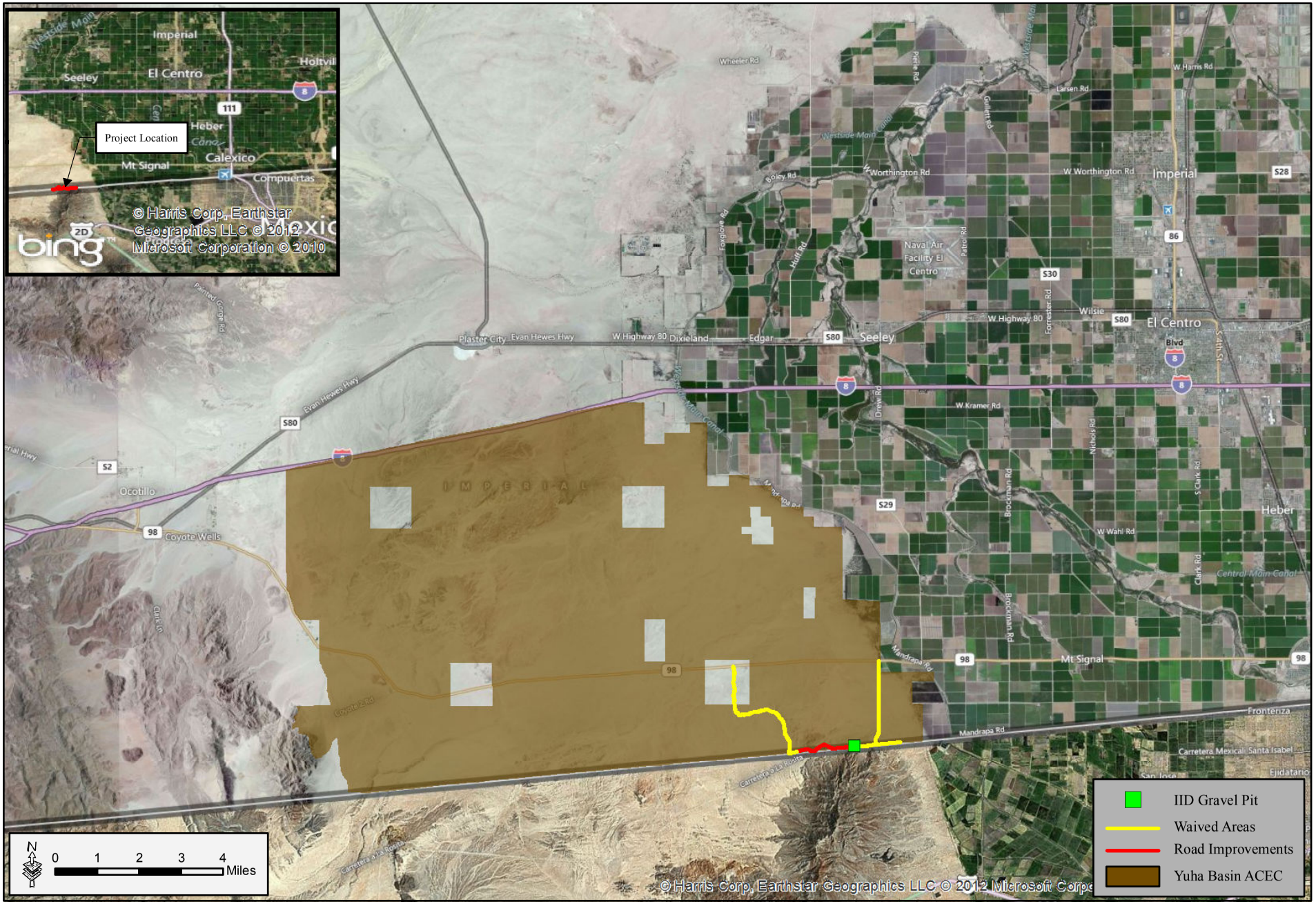

Figure 3-1: Land Use Map

May 2012

Quaternary lake deposits, alluvium, stream channel deposits, fan deposits, and Pleistocene non-marine deposits comprise the majority of the material with local origin from the Inkopah and Jacumba Mountains to the west and south, and from the Coyote Mountains to the north.

3.3.2 Environmental Consequences

3.3.2.1 No Action Alternative

Under the No Action Alternative, soils within the project corridor would remain the same and no direct impacts would occur. However, possible indirect impacts from the degradation of soils might occur from the unabated illegal traffic in the project area.

3.3.2.2 Proposed Action Alternative

The road improvements would occur along an extant border road, which has become impassable due to lack of maintenance and repair efforts. With implementation of the Proposed Action Alternative, there would be up to 7.5 acres of direct permanent impacts and up to 23.5 acres of temporary impacts on soils. These soils are common locally and regionally. Therefore, no major impacts are expected.

Short-term impacts, such as increased runoff, can be expected on soils from the improvement and construction of the roads; however, these impacts would be alleviated once construction is finished. Long-term effects on soils would be compaction from vehicles on the roads. Pre- and post-construction Best Management Practices (BMP) would be developed and implemented to reduce or eliminate erosion and downstream sedimentation. Compaction techniques and erosion control measures, such as waterbars, gabions, straw bales, and the use of riprap or sediment traps, are some of the BMPs that would be implemented to avoid or minimize potential erosion.

Beneficial indirect impacts on soils north of the project corridor due to less disturbance and; therefore, less compaction and erosion would potentially occur as USBP agents are better able to detect, deter, and apprehend illegal cross-border violators (CBV) as a result of this alternative.

3.3.2.3 BP Hill Improvement Alternative

Under the BP Hill Improvement Alternative, the impacts on soils would be similar to those described for the Proposed Action Alternative. However, this alternative would permanently (up to 7.3 acres) and temporarily (up to 21.7 acres) impact less than the Proposed Action Alternative.

3.4 GEOLOGY

3.4.1 Affected Environment

The project area is located in the Colorado Desert geomorphic province, which was formed as a depression between the Mojave desert to the east and the peninsular ranges to the west. The province lies over the sediment-filled valley formed by the southern extension of the San Andreas Fault system. It covers the extent of the ancient Lake Cahuilla, the current remnant of which is the Salton Sea to the north. Subsurface rocks are Pleistocene and Recent Quaternary sediments (California Geological Survey 2002 and 2010). Signal Mountain is an exposed example of the older, indurated Pleistocene sedimentary rocks.

Groundwater in the region is contained in unconsolidated sands and silts with little to no horizontal barriers to groundwater flow, which is generally to the south and to the east into the Colorado River (California Department of Public Works 2004). The depth to groundwater in the project area is likely over 100 feet below ground surface.

The location of the project area lies over the San Andreas Fault and carries with it the moderately high probability of large damaging earthquake activity (California Department of Conservation 1999). A recent magnitude-7.2 earthquake occurred in the area in 2010.

3.4.2 Environmental Consequences

3.4.2.1 No Action Alternative

As a result of the No Action Alternative, no impacts on geologic resources would occur, as no construction or improvement activities would occur.

3.4.2.2 Proposed Action Alternative

Construction, improvement, and operation of the proposed roads would not disturb or impact any significant geologic resources of importance in the area. Modifications of surface soils and rocks would not impact groundwater-bearing strata in the area, since the depth to groundwater is generally over 100 feet below ground surface. Because the project area is located in a known earthquake hazard zone, there is the potential for any road improvements to be impacted by future earthquakes, resulting in the need for increased road maintenance and rebuilding of some road structures.

3.4.2.3 BP Hill Improvement Alternative

The same impacts as described for the Proposed Action Alternative would occur if this alternative were implemented.

3.5 VEGETATION

3.5.1 Affected Environment

The project area lies in the Lower Colorado River Valley (LCRV) biome of the Sonoran Desert. The vegetation community is broadly classified as Sonoran Desert scrub (Brown 1994). The Sonoran Desert is an extremely arid but hot environment. Where water flow has formed arroyos or channels denser vegetation may form, and outside of these areas that concentrate water vegetation is much sparser.

Site visits and biological surveys of the project area were conducted on June 28, 2012, and are described in a Biological Survey Report (CBP 2012) (Appendix B). During meandering pedestrian surveys, Gulf South Research Corporation (GSRC) biologists noted flora and fauna observed on-site. The project corridor contained less than five percent groundcover, was highly disturbed from past human activities, and the dominant plant species observed was creosote bush, as is typical for this area within the Sonoran Desert (Photograph 3-1 and 3-2).

Among the list of 22 plant species observed was desert holly (*Atriplex hymenelytra*), skeleton weed (*Eriogonum deflexum*), white bursage (*Ambrosia dumosa*), honey mesquite (*Prosopis glandulosa*), and catclaw acacia (*Acacia greggii*). Skeleton weed, honey mesquite, and catclaw

Photograph 3-1. Vegetation in the project corridor, facing west.

Photograph 3-2. Facing west with creosote bush in foreground.

acacia were also observed growing along the intermittent washes found in the project corridor. Of the species observed in the project corridor, only Sahara mustard (*Brassica tournefortii*) is considered to be an invasive plant species (CBP 2012). A complete list of species observed is included in Appendix B.

3.5.2 Environmental Consequences

3.5.2.1 No Action Alternative

Under the No Action Alternative, no direct impacts would occur on vegetation communities. However, long-term direct and indirect impacts on vegetation communities would continue and likely increase as a result of CBV activities that damage vegetation, introduce trash and waste, and promote the dispersal and establishment of non-native invasive species. The presence of CBVs and the damage they cause could potentially result in long-term, moderate impacts on vegetation as a result of disturbance and habitat degradation.

3.5.2.2 Proposed Action Alternative

The Proposed Action Alternative would permanently impact up to 7.5 acres of vegetation. Permanent impacts on vegetation include the compaction of the natural substrate and destruction of plants within the road right-of-way (ROW). Additionally, up to 23.5 acres of vegetation would be temporarily impacted during road improvements and construction and the use of turnarounds and staging areas.

Permanent and temporary impacts on vegetation during construction activities would be minimized to the extent practicable through avoidance, minimization, and rehabilitation as discussed in Section 5.0 of this document. Fugitive dust resulting from construction activities would have a minimal effect on plant respiration and photosynthesis. Application of wetting solutions during these activities would further minimize these temporary impacts. Although the direct impacts would permanently remove up to 7.5 acres of vegetation, the impacted vegetation communities and their associated plant species are common throughout Imperial County.

Because maintenance and repair activities would be within the permanently disturbed footprint, no additional impacts would occur.

The effects of the Proposed Action Alternative would not result in the long-term reduction of population viability for any plant species and would not affect any sensitive or rare vegetation communities. Therefore, the direct and indirect impacts on vegetation would not be considered major.

3.5.2.3 BP Hill Improvement Alternative

Under this alternative, vegetation would be permanently and temporarily impacted as described under the Proposed Action Alternative; however, this alternative would impact less acreage (see Table 3-1). The Sonoran Desert scrub vegetation community is extremely common in the vicinity of the project area, and the direct effect of degradation and removal of a total of up to 7.3 acres of vegetation would not have a major adverse effect on vegetation communities in the region. Indirect effects on vegetation would occur as described in the Proposed Action Alternative.

3.6 WILDLIFE

3.6.1 Affected Environment

The Sonoran Desert is extremely hot, and many animals are nocturnal. Many of the animals that inhabit the Sonoran Desert are found throughout the warmer and drier regions of the southwestern United States (Brown 1994). Common mammals include multiple species of bat, coyote (*Canis latrans*), black-tailed jack-rabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), Merriam's kangaroo rat (*Dipodomys merriami*), white-throated woodrat (*Neotoma albigula*), and desert pocket mouse (*Chaetodipus penicillatus*). Less common mammals, like the desert kangaroo rat (*Dipodomys deserti*), Bailey's pocket mouse (*Chaetodipus baileyi*), and round-tailed ground squirrel (*Spermophilus tereticaudus*), have more limited distributions and are more specifically characteristic of Sonoran Desert habitats (Brown 1994).

The project corridor is located in a migratory flyway. Raptors, waterbirds such as brown pelican (*Pelecanus occidentalis*) and cormorant (*Phalacrocoracidae* sp.), as well as shorebirds including mountain plover (*Charadrius montanus*) and snowy plover (*Charadrius nivosus*) migrate through the desert habitat between the Gulf of Mexico and the Salton Sea. Common birds include the road runner (*Geococcyx californianus*), mourning dove (*Zenaida macroura*), lesser nighthawk (*Chordeiles acutipennis*), cactus wren (*Campylorhynchus brunneicapillus*), black-tailed gnatcatcher (*Polioptila melanura*), phainopepla (*Phainopepla nitens*), black-throated sparrow (*Amphispiza bilineata*), Gambel's quail (*Callipepla gambelii*), and northern flicker (*Colaptes auratus*) (Brown 1994). Although less abundant, raptors can be common in semidesert grasslands or croplands, and scavengers can be observed throughout the Sonoran Desert. Less than two miles east of the project area are large expanses of irrigated cropland that could attract or concentrate bird species, which may occasionally wander into the project area.

The diverse reptilian fauna in this habitat of the western Sonoran Desert includes desert iguana (*Dipsosaurus doorsalis*), desert spiny lizard (*Sceloporus magister*), Colorado fringed-toed lizard (*Uma notata*), Colorado desert sidewinder (*Crotalus cerastes laterorepens*), rosy boa (*Lichanura trivirgata*), and western shovelnose snake (*Chionactis occipitalis*).

Wildlife observed during biological surveys of the project area included mourning dove, lesser nighthawk, black-throated sparrow, tiger whiptail (*Aspidoscelis tigris*), and long-tailed brush lizard (*Urosuarus graciosus*) (CBP 2012). Although not observed during the surveys, tracks and/or scat were identified within the project corridor for the following species: FTHL, desert kangaroo rat, coyote, kit fox (*Vulpes macrotis*), and sidewinder (*Crotalus cerastes*) (CBP 2012).

The FTHL is currently being managed by an Interagency Coordinating Committee (ICC) following the species listing as Category 2, Candidate for listing as a threatened or endangered species by the USFWS and a candidate species by the CDFG Commission and subsequent lawsuits. The project is located within one of three management areas in Imperial County managed by BLM. The YDMA was established because it was of sufficient area and habitat quality to maintain a self-sustaining FTHL population. Ongoing monitoring of the species has been conducted in the YDMA for many years. Surveys include an established demographic plot in fairly close proximity to the proposed project. Other monitoring efforts include occupancy surveys that represent 45 established plots in the Yuha Desert. The ICC reports annually on results of the monitoring efforts and authorized impacts within the management areas.

3.6.2 Environmental Consequences

3.6.2.1 No Action Alternative

Under the No Action Alternative, no direct impacts on wildlife or wildlife habitat would occur. However, off-road CBV activity and required interdiction actions would continue to degrade wildlife habitat. This degradation of vegetation communities could potentially impact wildlife through a loss of cover, forage, nesting, and other opportunities, and potentially a loss of suitable habitat over large areas if wildfires are ignited. Off-road vehicle and pedestrian traffic would continue to disturb wildlife species, cause fauna to avoid areas of high illegal traffic volume, and disturb or degrade wildlife habitat.

3.6.2.2 Proposed Action Alternative

Under the Proposed Action, up to 7.5 acres of Yuha Desert ACEC habitat would be directly and permanently impacted and cleared of vegetation. Less mobile individuals such as lizards, snakes, or mice could be impacted as tunnels and burrows collapse during road improvements and construction. During construction most wildlife, however, would presumably avoid direct harm by escaping into surrounding habitat where individuals would be forced to compete with other fauna for food, water, and shelter resources.

Disturbance from construction noise and presence of equipment and people would also impact wildlife. The effects of these disturbances on wildlife would include temporary avoidance of work areas and increased competition for unaffected resources. Due to the limited extent and duration of construction activities, the impacts would be minor. Mitigation measures, including pre-construction surveys for nesting migratory birds, would reduce construction-related impacts; these measures are outlined in Section 5.0 of this EA.

Once the project is complete, the road would be more accessible and frequently used by CBP. The increased use would disturb wildlife, which may seek areas with less human activity. The Proposed Action could result in indirect and long-term beneficial impacts on wildlife by reducing the adverse impacts of CBV activity and the resulting law enforcement response.

Direct impacts from off-road enforcement actions would be reduced as agents use the designated and improved roadway.

3.6.2.3 BP Hill Improvement Alternative

With the implementation of the BP Hill Alternative, impacts would be similar to those described for the Proposed Action Alternative.

3.7 THREATENED AND ENDANGERED SPECIES

3.7.1 Affected Environment

The ESA protects endangered and threatened species, as well as the habitat upon which they depend for their survival. Federal agencies are required to implement protective measures to avoid or mitigate effects on listed species and to further the purposes of the ESA whenever practicable. The Secretary of the Interior is responsible for the listing of species and development of recovery plans. USFWS is the primary agency responsible for implementing the ESA and is responsible for birds, terrestrial species, and freshwater species. The USFWS responsibilities under the ESA include (1) the identification of threatened and endangered species; (2) the identification of critical habitats for listed species; (3) implementation of research on, and recovery efforts for, these species; and (4) consultation with other Federal agencies concerning measures to avoid harm to listed species.

An endangered species is a taxonomic group officially recognized by the USFWS as being in danger of extinction throughout all or a significant portion of its range. A threatened species is a taxonomic group likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Proposed species are those that have been formally submitted to Congress for official listing as threatened or endangered. Species may be considered endangered or threatened when any of the five following criteria occur: (1) current/imminent destruction, modification, or curtailment of their habitat or range; (2) overuse of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; and (5) other natural or human-induced factors affecting continued existence.

In addition, the USFWS has identified species that are candidates for listing as a result of identified threats to their continued existence. The candidate designation includes those species for which the USFWS has sufficient information to support proposals to list as endangered or threatened under the ESA. However, proposed rules have not yet been issued because such actions are precluded at present by other listing activity. Although not afforded protection by the ESA, candidate species may be protected under other Federal or state laws.

Biological surveys of the project area were conducted by GSRC on June 28, 2012. No Federally listed or state-listed species were observed during the biological surveys. However, scat and tracks from FTHL, which is a conservation species, were observed within the project corridor.

3.7.1.1 Federal

Four Federally listed species may potentially occur near the project corridor or similar habitat in Imperial County, California (Table 3-2, Appendix C) (USFWS 2012). Of these four species,

none have the potential to occur in the project area because no suitable habitat for any of the listed species is located in the project corridor.

Table 3-2. Federally Listed Species for Imperial County, California

Common/Scientific Name	Federal Status	Habitat	Potential to Occur in the Proposed Project Area
BIRDS			
Least Bell's vireo (*Vireo bellii pusillus*)	Endangered	Inhabits dense shrubs and trees along riparian corridors.	No
Southwestern willow flycatcher *(Empidonax traillii extimus)*	Endangered; Proposed Critical Habitat	Inhabits riparian forests, oak (*Quercus* spp.) woodlands, and shrub willow (*Salix* spp.) patches along high-elevation streams and meadows, and broad-leaf deciduous forest along desert washes and streams.	No
Yuma clapper rail (*Rallus longirostris yumanensis*)	Endangered	Inhabits freshwater marshes containing dense stands of cattail (*Typha* spp.) and bulrush (*Juncus* spp.), and mature stands of emergent vegetation along margins of shallow ponds with stable water levels.	No
MAMMALS			
Peninsular bighorn sheep (*Ovis Canadensis ssp. Nelson*)	Endangered; Critical Habitat	Steep terrain that allows escape from predators and has a high variation in slope and aspect. Also known from alluvial fans, valleys linking mountain chains, and washes with browse plants.	No

Source: USFWS 2012

3.7.1.2 Critical Habitat

The ESA also calls for the conservation of designated "Critical Habitat" – the areas of land, water, and air space that an endangered species requires for survival. Critical Habitat also includes such things as food and water sources, breeding sites, cover or shelter, and sufficient habitat area to provide for normal population growth and behavior. One of the primary threats to many species is the destruction, conversion, or modification of essential habitat by uncontrolled land and water development.

Two of the four Federally-listed species have designated Critical Habitat. They are the southwestern willow flycatcher and peninsular bighorn sheep (see Table 3-2). No Critical Habitat occurs within or adjacent to the project area, and the closest designated Critical Habitat is for peninsular bighorn sheep approximately 15 miles to the west (USFWS 2009).

3.7.1.3 State

The CDFG maintains a list of species that are state-listed as rare, threatened, or endangered (CDFG 2012). This list is available in Appendix C and includes 14 animal and 3 plant species that could occur in Imperial County, California. These species are not necessarily the same as those protected under the ESA. No individuals or habitat for any of the state-listed threatened or endangered species were observed during biological surveys.

3.7.1.4 BLM Sensitive Species

The BLM publishes a list of special status plants and animals which includes BLM sensitive species on lands in the BLM El Centro district of California, where the project area lies, and those lists are provided in Appendix C. Many of these are also listed by the Federal government or the State of California.

Although no Federally listed or state-listed species were observed during the biological surveys, FTHL was recorded in the project corridor. The FTHL is a BLM sensitive species. In addition, five Federal agencies (including BLM) signed a Memorandum of Agreement to protect the FTHL and its habitat on Federal lands. The Strategy specifies compensatory mitigation for ground disturbing impacts within FTHL management areas.

One burrow complex, presumably inhabited by desert kangaroo rats, that could provide habitat for the BLM-listed western burrowing owl (*Athene cunicularia*) and kit fox (*Vulpes macrotis*) was observed and recorded during the June 2012 survey efforts (CBP 2012). The kit fox, burrowing owl, and badger (*Taxidea taxus*) may occur in the project area, and the BLM indicated that these species are of growing concern to CDFG and to area natural resource managers.

3.7.2 Environmental Consequences

3.7.2.1 No Action Alternative

Under the No Action Alternative, no direct impacts on threatened or endangered species or their habitats would occur. However, the direct and long-term impacts of CBV and consequent law enforcement activities throughout the project area and surrounding areas would continue to threaten listed species and their habitats. CBV activities create trails, damage vegetation, promote the dispersal and establishment of invasive species, and can result in catastrophic wild fires. These actions have an indirect adverse impact on threatened and endangered plant species by causing harm to individuals and degrading their habitat.

The presence of CBVs and resulting law enforcement activities can disturb sensitive animal species, result in their temporary displacement from vital resources, and potentially result in the loss of individuals due to heightened response and exertion, particularly when exposed to high daytime temperatures. The degree of this impact would be dependent on environmental stressors (i.e., drought, season), the health of the animal, and the duration and frequency of disturbances.

3.7.2.2 Proposed Action Alternative

Under the Proposed Action Alternative, there would be no adverse effects on Federally listed or state-listed threatened and endangered species or their habitats, as none exist within the project area. However, long-term, beneficial effects would occur by lessening impacts of CBV activity on habitats throughout the project area and surrounding desert.

The Proposed Action would potentially impact the habitat of four BLM sensitive species: the western burrowing owl, FTHL, kit fox, and badger. Although potential habitat for the western burrowing owl, kit fox, and badger would be impacted, these species were not observed during recent biological surveys, and the habitat for these species is both locally and regionally common. Biological monitors would be on-site during construction activities, if a western burrowing owl, kit fox, or badger is seen occupying a burrow or structure in the project area,

CDFG recommended buffers would be established until the animal has left the project area. Therefore, any potential impacts would not be considered major.

FTHL habitat would be impacted by the construction activities, and there is the potential for taking individuals. BMPs discussed in Section 5.0 of this document, such as preconstruction surveys and monitoring for the presence of the FTHL during construction activities, as well as compensation for loss of habitat, would reduce the impacts on FTHL. When these BMPs are combined with the fact that there is an abundance of habitat for the FTHL both locally and regionally, no major impacts would occur as a result of the Proposed Action Alternative.

3.7.2.3 BP Hill Improvement Alternative

The BP Hill Alternative would have the same impacts on protected species as discussed under the Proposed Action Alternative.

3.8 WATER RESOURCES

3.8.1 Affected Environment

Water quality for designated beneficial uses is protected by the state and should work in tandem with sections 303 and 305 of the Clean Water Act (CWA).

3.8.1.1 Surface Waters

The proposed project area falls within the Colorado River Basin Hydrologic Region (HR) Unit, 1 of 10 hydrologic regions in California that correspond to major watersheds and drainage areas managed by the California Department of Water Resources. As the Proposed Action project area is located within the Colorado River Basin HR, actions within the area are subject to the management directives of the Water Quality Control Plan (Basin Plan) for the Imperial Valley Planning Area, under the jurisdiction of the Colorado River Basin RWQCB.

The Colorado River provides the dominant water source for the area, with water transported via the All-American Canal. Approximately 3.1 million acre-feet of Colorado River water is diverted through the All-American Canal annually (Alles 2011). Surface waters in the area are predominantly used for irrigation, industrial, and domestic purposes (RWQBC 2006). Other surface waters are located several miles to the northeast and east of the project corridor and include the Salton Sea, the Alamo River, the New River, and the Dixie Drain, which runs adjacent to and drains agriculture fields in western Calexico. There are several other smaller canals in the surrounding area that provide irrigation for agricultural purposes.

3.8.1.2 Groundwater

Groundwater in southern California is supplied from two aquifers: the Basin-Fill and the Alluvium and Older Sediments (INS 2001). The project corridor lies within the Coyote Wells Valley Groundwater Basin, which covers approximately 64,000 acres. The depth to groundwater in the project area is likely over 100 feet below ground surface (California Department of Public Works 2004). Common sources of contamination of groundwater include irrigation return flow, application of pesticides, improper waste disposal, and untreated wastewater. The general quality of the aquifer is low, with data indicating bicarbonate-chloride as the dominant compound. The total recharge to this basin is principally derived from percolation of

precipitation on the valley and ephemeral runoff from the surrounding mountains. Unconfined shallow groundwater exists in parts of the basin, but logs indicate confined groundwater conditions for several wells drilled near Ocotillo and Coyote Wells (CDWR 2004).

3.8.1.3 Waters of the United States and Wetlands

Section 404 of the CWA of 1977 (P.L. 95-217) authorizes the Secretary of the Army, acting through the USACE, to issue permits for the discharge of dredged or fill material into Waters of the U.S., including wetlands. Waters of the U.S. (Section 328.3[2] of the CWA) are those waters used in interstate or foreign commerce, subject to ebb and flow of tide, and all interstate waters including interstate wetlands. Waters of the U.S. are further defined as all other waters such as intrastate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, natural ponds or impoundments of waters, tributaries of waters, and territorial seas. Jurisdictional boundaries for Waters of the U.S. are defined in the field as the ordinary high water mark, which is that line on the shore or bank established by the fluctuations of water and indicated by physical characteristics such as clear, natural lines impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas. Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (USACE 1987).

Waters of the U.S. do occur as ephemeral drainages throughout the project corridor, and the survey identified six ephemeral washes bisecting the project corridor that could potentially be regulated as Waters of the U.S. (Figure 3-2). The total impact on the six potential Waters of the U.S. is less than 0.2 acre. Additionally, no wetlands were observed during the biological survey on June 28, 2012.

3.8.2 Environmental Consequences

3.8.2.1 No Action Alternative

Implementation of the No Action Alternative would not result in any impacts on surface waters, groundwater, or Waters of the U.S.

3.8.2.2 Proposed Action Alternative

Water for construction use would be diverted from the All-American Canal. Pumps would be used to convey the water to a water truck, which would then haul the water to the project area. It is estimated that 7.8 acre-feet of surface water (4.9 acre-feet per mile) would be needed for construction purposes. This one-time use of water would result in a temporary reduction of available water; however, this reduction is *de minimis* when in comparison to the volume of water (i.e., 3.1 million acre-feet per year) flowing through the canal. This minor extraction would have no measurable impact on the water quality or quantity. BMPs to minimize the potential for runoff and sedimentation of the ephemeral washes would also be incorporated into the design of the project. A Stormwater Pollution Prevention Plan (SWPPP) will also be developed and implemented to ensure long-term recovery of the area and to prevent major soil erosion problems.

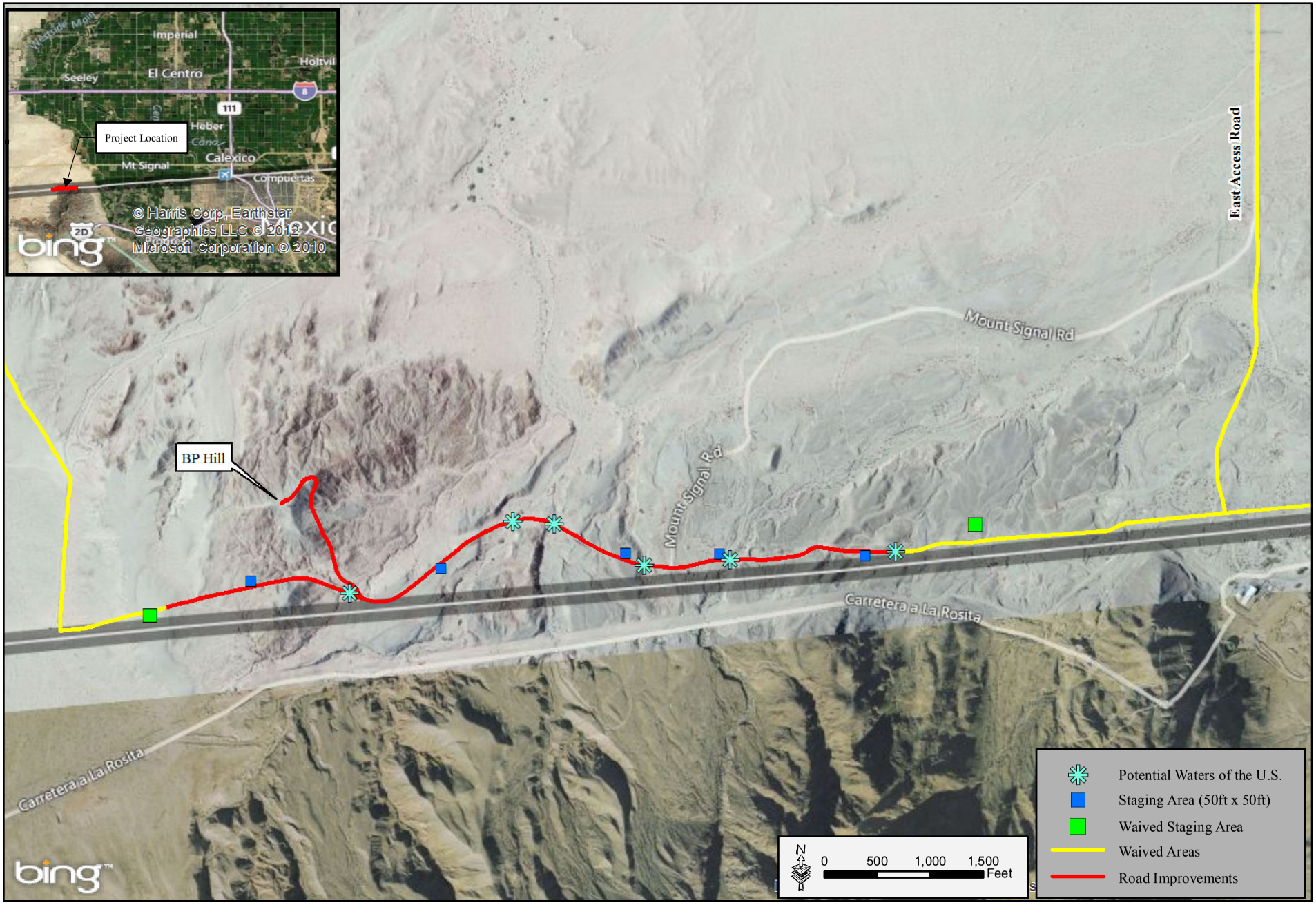

Figure 3-2: Waters of the U.S. within the Project Area

GSRC

May 2012

The Proposed Action Alternative would not result in a permanent impact on any perennial or intermittent streams, as none are present within the project corridor. As mentioned above, six potential jurisdictional ephemeral Waters of the U.S. were identified during field surveys within the project corridor. The six ephemeral washes that are Waters of the U.S. would be traversed using concrete low-water crossings, reinforced concrete pipes, box culverts, or bridges. The expected total impact on those Waters of the U.S. is less than 0.2 acre. The impacted areas associated with these washes range from 0.004 to 0.1 acre. Therefore, each of the crossings would meet the threshold (0.5 acre) for authorization under Section 404 Nationwide Permit 14. Since each has independent utility, each crossing would be considered a single and complete project. Additionally, since all of the Waters of the U.S. crossings do not exceed 0.1 acre these road improvement and construction actions would not require notifying the USACE; however, a Section 401 Water Quality Certification would be obtained from the RWQCB.

The Proposed Action Alternative would not impact any surface water resource sites with the installation of the proposed roadway. Proper maintenance of construction equipment and the use of BMPs during construction activities would minimize the possibility of accidental spills of petroleum, oil, and lubricants (POL) that, if they occurred, could affect surface water and groundwater quality. Operation and maintenance of the proposed roadways would have no effect on the region's surface water or groundwater supplies and/or quality.

3.8.2.3 BP Hill Improvement Alternative

Under this alternative, the impacts on surface waters, groundwater, or Waters of the U.S. would be the same as those described for the Proposed Action Alternative.

3.9 AIR QUALITY

3.9.1 Affected Environment

The U.S. Environmental Protection Agency (USEPA) established National Ambient Air Quality Standards (NAAQS) for specific pollutants determined to be of concern with respect to the health and welfare of the general public. Ambient air quality standards are classified as either "primary" or "secondary." The major pollutants of concern, or criteria pollutants, are carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), particulate matter less than 10 microns (PM-10), particulate matter less than 2.5 microns (PM-2.5), and lead (Pb). NAAQS represent the maximum levels of background pollution that are considered safe, with an adequate margin of safety, to protect the public health and welfare. The NAAQS are included in Table 3-3.

Areas that do not meet these NAAQS standards are called non-attainment areas; areas that meet both primary and secondary standards are known as attainment areas. The Federal Conformity Final Rule (40 CFR Parts 51 and 93) specifies criteria or requirements for conformity determinations for Federal projects. The Federal Conformity Rule was first promulgated in 1993 by the USEPA, following the passage of Amendments to the Clean Air Act in 1990. The rule mandates that a conformity analysis must be performed when a Federal action generates air pollutants in a region that has been designated a non-attainment or maintenance area for one or more NAAQS.

Table 3-3. National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Times
Carbon Monoxide	9 ppm (10 mg/m^3)	8-hour [1]	None	
	35 ppm (40 mg/m^3)	1-hour [1]		
Lead	0.15 µg/m^3 [2]	Rolling 3-Month Average	Same as Primary	
	1.5 µg/m^3	Quarterly Average	Same as Primary	
Nitrogen Dioxide	53 ppb [3]	Annual (Arithmetic Average)	Same as Primary	
	100 ppb	1-hour [4]	None	
Particulate Matter (PM-10)	150 µg/m^3	24-hour [5]	Same as Primary	
Particulate Matter (PM-2.5)	15.0 µg/m^3	Annual [6] (Arithmetic Average)	Same as Primary	
	35 µg/m^3	24-hour [7]	Same as Primary	
Ozone	0.075 ppm (2008 std)	8-hour [8]	Same as Primary	
	0.08 ppm (1997 std)	8-hour [9]	Same as Primary	
	0.12 ppm	1-hour [10]	Same as Primary	
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Average)	0.5 ppm	3-hour [1]
	0.14 ppm	24-hour [1]		
	75 ppb [11]	1-hour	None	

Source: USEPA 2012a at http://www.epa.gov/air/criteria.html

Units of measure for the standards are parts per million (ppm) by volume, parts per billion (ppb - 1 part in 1,000,000,000) by volume, milligrams per cubic meter of air (mg/m^3), and micrograms per cubic meter of air (µg/m^3).

[1] Not to be exceeded more than once per year.

[2] Final rule signed October 15, 2008.

[3] The official level of the annual NO_2 standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard

[4] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).

[5] Not to be exceeded more than once per year on average over 3 years.

[6] To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m3.

[7] To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m3 (effective December 17, 2006).

[8] To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective May 27, 2008).

[9] (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(c) EPA is in the process of reconsidering these standards (set in March 2008).

[10](a) EPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").

(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.

[11] (a) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

A conformity analysis is the process used to determine whether a Federal action meets the requirements of the General Conformity Rule. It requires the responsible Federal agency to evaluate the nature of a proposed action and associated air pollutant emissions and calculate emissions as a result of the proposed action. If the emissions exceed established limits, known as de minimis thresholds, the proponent is required to implement appropriate mitigation measures.

Both the Federal government and the State of California monitor air quality in California. The USEPA classifies Imperial County as a moderate non-attainment area for 8-hour ozone, serious non-attainment for PM-10, and moderate non-attainment of PM-2.5 (EPA 2012b). California Air Resources Board (CARB) classifies Imperial County as in non-attainment for ozone, PM-2.5 and PM-10 (CARB 2010). Table 3-4 presents a summary of attainment and maintenance status for NAAQS and California Ambient Air Quality Standards (CAAQS) in Imperial County.

Table 3-4. NAAQS and CAAQS Air Quality Status in Imperial County

Pollutant	Federal Designation	State Designation
O_3	Non-attainment (Moderate)	Non-attainment
CO	Attainment	Attainment
PM-10	Non-Attainment (Serious)	Non-attainment
PM-2.5	Non-attainment (Moderate)	Non-attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Pb	Attainment	Attainment
Sulfates	No Federal standard	Attainment
Hydrogen Sulfide	No Federal standard	Unclassified
Visibility-Reducing Particles	No Federal standard	Unclassified

Source: USEPA 2012b and CARB 2012

3.9.1.1 Greenhouse Gases and Climate Change

Global climate change refers to a change in the average weather on the earth. Greenhouse gases (GHG) are gases that trap heat in the atmosphere. They include water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), fluorinated gases including chlorofluorocarbons (CFC) and hydrochlorofluorocarbons (HFC), and halons, as well as ground-level O_3 (California Energy Commission 2007).

The major GHG-producing sectors in society include transportation, utilities (e.g., coal and gas power plants), industry/manufacturing, agriculture, and residential. End-use sector sources of GHG emissions include transportation (40.7 percent), electricity generation (22.2 percent), industry (20.5 percent), agriculture and forestry (8.3 percent), and other (8.3 percent) (California Energy Commission 2007). The main sources of increased concentrations of GHG due to human activity include the combustion of fossil fuels and deforestation (CO_2), livestock and rice farming, land use and wetland depletions, landfill emissions (CH_4), refrigeration system and fire suppression system use and manufacturing (CFC), and agricultural activities, including the use of fertilizers (California Energy Commission 2007).

Final Mandatory GHG Inventory Rule

In response to the Consolidation Appropriations Act (House Resolution 2764; PL 110–161), USEPA has issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires

large sources that emit 25,000 metric tons (27,557 U.S. tons) or more per year of GHG emissions to report GHG emissions in the United States, collect accurate and timely emissions data to inform future policy decisions, and submit annual GHG reports to the USEPA. The final rule was signed by the Administrator on September 22, 2009, published on October 30, 2009, and made effective December 29, 2009.

GHG Threshold of Significance

CEQ drafted guidelines for determining meaningful GHG decision-making analysis. The CEQ guidance states that if the Project would be reasonably anticipated to cause direct emissions of 25,000 metric tons (27,557 U.S. tons) or more of CO_2 GHG emissions on an annual basis, agencies should consider this a threshold for decision makers and the public. CEQ does not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHG (CEQ 2010).

The GHG covered by EO 13514 are CO_2, CH_4, N_2O, HFC, perfluorocarbons, and sulfur hexafluoride. These GHG have varying heat-trapping abilities and atmospheric lifetimes. CO_2 equivalency (CO_2e) is a measuring methodology used to compare the heat-trapping impact from various greenhouse gases relative to CO_2. Some gases have a greater global warming potential than others. Nitrous oxides (NO_x), for instance, have a global warming potential that is 310 times greater than an equivalent amount of CO_2, and CH_4 is 21 times greater than an equivalent amount of CO_2 (USEPA 2010).

3.9.2 Environmental Consequences

3.9.2.1 No Action Alterative

The No Action Alternative would not result in any direct impacts on air quality because there would be no construction activities. However, fugitive dust emissions created by illegal off-road vehicle traffic and resulting law enforcement actions and vehicle traffic would continue and likely increase. These fugitive dust emissions would continue to adversely affect the air quality of the region.

3.9.2.2 Proposed Action Alternative

Temporary and minor increases in air pollution would occur from the use of construction equipment (combustion emissions) and the disturbance of soils (fugitive dust) during construction. The following paragraphs describe the methodologies used to estimate air emissions produced by the construction activities.

Fugitive dust emissions were calculated using USEPA's preferred emission factor of 0.19 ton per acre per month (Midwest Research Institute 1996), which is a more current standard than the 1985 PM-10 emission factor of 1.2 tons per acre-month presented in AP-42 Section 13 Miscellaneous Sources 13.2.3.3 (USEPA 2001).

NONROAD2008a model was used to estimate air emissions from construction equipment. It is USEPA's preferred model for estimating emissions from non-road sources (USEPA 2009a). Combustion emission calculations were made for standard construction equipment, such as a

backhoe, bulldozer, dump truck, and cement truck. Assumptions were made regarding the total number of days and hours each piece of equipment would be used.

Construction workers would temporarily increase the combustion emissions in the airshed during their commute to and from the project area. Emissions from trucks delivering materials such as cement, fill, and supplies would also contribute to the overall air emission budget. Emissions from delivery trucks and construction worker commuters traveling to the job site were calculated using USEPA's preferred on-road vehicle emission model MOVES2010a (USEPA 2009b).

The total air quality emissions from the construction activities were calculated and compared to the *de minimis* thresholds of the General Conformity Rule. Summaries of the total emissions for construction activities are presented in Table 3-5. Details of the conformity analyses are presented in Appendix D.

Table 3-5. Total Air Emissions (tons/year) from the Proposed Action Construction versus the *de minimis* Threshold Levels-Imperial County

Pollutant	Total (tons/year)	*de minimis* Thresholds (tons/year) [1]
CO	9.52	100
Volatile Organic Compounds (VOC)	6.23	100
Nitrous Oxides (NOx)	16.36	100
PM-10	5.91	70
PM-2.5	1.74	100
SO_2	1.92	100
CO_2 and CO_2 equivalents	6,338	27,557

Source: 40 CFR 51.853 and Gulf South Research Corporation (GSRC) model projections.
[1] Note that Imperial County is in non-attainment for Ozone, PM-10 (serious), and PM 2.5 (USEPA 2010 and CARB 2012).

Several sources of air pollutants would contribute to the overall air impacts of the construction project. The air results in Table 3-5 included emissions from the following sources.

- Combustion engines of construction equipment
- Construction workers commuting to and from work
- Supply trucks delivering materials to construction site
- Fugitive dust from job-site ground disturbances

As can be seen from the tables above, the proposed construction and operational activities do not exceed Federal *de minimis* thresholds for NAAQS, CAAQS, and GHG and, thus, would not require a Conformity Determination. As there are no violations of air quality standards and no conflicts with the state implementation plans, the impacts on air quality from the implementation of the Proposed Action would not be major. BMPs would be incorporated to ensure that fugitive dust and other air quality constituent emission levels do not rise above the minimum threshold as required per 40 CFR 51.853(b)(1), and are located in Section 5.8.

3.9.2.3 BP Hill Improvement Alternative

Under the BP Hill Improvement Alternative, the total air quality emissions from the construction activities would be similar to those calculated for the Proposed Action Alternative. The proposed construction and operational activities would not be expected to exceed Federal *de minimis* thresholds for NAAQS, CAAQS, and GHG and, similar to the Proposed Action Alternative, would not require a Conformity Determination. As there are no violations of air quality standards and no conflicts with the state implementation plans, the impacts on air quality from the implementation of this alternative would be minor. BMPs would be utilized to ensure that emission levels are below Federal minimum thresholds.

3.10 NOISE

3.10.1 Affected Environment

Noise is generally described as unwanted sound, which can be based either on objective effects (i.e., hearing loss, damage to structures, etc.) or subjective judgments (e.g., community annoyance). Sound is usually represented on a logarithmic scale with a unit called the decibel (dB). Sound on the decibel scale is referred to as sound level. The threshold of human hearing is approximately 3 dB, and the threshold of discomfort or pain is around 120 dB. The A-weighted decibel (dBA) is a measurement of sound pressure adjusted to conform with the frequency response of the human ear. The dBA metric is most commonly used for the measurement of environmental and industrial noise.

Noise levels occurring at night generally produce a greater annoyance than do the same levels occurring during the day. It is generally agreed that people perceive intrusive noise at night as being 10 dBA louder than the same level of intrusive noise during the day, at least in terms of its potential for causing community annoyance. This perception is largely because background environmental sound levels at night in most areas are also about 10 dBA lower than those during the day.

Long-term noise levels are computed over a 24-hour period and adjusted for nighttime annoyances to produce the day-night average sound level (DNL). DNL is the community noise metric recommended by the USEPA and has been adopted by most Federal agencies (USEPA 1974). A DNL of 65 dBA is the level most commonly used for noise planning purposes and represents a compromise between community impact and the need for activities like construction.

Residential Neighborhoods

Acceptable noise levels have been established by the U.S. Department of Housing and Urban Development (HUD) for construction activities in residential areas (HUD 1984):

> **Acceptable** (not exceeding 65 dBA) – The noise exposure may be of some concern, but common building construction will make the indoor environment acceptable, and the outdoor environment will be reasonably pleasant for recreation and play.

Normally Unacceptable (above 65 but not greater than 75 dBA) – The noise exposure is significantly more severe; barriers may be necessary between the site and prominent noise sources to make the outdoor environment acceptable; special building construction may be necessary to ensure that people indoors are sufficiently protected from outdoor noise.

Unacceptable (greater than 75 dBA) – The noise exposure at the site is so severe that the construction costs to make the indoor noise environment acceptable may be prohibitive, and the outdoor environment would still be unacceptable.

Noise Attenuation

As a general rule of thumb, noise generated by a stationary noise source, or "point source," will decrease by approximately 6 dBA over hard surfaces and 9 dBA over soft surfaces for each doubling of the distance. For example, if a noise source produces a noise level of 85 dBA at a reference distance of 50 feet over a hard surface, then the noise level would be 79 dBA at a distance of 100 feet from the noise source, 73 dBA at a distance of 200 feet, and so on. To estimate the attenuation of the noise over a given distance, the following relationship is utilized:

$$\text{Equation 1: } dBA_2 = dBA_1 - 20 \log^{(d2/d1)}$$

Where:

dBA_2 = dBA at distance 2 from source (predicted)
dBA_1 = dBA at distance 1 from source (measured)
d_2 = Distance to location 2 from the source
d_1 = Distance to location 1 from the source

Source: California Department of Transportation (Caltrans) 1998

The project corridor is located in a rural area and the closest sensitive noise receptor is a residential home located approximately 2.2 miles north of the project corridor.

3.10.2 Environmental Consequences

3.10.2.1 No Action Alternative

Under the No Action Alternative, the sensitive noise receptors and wildlife near the proposed project site would not experience construction noise emissions; however, noise emissions associated with CBV off-road travel and consequent law enforcement actions would be long-term and minor, and would continue under the No Action Alternative.

3.10.2.2 Proposed Action Alternative

Construction Noise

The proposed construction activities would require the use of common construction equipment. Table 3-6 presents noise emission levels for construction equipment expected to be used during the proposed construction activities. Anticipated sound levels at 50 feet from various types of construction equipment range from 76 dBA to 84 dBA, based on data from the Federal Highway Administration (FHWA) 2007.

Table 3-6. A-Weighted (dBA) Sound Levels of Construction Equipment and Modeled Attenuation at Various Distances[1]

Noise Source	50 feet	100 feet	200 feet	500 feet	1000 feet
Backhoe	78	72	66	58	51
Dump Truck	76	70	64	56	49
Excavator	81	75	69	61	54
Concrete mixer truck	79	73	67	59	52
Bulldozer	84	78	72	64	57
Front-end loader	82	76	70	62	55

Source: FHWA 2007

[1] The dBA at 50 feet is a measured noise emission. The 100- to 1,000-foot results are GSRC modeled estimates.

Construction would involve the use of a bulldozer, which has a noise emission level of 84 dBA at 50 feet from the source. Assuming the worst case scenario, the noise model (Caltrans 1998) estimates that noise emissions of 84 dBA would have to travel 450 feet before they would attenuate to an acceptable level of 65 dBA. To achieve an attenuation of 84 dBA to a normally unacceptable level of 75 dBA, the distance from the noise source to the receptor would need to be 140 feet. The closest sensitive noise receptor near the project corridor is over 11,000 feet away; therefore, the noise impacts from construction activities would be considered negligible.

3.10.2.3 BP Hill Improvement Alternative

Impacts as a result of this alternative would be the same as those described for the Proposed Action Alternative.

3.11 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

3.11.1 Affected Environmental

3.11.1.1 Current Investigations

Prior to fieldwork, GSRC conducted a search of records on file at South Coastal Information Center of the California Historic Resources Information System at San Diego State University. Previous investigations and known cultural resources within a 1-mile radius of the project area were also cross-checked with records at the BLM El Centro Field Office. The review of cultural resources records indicates that 33 known previous projects were conducted within 1-mile surrounding the project corridor. These investigations have resulted in the identification of 39 archaeological sites (38 prehistoric and 1 historic). Two previously recorded sites, CA-IMP4833 and CA-IMP-4829, were identified as being located within or adjacent to the project corridor. CA-IMP-4833 is described as a historic cairn and trail segment located near the eastern end of the road. CA-IMP-4829 is described as a prehistoric quartz chipping station in the same vicinity. In addition, one isolated feature (13-009617), which consists of International Boundary Monument No. 225, was also identified adjacent to the project corridor.

GSRC Archaeologists David Hart, Dean Barnes, and Adam Searcy conducted the Class III intensive survey of the entire project area under California BLM Permit No. CA-12-09; Fieldwork Authorization No. CA-670-12-086-FA-01 from July 9 through July 11, 2012. GSRC has submitted a Draft Cultural Resources Survey Report to the BLM El Centro Field Office for review and approval. Mr. John Bathke, Tribe Historic Preservation Officer of the Fort Yuma

Quechan Tribe was on-site while GSRC conducted the survey. No new archaeological sites and nine isolated occurrences (IOs) were identified and recorded. The IOs consist of five General Land Office (GLO) historic survey markers, a scatter of milled lumber and nails, International Boundary Monument No. 224, a tobacco tin, and a shell fragment.

GSRC attempted to relocate both of the previously recorded archaeological sites, CA-IMP-4829 and CA-IMP-4833, as part of the pedestrian survey. GSRC determined that both sites have been completely destroyed by an extensive gravel quarry operated by the Imperial Irrigation District.

There were no aboveground historic structures within a 1-mile radius of the APE.

3.11.1.2 Tribal Concerns

Section 106 of the National Historic Preservation Act requires Federal agencies to take into account the effects of their undertakings on historic properties and defines procedures governing Federal agencies' statutory responsibilities. Revisions to these procedures emphasized consultation with Native American tribes as part of the Section 106 process for all Federal undertakings subject to Section 106 review, regardless of whether or not the undertaking is on tribal land. GSRC requested a Sacred Lands File and Native American Contacts List Requests on behalf of CBP on June 14, 2012, from the Native American Heritage Commission (NAHC). On June 18, 2012, the NAHC conducted a Sacred Lands File search of its inventory and did not identify any Native American cultural resources in the APE (Appendix A). However, the project is proximate to Native American cultural resources (NAHC 2012).

3.11.2 Environmental Consequences

3.11.2.1 No Action Alternative

No new impacts on cultural resources would occur upon implementation of the No Action Alternative, as no improvement or construction activities would take place. No changes in ongoing operations would occur with this alternative.

3.11.2.2 Proposed Action Alternative

Two NRHP-eligible historic objects, International Boundary Monuments No. 224 and No. 225, were identified through the records search and fieldwork. Both monuments would be avoided during construction; therefore, no impacts would occur to the monuments. Section 106 consultation is ongoing and a final determination of effects has not been reached to date. However, in the absence of any other intact NRHP-eligible archaeological sites or historic properties located within the project corridor, no adverse impacts are expected to occur on any cultural resources or historic properties as a result of the Proposed Action Alternative. Additionally, BMPs as described in Section 5.7 would be implemented in an effort to avoid or minimize impacts on the GLO markers.

3.11.2.3 BP Hill Improvement Alternative

The impacts under the BP Hill Improvement Alternative are expected to be the same as those outlined under the Proposed Action Alternative.

3.12 ROADWAYS AND TRAFFIC

3.12.1 Affected Environment

The only paved road that has regular vehicle traffic near the project corridor is SR 98, which is approximately 2 miles north of the project corridor. SR 98 would be used to access the project corridor from the west and east via existing unimproved roads. Vehicles expected to travel SR 98 during construction activities include transport vehicles and delivery trucks.

3.12.2 Environmental Consequences

3.12.2.1 No Action Alternative

The No Action Alternative would not increase the use of roadways, and traffic volumes would not change because no construction or improvements would occur.

3.12.2.2 Proposed Action Alternative

Vehicle traffic along SR 98 would be increased by approximately 40 vehicles per day during the construction period. This increase in daily traffic volume would consist of heavy-duty delivery trucks and construction personnel passenger vehicles. During project construction, the delivery of materials and equipment could cause minor delays along the affected segment of SR 98.

The 2011 annual average daily traffic volume on SR 98 (Imperial Highway portion) was approximately 1,650 vehicles per day (Caltrans 2012). The potential increase (2 percent) of traffic associated with this alternative is well below the capacity of SR 98. Although additional construction traffic would impair traffic flow on SR 98, these impacts would be temporary and, therefore, minimal.

3.12.2.3 BP Hill Improvement Alternative

Under this alternative, the impacts on roadways and traffic within the project area would be similar to those described for Proposed Action Alternative.

3.13 AESTHETICS AND VISUAL RESOURCES

3.13.1 Affected Environment

Aesthetic resources consist of the natural and man-made landscape features that appear indigenous to the area and give a particular environment its visual characteristics. Construction would occur in the Yuha Basin ACEC on Federal lands managed by the BLM. BLM manages these lands to ensure that activities preserve the character of the landscape. Lands controlled by BLM are assigned a visual resource inventory class, which has a two-fold purpose. First, it serves as an inventory tool that portrays the relative value of the visual resources, and secondly, it serves as a management tool that portrays the visual management objectives.

Visual resources are divided into four Visual Resource Management (VRM) classes. The project area and its vicinity are characterized as VRM Class III. The objective of VRM Class III is to partially retain the existing character of the landscape. Management activities can attract attention but should not dominate the view of the public. The level of change to the characteristic landscape can be moderate to high.

The project corridor has limited aesthetic value due to past and ongoing human activities within and adjacent to the project corridor. The project corridor is adjacent to CBP infrastructure (i.e., vehicle barriers), IID gravel/sand quarry, and a water treatment facility and associated roads in Mexico. In addition, the project corridor has been degraded due to illegal foot and vehicle traffic and subsequent law enforcement actions.

3.13.2 Environmental Consequences

3.13.2.1 No Action Alternative

Aesthetics in the project corridor would continue to diminish with the implementation of the No Action Alternative. The vegetation and landscape within the area would continue to be destroyed and trampled. Thus, negative impacts on aesthetics and visual resources in the area would be expected to continue with the selection of the No Action Alternative.

3.13.2.2 Proposed Action Alternative

Degradation of the aesthetic value of the project area would occur during construction, within the immediate area. It should be noted, however, that the proposed site is adjacent to the U.S./Mexico border, which has been heavily degraded due to illegal vehicle/foot traffic and the subsequent USBP actions required to monitor and halt/apprehend these illegal activities. A minor to negligible visual impact would occur initially after construction activities but would be reduced over time. The varied and undulating terrain along the project corridor would preclude sight of the proposed construction and improvement activities, except in the immediate vicinity and/or from high vantage points. The Proposed Action Alternative is consistent with the visual resource management goals of the BLM. Thus, no major impacts on aesthetics and visual resources within the project corridor are expected.

3.13.2.3 BP Hill Improvement Alternative

Under this alternative, the impacts on aesthetics and visual resources within the area would be the same as those described for the Proposed Action Alternative.

3.14 HAZARDOUS MATERIALS

3.14.1 Affected Environment

There are a total of 10 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Superfund sites identified within Imperial County; however, none are located on or near the proposed project corridor (USEPA 2012). Only one site, located north of the City of Calexico and approximately 15 miles from the proposed site location, is designated as a Superfund site and is currently listed as having National Priorities List (NPL) status. In addition, no Resource Conservation and Recovery Act (RCRA) violation and corrective action sites, Leaking Underground Storage Tanks sites, NPL sites, or No Further Remedial Action Planned sites are known to exist near the proposed project corridor (USEPA 2012c).

No visual evidence of hazardous materials or environmental liabilities, including odors, drums, stained soil, stressed vegetation, wastewater, wells, and/or septic tanks, were observed during the site visit on June 28, 2012. According to USEPA (2012c), there is no known or suspected toxic and/or hazardous material contamination in the area surrounding the proposed project corridor, and there are no known historic land uses at the proposed sites that might have resulted in toxic

or hazardous material contamination of the underlying soil and/or groundwater resources. A transaction screen assessment, in accordance with American Society for Testing and Materials (ASTM) standard E1528-06 was performed for the project corridor, and no potential environmental concerns were identified.

3.14.2 Environmental Consequences

3.14.2.1 No Action Alternative

No impacts would occur on hazardous materials or wastes upon implementation of the No Action Alternative.

3.14.2.2 Proposed Action Alternative

No hazardous materials were observed during field surveys. In addition, no known state or Federal sites with known contamination exists in the project corridor area. Temporary impacts could occur, as the potential exists that POL and other hazardous materials could be released during improvement and construction activities. Through the use of proper BMPs (see Section 5), frequent vehicle inspections, and careful handling of hazardous materials, the possibility of either leaks or spills would be minimized; thus, no or negligible impacts are expected to occur.

3.14.2.3 BP Hill Improvement Alternative

Under the BP Hill Improvement Alternative, the impacts from hazardous wastes and materials within the project area would be the same as those described for the Proposed Action Alternative.

3.15 SOCIOECONOMICS

3.15.1 Affected Environment

This socioeconomics section outlines the basic attributes of population and economic activity in Imperial County, California, and the City of Calexico. The area is sparsely populated and relatively low-income, and in 2011, Imperial County had the highest unemployment rate of any county in the Nation, with an annual average unemployment rate of 29.7 percent.

3.15.1.1 Population

Population data for Imperial County, Calexico, and the study area census tract are shown in Table 3-7. Imperial County and Calexico grew rapidly, 22.6 and 42.3 percent, respectively, over the last decade, while California's population growth (10 percent) was in line with growth across the Nation (9.7 percent).

Table 3-7. Population

	Census Tract 123.01	Calexico	Imperial County	California
2010 Population	5,633	38,572	174,528	37,253,956
2000 Population	5,202	27,109	142,361	33,871,648
Percent Change	8.3	42.3	22.6	10.0

Source: U.S. Census Bureau 2000 and 2010a.

The project area is a high minority area, as shown in Table 3-8. According to the 2010 Census, more than 80 percent of the population of Imperial County and more than 96 percent of

Calexico's population reports being of Hispanic or Latino origin. Slightly more than half of the population of Census Tract 123.01 reports being of Hispanic or Latino origin, with the census tract also reporting almost 28 percent Black or African American.

Table 3-8. Race and Ethnicity

	Hispanic	White, Not Hispanic	Black or African American
Imperial County	80.4	13.7	3.8
Calexico	96.8	1.7	0.6
Census Tract 123.01	51.1	19.3	27.8
California	37.6	40.1	7.2
United States	16.3	63.7	13.6

Source: U.S. Census Bureau 2010a.

As shown in Table 3-9, American Community Survey estimates show that Imperial County has a much lower percentage of high school and college graduates than the State of California and the Nation. In Imperial County, only 62.3 percent of persons age 25 and above have a high school credential compared to more than 80 percent for the State of California and 85 percent for the Nation. Only about 12 percent of Imperial County residents have a bachelor's degree or higher compared to more than 30 percent for California and almost 28 percent for the Nation.

Table 3-9. Educational Attainment

Percent of Persons Age 25+	Imperial County	California	United States
High school graduate	62.3%	80.7%	85.0%
Bachelor's degree or higher	12.2%	30.1%	27.9%

Source: U.S. Census Bureau 2010b

3.15.1.2 Employment, Poverty Levels, and Income

In 2011, the annual average labor force in Imperial County was 77,561. The unemployment rate was 29.7 percent, the highest county unemployment rate in the Nation. It was more than triple the National unemployment rate of 8.9 percent and well above the 11.7 percent unemployment rate for the State of California (U.S. Bureau of Labor Statistics 2011).

The economy of the region is heavily based on agriculture, with farms irrigated using water from the Colorado River via the All-American Canal. The county is an important producer of vegetable and melon crops, field crops, and livestock, with top commodities including cattle, lettuce, and alfalfa (Imperial County 2010).

County Business Patterns data show that employment in Imperial County is concentrated in the "retail," "healthcare and social assistance," and "accommodation and food services" categories, as shown in Table 3-10. Together they account for approximately 51 percent of employment in Imperial County, compared to 35 percent for California and 38 percent for the U.S. The "retail" and "accommodation and food services" industries are historically lower-paying industries. Industries that are typically higher-paying, such as "information" and "professional, scientific,

and technical services," account for only about 4 percent of employment in Imperial County compared to 13 percent for the State of California.

Table 3-10. Employment by Industry Sector (Percent of Total)

	Imperial County	California	United States
Forestry, fishing, hunting, and agricultural support	2%	<1%	<1%
Mining, quarrying, and oil and gas extraction	<1%	<1%	1%
Utilities	NA	NA	1%
Construction	5%	5%	5%
Manufacturing	11%	10%	10%
Wholesale trade	6%	6%	5%
Retail trade	25%	12%	13%
Transportation and warehousing	5%	3%	4%
Information	1%	4%	3%
Finance and insurance	3%	5%	5%
Real estate and rental and leasing	2%	2%	2%
Professional, scientific, and technical services	3%	9%	7%
Management of companies and enterprises	<1%	2%	2%
Admin & Support; Waste Management & Remediation Services	5%	8%	8%
Educational services	1%	3%	3%
Health care and social assistance	14%	13%	15%
Arts, entertainment, and recreation	2%	<1%	2%
Accommodation and food services	12%	10%	10%
Other services (except public administration)	3%	4%	5%
Industries not classified	<1%	<1%	NA

Source: U.S. Census Bureau 2009

Income and poverty data are shown in Table 3-11. Per capita income for Imperial County is very low at $27,342, which is 68.5 percent of the National average. Per capita income for California, $42,514, is more than 106 percent of the National average. Median household income for Imperial County and Calexico are also well below California and the Nation (U.S. Bureau of Economic Analysis [BEA], 2009).

Table 3-11. Income and Poverty

	Census Tract 123.01	Calexico	Imperial County	California	United States
Per capita personal income (dollars), 2009		NA	$27,342	$42,514	$39,937
Per capita income as a percent of U.S., 2009		NA	68.5	106.5	100
Median Household Income (2006-2010)		$34,848	$38,685	$60,883	$51,914
Persons of all ages below poverty level, percent, 2006-2010	19.5	22.1	21.4	13.7	13.8

Sources: U.S. Census Bureau 2010b and U.S. BEA 2009.

As might be expected based on the income numbers and unemployment rate, the poverty rates for Imperial County and the City of Calexico (21.4 and 22.1 percent, respectively) are well above the poverty rates for California (13.7 percent) and the Nation (13.8 percent) (U.S. Census Bureau 2010b).

3.15.1.3 Housing

Data on housing units in the project area, California, and the Nation are presented in Table 3-12. These data show that in Census Tract 123.01, a much higher than average percentage of the population lives in the homes they own, with 74 percent of the homes owner-occupied, compared to about 55 percent for Imperial County and 65 percent for the Nation. The homeowner and rental vacancy rates in Census Tract 123.01 are also much higher than the county, the state, and the Nation.

Table 3-12. Housing Units

Geographic Area	Total Housing Units	Occupied			Homeowner Vacancy Rate* (Percent)	Rental Vacancy Rate** (Percent)	Vacant Units for Rent
		Units	Percent Owner Occupied	Percent Renter Occupied			
Census Tract 123.01	975	448	74.0	26.0	7.1	16.1	151
Calexico	10,651	10,116	53.7	46.3	2.6	3.1	23
Imperial County	56,067	49,126	55.9	44.1	3.5	7.5	1,762
State of California	13,680,081	12,577,498	55.9	44.1	2.1	6.3	374,610
United States	131,704,730	116,716,292	65.1	34.9	2.4	9.2	4,137,567

Source: U.S. Census Bureau 2010a
*Homeowner vacancy rate is the proportion of the homeowner inventory that is vacant "for sale."
** Rental vacancy rate is the proportion of the rental inventory that is vacant "for rent."

3.15.2 Environmental Consequences

3.15.2.1 No Action Alternative

The No Action Alternative would result in no new impacts on socioeconomics within the region, as no road construction and improvements would occur.

3.15.2.2 Proposed Action Alternative

The proposed project area is located approximately 10 miles west of the nearest populated area, Calexico, California. During construction there would be a temporary but minimal increase in population from the addition of construction crews in the area. No housing units or businesses are located within the footprint of the Proposed Action Alternative, so no displacement of existing people or businesses would be anticipated. Construction crews would stay at hotels. As a result, no additional demand for housing is anticipated during construction. No major adverse impacts on the regional economy or demographics would be anticipated from the Proposed Action Alternative. However, the proposed improvements would have temporary cumulative beneficial impacts on the region's economy due to temporary employment and sales taxes generated through the purchase of construction-related items such as fuel and food.

3.15.2.3 BP Hill Improvement Alternative

Under the BP Hill Improvement Alternative, the impacts on regional economy or demographics would be the same as those described for the Proposed Action Alternative.

3.16 HUMAN HEALTH AND SAFETY

3.16.1 Affected Environment

Human health effects occur in a variety of forms, such as exposure to chemicals, extreme temperatures, weather, and physical security and safety. Generally, human health factors are driven by factors that differ substantially by geographic area. In the project area, factors that could impact human health range from automobile accidents, extreme weather such as wildfires and high temperatures, and physical security on the site, as well as minimizing the chance that non-site workers could venture on the project site and be harmed. However, the general area surrounding the project site consists of BLM desert scrubland. No residences or community parks are located within 2.0 miles of the project corridor.

3.16.2 Environmental Consequences

3.16.2.1 No Action Alternative

Under the No Action Alternative, no construction would occur; therefore, there would be no direct impacts, either beneficial or adverse, on human health and safety due to construction activities. However, USBP agents would continue to face safety related issues while trying to maintain and access the BP Hill RVSS tower, as well as patrol the existing border road.

3.16.2.2 Proposed Action Alternative

There is little potential for USBP agents, private contractors, BLM personnel, or the general public to be at risk from a human health and safety aspect as a result of the Proposed Action Alternative. Construction would occur during daylight hours, whenever possible. Safety buffer zones would be designated around all construction sites to ensure public health and safety. Automobile traffic associated with construction and operation of the improved roadway is not anticipated to increase the risks of automobile accidents or roadway capacities. Through BMPs developed for general construction practices (see Section 5.0), and because of the rural nature of the project area with no residences located near the project footprint, negligible impacts would be expected.

3.16.2.3 BP Hill Improvement Alternative

Under the BP Hill Improvement Alternative, the impacts on human health and safety would be the same as those described for the Proposed Action Alternative.

3.17 SUSTAINABILITY AND GREENING

3.17.1 Affected Environment

In accordance with EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management (72 FR 3919), CBP would incorporate practices in an environmentally, economically, and fiscally sound, integrated, continuously improving, efficient, and sustainable manner in support of its mission. CBP implements practices throughout the agency to: 1) improve energy efficiency and reduce GHG emissions; 2) implement renewable energy projects; 3) reduce water consumption; 4) incorporate sustainable environmental practices such

as recycling and the purchase of recycled-content products; and 5) reduce the quantity of toxic and hazardous materials used and disposed of by the agency.

3.17.2 Environmental Consequences

3.17.2.1 No Action Alternative

The No Action Alternative would not increase the use of fossil fuels or GHG emissions because no additional construction would occur.

3.17.2.2 Proposed Action Alternative

Under the Proposed Action Alternative, the Federal sustainability and greening practices would be implemented, to the maximum extent practicable. No major impacts regarding Sustainability and Greening would occur.

3.17.2.3 BP Hill Improvement Alternative

Under the BP Hill Improvement Alternative, the impacts on sustainability and greening would be the same as those described for the Proposed Action Alternative.

3.18 PALEONTOLOGICAL RESOURCES

3.18.1 Affected Environment

The surface and near-surface geologic units in the project area are of Recent and Holocene age, between 500 and 8,000 years old, and are a result of deposition of sediments in and around the ancient Lake Cahuilla (San Diego State University 2012). Lake Cahuilla was the predecessor of the current Salton Sea, and held a significant volume of fresh to slightly brackish water. Studies of the history of Lake Cahuilla indicate that the lake was active from the Pleistocene glacial periods to as recent as 500 years B.P. Sediments deposited in the lake and on shorelines around the lake contain dead vertebrate (fish) and invertebrate (gastropods and mollusks) organisms, but the types of organisms present in Lake Cahuilla are nearly identical to those presently found in the Salton Sea remnant of the ancient lake. Also, during the active period of Lake Cahuilla, Native American peoples lived around the shores of the lake and harvested organisms for food (Salton Sea Authority 2012). Discarded shells and fish bones would have been reworked by humans and thus would be considered archaeological artifacts, not fossils. The Proposed Action would occur near the center of the former Lake Cahuilla, and sediments in that area would be the youngest due to the retreat of the lake toward the center as water evaporated through time. Therefore, the potential for discovery of significant paleontological resources during any excavation activities is considered low.

3.18.2 Environmental Consequences

3.18.2.1 No Action Alternative

The No Action Alternative would result in no new impacts on paleontological resources within the region, as no road construction or improvements would occur.

3.18.2.2 Proposed Action Alternative

A pedestrian archaeological survey of the project corridor was conducted, and no fossil shells or bones were identified on the surface. No relict shoreline features are present within the project corridor, and significant recently deposited gravel and boulder material is present on the surface.

Any fossilized shells found in these deposits would be loose, and would have no provenance relationship with the original sediments from which they came. Additionally, based on the geotechnical borings and cores recovered for the Proposed Action, no indurated rock strata were recovered (Michael Baker 2012).

Using the BLM Potential Fossil Yield Classification (PFYC) System, the potential for discovery of vertebrate fossils or scientifically significant non-vertebrate fossils would be low, fitting into the PFYC Class 2. The deposits are younger than 10,000 years B.P., any remains found would be identical to currently living organisms, any fossils found would be loose with no indication of provenance, no scientific knowledge could be gained from the study of any loose fossils found, and any concentration of shells or fish bones found would be treated as an archaeological site. As stated in the BLM's Instruction Memorandum Number 2008-009, the assessment or mitigation of paleontological resources in areas classified as Class 2 is not likely to be necessary. CBP would have cultural resources monitors on-site during ground-disturbing activities, which will also reduce the likelihood of impacting unknown paleontological resources. Therefore, CBP considers any potential impacts on this resource from ground-disturbing activities of the Proposed Action to be negligible.

SECTION 4.0
CUMULATIVE IMPACTS

4.0 CUMULATIVE IMPACTS

NEPA regulations define cumulative impacts as an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time by various agencies (Federal, state, and local) or individuals. Informed decision making is served by consideration of cumulative impacts resulting from activities that are proposed, under construction, recently completed, or anticipated to be implemented in the reasonably foreseeable future.

This cumulative impacts analysis summarizes expected environmental effects from the combined impacts of past, current, and reasonably foreseeable future activities that affected any part of the human or biological environment impacted by the Proposed Action. Activities were identified for this analysis by reviewing CBP and BLM documents, news/press releases and published media reports, and through consultation with planning and engineering departments of local governments, and state and Federal agencies.

4.1 CBP PROJECTS

USBP has been conducting law enforcement actions along the U.S/Mexico border since its inception in 1924, and has continually transformed its methods as new missions, CBV modes of operations, agent needs, and National enforcement strategies have evolved. Development and maintenance of training ranges, station and sector facilities, detention facilities, and roads and fences have affected hundreds of acres of resources in southern California, including the climate and landscapes that support native plants and animals, as well as socioeconomic conditions in border communities.

All CBP actions have been in support of the agency's mission to gain and maintain control of the United States' borders. Infrastructure projects have supported the operational methods determined to be the most effective approach to achieving the agency's mission. Each of these projects has been compliant with NEPA, and measures to avoid, minimize, or mitigate for the adverse effects on the human and biological environment have been developed and implemented on a project-specific basis. With continued funding and implementation of BMPs developed as part of past, ongoing, and future actions, including environmental education and training of its agents, use of biological and archaeological monitors, and restoration activities, the direct impacts of these projects have been and would be prevented or minimized.

As mentioned previously, CBP published the May 2008 Environmental Stewardship Plan (ESP) for the Construction, Operation, and Maintenance of Tactical Infrastructure, U.S. Border Patrol (USBP), El Centro Sector, California, which described the proposed TI and any potential environmental impacts. The TI to be constructed within the El Centro Sector was divided into five segments designated as BV-1, B-2, B-4, B5-A, and B-5B. Segments BV-1 and B-2 adjoin the current project area from the west and east, respectively. Within these segments, 71.8 acres

were impacted from the construction of fence, access and patrol roads, and staging areas. The total project footprint for all TI constructed as part of the El Centro project was 326 acres.

The Proposed Action Alternative addressed in this EA is part of a larger TI project, portions of which are waived from NEPA and other Federal regulatory compliance by the Secretary of DHS. The other elements of the larger TI project include the improvement, operation, and maintenance of two staging areas, two access roads, and border road to the east and west of the proposed project area. In addition to the Proposed Action Alternative and other elements that are covered by the Secretary's waiver and are part of the larger TI project, CBP has proposed and is evaluating a program of ongoing maintenance and repair of existing tactical infrastructure within the ROI. CBP has considered both the Proposed Action Alternative and the other elements in examining cumulative impacts

4.2 PRIVATE/OTHER AGENCY/ORGANIZATION PROJECTS

Numerous private renewable energy projects have been identified as either ongoing or proposed near the project area that could have a cumulative impact when combined with the Proposed Action Alternative (BLM 2012b). These activities are described below.

- **Calexico Solar Farm I, Under Construction:** Solar photovoltaic project encompassing 1,013 acres of farmland along the All-American Canal, west of Calexico, California.
- **Calexico Solar Farm II, Ongoing:** Solar photovoltaic project encompassing 1,477 acres of farmland near the All-American Canal, west of Calexico, California.
- **Mount Signal Solar Farm, Ongoing:** A proposed 200-megawatt (MW), 1,375-acre solar project with a biomass generation component and 230-kilovolt transmission line. This project would be located on existing farmlands.
- **Imperial Solar Energy Center South Solar Farm, Ongoing:** This project is a proposed 200 MW solar facility with a transmission line and associated road widening on 946.6 acres of existing farmlands, which is located west of Calexico near the All-American Canal.
- **Centinela Solar Farm, Ongoing:** This proposed solar farm consists of 2,067 acres. The solar farm would be located on existing farmland located near SR 98, west of Calexico.
- **Acorn Greenworks Solar Farm, Ongoing:** This project would be located north of SR 98 on approximately 693 acres and would consist of a 150 MW solar energy facility.
- **Silverleaf Solar Farm, Ongoing:** The Silverleaf Solar Farm is proposed north of SR 98 and south of Interstate 8 near the western boundary of the YDMA in existing farmland. The project would encompass 1,096 acres and would be a 160 MW solar photovoltaic energy facility.
- **Campo Verde Solar Farm, Ongoing:** Over 2,260 acres of farmland would be converted to a 226 MW solar energy facility.
- **Imperial Valley Solar West Solar Farm, Ongoing:** This project entails a 1,130-acre, 250 MW solar energy facility, and associated transmission line.
- **Sunrise Powerlink-Transmission, Project Complete:** This project consists of the construction of a 117-mile transmission line from San Diego County to the Imperial Valley Substation. The total acreage impacted as a result of the project is approximately 282.3 acres.

Although the renewable energy projects described above are primarily located on private lands, a few of the projects do have components that traverse BLM lands. In general, only a transmission line needs to be constructed across BLM lands with minimal disturbance being created. BLM is also in the process of potentially approving a renewable energy project wholly within BLM lands (i.e., Ocotillo Solar Project). The Ocotillo Solar Project would impact approximately 102 acres of locally and regionally common creosote-white bursage vegetative community. No major adverse impacts on Federally protected species, Waters of the U.S., or cultural resources are expected as a result of the project.

4.3 IDENTIFICATION OF CUMULATIVE EFFECTS ISSUES

Impacts on each resource can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis, the intensity of impacts will be classified as negligible, minor, moderate, or major. These intensity thresholds were previously defined in Section 3.1.

4.3.1 Land Use

A major impact would occur if any action is inconsistent with adopted land use plans or if an action would substantially alter those resources required for supporting or benefiting the current use. Improvements and construction of the roads would change land use from recreation to CBP infrastructure. This change would be minor because it would be located near the heavily disturbed U.S./Mexico border (which is typically not used for recreation) and within an existing road. CBV activities and CBP and law enforcement activities have historically and recently cumulatively impacted land uses for public lands in Southern California. Although land use in Southern California has changed dramatically over time, in recent history, management of the lands affected by the Proposed Action Alternative has been consistent with the mission of BLM. Additionally, the combination of the Proposed Action Alternative and other planned projects within the YDMA would not exceed the one percent cap of cumulative impacts as allowed per the FTHL Rangewide Management Strategy. Therefore, when the Proposed Action Alternative is combined with other projects in the area, it would have a negligible cumulative effect on the ability of land managers to implement land use policies.

4.3.2 Soils

A major impact would occur if the action exacerbates or promotes long-term erosion, if the soils are inappropriate for the proposed construction and would create a risk to life or property, or if there would be a substantial reduction in agricultural production or loss of prime farmland soils. Within the project area, it is estimated that the CBP would remove up to 7.5 acres of primarily disturbed soils from production. Other CBP projects, such as the pedestrian and vehicle fence projects in southern Imperial County, have resulted in hundreds of acres of soils disturbance; however, these soils were regionally and locally common. Although the road improvements and construction would impact negligible amounts of soils, the cumulative impacts on soils from CBP projects, private entity projects, and land management activities from other agencies, such as BLM, would not be considered a major cumulative adverse impact.

4.3.3 Geology

The Proposed Action Alternative would not affect geologic resources. Therefore, this action, when combined with other existing and proposed projects in the region, would result in a negligible cumulative impact on geologic resources.

4.3.4 Vegetation

The significance threshold for vegetation would include a substantial reduction in ecological processes, communities, or populations that would threaten the long-term viability of a species or result in the substantial loss of a sensitive community that could not be offset or otherwise compensated. The proposed project would permanently impact up to 7.5 acres that is sparsely vegetated (less than five percent ground cover). The other CBP projects in the region were also located in degraded, sparsely vegetated areas (Algododunes Dunes and All-American Canal). The solar farms planned in the region would be constructed primarily on existing agricultural lands. Therefore, when the Proposed Action Alternative is combined with other private and BLM projects in the region, negligible cumulative impacts on native vegetation communities would occur.

4.3.5 Wildlife

The significance threshold for wildlife and aquatic resources would include a substantial reduction in ecological processes, communities, or populations that would threaten the long-term viability of a species or result in the substantial loss of a sensitive community that could not be offset or otherwise compensated. Past CBP projects were completed within areas that were degraded from past activities and within areas of sparse vegetation. As mentioned previously, the other ongoing or proposed projects in the region are primarily located within existing agricultural areas. Most of the land use in the region is undeveloped and would be unchanged, even with the Proposed Action Alternative and other development projects. Therefore, this proposed project, in conjunction with other regionally proposed projects, would have a negligible impact on regional wildlife populations due to loss of habitat.

4.3.6 Protected Species and Critical Habitats

A major impact on threatened and endangered species would occur if any action resulted in a jeopardy opinion for any endangered, threatened, or rare species. No adverse cumulative impacts would occur, as the Proposed Action Alternative would have no effects on any Federally-listed or state-listed threatened or endangered species. Conversely, the Proposed Action Alternative would have an adverse effect on one conservation species, FTHL, due to habitat loss and potential individual mortality. Although up to 7.5 acres of habitat would be permanently impacted, only 3.6 of those acres are considered undisturbed. CBP has agreed to implement mitigation measures (minimize impacts, provide biological monitors, and provide compensation) that would offset any impacts to achieve no adverse impacts on the FTHL or its habitat. This project when combined with other ground–disturbing or development projects in the region, would have minor cumulative impacts on FTHL.

4.3.7 Water Resources

The construction, improvement, and maintenance of proposed roadways would have no impact on groundwater or wetlands and less than 0.2 acre of surface waters (ephemeral washes) would be impacted. The implementation of BMPs would reduce erosion and sedimentation during

construction to negligible levels and would eliminate post-construction erosion and sedimentation from the project area. The same measures would be implemented for other construction projects; therefore, cumulative impacts would be considered negligible.

4.3.8 Air Quality

Numerous activities have affected air quality throughout the region. As part of compliance with the Federal General Conformity Rule, GSRC performed an air conformity analysis during the development of this EA. It was determined that the impacts of the Proposed Action Alternative would be temporary, minor, and below the *de minimis* threshold presented in the General Conformity Rule. Other projects in the airshed do not exceed *de minimis* thresholds and the combination of these projects should not cause an exceedance of Federal ambient air quality standards. Thus, the Proposed Action Alternative in combination with other projects would have a negligible adverse cumulative effect on air quality. Long-term beneficial impacts from the reduction of fugitive dust would occur as the solar farms are constructed within old agricultural fields.

4.3.9 Noise

Actions would be considered to cause major impacts if they permanently increase ambient noise levels over 65 dBA. Most of the noise generated by the Proposed Action Alternative would occur during construction and, thus, would not contribute to cumulative impacts on ambient noise levels. Maintenance activities along the roads would create a minor increase in ambient noise levels; however, potential sources of noise from periodic maintenance operations are not sufficient (temporal or spatial) to increase day-night average ambient noise levels above the 50 dBA range at the proposed site. The other projects occurring or potentially occurring within the ROI are removed from the proposed project area and construction activities would likely not be contemporaneous. Therefore, the potential for cumulative impacts is negligible.

4.3.10 Cultural Resources

The Proposed Action Alternative would not affect cultural resources or historic properties. Therefore, this action, when combined with other existing and proposed projects in the region, would result in a negligible cumulative impact on cultural resources or historic properties.

4.3.11 Aesthetics and Visual Resources

Actions that cause the permanent loss of the characteristics that make an area visually unique or sensitive would be considered to cause a major impact. No major impacts on visual resources would occur from implementing the Proposed Action Alternative, due in part to the site being previously disturbed, adjacent to existing CBP infrastructure, a gravel/sand quarry, and other development in Mexico. This project, in conjunction with other projects in the region, would not result in major adverse cumulative impacts on the region's visual resources.

4.3.12 Hazardous Materials

The Proposed Action includes measures to reduce the potential effects of pollutants associated with the handling of POL, VOC, and hazardous materials, and would have a minor cumulative effect on hazardous waste.

4.3.13 Socioeconomic

Construction of the proposed improvements would have temporary cumulative beneficial impacts on the region's economy due to temporary employment and sales taxes generated through the purchase of construction-related items such as fuel and food. When combined with the other currently proposed or ongoing projects within the region, the Proposed Action Alternative is considered to have minor beneficial cumulative impacts.

4.3.14 Human Health and Safety

No health or safety risks would be created by the Proposed Action Alternative. In fact, the improvements are intended to reduce safety risks to USBP agents and the public, especially when agents are able to be more effective in reaching currently less accessible areas. When combined with other ongoing and proposed projects in the region, the Proposed Action Alternative would have a negligible cumulative effect.

SECTION 5.0
BEST MANAGEMENT PRACTICES

5.0 BEST MANAGEMENT PRACTICES

It is CBP's policy to reduce impacts through a sequence of avoidance, minimization, mitigation, and compensation. This chapter describes those measures that would be implemented to reduce or eliminate potential adverse impacts on the human and natural environment. Many of these measures have been incorporated as standard operating procedures by CBP on past projects. BMPs are presented for each resource category potentially affected.

5.1 PROJECT PLANNING/DESIGN – GENERAL CONSTRUCTION

The all-weather road will be sited, designed, and improved/constructed to avoid or minimize habitat loss within or adjacent to the footprint. The amount of aboveground obstacles associated with the site will be minimized.

CBP will ensure that all construction will follow DHS *Directive 025-01* for Sustainable Practices for Environmental, Energy, and Transportation Management.

CBP will incorporate BMPs relating to project area delineation, water sources, waste management, and site restoration into project planning and implementation for construction and maintenance.

5.2 GENERAL CONSTRUCTION ACTIVITIES

CBP will clearly demarcate project construction area perimeters with a representative from the land management agency. No disturbance outside that perimeter will be authorized without prior coordination and approval of the land manager.

Within the designated disturbance area, CBP will minimize the area to be disturbed by limiting deliveries of materials and equipment to only those needed for effective project implementation.

CBP will avoid contamination of ground and surface waters by storing any water that has been contaminated with construction materials, oils, equipment residue, etc., in closed containers on-site until removed for disposal. This wash water is toxic to wildlife. Storage tanks must have proper air space (to avoid rainfall-induced overtopping), be on-ground containers, and be located in upland areas instead of washes.

In the event that CBP contaminates soil or water resources as a result of the proposed project, the contaminated soil or water will be remediated as per BLM requirements.

CBP will avoid transmitting disease vectors, introducing invasive non-native species, and depleting natural aquatic systems by using wells, irrigation water sources, or treated municipal sources for construction or irrigation purposes instead of natural sources.

CBP will place drip pans under parked equipment and establish containment zones when refueling vehicles or equipment.

5.3 VEGETATION

CBP will minimize habitat disturbance by restricting vegetation removal to the smallest possible project footprint. Native seeds or plants, which are compatible with the enhancement of protected species, will be used to the greatest extent practicable, as required under Section 7(a)(1) of the ESA, to rehabilitate staging areas and other temporarily disturbed areas. Additionally, organic material will be collected and stockpiled during construction to be used for erosion control after construction while the areas naturally rehabilitate.

Construction equipment will be cleaned at temporary staging areas, in accordance with BMPs, prior to entering and departing project areas to minimize the spread and establishment of non-native invasive plant species.

5.4 WILDLIFE RESOURCES

The Migratory Bird Treaty Act (MBTA) (16 USC 703-712, [1918, as amended 1936, 1960, 1968, 1969, 1974, 1978, 1986 and 1989]) requires that Federal agencies coordinate with the USFWS if a construction activity would result in the take of a migratory bird. If construction or clearing activities are scheduled during nesting season (February 15 through September 1), surveys will be performed to identify active nests. If construction activities will result in the take of a migratory bird, then coordination with the USFWS and CDFG will be required and applicable permits would be obtained prior to construction or clearing activities. Another mitigation measure that would be considered is to schedule all construction activities outside nesting season, negating the requirement for nesting bird surveys.

CBP will not, for any length of time, permit any pets inside the project area or adjacent native habitats. This BMP does not pertain to law enforcement animals.

5.5 PROTECTED SPECIES

Construction equipment will be cleaned prior to entering and departing the project corridor area to minimize the spread and establishment of nonnative invasive plant species. Soil disturbances in temporary impact areas would be rehabilitated. Designated travel corridors would be marked with easily observed removable or biodegradable markers, and travel would be restricted to established road construction areas.

A qualified monitor will be present during the improvement, construction, and maintenance of the proposed roads in FTHL habitat. Duties of the monitor(s) would include surveying the roadways prior to improvement/construction and removing and relocating lizards outside the project area. In addition, CBP would compensate for loss of habitat using the formula outlined in the FTHL Rangewide Management Strategy.

Based upon field visits, aerial photography, and discussions with BLM, CBP has determined that of the potential 7.5 acres of habitat permanently impacted only 3.6 of those acres are considered undisturbed native habitat (the new BP Hill road is included in this acreage). The remaining 3.9 acres consists of previously disturbed habitat in the form of the existing roadway (15 feet wide)

and the extant IID gravel/sand quarry area (the eastern 2,300 feet of the project corridor). Figure 5-1 is a schematic showing how CBP classified the disturbed versus undisturbed acreages along the existing border road.

The Rangewide Management Strategy formula uses a multiplying factor (M) ranging from 3 to 6 to be applied to the affected acreage to obtain an adjusted compensation acreage. The formula is as follows:

$$M = 3 + A + G + E + D$$

A Adjacent habitat impacts:

a) Adjacent lands will not be affected.....0
b) Adjacent lands will receive direct or indirect deleterious impacts.....0.5

G Growth-inducing effects within FTHL habitat:

a) The project will have no growth-inducing effects.....0
b) The project will have growth-inducing effects.....0.5

E Existing disturbance on-site:

a) There is moderate to heavy existing habitat disturbance.....0
b) There is little or no existing habitat disturbance.....1

D Duration of effect:

a) The effects of the project are expected to be short-term (less than 10 years).....0
b) The effects of the project are expected to be long-term (greater than 10 years).....1

CBP calculated M for the project areas classified as being undisturbed as, M = 3 + 0 + 0 + 1 + 1, generating a compensation ratio of 5:1. For project areas classified as being disturbed, CBP calculated M as, M = 3 + 0 + 0 +0 + 1. Table 5-1 provides the required compensation ratio for impacts on FTHL habitat.

Table 5-1. Compensation for Impacts on FTHL habitat

Land Classification	Compensation Ratio	Impact Area (Acres)	Required Compensation Area (Acres)
Undisturbed	5:1	3.6	18.0
Disturbed	4:1	3.9	15.6

The total compensation for impacts on FTHL habitat will be up to 33.6 acres.

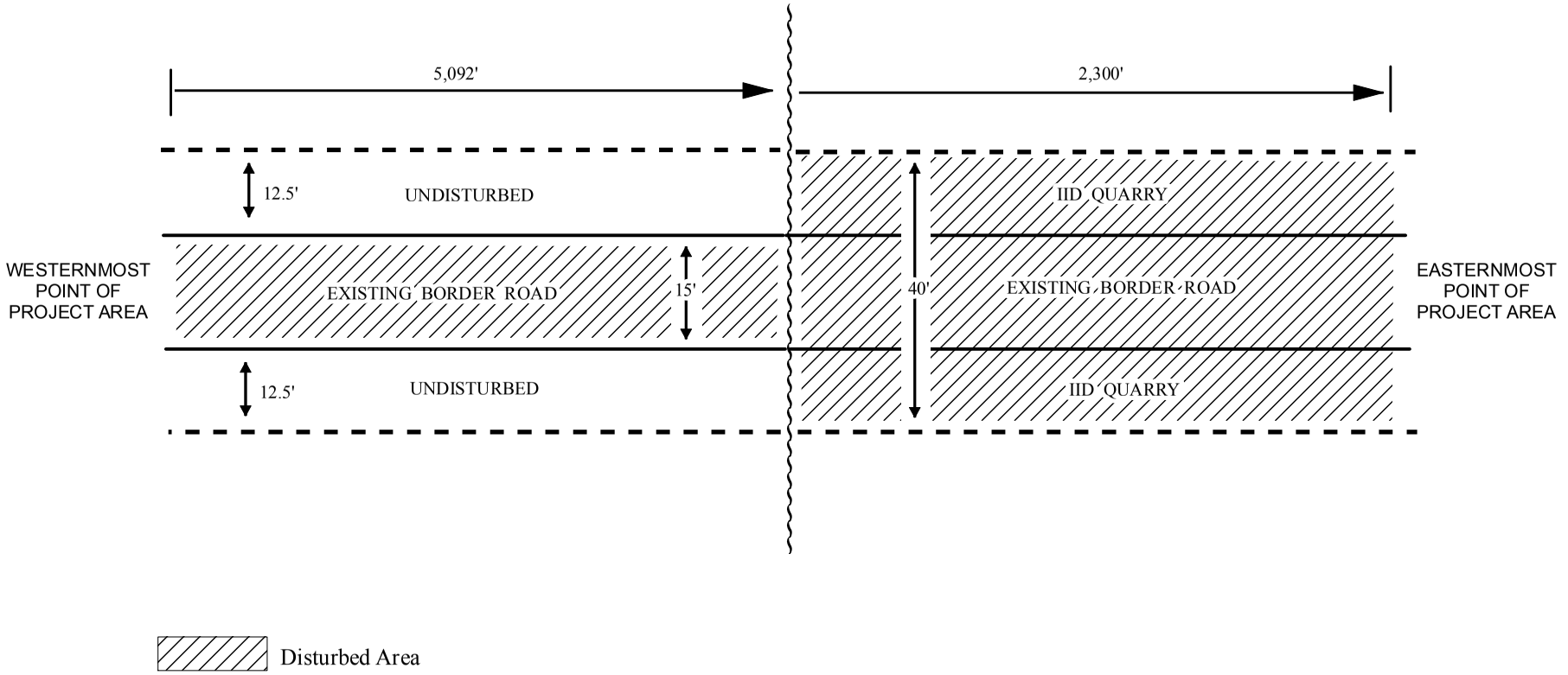

Figure 5-1. Schematic Showing Disturbed Versus Undisturbed Areas

During FTHL monitoring efforts, the on-site biologist will also survey for western burrowing owls, kit fox, and badgers. If an individual of any of these three species are seen occupying a burrow or structure in the project, CDFG recommended buffers will be provided until the animal has left the project area. In the event, a western burrowing owl is observed; one-way doors on burrows may be used to evict the owl during the non-breeding season.

5.6 WATER RESOURCES

Standard construction procedures will be implemented to minimize the potential for erosion and sedimentation during construction. All work will cease during heavy rains and would not resume until conditions are suitable for the movement of equipment and material. No refueling or storage will take place within 100 feet of drainages.

CBP will avoid contaminating natural aquatic systems with runoff by limiting all equipment maintenance, staging, laydown, and dispensing of fuel, oil, etc., to designated upland areas.

A SWPPP will be prepared. A Spill Prevention Control and Countermeasures Plan will be maintained to ensure that all are aware of its implementation requirements in the event of a spill.

5.7 CULTURAL RESOURCES

Cultural resource monitors will be on site during all ground-disturbing activities for the Proposed Action Alternative. Additionally, the five GLO survey markers will be flagged for avoidance prior to improvement or construction activities.

Should any archaeological artifacts be found during staging or installation activities, the appropriate BLM archaeologist or cultural resources specialist would be notified immediately. All work will cease until an evaluation of the discovery is made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values.

5.8 AIR QUALITY

In order to minimize the amount of project-related dust emissions, the contractors will comply with Imperial County Air Pollution Control District's requirements (Rule 800) for control of particulate matter (PM-10). Rule 800 provides guidance for contractors that: (1) minimize land disturbance; (2) insure saturation of exposed areas; and (3) control fugitive dust caused by hauling activities and vehicular travel on unpaved road surfaces. In addition, all construction equipment shall be maintained and operated in a manner that produces the least amount of emissions. All construction equipment and vehicles and must be maintained in good operating condition, free from leaks.

5.9 NOISE

During the construction and improvement and maintenance of the proposed roadways, short-term noise impacts are anticipated. All applicable Occupational Safety and Health Administration regulations and requirements will be followed. On-site activities would be restricted to daylight

hours, to the greatest extent practicable. All equipment will possess properly working mufflers and would be kept properly tuned to reduce backfires.

5.10 HAZARDOUS MATERIALS

BMPs will be implemented as standard operating procedures during all construction activities, and will include proper handling, storage, and/or disposal of hazardous and/or regulated materials. To minimize potential impacts from hazardous and regulated materials, all fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment system that consists of an impervious floor and bermed sidewalls capable of containing the volume of the largest container stored therein. The refueling of machinery will be completed in accordance with accepted industry and regulatory guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips. Although it is unlikely that a major spill would occur, any spill of reportable quantities will be contained immediately within an earthen dike, and the application of an absorbent (e.g., granular, pillow, sock) will be used to absorb and contain the spill.

CBP will contain non-hazardous waste materials and other discarded materials, such as construction waste, until removed from the construction and maintenance sites. This will assist in keeping the project area and surroundings free of litter and reduce the amount of disturbed area needed for waste storage.

CBP will minimize site disturbance and avoid attracting predators by promptly removing waste materials, wrappers, and debris from the site. Any waste that must remain more than 12 hours should be properly stored until disposal.

All waste oil and solvents will be recycled. All non-recyclable hazardous and regulated wastes will be collected, characterized, labeled, stored, transported, and disposed of in accordance with all applicable Federal, state, and local regulations, including proper waste manifesting procedures.

Solid waste receptacles will be maintained at the construction staging area. Non-hazardous solid waste (trash and waste construction materials) will be collected and deposited in on-site receptacles. Solid waste will be collected and disposed of by a local waste disposal contractor.

SECTION 6.0
REFERENCES

6.0 REFERENCES

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SECTION 7.0
ACRONYMS AND ABBREVIATIONS

7.0 ACRONYMS AND ABBREVIATIONS

ACEC	Area of Critical Environmental Concern
AOR	Area of Responsibility
ASTM International	formerly known as American Society for Testing and Materials (ASTM)
BEA	Bureau of Economic Analysis
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BMP	Best Management Practices
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBP	U.S. Customs and Border Protection
CBV	Cross-Border Violators
CDFG	California Department of Fish and Game
CEPA	California Environment Protection Agency
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFC	chlorofluorocarbons
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2-E	CO_2 equivalent
CWA	Clean Water Act
dB	Decibel
dBA	A-Weighted Decibel
DHS	Department of Homeland Security
DNL	Day-Night Sound Level
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
ESP	Environmental Stewardship Plan
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FM&E	Facilities Management and Engineering
FR	Federal Register
FTHL	Flat-tail horned lizard
GHG	greenhouse gases
GLO	General Land Office
GSRC	Gulf South Research Corporation
HFC	hydrochlorofluorocarbons

HR	Hydrologic Region
HUD	U.S. Department of Housing and Urban Development
ICC	Interagency Coordinating Committee
IID	Imperial Irrigation District
INA	Immigration and Nationality Act
INS	Immigration and Naturalization Service
IOs	isolated occurrences
IIRIRA	Illegal Immigration Reform and Immigrant Responsibility Act
LCRV	Lower Colorado River Valley
M	multiplying factor
mg/m^3	milligram per cubic meter
MOU	Memorandum of Understanding
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
NOA	Notice of Availability
NO_x	nitrous oxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Properties
NPL	National Priorities List
O_3	ozone
Pb	lead
PL	Public Law
PM-10	Particulate Matter <10 micrometers
PM-2.5	Particulate Matter <2.5 micrometers
POE	Ports of Entry
POL	petroleum, oil, and lubricants
ppb	parts per billion
ppm	parts per million
RCRA	Resource Conservation and Recovery Act
ROI	Region of Influence
ROW	Right-of-Way
RVSS	Remote Video Surveillance System
RWQCB	California Regional Water Quality Control Board
SHPO	State Historic Preservation Officer
SIP	state implementation plans
SO_2	sulfur dioxide
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
TI	tactical infrastructure
TMDL	total maximum daily load
U.S.	United States
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol

1	USC	United States Code
2	USDA	U.S. Department of Agriculture
3	USEPA	U.S. Environmental Protection Agency
4	USFWS	U.S. Fish and Wildlife Service
5	USIBWC	U.S. Section, International Boundary and Water Commission
6	VOC	volatile organic compounds
7	VRM	Visual Resource Management
8	YDMA	Yuma Desert Management Area
9	$\mu g/m^3$	micrograms per cubic meter

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SECTION 8.0
LIST OF PREPARERS

8.0 LIST OF PREPARERS

The following people were primarily responsible for preparing this EA.

Name	Agency/Organization	Discipline/Expertise	Experience	Role in Preparing EA
Richard Dill	USACE, Fort Worth	Engineering Program Manager	18 years engineering and project management	USACE program management and EA review
Hope Pollmann	USACE, Fort Worth	Environmental Planning	8 years environmental management	USACE project management and EA review
John Petrilla	CBP, FM&E	Environmental Protection Specialist	5 years environmental management	CBP project management, EA review and coordination
Chris Ingram	GSRC	Biology/Ecology	33 years of EA/EIS studies	EA review
Josh McEnany	GSRC	Forest Management	12 years of natural resources and NEPA	Project management, EA preparation, and biological surveys
David Hart	GSRC	Archaeology	17 years of professional archaeology/cultural resources studies	Cultural resources surveys
Missy Singleton	GSRC	Natural Resources	9 years of natural resources and NEPA	EA preparation (Roadways and Traffic, Sustainability and Greening, and Aesthetic and Visual Resources)
Ben Tomson	GSRC	Biology	2 years of natural resources and NEPA	EA preparation (Land Use, Geology and Soils, Water Resources)
Rob Meyers	GSRC	Environmental Science	8 years of NEPA and natural resources	EA preparation (Vegetation, Wildlife, and Protected Species)
Steve Kolian	GSRC	Environmental Science	12 years of natural resources	EA preparation (Air and Noise Resources)
Ann Guissinger	GSRC	Economics	30 years economic analysis	EA preparation (Socioeconomics and Environmental Justice and Protection of Children)
Steve Oivanki	GSRC	Geology/NEPA	20 years of natural resources and NEPA	EA preparation (Hazardous Materials and Geology)

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APPENDIX A
CORRESPONDENCE

1300 Pennsylvania Avenue NW
Washington, DC 20229

MAY 3 0 2012

U.S. Customs and Border Protection

Daniel Steward, Resources Branch Chief
El Centro Field Office
Bureau of Land Management
1661 S. 4th St.
El Centro, CA 92243

Subject: Request that BLM Act as a Cooperating Agency in the Environmental Assessment Preparation for the West Desert All-Weather Road and BP Hill Access Road

Dear Mr. Steward:

As you know, U.S. Customs and Border Protection (CBP) is currently examining a proposal to construct a new all-weather road within the U.S. Border Patrol's (USBP) El Centro Sector along the U.S./Mexico border from approximately Border Monument 224 to Border Monument 225 and an access to BP Hill (USBP surveillance camera tower location). As part of the planning process for the proposed project, CBP will prepare an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA). Among the alternative alignments that are being considered for the proposed all-weather road are ones that cross lands managed by the U.S. Bureau of Land Management (BLM).

The purpose of this letter is to convey CBP's formal request that, pursuant to 40 C.F.R. § 1501.6, BLM participate as a cooperating agency in CBP's NEPA process for the proposed all-weather road construction. Given BLM's history and background with the area, CBP believes that BLM will have knowledge and expertise that is beneficial to the NEPA process and CBP's evaluation of alternatives.

If BLM is amenable to participating as a cooperating agency in the NEPA process for the proposed project, please sign and date the acknowledgement on the following page and return it.

If you have any questions, please contact John Petrilla at (949) 360-2382 or by email at john.petrilla@dhs.gov. Thank you very much for your attention to this matter.

Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Acknowledged and agreed for the U.S. Bureau of Land Management by:

_____
Name:

_____
Title:

_____
Date:

1300 Pennsylvania Avenue NW
Washington, DC 20229

MAY 3 0 2012

U.S. Customs and Border Protection

Daniel Steward, Resources Branch Chief
El Centro Field Office
Bureau of Land Management
1661 S. 4th St.
El Centro, CA 92243

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Dear Mr. Steward:

As you know, U.S. Customs and Border Protection (CBP) is currently examining a proposal to construct a new all-weather road within the U.S. Border Patrol's (USBP) El Centro Sector along the U.S./Mexico border from approximately Border Monument 224 to Border Monument 225 and an access to BP Hill (USBP surveillance camera tower location). As part of the planning process for the proposed project, CBP will prepare an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA). Among the alternative alignments that are being considered for the proposed all-weather road are ones that cross lands managed by the U.S. Bureau of Land Management (BLM).

The purpose of this letter is to convey CBP's formal request that, pursuant to 40 C.F.R. § 1501.6, BLM participate as a cooperating agency in CBP's NEPA process for the proposed all-weather road construction. Given BLM's history and background with the area, CBP believes that BLM will have knowledge and expertise that is beneficial to the NEPA process and CBP's evaluation of alternatives.

If BLM is amenable to participating as a cooperating agency in the NEPA process for the proposed project, please sign and date the acknowledgement on the following page and return it.

If you have any questions, please contact John Petrilla at (949) 360-2382 or by email at john.petrilla@dhs.gov. Thank you very much for your attention to this matter.

Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Acknowledged and agreed for the U.S. Bureau of Land Management by:

Name:

Title:

Date: 6/15/2012

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
El Centro Field Office
1661 South 4th Street
El Centro, CA 92243-4561
http://www.blm.gov/ca/st/en/fo/elcentro.html

14 June 2012

In Reply Refer to
2800 (P)
CA670.39
CACA-53512

Christopher J. Colacicco, Director
Border Patrol Facilities and Tactical Infrastructure
Program Management Office
1300 Pennsylvania Avenue NW
Washington, DC 20229

Dear Mr. Colacicco:

The Bureau of Land Management (BLM) has received your request for BLM to Act as Cooperating Agency in the NEPA process for the West Desert All-Weather Road and BP Hill Access Road.

We have reviewed your request and agree to participate as a cooperating agency in U.S. Customs and Border Protection's (CBP) NEPA process. Enclosed is the fully executed copy of the request.

If you have any questions regarding your request, please contact Daniel Steward, Supervisory Resource Management Specialist, Resources and Planning at (760) 337-4400 or via email at msteward@blm.gov.

Sincerely,

Thomas F. Zale
Acting Field Manager

Enclosures (1):

1-Request that BLM act as Cooperating Agency

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
915 Capitol Mall, RM 364
Sacramento, CA 95814
(916) 653-4082
(916) 657-5390 – Fax
nahc@pacbell.net

Information Below is Required for a Sacred Lands File Search

Project: Proposed Improvement and Construction, Operation, and Maintenance of 2-Mile All-Weather Road in the Calexico Station Area of Responsibility U. S. Customs and Border Protection, El Centro Sector.

County: Imperial County

USGS Quadrangle

Name: Mount Signal__

Township _17S_ Range _13E_ Section(s) _18 and 19_

Township _17S_ Range _12E_ Section(s) _13, 14, 15, 22, 23, 24, and 26_

Company/Firm/Agency: _Gulf South Research Corporation_

Contact Person: _Dave Hart_

Street Address: _1842 W. Grant Rd., Suite 108

City: _Tucson, AZ_ Zip:_85745_

Phone: _(520) 396-3355

Fax: _(225) 761-8077

Email: _dhart@gsrcorp.com_

Project Description:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions. The road improvements would occur from Dump Turnaround (approximately N32° 38.993, W115° 41.996), near Border Monument 224, to Iron Gate (approximately N32° 38.861, W115° 43.725), near Border Monument 225. The road would be improved to an all-weather surface road (1.8 miles long) approximately 20 feet wide with 2-foot shoulders and would include any necessary drainage structures. A drag road would also be constructed along the north side of the all-weather surface. Staging areas would be located approximately every 1/3 mile within the construction corridor and on the eastern and western terminuses. Additionally, several temporary passing zones would be created along the western access road to accommodate two-way traffic during construction. In addition to the 1.8 miles of road improvement, a new access road leading to the BP Hill Remote Video Surveillance System (RVSS) (approximately 0.2 mile) from the project road would be constructed (Figure 1). This road would be a 16-foot-wide road with necessary drainage structures and all-weather surfacing.

USBP Calexico Station is one of four stations composing the El Centro Sector, along with the El Centro, Indio, and Riverside stations in California. USBP Calexico Station's AOR includes 37.1 linear miles of the U.S./Mexico border. The remoteness of, and travel time to, the west desert area of USBP Calexico Station's AOR inhibit the capability of law enforcement agents to rapidly respond to illegal activity. By providing an all-weather road near the border, agent response time to illegal cross-border activities would be greatly enhanced, and agents could be more efficiently deployed to patrol the more remote sections of USBP Calexico Station's AOR. The overall safety and efficiency of current and future operations within USBP Calexico Station's AOR build be enhanced, as well as the safety of agents responding to illegal activities.

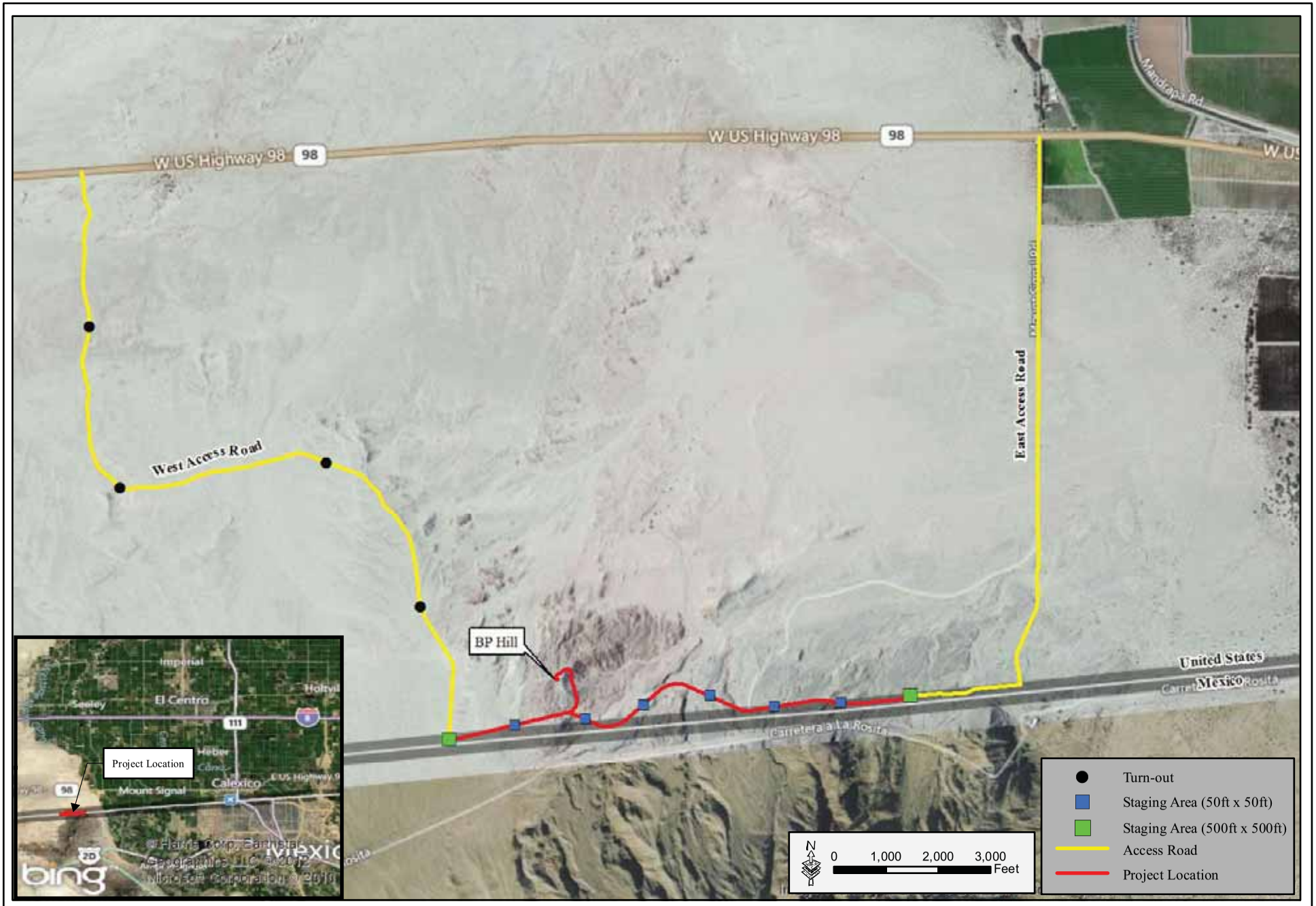

Figure 1: Project Area Map

GSRC

May 2012

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net

June 18, 2012

Mr. Dave Hart
Gulf South Research Corporation
1842 W. Grant Road, Suite 108
Tucson, AZ 85745

Sent by FAX to: 225-761-8077
No. of Pages: 4

Re: Request for Native American Contacts list for the **"Improvement and Construction, Operation and Maintenance of a 2-Mile All-Weather Road in the Calexico Station Area of Responsibility Project; U.S. Customs and Border Protection, El Centro Sector;"** located in Imperial County, California.

Dear Mr. Hart:

The Native American Heritage Commission (NAHC) is the California State 'Trustee Agency' pursuant to Public Resources Code §21070 for the protection of California's Native American Cultural Resources. The NAHC is also a 'reviewing agency' for environmental documents prepared under the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq*), 36 CFR Part 800.3, .5 and are subject to the Tribal and interested Native American consultation as required by the National Historic Preservation Act, as amended (Section 106) (16 U.S.C. 470; Section 106, [4f] 110 [f] [k], 304). The provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001-3013) and its implementation (43 CFR Part 10.2), and California Government Code §27491 may apply to this project if Native American human remains are inadvertently discovered.

The NAHC is of the opinion that the federal standards, pursuant to the above-referenced Acts and the Council on Environmental Quality (CSQ; 42 U.S.C. 4371 *et seq*) are similar to and in many cases more stringent with regard to the 'significance' of historic, including Native American items, and archaeological, including Native American items at least equal to the California Environmental Quality Act (CEQA.). In most cases, federal environmental policy require that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Statement (EIS).

The NAHC did conduct a Sacred Lands File (SLF) search of its inventory and Native American cultural resources were not identified in the area you specified. However, the project is in close proximity to Native American cultural resources that are nearby. Early and quality consultation with the Native American representatives on the attached list may provide detailed information of sites with which they are aware. Also note that the absence of archaeological resources does not preclude their existence, particularly at the subsurface level.

The NAHC Sacred Lands File Inventory of the Native American Heritage Commission is established by the California Legislature pursuant to California Public Resources Code §§5097.94(a) and 5097.96. The NAHC Sacred Lands Inventory is populated by submission to

the data by Native American tribes and Native American elders. In this way it differs from the California and National Register of Historic Places under the jurisdiction of the U.S. Secretary of the Interior.

The NAHC, pursuant to Appendix B of the Guidelines to the California Environmental Quality Act (CEQA) is designated as the agency with expertise in the areas of issues of cultural significance to California Native American communities. Also, in the 1985 California Appellate Court decision (170 Cal App 3rd 604), the court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources, impacted by proposed projects including archaeological, places of religious significance to Native Americans and burial sites

Culturally affiliated tribes are to be consulted to determine possible project impacts pursuant to the National Historic Preservation Act, as amended. Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. The NAHC recommends as part of 'due diligence', that you also contact the nearest Information Center of the California Historical Resources Information System (CHRIS) of the State Historic Preservation Office (SHPO) for other possible recorded sites in or near the APE (contact the Office of Historic Preservation at 916-445-7000).

Attached is a list of Native American contacts is attached to assist you; they may have knowledge of cultural resources in the project area. It is advisable to contact the persons listed and seek to establish a 'trust' relationship with them; if they cannot supply you with specific information about the impact on cultural resources, they may be able to refer you to another tribe or person knowledgeable of the cultural resources in or near the affected project area.

Lead agencies should consider avoidance, in the case of cultural resources that are discovered. A tribe or Native American individual may be the only source of information about a cultural resource; this is consistent with the NHPA (16 U.S.C. 470 *et seq* Sections. 106, 110, and 304) Section 106 Guidelines amended in 2009. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful

NEPA regulations provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Even though a discovery may be in federal property, California Government Code §27460 should be followed in the event of an accidental discovery of human remains during any groundbreaking activity; in such cases California Government Code §27491 and California Health & Safety Code §7050.5 will apply and construction cease in the affected area.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton

Cc: State Clearinghouse

Attach: Native American Contacts list

Native American Contacts
Imperial County
June 18, 2012

La Posta Band of Mission Indians
Gwendolyn Parada, Chairperson
PO Box 1120 Diegueno/Kumeyaay
Boulevard , CA 91905
gparada@lapostacasino.
(619) 478-2113
619-478-2125

Fort Yuma Quechan Indian Nation
Keeny Escalanti, Sr., President
PO Box 1899 Quechan
Yuma , AZ 85366
qitpres@quechantribe.com
(760) 572-0213
(760) 572-2102 FAX

Manzanita Band of Kumeyaay Nation
Leroy J. Elliott, Chairperson
PO Box 1302 Kumeyaay
Boulevard , CA 91905
ljbirdsinger@aol.com
(619) 766-4930
(619) 766-4957 Fax

Ewiiaapaayp Tribal Office
Will Micklin, Executive Director
4054 Willows Road Diegueno/Kumeyaay
Alpine , CA 91901
wmicklin@leaningrock.net
(619) 445-6315 - voice
(619) 445-9126 - fax

Campo Band of Mission Indians
Ralph Goff, Chairperson
36190 Church Road, Suite 1 Diegueno/Kumeyaay
Campo , CA 91906
chairgoff@aol.com
(619) 478-9046
(619) 478-5818 Fax

Ewiiaapaayp Tribal Office
Michael Garcia, Vice Chairperson
4054 Willows Road Diegueno/Kumeyaay
Alpine , CA 91901
michaelg@leaningrock.net
(619) 445-6315 - voice
(619) 445-9126 - fax

Kwaaymii Laguna Band of Mission Indians
Carmen Lucas
P.O. Box 775 Diegueno -
Pine Valley , CA 91962
(619) 709-4207

Cocopah Museum/Cultural Resources Dept.
H. Jill McCormick, Tribal Archaeologist
County 15th & Ave. G Cocopah
Sommerton , AZ 85350
culturalres@cocopah.com
(928) 530-2291 - cell
(928) 627-2280 - fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposedTelecommunications Facility, Improvement and Construction, Operation and Maintenance of 2-mile All-Weather Road in the Calexico Station Area of Responsibility. U.S. Customs and Border Protection; Imperial County, California.

Native American Contacts
Imperial County
June 18, 2012

Quenchan Indian Nation
John P. Bathke, THPO
P.O. Box 1899 Quechan
Yuma , AZ 85366
b.nash@quechantribe.com
(928) 920-6068 - CELL
(760) 572-2423
(760) 572-0515 - FAX

Ah-Mut-Pipa Foundation
Preston J. Arrow-weed
P.O. Box 160 Quechan
Bard , CA 92222 Kumeyaay
ahmut@earthlink.net
(928) 388-9456

Inter-Tribal Cultural Resource Protection Council
Frank Brown, Coordinator
240 Brown Road Diegueno/Kumeyaay
Alpine , CA 91901
frankbrown6928@gmail.com
(619) 884-6437

Kumeyaay Cultural Repatriation Committee
Bernice Paipa, Vice Spokesperson
1095 Barona Road Diegueno/Kumeyaay
Lakeside , CA 92040
(619) 478-2113
(KCRC is a Colation of 12
Kumeyaay Governments

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposedTelecommunications Facility, Improvement and Construction, Operation and Maintenance of 2-mile All-Weather Road in the Calexico Station Area of Responsibility. U.S. Customs and Border Protection; Imperial County, California.

1300 Pennsylvania Avenue NW
Washington, DC 20229

JUL 25 2012

U.S. Customs and Border Protection

U.S. Section, International Boundary and Water Commission
Operations and Management Division
ATTN: Mr. John Merino, P.E.
4171 N. Mesa Street, Bldg. C 100
El Paso, TX 79902

Dear Mr. Merino:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

The road improvements would occur from Dump Turnaround (approximately N32° 38.993, W115° 41.996), near Border Monument 224, to Iron Gate (approximately N32° 38.861, W115° 43.725), near Border Monument 225. The road would be improved to an all-weather surface road (1.8 miles long) approximately 20 feet wide with 2-foot shoulders and include any necessary drainage structures. A 10-foot-wide drag road would also be constructed along the north side of the all-weather surface. Staging areas would be located approximately every 0.3 mile within the construction corridor and on the eastern and western terminus. Additionally, several temporary passing zones would be created along the western access road to accommodate two-way traffic during construction. In addition to the 1.8 miles of road improvement, a new access road leading to the BP Hill Remote Video Surveillance System (RVSS) (approximately 0.2 mile) from the project road would be constructed. This road would be a 16-foot-wide road with necessary drainage structures and all-weather surfacing (Figure 1).

CBP respectfully requests that you provide us with any concerns or issues that you feel should be addressed in this EA. We intend to provide your agency with a copy of the Draft EA. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

for

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

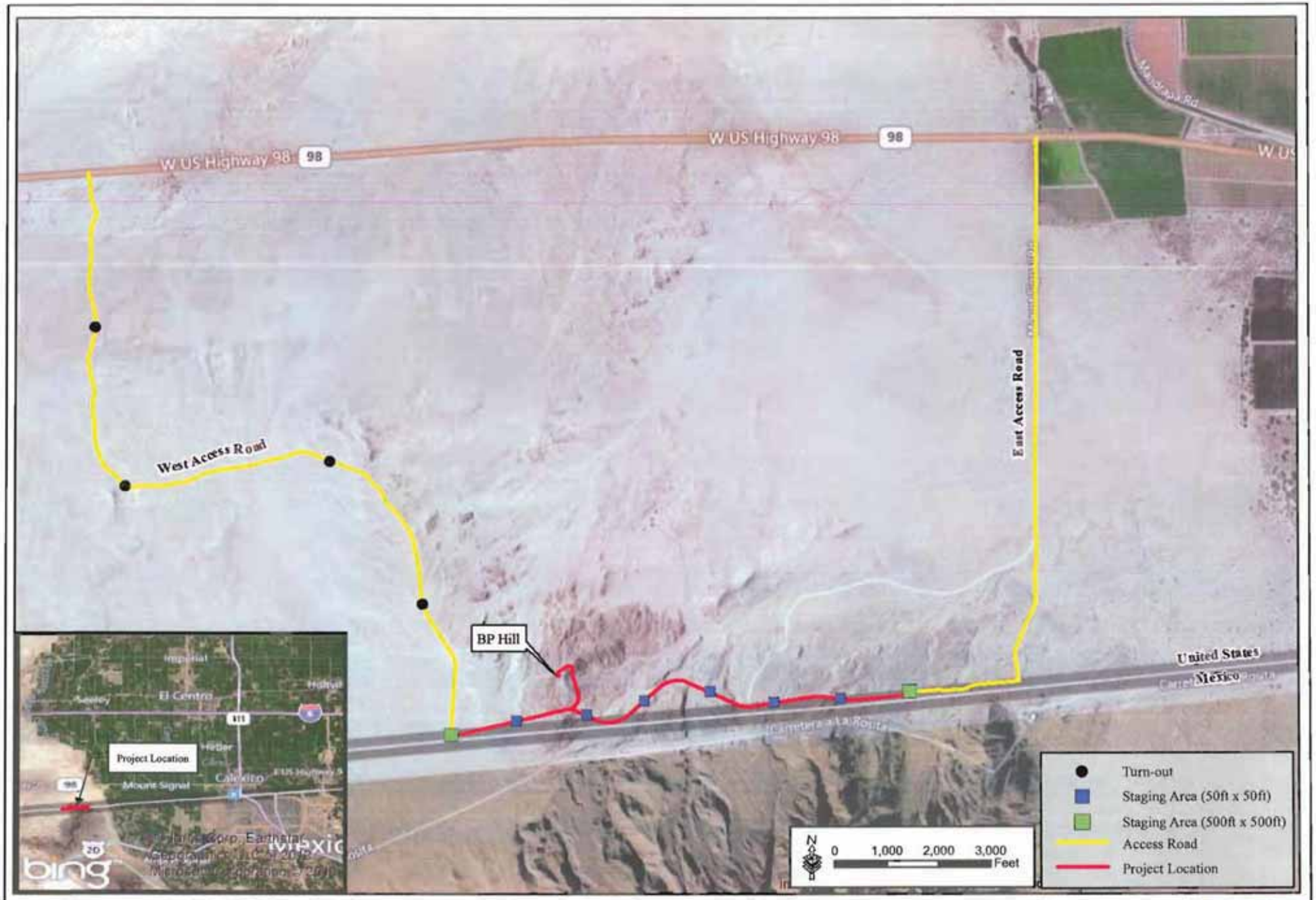

Figure 1: Project Area Map

GSRC

May 2012

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

United States Fish and Wildlife Service
Palm Springs Field Office
Attn: Ken Corey
777 E. Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262

Dear Mr. Corey:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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We are currently in the process of gathering the most current information available regarding Federal and state-listed species, sensitive and unique areas, and other resources potentially occurring within the project areas. CBP respectfully requests that your agency provide a list of rare or unique plant communities, threatened, endangered, and candidate species, and designated critical habit that occur within the project areas, along with a location map for those resources that you believe may be affected by the proposed CBP activities in Imperial County, California.

We intend to provide your agency with a copy of the Draft EA. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

for John Nason

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

U.S. Army Corps of Engineers, Los Angeles District
Regulatory Division, South Coast Branch
ATTN: Lanika Cervantes
6010 Hidden Valley Road, Suite 105
Carlsbad, CA 92011

Dear Ms. Cervantes:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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CBP respectfully requests that you provide us with any concerns or issues that you feel should be addressed in this EA. We intend to provide your agency with a copy of the Draft EA. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Mr. Milford Wayne Donaldson, FAIA
California State Historic Preservation Officer
ATTN: Susan Stratton, Senior State Archaeologist
Office of Historic Preservation
1416 9th Street, Room 1442-7
Sacramento, CA 95814

Dear Ms. Stratton:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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We are currently in the process of gathering the most current information available, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800. CBP respectfully requests that you provide information on any cultural resources that you believe may be affected by the proposed CBP activities in San Diego County, California. A cultural survey is being conducted for the proposed project areas, and we will provide you with a copy of the cultural resources report for your comment once it is prepared.

We intend to provide your agency with a copy of the Draft EA once the document is completed. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

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Sincerely,

for

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Imperial Irrigation District
ATTN: Donald Vargas, Environmental Specialist
1699 West Main Street, Suite A
El Centro, CA 92243

Dear Mr. Vargas:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Imperial Irrigation District
ATTN: Alfred Ornelas, Project Manager
1699 West Main Street, Suite A
El Centro, CA 92243

Dear Mr. Ornelas:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

The road improvements would occur from Dump Turnaround (approximately N32° 38.993, W115° 41.996), near Border Monument 224, to Iron Gate (approximately N32° 38.861, W115° 43.725), near Border Monument 225. The road would be improved to an all-weather surface road (1.8 miles long) approximately 20 feet wide with 2-foot shoulders and include any necessary drainage structures. A 10-foot-wide drag road would also be constructed along the north side of the all-weather surface. Staging areas would be located approximately every 0.3 mile within the construction corridor and on the eastern and western terminus. Additionally, several temporary passing zones would be created along the western access road to accommodate two-way traffic during construction. In addition to the 1.8 miles of road improvement, a new access road leading to the BP Hill Remote Video Surveillance System (RVSS) (approximately 0.2 mile) from the project road would be constructed. This road would be a 16-foot-wide road with necessary drainage structures and all-weather surfacing (Figure 1).

CBP respectfully requests that you provide us with any concerns or issues that you feel should be addressed in this EA. We intend to provide your agency with a copy of the Draft EA. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

California Regional Water Quality Control Board
Colorado River Basin
ATTN: Robert Perdue, Executive Officer
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

Dear Mr. Perdue:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

for Robert Colacicco

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

California State Clearing House
ATTN: Mr. Scott Morgan, Acting Director
P.O. Box 3044
Sacramento, CA 95812-3044

Dear Mr. Morgan:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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We are currently in the process of gathering the most current information available regarding Federal and state-listed species, sensitive and unique areas, and other resources potentially occurring within the project areas. CBP respectfully requests that your agency provide a list of sensitive species and land issues that occur within the project areas, along with a description of the sensitive resources (e.g., rare or unique plant communities, threatened, endangered, and candidate species), and a location map for those resources that you believe may be affected by the proposed CBP activities in Imperial County, California.

Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

for

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

California Environmental Protection Agency
ATTN: Ricardo Martinez, Assistant Secretary of Border Affairs
1001 I Street
P.O. Box 2815
Sacramento, CA 95814

Dear Mr. Martinez:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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CBP respectfully requests that you provide us with any concerns or issues that you feel should be addressed in this EA. We intend to provide your agency with a copy of the Draft EA. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

for Colacicco

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Honorable Ralph Goff., Chairman
Campo Band of Kumeyaay Indians
36190 Church Road, Suite 1
Campo, CA 91906

Dear Chairman Goff:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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We are currently in the process of gathering the most current information available, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800. To ensure that any areas of sacred or spiritual significance to Native American groups are considered, we would appreciate your help in identifying any interests or concerns regarding any cultural resources that you believe may be affected by the proposed project. We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding cultural resources, Traditional Cultural Properties (TCPs), and Indian sacred sites within the propose project area. A cultural survey is being conducted for the proposed project areas, and we will provide you with a copy of the cultural resources report for your comment once it is prepared.

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Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

for Glen Shearme

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Honorable Leroy Elliott, Chairman
Manzanita Band of Mission Indians
6 Old Mine Road
Boulevard, CA 91905

Dear Chairman Elliott:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Honorable Gwendolyn Parada, Chairperson
La Posta Band of Mission Indians
1048 Crestwood Road
Boulevard, CA 92905

Dear Chairperson Parada:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

For Loren Tasson

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Honorable Keeny Escalanti Sr., President
Fort Yuma Quechan Indian Nation
P.O. Box 1899
Yuma, AZ 85366

Dear President Escalanti:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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Laguna Niguel, CA 92677-3400

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Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Honorable Will Micklin, Executive Director
Ewiiaapaayp Tribal Office
4054 Willows Road
Alpine, CA 91901

Dear Director Micklin:

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U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

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Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Ms. Jill McCormick, Tribal Archaeologist
Cocopah Museum/Cultural Resources Department
County 15th & Ave. G
Sommerton, AZ 85350

Dear Ms. McCormick:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

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Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Mr. John P. Bathke, THPO
Quechan Indian Nation
P.O. Box 1899
Yuma, AZ 85366

Dear Mr. Bathke:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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We intend to provide your organization with a copy of the Draft EA once the document is completed. Please inform us if additional copies are needed and/or if someone else within your agency other than you should receive the Draft EA.

Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Honorable Preston J. Arrow-weed
Ah-Mut-Pipa Foundation
P.O. Box 160
Bard, CA 92222

Dear Honorable Arrow-weed:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

The road improvements would occur from Dump Turnaround (approximately N32° 38.993, W115° 41.996), near Border Monument 224, to Iron Gate (approximately N32° 38.861, W115° 43.725), near Border Monument 225. The road would be improved to an all-weather surface road (1.8 miles long) approximately 20 feet wide with 2-foot shoulders and include any necessary drainage structures. A 10-foot-wide drag road would also be constructed along the north side of the all-weather surface. Staging areas would be located approximately every 0.3 mile within the construction corridor and on the eastern and western terminus. Additionally, several temporary passing zones would be created along the western access road to accommodate two-way traffic during construction. In addition to the 1.8 miles of road improvement, a new access road leading to the BP Hill Remote Video Surveillance System (RVSS) (approximately 0.2 mile) from the project road would be constructed. This road would be a 16-foot-wide road with necessary drainage structures and all-weather surfacing (Figure 1).

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Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

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Sincerely,

for Lorrie Tasson

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Mr. Frank Brown, Coordinator
Inter-Tribal Cultural Resource Protection Council
240 Brown Road
Alpine, CA 91901

Dear Mr. Brown:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

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U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

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Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

1300 Pennsylvania Avenue NW
Washington, DC 20229

U.S. Customs and Border Protection

JUL 25 2012

Honorable Bernice Paipa, Vice Spokesperson
Kumeyaay Cultural Restoration Committee
1095 Barona Road
Lakeside, CA 92040

Dear Vice Spokesperson Paipa:

U.S. Customs and Border Protection (CBP) is preparing an Environmental Assessment (EA) that will address the potential effects, beneficial and adverse, resulting from the proposed improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) Calexico Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions.

The road improvements would occur from Dump Turnaround (approximately N32° 38.993, W115° 41.996), near Border Monument 224, to Iron Gate (approximately N32° 38.861, W115° 43.725), near Border Monument 225. The road would be improved to an all-weather surface road (1.8 miles long) approximately 20 feet wide with 2-foot shoulders and include any necessary drainage structures. A 10-foot-wide drag road would also be constructed along the north side of the all-weather surface. Staging areas would be located approximately every 0.3 mile within the construction corridor and on the eastern and western terminus. Additionally, several temporary passing zones would be created along the western access road to accommodate two-way traffic during construction. In addition to the 1.8 miles of road improvement, a new access road leading to the BP Hill Remote Video Surveillance System (RVSS) (approximately 0.2 mile) from the project road would be constructed. This road would be a 16-foot-wide road with necessary drainage structures and all-weather surfacing (Figure 1).

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Your prompt attention to this request would be greatly appreciated. Please direct all correspondence to:

Mr. John Petrilla
U.S. Customs and Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Rd, Room 5020
Laguna Niguel, CA 92677-3400

If you require additional information or have any questions, please contact Mr. Petrilla at (949) 360-2382 or by email at John.Petrilla@dhs.gov. Thank you for your cooperation.

Sincerely,

Christopher J. Colacicco
Director
Real Estate and Environmental Services Division
Border Patrol Facilities and Tactical Infrastructure
Program Management Office

Enclosure: Figure 1

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

August 7, 2012

Mr. John Petrilla
U.S. Customs & Border Protection
Facilities Management and Engineering
Laguna Niguel Facilities Center
24000 Avila Road, Room 5020
Laguna Niguel, California 92677-3400

Dear Mr. Petrilla:

The United States Section, International Boundary and Water Commission (USIBWC), is in receipt of your letter regarding the preparation of a draft Environmental Assessment (EA) for the construction of 2 miles of all weather road in the U.S. Border Patrol's Calexico Area of Responsibility, from border monument 224 to border monument 225.

The USIBWC has the responsibility to access, maintain, and utilize the international boundary monuments along the U.S. – Mexico international land boundary. The USIBWC is charged with these duties through treaties between the United States and Mexico. We require that the proposed works and related facilities not affect the permanence of the existing boundary monuments nor impede access for their inspection and maintenance. In addition, any proposed construction must allow for line of sight visibility between each of the boundary monuments. The majority of the monuments along the international boundary are eligible for inclusion in the national historic register under Criterion A- a structure "...associated with events that have made a significant contribution to the broad patterns of our history." Therefore, we request that you provide full consideration to the monuments in your EA and avoid or minimize any potential adverse effects.

The USIBWC also requires that engineering drawings be submitted to the USIBWC for review and approval prior to beginning any construction near the international boundary. These drawings must show the location of each component in relation to the international boundary and the monuments. The USIBWC requires that all structures be off-set from the international boundary by a minimum of 3 feet and allow a clear line of sight between any affected boundary monuments. Construction should maintain best management practices to prevent runoff or degradation of air quality during construction. The USIBWC requests that proposed construction activities be accomplished in a manner that does not change historic surface runoff characteristics at the international border. The USIBWC will not approve any construction near the international boundary in the United States that increases, concentrates, or relocates overland drainage flows into either country. This requirement is intended to ensure that developments in one country will not cause damage to lands or resources in the other country. The USIBWC will need copies of any hydrological or hydraulic studies and site specific drawings for work proposed in the vicinity of the international boundary, particularly if culverts, roads or other

structures are proposed to be constructed in any drainage courses that cross the boundary. We will also require that you assure that structures constructed along the U.S.-Mexico border are maintained in an adequate manner and that liability issues created by these structures are addressed.

If you have any questions, please feel free to call me at (915) 832-4749 or Mr. Wayne Belzer at (915) 832-4703.

Sincerely,

for John L. Merino

John L. Merino, P.E.
Principal Engineer

Josh McEnany

Sent: Wednesday, August 22, 2012 5:46 PM
To: PETRILLA, JOHN
Subject: Road Improvement Project along US/Mexico Border

In Reply Refer To:
FWS-IMP-11B0229-12SL0539

Dear Mr. Petrilla,

This email is in response to your request, dated July 25, 2012, for information on federally listed, proposed, and candidate species; critical habitat; sensitive and unique areas, and other resources that may occur in the vicinity of the proposed road improvement project along the US/Mexico border in the Yuha Desert Flat-tailed Horned Lizard Management Area (FTHL MA), Imperial County, California.

Although we do not have site-specific biological survey information, we are providing the following list of species known to occur in the general area to assist your office in the preparation of a draft environmental assessment for the project.

Sensitive Species Within Project Area
Flat-tailed horned lizard (Phrynosoma mcallii) Burrowing owl (Athene cunicularia) Golden Eagle (Aquila chrysaetos)

No designated critical habitat for federally listed species occurs within the project area.

Because the project area is within a designated FTHL MA, we recommend you adhere to the avoidance, minimization, and mitigation measures outlined within the flat-tailed horned lizard Rangewide Management Strategy (RMS) and you coordinate closely with the Bureau of Land Management (BLM), El Centro office, to ensure you minimize flat-tailed horned lizard mortality from construction, operations, and maintenance of the road. A digital copy of the RMS is available at: <http://www.fws.gov/southwest/es/arizona/Flat.htm> www.fws.gov/southwest/es/arizona/Flat.htm

We appreciate the opportunity to provide input on this project and are available to help develop measures to avoid and minimize adverse impacts to trust resources that occur within your project area. If you have any questions, please feel free to contact me - thanks!
****

Felicia M. Sirchia
Fish & Wildlife Biologist
U.S. Fish and Wildlife Service
Palm Springs Fish and Wildlife Office
777 E. Tahquitz Canyon Way, Suite 208
Palm Springs, CA 92262
Phone 760.322.2070 x205
Fax 760.322.4648

APPENDIX B
BIOLOGICAL SURVEY REPORT

Biological Survey for the West Desert Road
El Centro Station, El Centro Sector

Dates Surveyed: June 28, 2012
Climate: Calm winds, Sunny, 85° F

Biologist: Josh McEnany – Gulf South Research Corporation
John Ginter – Gulf South Research Corporation

U.S. Customs and Border Protection (CBP) is proposing the improvement, construction, operation, and maintenance of approximately 2 miles of all-weather road along the U.S./Mexico border within the U.S. Border Patrol (USBP) El Centro Station's Area of Responsibility (AOR). Currently, the existing road is impassable, which creates long drive times for agents to reach patrol areas and restricts agents' abilities to assist with interdictions and apprehensions. The improvements to the West Desert Road begin at the Dump Turnaround (approximately N32° 38.993, W115° 41.996), near Border Monument 224, and extend to the Iron Gate (approximately N32° 38.861, W115° 43.725), near Border Monument 225. The road would be improved to an all-weather surface road (1.8 miles long) approximately 20 feet wide with 2-foot shoulders, and would include any necessary drainage structures. A drag road would also be constructed along the north side of the all-weather surface. Staging areas would be located approximately every 1/3 mile within the construction corridor and at the eastern and western terminuses. In addition to the 1.8 miles of road improvement, a new access road leading to the BP Hill Remote Video Surveillance System (RVSS) (approximately 0.2 mile) from the project road would be constructed (Figure 1). The entire project corridor, which includes the new road to BP Hill, was surveyed on foot (meandering transects) by biologists from Gulf South Research Corporation on June 28, 2012. The survey limits varied from 200 to 300 feet wide, depending on the terrain and suggestions by the project engineer. Vegetation, wildlife, and any potential waters of the United States were identified and recorded as needed. Photographs taken during the field survey are included in Attachment 1, and the location of each photo point is depicted on Figure 1.

The project lies in the Lower Colorado River Valley (LCRV) biome of the Sonoran Desert, and the vegetation community is broadly classified as Sonoran Desert scrub (Brown 1994). The project corridor contained less than five percent groundcover, and the predominant vegetation observed was creosote bush (*Larrea tridentata*), which is typical for this area within the Sonoran Desert. Other species observed included desert holly (*Atriplex hymenelytra*), skeleton weed (*Eriogonum deflexum*), white bursage (*Ambrosia dumosa*), velvet mesquite (*Prosopis velutina*), and catclaw acacia (*Acacia greggii*). Table 1 includes the full list of plant species observed during the survey.

The Sonoran Desert is extremely hot, and many animals are nocturnal or crepuscular. Many of the animals that inhabit the Sonoran Desert are found throughout the warmer and drier regions of the southwestern United States (Brown 1994). Common mammals found in this habitat include multiple species of bats, coyote (*Canis latrans*), black-tailed jack-rabbit (*Lepus californicus*), desert pocket mouse (*Chaetodipus penicillatus*), road runner (*Geococcyx californianus*), mourning dove (*Zenaida macroura*), lesser nighthawk (*Chordeiles acutipennis*), and desert iguana (*Dipsosaurus dorsalis*). The most common wildlife observed during the survey

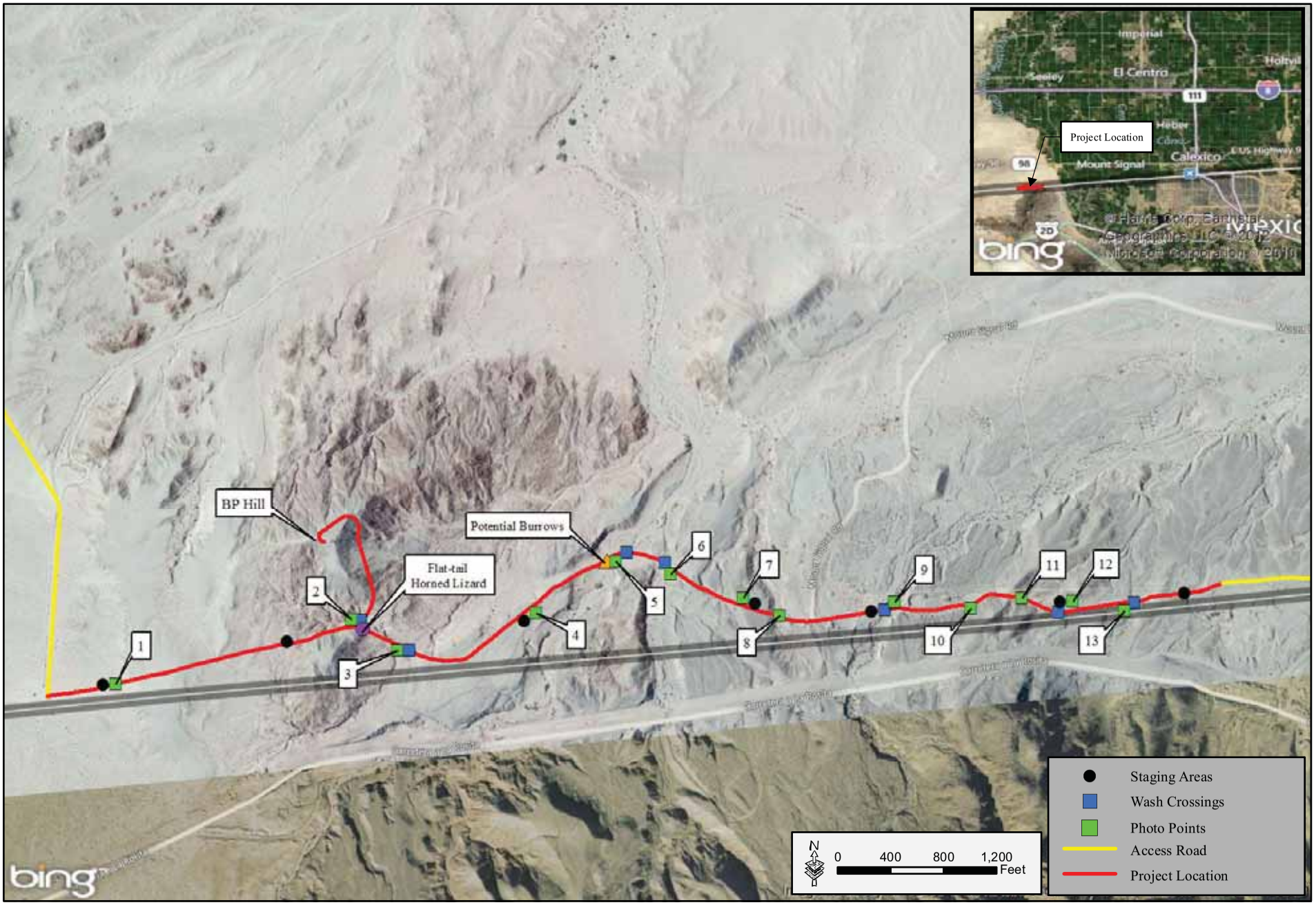

Figure 1: Survey Map

GSRC

May 2012

Table 1. Plant Species Observed During the West Desert Road Survey

Common Name	Scientific Name
Velvet mesquite	*Prosopis velutina*
Desert holly	*Atriplex hymenelytra*
Cattle saltbush	*Atriplex polycarpa*
Desert trumpet	*Eriogonum inflatum*
Catclaw acacia	*Acacia greggii*
Skeleton weed	*Eriogonum deflexum*
White bursage	*Ambrosia dumosa*
Sahara mustard	*Brassica tournefortii*
Desert Indianwheat	*Plantago ovate*
White ratany	*Krameria grayi*
Sweetbush	*Bebia juncea*
Devil's spineflower	*Chorizanthe rigida*
Desert lavender	*Hyptis emoryi*
Wild heliotrope	*Phacelia crenulata*
Arabian schismus	*Schismus arabicus*
Sixweeks fescue	*Vulpia octoflora*
California threeawn	*Aristida californica*
Desert smoketree	*Psorothamnus spinosor*
Dyebush	*Psorothamnus emoryi*
Jointfir	*Ephedra nevadensis*
Fanleaf crinklemat	*Tiquilia plicata*
Creosote bush	*Larrea tridentata*

includes mourning dove, lesser nighthawk, black-throated sparrow (*Amphispiza bilineata*), tiger whiptail (*Aspidoscelis tigris*), and long-tailed brush lizard (*Urosuarus graciosus*). All of the wildlife species observed during the survey are included in Table 2.

Table 2. Wildlife Observed During the West Desert Road Survey

Common Name	Scientific Name
Black-throated sparrow	*Amphispiza bilineata*
Lesser nighthawk	*Chordeiles acutipennis*
Mourning dove	*Zenaida macroura*
Red-tailed hawk	*Buteo jamaicensis*
Flat-tail horned lizard*	*Phrynosoma mcallii*
Desert kangaroo rat*	*Dipodomys deserti*
Coyote*	*Canis latrans*
Kit fox*	*Vulpes macrotis*
Sidewinder*	*Crotalus cerastes*
Tiger whiptail	*Aspidoscelis tigris*
Desert iguana	*Dipsosuarus dorsalis*
Zebra-tailed lizard	*Callisaurus draconoides*
Long-tailed brush lizard	*Urosuarus graciosus*

*These species were not observed; however, tracks and/or scat were observed within the project corridor.

The survey identified seven ephemeral washes bisecting the project corridor that might be regulated as waters of the United States (Figure 1). The total impact on the seven potential waters of the United States would be less than 0.1 acre. Dominant plants found along the drainages include velvet mesquite, catclaw acacia, and skeleton weed.

Although no Federally listed or state-listed species were observed during the surveys, tracks and scat of the flat-tail horned lizard (*Phrynosoma mcallii*) (FTHL) were recorded at one location. FTHL, a conservation agreement species, is not a Federally protected species. However, five Federal agencies signed a Memorandum of Agreement to protect the FTHL and its habitat on Federal lands. Habitat for the FTHL exists within the project corridor in the Yuma Desert Management Area (YDMA). Established by the 1997 Flat-Tailed Horned Lizard Rangewide Management Strategy, the YDMA serves as a tool to facilitate FTHL conservation. The project area is located within the YDMA. One burrow complex, presumably inhabited by desert kangaroo rats (*Dipodomys deserti*) and which could provide habitat for the BLM listed western burrowing owl (*Athene cunicularia*) and kit fox (*Vulpes macrotis*), was also observed and recorded during the survey efforts (Figure 1).

References

Brown, D. E. (ed.). 1994. *Biotic Communities: Southwestern United States and Northwestern Mexico.* Salt Lake City, UT: University of Utah Press.

ATTACHMENT 1

Photograph Point 1. Facing West

Photograph Point 1. Facing North

Photograph Point 1. Facing East

Photograph Point 2. Facing West

Photograph Point 2. Facing North

Photograph Point 3. Facing East

Photograph Point 3. Facing Southeast

Photograph Point 3. Facing East

Photograph Point 4. Facing West

Photograph Point 4. Facing Southeast

Photograph Point 5. Facing Southwest

Photograph Point 5. Facing Northeast

Photograph Point 6. Facing North

Photograph Point 6. Facing West

Photograph Point 6. Facing East

Photograph Point 6. Facing South

Photograph Point 7. Facing North

Photograph Point 8. Facing South

Photograph Point 8. Facing North

Photograph Point 9. Facing South

Photograph Point 9. Facing North

Photograph Point 10. Facing North

Photograph Point 10. Facing West

Photograph Point 11. Facing Southwest

Photograph Point 12. Facing Northeast

Photograph Point 12. Facing North

Photograph Point 13. Facing South

APPENDIX C
PROTECTED SPECIES: FEDERAL, STATE, AND BLM SENSITIVE

Scientific Name	Common Name	Taxon Abbrev.	Lead Office	State Status	Fed. Status	LISTING		RECOVERY			FEDERAL REGISTER	DISTRIBUTION [2]					
						Date Listed	Critical Habitat [3]	Plan	5-Year Review	RPN [4]	Most Recent Publication	LA	O	SB	Riv	SD	Imp
PLANTS																	
Acanthoscyphus parishii var. *goodmaniana (Oxytheca p.* var. *g.)* [1]	Cushenbury oxytheca	ACPAGO	CFWO		FE	24-Aug-94	f-02	D 97	2009	9C				X			
Acanthomintha ilicifolia	San Diego thornmint	ACIL	CFWO		FT	13-Oct-98	f-08		2009	8						X	
Acmispon dendroideus var. *traskiae (Lotus d.* subsp. *traskiae)* [1]	San Clemente Island lotus	LODETR	CFWO	SE	FE	11-Aug-77		F 84	2007	15	16-May-12	X					
Allium munzii	Munz's onion	ALMU	CFWO	ST	FE	13-Oct-98	p-12		2009	2C	11-Sep-12				X		
Ambrosia pumila	San Diego ambrosia	AMPU	CFWO		FE	2-Jul-02	f-10		2010	11C					X	X	
Arctostaphylos glandulosa subsp. *crassifolia*	Del Mar manzanita	ARGLCR	CFWO		FE	7-Oct-96			2010	6C						X	
Arenaria paludicola	marsh sandwort	ARPA	VFWO	SE	FE	3-Aug-93		F 98	2008	2		X		X			
Astragalus albens	Cushenbury milk-vetch	ASAL	CFWO		FE	24-Aug-94	f-02	D 97	2009	8C				X			
Astragalus brauntonii	Braunton's milk-vetch	ASBR	VFWO		FE	29-Jan-97	f-06	F 99	2009	2		X	X		X		
Astragalus lentiginosus var. *coachellae*	Coachella Valley milk-vetch	ASLECO	CFWO		FE	6-Oct-98	f-05		2009	6C	16-May-12				X		
Astragalus magdalenae var. *peirsonii*	Peirson's milk-vetch	ASMAPE	CFWO	SE	FT	6-Oct-98	fr-08		2008	9	17-Jul-08						X
Astragalus pycnostachyus var. *lanosissimus*	Ventura marsh milk-vetch	ASPYLA	VFWO	SE	FE	21-May-01	f-04		2010	6C		X	X				
Astragalus tener var. *titi*	coastal dunes milk-vetch	ASTETI	VFWO	SE	FE	12-Aug-98		F 05	2009	6C		X				X	
Astragalus tricarinatus	triple-ribbed milk-vetch	ASTR	CFWO		FE	6-Oct-98			2009	14				X	X		
Atriplex coronata var. *notatior*	San Jacinto Valley crownscale	ATCONO	CFWO		FE	13-Oct-98	p-12		2008	3	11-Sep-12				X		
Baccharis vanessae	Encinitas baccharis	BAVA	CFWO	SE	FT	7-Oct-96			2011	5C						X	
Berberis nevinii	Nevin's barberry	BENE	CFWO	SE	FE	13-Oct-98	f-08		2009	2		X		X	X	X	
Brodiaea filifolia	thread-leaved brodiaea	BRFI	CFWO	SE	FT	13-Oct-98	f-11		2009	8C		X	X	X	X	X	
Castilleja cinerea	ash-gray paintbrush	CACI	CFWO		FT	14-Sep-98	f-07		2008	8				X			
Castilleja grisea	San Clemente Island paintbrush	CAGR	CFWO	SE	FE	11-Aug-77		F 84	2007	14	16-May-12	X					
Ceanothus ophiochilus	Vail Lake ceanothus	CEOP	CFWO	SE	FT	13-Oct-98	f-07		2008	2					X		
Cercocarpus traskiae	Catalina Island mountain-mahogany	CETR	CFWO	SE	FE	8-Aug-97			2007	8		X					
Chloropyron maritimum subsp. *maritimum (Cordylanthus maritimus* subsp. *maritimus)* [1]	salt marsh bird's-beak	CHMAMA	CFWO	SE	FE	28-Sep-78		F 85	2009	9		X	X			X	
Chorizanthe orcuttiana	Orcutt's spineflower	CHOR	CFWO	SE	FE	7-Oct-96			2008	5						X	
Chorizanthe parryi var. *fernandina*	San Fernando Valley spineflower	CHPAFE	VFWO	SE	C	25-Oct-99				na		X	X	X			
Deinandra conjugens (Hemizonia c.) [1]	Otay tarplant	DECO	CFWO	SE	FT	13-Oct-98	f-02	F 04	2009	8C						X	
Delphinium variegatum subsp. *kinkiense*	San Clemente Island larkspur	DEVAKI	CFWO	SE	FE	11-Aug-77		F 84	2008	15	19-Jan-11	X					
Dodecahema leptoceras [1]	slender-horned spineflower	DOLE	CFWO	SE	FE	28-Sep-87			2010	7C		X		X	X		
Dudleya cymosa subsp. *ovatifolia*	Santa Monica Mountains dudleya	DUCYOV	VFWO		FT	29-Jan-97		F 99	2009	6		X	X				
Dudleya stolonifera	Laguna Beach live-forever	DUST	CFWO	ST	FT	13-Oct-98			2010	8			X				
Eremogone ursina (Arenaria ursina) [1]	Bear Valley sandwort	ERUR	CFWO		FT	14-Sep-98	f-07		2008	8				X			
Eriastrum densifolium subsp. *sanctorum*	Santa Ana River woolly-star	ERDESA	CFWO	SE	FE	28-Sep-87			2010	6C			X	X	X		
Erigeron parishii	Parish's daisy	ERPA	CFWO		FT	24-Aug-94	f-02	D 97	2009	8C				X	X		
Eriogonum kennedyi var. *austromontanum*	southern mountain wild buckwheat	ERKEAU	CFWO		FT	14-Sep-98	f-07		2008	9				X			
Eriogonum ovalifolium var. *vineum*	Cushenbury buckwheat	EROVVI	CFWO		FE	24-Aug-94	f-02	D 97	2009	9C				X			
Eryngium aristulatum var. *parishii*	San Diego button celery	ERARPA	CFWO	SE	FE	3-Aug-93		F 98	2010	9C					X	X	
Fremontodendron mexicanum	Mexican flannelbush	FRME	CFWO	SR	FE	13-Oct-98	f-07		2009	8						X	
Hazardia orcuttii	Orcutt's hazardia	HAOR	CFWO	ST	C					na	26-Oct-11					X	
Helianthemum greenei	Island rush-rose	HEGR	VFWO		FT	13-Jul-97		F 00	2010	14		X					
Lithophragma maximum	San Clemente Island woodland star	LIMA	CFWO	SE	FE	8-Aug-97		F 84	2007	2		X					
Malacothamnus clementinus	San Clemente Island bush mallow	MACL	CFWO	SE	FE	11-Aug-77		F 84	2007	8	16-May-12	X					
Monardella viminea (M. linoides subsp. *v.)* [1]	willowy monardella	MOVI	CFWO	SE	FE	13-Oct-98	fr-12		2008	2	6-Mar-12					X	
Navarretia fossalis	spreading navarretia	NAFO	CFWO		FT	13-Oct-98	f-10	F 98	2009	8		X			X	X	
Orcuttia californica	California Orcutt grass	ORCA	CFWO	SE	FE	3-Aug-93		F 98	2011	11C		X			X	X	
Pentachaeta lyonii	Lyon's pentachaeta	PELY	VFWO	SE	FE	29-Jan-97	f-06	F 99	2008	2C		X					
Phacelia stellaris	Brand's phacelia	PHST	CFWO		C					na	26-Oct-11	X			X	X	
Physaria kingii subsp. *bernardina (Lesquerella k.* subsp. *b.)* [1]	San Bernardino Mountains bladderpod	PHKIBE	CFWO		FE	24-Aug-94	f-02	D 97	2009	9C				X			
Poa atropurpurea	San Bernardino bluegrass	POAT	CFWO		FE	14-Sep-98	f-08		2008	2				X		X	
Pogogyne abramsii	San Diego mesa mint	POAB	CFWO	SE	FE	28-Sep-78		F 98	2010	8C						X	
Pogogyne nudiuscula	Otay mesa mint	PONU	CFWO	SE	FE	3-Aug-93		F 98	2010	2C						X	
Nasturtium gambelii (Rorippa gambelii) [1]	Gambel's watercress	ROGA	VFWO	ST	FE	3-Aug-93		F 98	in prep.	5		X	X	X		X	
Sibara filifolia	Santa Cruz Island rock-cress	SIFI	CFWO		FE	8-Aug-97			2006	2		X					
Sidalcea pedata	pedate checker-mallow	SIPE	CFWO	SE	FE	31-Aug-84		F 98	2011	5C				X			
Taraxacum californicum	California taraxacum	TACA	CFWO		FE	14-Sep-98	f-08		2008	5				X			
Thelypodium stenopetalum	slender-petaled mustard	THST	CFWO	SE	FE	31-Aug-84		F 98	2011	5C				X			

Trichostema austromontanum subsp. *compactum*	Hidden Lake bluecurls	TRAUCO	CFWO		FT	14-Sep-98	rnf-07		2006	15					X		
Verbesina dissita	big-leaved crown beard	VEDI	CFWO	ST	FT	7-Oct-96			2010	11C			X				
INVERTEBRATES																	
Branchinecta lynchi	vernal pool fairy shrimp	VPFS	SFWO		FT	19-Sep-94	f-05	F 05	2007	2C					X		
Branchinecta sandiegonensis	San Diego fairy shrimp	SDFS	CFWO		FE	3-Feb-97	f-07	F 98	2008	8C			X			X	
Dinacoma caseyi	Casey's June beetle	CJB	CFWO		FE	22-Sep-11	f-11			na					X		
Euphilotes battoides allyni	El Segundo blue butterfly	ESB	CFWO		FE	1-Jun-76	n-77	F 98	2008	9		X					
Euphydryas editha quino	Quino checkerspot butterfly	QCB	CFWO		FE	16-Jan-97	f-09	F 03	2009	9C			X	X	X	X	
Glaucopsyche lygdamus palosverdesensis	Palos Verdes blue butterfly	PVB	CFWO		FE	2-Jul-80	f-80	F 84	2008	6		X					
Lycaena hermes	Hermes copper butterfly	HCB	CFWO		C	14-Apr-11				na	26-Oct-11					X	
Pyrgus ruralis lagunae	Laguna Mountains skipper	LMS	CFWO		FE	16-Jan-97	f-06		2007	3C						X	
Rhaphiomidas terminatus abdominalis	Delhi Sands flower-loving fly	DSF	CFWO		FE	23-Sep-93		F 97	2008	6C				X	X		
Streptocephalus woottoni	Riverside fairy shrimp	RFS	CFWO		FE	3-Aug-93	n-11	F 98	2008	8C		X	X		X	X	
Callophrys [Mitoura] gryneus thornei	Thorne's Hairstreak butterfly	THB	CFWO		M					na	23-Feb-11					X	
FISH																	
Catostomus santaanae	Santa Ana sucker	SAS	CFWO	SSC	FT	12-Apr-00	f-10		2011	5C		X	X	X	X		
Cyprinodon macularius	desert pupfish	DEPU	R02	SE	FE	31-Mar-86	f-86	F 93	2010	2C					X	X	X
Eucyclogobius newberryi	tidewater goby	TWG	VFWO	SSC	FE	4-Feb-94	f-08	F 05	2007	7C	19-Jan-11		X			X	
Gasterosteus aculeatus williamsoni	unarmored threespine stickleback	UTS	VFWO	SE	FE	13-Oct-70	fnd-02	F 85	2009	6C		X		X		X	
Gila bicolor mohavensis	Mohave tui chub	MTC	VFWO	SE	FE	13-Oct-70		F 84	2009	6				X			
Gila elegans	bonytail chub	BOCH	R06	SE	FE	23-Apr-80	f-94	F 02		5C				X	X		X
Oncorhynchus mykiss	steelhead (southern California DPS)	WCSH	NMFS	SSC	FE	5-Jan-06		F 12		3		X	X			X	
Ptychocheilus lucius	Colorado Pikeminnow	COPI	R06	SE	FE	24-Jul-85	f-94	F 02		8C				X	X		X
Xyrauchen texanus	razorback sucker	RASU	R06	SE	FE	23-Oct-91	f-94	F 02		1C				X	X		X
AMPHIBIANS																	
Anaxyrus californicus (Bufo microscaphus c.) [1]	arroyo toad (a. southwestern ı.)	ARTO	VFWO	SSC	FE	16-Dec-94	f-11	F 99	2009	8	4-Jun-12	X	X	X	X	X	
Batrachoseps major aridus (B. a.) [1]	desert slender salamander	DSS	CFWO	SE	FE	4-Jun-73		F 82	2009	8					X		
Rana draytonii (R. aurora d.) [1]	California red-legged frog	CRLF	SFWO	SSC	FT	23-May-96	f-10	F 02		5C		X	X	X	X	X	
Rana muscosa	mountain yellow-legged frog (southern California DPS)	MYLF	CFWO	SE	FE	2-Jul-02	f-06		in prep.	3		X		X	X		
REPTILES																	
Gopherus agassizii	desert tortoise (Mojave population DPS)	DETO	NFWO	ST	FT	2-Apr-90	f-94	F 94	2010	12C				X	X		X
Phrynosoma mcallii	flat-tailed horned lizard	FTHL	CFWO	SSC	W	15-Mar-11				na					X	X	X
Uma inornata	Coachella Valley fringe-toed lizard	CVFTL	CFWO	SE	FT	25-Sep-80	f-80	F 85	2010	5C					X		
Xantusia riversiana	island night lizard	INL	CFWO	na	FT	11-Aug-77		F 84	2006	8	22-Aug-06	X					
BIRDS																	
Amphispiza belli clementeae	San Clemente sage sparrow	SCSS	CFWO	SSC	FT	11-Aug-77		F 84	2009	9		X					
Brachyramphus marmoratus	marbled murrelet	MAMU	R01	SE	FT	1-Oct-92	n-08	F 97	2009	2C	21-Jan-10	X				X	
Charadrius nivosus nivosus (C. alexandrinus n.) [1]	western snowy plover (Pacific Coast population DPS)	WSP	AFWO	SSC	FT	5-Mar-93	n-11	F 07	2006	3C	19-Jun-12	X	X			X	
Charadrius montanus	mountain plover	MOPL	R06	SSC	W	12-May-11				na					X		X
Coccyzus americanus	yellow-billed cuckoo (western U.S.[delete "U.S."] DPS)	YBCU	SFWO	SE	C	25-Jul-01				na		X	X	X	X	X	X
Empidonax traillii extimus	southwestern willow flycatcher	SWFL	R02	SE	FE	27-Feb-95	n-11	F 02	in prep.	3C		X	X	X	X	X	X
Gelochelidon nilotica vanrossemi	van Rossem's gull-billed tern	GBT	CFWO	SSC	M					na	21-Sep-11					X	X
Gymnogyps californianus	California condor	CACO	VFWO	SE	FE	11-Mar-67	f-77	F 96		4C		X		X		X	
Haliaeetus leucocephalus	bald eagle	BAEA	R03	SE	PDM	14-Feb-78	fde-07	F 86		na	9-Jul-07	X	X	X	X	X	X
Lanius ludovicianus mearnsi	San Clemente loggerhead shrike	SCLS	CFWO	SSC	FE	11-Aug-77		F 84	2009	12		X					
Pelecanus occidentalis	brown pelican	BRPE	VFWO	sde-09	PDM	4-Feb-85	fde-09	F 83		na	17-Sep-09	X	X	X	X	X	X
Phoebastria albatrus	short-tailed albatross	STAL	R07	SSC	FE	31-Jul-00		F 08	2009	8		X	X			X	
Polioptila californica californica	coastal California gnatcatcher	CAGN	CFWO	SSC	FT	30-Mar-93	f-07		2010	9C	26-Oct-11	X	X	X	X	X	
Rallus longirostris levipes	light-footed clapper rail	LFCR	CFWO	SE	FE	8-Mar-69		F 85	2009	6		X	X			X	
Rallus longirostris yumanensis	Yuma clapper rail	YUCR	R02	ST	FE	11-Mar-67		D 10	2006	6				X	X		X
Sternula antillarum browni (Sterna a. b.) [1]	California least tern	CLT	CFWO	SE	FE	8-Mar-69		F 85	2006	15C		X	X		X	X	X
Vireo bellii pusillus	least Bell's vireo	LBV	CFWO	SE	FE	2-May-86	f-94	D 98	2006	9C		X	X	X	X	X	X
MAMMALS																	
Dipodomys merriami parvus	San Bernardino kangaroo rat	SBKR	CFWO	SSC	FE	27-Jan-98	f-02		2009	6C		X		X	X		
Glaucomys sabrinus californicus	San Bernardino flying squirrel	SBFS	CFWO	SSC	N						1-Feb-12			X	X		
Dipodomys stephensi	Stephens' kangaroo rat	SKR	CFWO	ST	FE	30-Sep-88		D 97	2011	11	19-Aug-10			X	X	X	
Enhydra lutris nereis	southern sea otter	SSO	VFWO	FP	FT/X*	11-Aug-87		F 03		9C	6-Feb-04	X	X			X	
Ovis canadensis nelsoni	Nelson bighorn sheep (Peninsular Range DPS; Peninsular bighorn sheep)	PBS	CFWO	ST	FE	18-Mar-98	f-09	F 00	2011	9C					X	X	X
Perognathus longimembris pacificus	Pacific pocket mouse	PPM	CFWO	SSC	FE	3-Feb-94		F 98	2010	6C		X	X			X	
Urocyon littoralis catalinae	Santa Catalina Island fox	CAIF	CFWO	ST	FE	5-Mar-04	W-05		in prep.	9		X					

INDEX

Federal Status: FE = endangered; FT = threatened; C = candidate for listing; P = proposed; W = proposal withdrawn; PDM = post delisting monitoring plan; X* = experimental population; N = 90-day finding; M = 12-month finding.

State Status: SE = state endangered; ST = state threatened; SCE = state candidate endangered; SCT = state candidate threatened; sde = state delisted; SR = state listed rare; FP = fully protected; SSC = species of special concern (does not apply to plants or invertebrates).

Critical Habitat: p = Proposed; f = Designated; pf=Prudent Finding; npf=Not Prudent Finding; pr = Proposed Revised; fr = Final Revised; fde = Final delisting; W* = proposal withdrawn; fnd = final not designated.

Recovery Plan: F = Final-year published, D = Draft-year published

Distribution (historical county occurrences): LA = Los Angeles; O = Orange; SB = San Bernardino; Riv = Riverside; SD = San Diego; Imp = Imperial

Note: Santa Catalina Island and San Clemente Island are considered to be located within L.A. County

*** Plant names format: scientific name including synonym, if any, followed by common name in parentheses [*e.g. Allium munzii* (Munz's onion); *Eremogone ursina* (*Arenaria ursina*) (Bear Valley sandwort)] Animal names format: common name including name of DPS, if any, followed by scientific name (including synonyms, if any) in parentheses [*e.g.* Santa Ana sucker (*Catastomus santaanae*); western snowy plover (Pacific Coast population DPS) (*Charadrius nivosus nivosus* (*Charadrius alexandrinus nivosus*))]**

[1] Current name, followed by name under which the taxon was listed, or **otherwise recognized, in parentheses**. Cite "current name (older name)" form at least once in the beginning of a document, otherwise use the current name throughout.

[2] For species' range refer to the 5-Year Review or utilize the "Distribution" link to access the ECOS Mapper.

[3] For species' Critical Habitat refer to the final critical habitat rule or utilize the "Critical Habitat" link to access the ECOS critical habitat Mapper.

[4] Recovery Priority Number (RPN) for listed taxa; definitions relate to Degree of Threat, Recovery Potential, Taxonomic Status, and Conflict (na = not applicable).

PLEASE SEND CHANGES OR CORRECTIONS CONCERNING: SPECIES NAMES TO **GARY WALLACE** (Gary_Wallace@fws.gov, 760-431-9440); CRITICAL HABITAT MAPPING TO **TONY MCKINNEY** (Tony_McKinney@fws.gov, 760-431-9440); HYPERLINKS OR ASSOCIATED DOCUMENTS TO **JASON STAYER** (Jason_Stayer@fws.gov, 760-431-9440).

LIST REVISED September 12, 2012

BLM Special Status Plants under the jurisdiction of the El Centro Field Office as of September 18, 2012.

SCIENTIFIC NAME	COMMON NAME	TYPE OF PLANT	FAMILY	STATUS	KNOWN OR SUSPECTED ON BLM LANDS?
Abronia villosa var. aurita	chaparral sand-verbena	Vascular Plant	Nyctaginaceae	BLM Sensitive	Suspected on BLM lands
Astragalus magdalenae var. peirsonii	Peirson's milk-vetch	Vascular Plant	Fabaceae	Federal Threatened	Known on BLM lands
Chaenactis glabriuscula var. orcuttiana	Orcutt's pincushion	Vascular Plant	Asteraceae	BLM Sensitive	Suspected on BLM lands
Chamaesyce platysperma	flat-seeded spurge	Vascular Plant	Euphorbiaceae	BLM Sensitive	Suspected on BLM lands
Chorizanthe polygonoides var. longispina	long-spined spineflower	Vascular Plant	Polygonaceae	BLM Sensitive	Suspected on BLM lands
Croton wigginsii	Wiggins' croton	Vascular Plant	Euphorbiaceae	BLM Sensitive	Known on BLM lands
Cylindropuntia fosbergii	pink teddy-bear cholla	Vascular Plant	Cactaceae	BLM Sensitive	Known on BLM lands
Cylindropuntia munzii	Munz cholla	Vascular Plant	Cactaceae	BLM Sensitive	Known on BLM lands
Dieteria asteroides var. lagunensis	Mount Laguna aster	Vascular Plant	Asteraceae	BLM Sensitive	Known on BLM lands
Fremontodendron mexicanum	Mexican flannelbush	Vascular Plant	Malvaceae	Federal Endangered	Known on BLM lands
Grindelia hallii	San Diego gumplant	Vascular Plant	Asteraceae	BLM Sensitive	Known on BLM lands
Helianthus niveus subsp. tephrodes	Algodones Dunes sunflower	Vascular Plant	Asteraceae	BLM Sensitive	Known on BLM lands
Hulsea californica	San Diego sunflower	Vascular Plant	Asteraceae	BLM Sensitive	Known on BLM lands
Lupinus excubitus var. medius	Mountain Springs bush lupine	Vascular Plant	Fabaceae	BLM Sensitive	Known on BLM lands
Monardella nana subsp. leptosiphon	San Felipe monardella	Vascular Plant	Lamiaceae	BLM Sensitive	Suspected on BLM lands
Palafoxia arida var. gigantea	giant Spanish needle	Vascular Plant	Asteraceae	BLM Sensitive	Known on BLM lands
Pholisma sonorae	sand food	Vascular Plant	Boraginaceae	BLM Sensitive	Known on BLM lands
Streptanthus campestris	southern jewel-flower	Vascular Plant	Brassicaceae	BLM Sensitive	Suspected on BLM lands
Symphyotrichum defoliatum	San Bernardino aster	Vascular Plant	Asteraceae	BLM Sensitive	Suspected on BLM lands
Thermopsis californica var. semota	velvety false lupine	Vascular Plant	Fabaceae	BLM Sensitive	Suspected on BLM lands
Thysanocarpus rigidus	Ridge Fringepod	Vascular Plant	Brassicaceae	BLM Sensitive	Suspected on BLM lands
Xylorhiza orcuttii	Orcutt's woody aster	Vascular Plant	Asteraceae	BLM Sensitive	Known on BLM lands

El Centro Faunal Sensitive Species 2011

MAMMALS

California leaf-nosed bat	*Macrotus californicus*
Cave myotis	*Myotis velifer*
Desert bighorn sheep	*Ovis canadensis nelsoni*
Fringed myotis	*Myotis thysanodes*
Long-eared myotis	*Myotis evotis*
Pallid bat	*Antrozous pallidus*
Palm Springs little pocket mouse	*Perognathus longimembris bangsi*
Small-footed myotis	*Myotis ciliolabrum*
Townsend's big-eared bat	*Corynorhinus townsendii*
Western mastiff-bat	*Eumops perotis californicus*
Yuma myotis	*Myotis yumanensis*

BIRDS

Brown pelican	*Pelecanus occidentalis*
Burrowing owl	*Athene cunicularia*
California black rail	*Laterallus jamaicensis coturniculus*
California spotted owl	*Strix occidentalis occidentalis*
Elf owl	*Micrathene whitneyi*
Gila woodpecker	*Melanerpes uropygialis*
Mountain plover	*Charadrius montanus*
Tricolored blackbird	*Agelaius tricolor*
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*

REPTILES

Barefoot banded gecko	*Coleonyx switaki*
Colorado Desert fringe-toed lizard	*Uma notata notata*
Flat-tailed horned lizard	*Phrynosoma mcalli*
Southwestern pond turtle	*Actinemys (=Clemmys) marmorata Pallid*
Two-striped garter snake	*Thamnophis hammondii*

AMPHIBIANS

Couch's spadefoot toad	*Scaphiopus couchi*
Lowland leopard frog	*Lithobates (=Rana) yavapaiensis*

State of California
The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Biogeographic Data Branch
California Natural Diversity Database

STATE & FEDERALLY LISTED ENDANGERED & THREATENED ANIMALS OF CALIFORNIA

January 2011

This is a list of animals found within California or off the coast of the State that have been classified as Endangered or Threatened by the California Fish & Game Commission (state list) or by the U.S. Secretary of the Interior or the U.S. Secretary of Commerce (federal list).

The official California listing of Endangered and Threatened animals is contained in the California Code of Regulations, Title 14, Section 670.5. The official federal listing of Endangered and Threatened animals is published in the Federal Register, 50 CFR 17.11. The California Endangered Species Act of 1970 created the categories of "Endangered" and "Rare". The California Endangered Species Act of 1984 created the categories of "Endangered" and "Threatened". On January 1, 1985, all animal species designated as "Rare" were reclassified as "Threatened".

Animals that are candidates for state listing and animals proposed for federal listing are also included on this list. A state candidate species is one that the Fish and Game commission had formally noticed as being under review by the Department for addition to the State list. A federal proposed species is one for which a proposed regulation has been published in the Federal Register.

Code Designation:	Totals as of January 2011
SE = State-listed as Endangered	46
ST = State listed as Threatened	35
SR = State listed as Rare – old designation, all animals reclassified to Threatened on 1/1/85	0
FE = Federally listed as Endangered (21.2% of all U.S. listed endangered animals as of 1/10/11)	88
FT = Federally listed as Threatened (24.4% of all U.S. listed threatened animals as of 1/10/11)	40
SCE = State candidate (Endangered)	2
SCT = State Candidate (Threatened)	0
SCD = State Candidate (Delisting)	1
FPE = Federally proposed (Endangered)	1
FPT = Federally proposed (Threatened)	1
FPD = Federally proposed (Delisting)	0
Total number of animals listed (includes subspecies & population segments)	157
Total number of candidate/proposed animals for listing	4
Number of animals State listed only	31
Number of animals Federally listed only	71
Number of animals listed under both State & Federal Acts	55

Common and scientific names are shown as they appear on the state or federal lists. If the nomenclature differs for a species that is included on both lists, the state nomenclature is given and the federal nomenclature is shown in a footnote. Synonyms, name changes, and other clarifying points are also footnoted.

Critical Habitat is defined in Section 3 of the federal Endangered Species Act as specific areas, both occupied and unoccupied, that is essential to the conservation of a listed species and that may require special management considerations or protection.

Recovery Plans are discussed in Section 4 of the federal Endangered Species Act. Each plan incorporates site-specific management actions necessary for the conservation and survival of the species.

The "List Date" for **final** federal listing and **final** Critical Habitat designation is the date the listing or designation becomes effective, this is usually <u>not</u> the date of publication of the rule in the Federal Register; it is usually about 30 days after publication, but may be longer.

If a taxa that was previously listed or proposed for listing no longer has any listing status the entry has been grayed out.

For taxa that have more than one status entry, the current status is in bold and underlined.

Changes to this update of the list are denoted by *

	LISTING STATUS				CRITICAL HABITAT		RECOVERY PLAN	
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
GASTROPODS								
Trinity bristle snail *Monadenia setosa*[1]	ST[2]	10-02-80						
Morro shoulderband (=banded dune) snail *Helminthoglypta walkeriana*			FE	1-17-95	Final	3-09-01	Final	1998
White abalone *Haliotis sorenseni*			FE	6-28-01	Not prudent	6-28-01	Final	2008
Black abalone *Haliotis cracherodii*			FE	2-13-09	*Proposed	9-28-10		
CRUSTACEANS								
Riverside fairy shrimp *Streptocephalus woottoni*			FE	8-03-93	Final[3] Proposed Final	5-12-05 4-27-04 6-29-01	Final	1998
Conservancy fairy shrimp *Branchinecta conservatio*			FE	9-19-94	Final[4] Proposed Final Proposed	2-10-06 12-28-04 8-06-03 9-24-02	Final	2005
Longhorn fairy shrimp *Branchinecta longiantenna*			FE	9-19-94	Final 4 Proposed Final Proposed	2-10-06 12-28-04 8-06-03 9-24-02	Final	2005
Vernal pool fairy shrimp *Branchinecta lynchi*			FT	9-19-94	Final 4 Proposed Final Proposed	2-10-06 12-28-04 8-06-03 9-24-02	Final	2005
San Diego fairy shrimp *Branchinecta sandiegoensis*			FE	2-03-97	Final Proposed[5] Final	1-11-08 4-22-03 10-23-00	Final	1998
Vernal pool tadpole shrimp *Lepidurus packardi*			FE	9-19-94	Final 4 Proposed Final Proposed	2-10-06 12-28-04 8-06-03 9-24-02	Final	2005
Shasta crayfish *Pacifastacus fortis*	**SE** ST	2-26-88 10-02-80	FE	9-30-88			Final	1998
California freshwater shrimp *Syncaris pacifica*	SE	10-02-80	FE	10-31-88			Final	1998
INSECTS								
Zayante band-winged grasshopper *Trimerotropis infantilis*			FE	2-24-97	Final	3-09-01	Final	1998

[1] Current taxonomy is *Monadenia infumata setosa.*

[2] On January 1, 1985, all species designated as "rare" were reclassified as "threatened", as stipulated by the California Endangered Species Act.

[3] The Federal Circuit Court vacated critical habitat for the Riverside fairy shrimp on 10-30-02. The judge instructed the USFWS to begin the process of re-designating critical habitat for this species. New critical habitat was proposed 4-27-04 and finalized effective 5-12-05.

[4] On October 28, 2004 the courts ordered the USFWS to reconsider the areas excluded from the final critical habitat designation made August 6, 2003. The December 28 2004 proposed rule is only for lands previously excluded and does not affect the areas included in the August 6, 2003 final rule. The non-economic exclusions made to the August 6, 2003 final rule were confirmed effective March 8, 2005

[5] Due to court order the previously designated critical habitat was vacated and the USFWS was directed to re-proposed critical habitat.

	LISTING STATUS			CRITICAL HABITAT		RECOVERY PLAN	
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
Mount Hermon June beetle *Polyphylla barbata*			FE	2-24-97			Final	1998
Casey's June beetle *Dinacoma caseyi*			FPE	7-09-09	Proposed	7-09-09		
Delta green ground beetle *Elaphrus viridis*			FT	8-08-80	Final	8-08-80	Final Final	2006 1985
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*			FT	8-08-80	Final	8-08-80	Final	1984
Ohlone tiger beetle *Cicindela ohlone*			FE	10-03-01			Final	1998
Kern primrose sphinx moth *Euproserpinus euterpe*			FT	4-08-80	Proposed	7-03-78	Final	1984
Mission blue butterfly *Icaricia icarioides missionensis*[6]			FE	6-01-76	Proposed	2-08-77	Final	1984
Lotis blue butterfly *Lycaeides argyrognomon lotis*[7]			FE	6-01-76	Proposed	2-08-77	Final	1985
Palos Verdes blue butterfly *Glaucopsyche lygdamus palosverdesensis*			FE	7-02-80	Final	7-02-80	Final	1984
El Segundo blue butterfly *Euphilotes battoides allyni*			FE	6-01-76	Proposed	2-08-77	Final	1998
Smith's blue butterfly *Euphilotes enoptes smithi*			FE	6-01-76	Proposed	2-08-77	Final	1984
San Bruno elfin butterfly *Callophrys mossii bayensis*			FE	6-01-76	Proposed	2-08-77	Final	1984
Lange's metalmark butterfly *Apodemia mormo langei*			FE	6-01-76	Proposed	2-08-77	Revised	1984
Bay checkerspot butterfly *Euphydryas editha bayensis*			FT	10-18-87	Final Proposed Final	9-25-08 8-22-07 5-30-01	Final	1998
Quino checkerspot *Euphydras editha quino (=E.e.wrighti)*			FE	1-16-97	Proposed[8] Final Proposed	1-17-08 5-15-02 2-07-01	Final	2003
Carson wandering skipper *Pseudocopaeodes enus obscurus*			FE	8-07-02			Final Draft	2007 2005
Laguna Mountains skipper *Pyrgus ruralis lagunae*			FE	1-16-97	Final	1-11-07		
Callippe silverspot butterfly *Speyeria callippe callippe*			FE	12-05-97	Proposed	3-28-80		
Behren's silverspot butterfly *Speyeria zerene behrensii*			FE	12-05-97			Draft	2004
Oregon silverspot butterfly[9] *Speyeria zerene hippolyta*			FT	7-02-80	Final	7-02-80	Revised	2001
Myrtle's silverspot butterfly *Speyeria zerene myrtleae*			FE	6-22-92			Final	1998
Delhi Sands flower-loving fly *Rhaphiomidas terminatus abdominalis*			FE	9-23-93			Final	1997

[6] Current taxonomy is *Plebejus icarioides missionensis*

[7] Current taxonomy is *Plebejus idas lotis*

[8] Proposed rule is to revise designated Critical Habitat

[9] Current common name is Hippolyta frittilary

	LISTING STATUS				CRITICAL HABITAT		RECOVERY PLAN	
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
FISHES								
Green sturgeon – southern DPS *Acipenser medirostris*			FT[10]	6-06-06	Final Proposed	11-09-09 9-08-08		
Chinook salmon-Winter-run[11] *Oncorhynchus tshawytscha*	SE	9-22-89	**FE**[12] FE	8-29-05 2-03-94	Final	3-23-99	Draft	2009 1997
Chinook salmon-California coastal ESU[13] *Oncorhynchus tshawytscha*			**FT**[14] FT[15]	8-29-05 11-15-99	Final Proposed Rescinded Final	1-02-06 12-10-04 4-30-02 2-16-00		
Chinook salmon-Spring-run *Oncorhynchus tshawytscha*	ST[16]	2-05-99	**FT**[17] FT[18]	8-29-05 11-15-99	Final Proposed Rescinded Final	1-02-06 12-10-04 4-30-02 2-16-00	Draft	2009
Coho salmon-Central California Coast ESU *Oncorhynchus kisutch*	SE[19]	3-30-05	**FE**[20] FT[21]	8-29-05 12-02-96	Final	6-04-99	Final (state)	2004
Coho salmon-So. Oregon/No. Calif ESU *Oncorhynchus kisutch*	ST[22]	3-30-05	**FT**[23] FT[24]	8-29-05 6-05-97	Final	3-17-00	Final (state)	2004
Little Kern golden trout *Oncorhynchus mykiss whitei*			FT	4-13-78	Final	4-13-78	Exempt	
Lahontan cutthroat trout *Oncorhynchus clarki henshawi*			**FT** FE	7-16-75 10-13-70			Final	1995
Paiute cutthroat trout *Oncorhynchus clarki seleniris*			**FT** FE	7-16-75 3-11-67[25]			Revised Final	2004 1985
Steelhead-Northern California DPS[26] [27] *Oncorhynchus mykiss*			**FT**[28] FT	2-06-06 8-07-00	Final Proposed	1-02-06 12-10-04		

[10] Includes all spawning populations south of the Eel River

[11] Federal: Sacramento River winter run Chinook salmon

[12] The NMFS has completed comprehensive status reviews for 27 west coast salmon & steelhead ESUs, 10 of these in California. The 29 Aug 2005 list date refers to the final designations made as a result of those status reviews.

[13] ESU = Evolutionarily Significant Unit

[14] The NMFS has completed comprehensive status reviews for 27 west coast salmon & steelhead ESUs, 10 of these in California. The 29 Aug 2005 list date refers to the final designations made as a result of those status reviews.

[15] Naturally spawned coastal spring & fall Chinook salmon between Redwood Creek in Humboldt County & the Russian River in Sonoma County.

[16] State listing is for the Sacramento River drainage.

[17] The NMFS has completed comprehensive status reviews for 27 west coast salmon & steelhead ESUs, 10 of these in California. The 29 Aug 2005 list date refers to the final designations made as a result of those status reviews.

[18] Federal: Central Valley Spring-Run ESU. Includes populations spawning in the Sacramento River & its tributaries.

[19] The Coho south of San Francisco Bay were state listed in 1995; in February 2004 the Fish and Game Commission determined that the Coho from San Francisco to Punta Gorda should also be listed as Endangered. This changed was finalized by of Office of Administrative Law on March 30, 2005.

[20] The NMFS has completed comprehensive status reviews for 27 west coast salmon & steelhead ESUs, 10 of these in California. The 29 Aug 2005 list date refers to the final designations made as a result of those status reviews.

[21] The Federal listing is limited to naturally spawning populations in streams between Punta Gorda, Humboldt County & the San Lorenzo River, Santa Cruz County.

[22] The Fish and Game Commission determined that the Coho from Punta Gorda to the Oregon border should be listed as Threatened on February 25, 2004. This determination was finalized by the Office of Administrative Law on March 30, 2005.

[23] The NMFS has completed comprehensive status reviews for 27 west coast salmon & steelhead ESUs, 10 of these in California. The 29 Aug 2005 list date refers to the final designations made as a result of those status reviews.

[24] The Federal listing is for populations between Cape Blanco, Oregon & Punta Gorda, California.

[25] All species with a list date of 03-11-67 were listed under the Endangered Species Preservation Act of Oct 15, 1966.

	LISTING STATUS				CRITICAL HABITAT		RECOVERY PLAN	
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
Steelhead-Central California Coast DPS[29]			**FT**[30]	2-06-06	Final	1-02-06		
Oncorhynchus mykiss			FT	10-17-97	Proposed	12-10-04		
					Rescinded	4-30-02		
					Final	3-17-00		
Steelhead-South/Central Calif Coast DPS[31]			**FT**[32]	2-06-06	Final	1-02-06		
Oncorhynchus mykiss			FT	10-17-97	Proposed	12-10-04		
					Rescinded	4-30-02		
					Final	3-17-00		
Steelhead-Southern California DPS[33]			**FE**[34]	2-06-06	Final	1-02-06	Draft	2009
Oncorhynchus mykiss			FE	10-17-97	Proposed	12-10-04		
					Rescinded	4-30-02		
					Final	3-17-00		
Steelhead-Central Valley DPS[35]			**FT**[36]	2-06-06	Final	1-02-06	Draft	2009
Oncorhynchus mykiss			FT	5-18-98	Proposed	12-10-04		
					Rescinded	4-30-02		
					Final	3-17-00		
Bull trout	SE	10-02-80	FT	12-01-99	*Proposed (revised)[37]	1-14-10		
Salvelinus confluentus					Final	10-26-05		
Delta smelt	**SE**	1-20-10	FT	3-05-93	Final	12-19-94	Final	1996
Hypomesus transpacificus	ST	12-09-93						
Longfin smelt	**ST**	4-09-10						
Spirinchus thaleichthys	SCE	2-02-08						
Eulachon – southern DPS			FT	5-17-10	*Proposed	1-05-11		
Thaleichthys pacificus								
Mohave tui chub	SE	6-27-71	FE	10-13-70			Final	1984
Gila bicolor mohavensis[38]								
Owens tui chub	SE	1-10-74	FE	8-05-85	Final	8-05-85	Final	1998
Gila bicolor snyderi[39]								
Cowhead Lake tui chub			withdrawn	10-11-06				
Gila bicolor vaccaceps			FPE	3-30-98				

[26] Naturally spawned populations residing below impassable barriers in coastal basins from Redwood Creek in Humboldt County to, and including, the Gualala River in Mendocino County.

[27] DPS = Distinct Population Segment

[28] The NMFS has completed comprehensive status reviews for 27 west coast salmon & steelhead ESUs. The 6 Feb 2006 list date refers to the final designations made as a result of those status reviews. There was no change in listing status for the steelhead ESUs in California.

[29] Coastal basins from the Russian River, south to Soquel Creek, inclusive. Includes the San Francisco & San Pablo Bay basins, but excludes the Sacramento-San Joaquin River basins.

[30] The NMFS has completed comprehensive status reviews for 27 west coast salmon & steelhead ESUs. The 6 Feb 2006 list date refers to the final designations made as a result of those status reviews. There was no change in listing status for the steelhead ESUs in California.

[31] Coastal basins from the Pajaro River south to, but not including, the Santa Maria River.

[32] The NMFS has completed comprehensive status reviews for 27 west coast salmon & steelhead ESUs. The 6 Feb 2006 list date refers to the final designations made as a result of those status reviews. There was no change in listing status for the steelhead ESUs in California.

[33] Coastal basins from the Santa Maria River (inclusive), south to the U.S.-Mexico Border.

[34] The NMFS has completed comprehensive status reviews for 27 west coast salmon & steelhead ESUs. The 6 Feb 2006 list date refers to the final designations made as a result of those status reviews. There was no change in listing status for the steelhead ESUs in California.

[35] The Sacramento and San Joaquin Rivers and their tributaries.

[36] The NMFS has completed comprehensive status reviews for 27 west coast salmon & steelhead ESUs. The 6 Feb 2006 list date refers to the final designations made as a result of those status reviews. There was no change in listing status for the steelhead ESUs in California.

[37] There is no designated or proposed Critical Habitat for bull trout in California.

[38] Current taxonomy: *Siphateles bicolor mohavensis*

[39] Current taxonomy: *Siphateles bicolor snyderi*

	LISTING STATUS			CRITICAL HABITAT		RECOVERY PLAN		
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
Tecopa pupfish (**Extinct)** *Cyprinodon nevadensis calidae*	delisted SE	1987 6-27-71	delisted FE	1-15-82 10-13-70				
Bonytail[40] *Gila elegans*	**SE** SR	1-10-74 6-27-71	FE	4-23-80	Final	3-21-94	Revised Revised	2002 1990
Sacramento splittail *Pogonichthys macrolepidotus*			deleted[41] FT	9-22-03 3-10-99				
Colorado squawfish[42] *Ptychocheilus lucius*	SE	6-27-71	FE	3-11-67	Final	3-21-94	Revised Revised	2002 1991
Lost River sucker *Deltistes luxatus*	**SE** SR	1-10-74 6-27-67	FE	7-18-88	Proposed	12-01-94	Final	1993
Modoc sucker *Catostomus microps*	**SE** SR	10-02-80 1-10-74	FE	6-11-85	Final	6-11-85	Exempt	
Santa Ana sucker *Catostomus santaanae*			FT[43]	5-12-00	*Final Proposed (revised) Final	1-13-11 12-09-09 2-03-05		
Shortnose sucker *Chasmistes brevirostris*	**SE** SR	1-10-74 6-27-71	FE	7-18-88	Proposed	12-01-94	Final	1993
Razorback sucker *Xyrauchen texanus*	**SE** SR	1-10-74 6-27-71	FE	10-23-91	Final	3-21-94	Revised Final	2002 1998
Desert pupfish *Cyprinodon macularius*	SE	10-02-80	FE	3-31-86	Final	3-31-86	Final	1993
Cottonball Marsh pupfish *Cyprinodon salinus milleri*	ST	1-10-74						
Owens pupfish *Cyprinodon radiosus*	SE	6-27-71	FE	3-11-67			Final	1998
Thicktail chub (**Extinct**) *Gila crassicauda*	delisted SE	10-02-80 1-10-74						
Unarmored threespine stickleback *Gasterosteus aculeatus williamsoni*	SE	6-27-71	FE	10-13-70	Designation should not be made [44] Proposed	9-17-02 11-17-80	Final	1985
Tidewater goby *Eucyclogobius newberryi*			With-drawn FPD[45] **FE**	12-09-02 6-24-99 2-04-94	Final Proposed Final	3-03-08 11-28-06 11-20-00	Final	2005
Rough sculpin *Cottus asperrimus*	ST	1-10-74						

[40] Federal: Bonytail chub

[41] On 23 June 2000, the Federal Eastern District Court of Calif. found the final rule to be unlawful and on 22 Sept 2000 remanded the determination back to the USFWS for a reevaluation of the final decision. After a thorough review the USFWS removed the Sacramento splittail from the list of threatened species.

[42] Current nomenclature and federal listing: Colorado pikeminnow

[43] Populations in the Los Angeles, San Gabriel and Santa Ana River basins.

[44] Full explanation of this situation is given in the Federal Register notice.

[45] Proposal to delist refers to populations north of Orange County only.

	LISTING STATUS				CRITICAL HABITAT		RECOVERY PLAN	
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
AMPHIBIANS								
California tiger salamander (central valley DPS) *Ambystoma californiense*	ST[4647]	5-20-10	FT[48]	9-03-04	Final[49] Proposed[50]	9-22-05 8-10-04		
California tiger salamander (Santa Barbara County DPS) *Ambystoma californiense*	(ST)		FE [48]	9-15-00	Final[51]	11-24-04		
California tiger salamander (Sonoma County DPS) *Ambystoma californiense*	(ST)		FE [48]	3-19-03	Proposed[52]	8-18-09 8-02-05		
Santa Cruz long-toed salamander *Ambystoma macrodactylum croceum*	SE	6-27-71	FE	3-11-67	Proposed	6-22-78	Draft	1999
Siskiyou Mountains salamander *Plethodon stormi*	SCD **ST**	9-30-05 6-27-71						
Scott Bar salamander *Plethodon asupak*	ST[53]	6-27-71						
Techachapi slender salamander *Batrachoseps stebbinsi*	ST	6-27-71						
Kern Canyon slender salamander *Batrachoseps simatus*	ST	6-27-71						
Desert slender salamander *Batrachoseps aridus*[54]	SE	6-27-71	FE	6-04-73			Final	1982
Shasta salamander *Hydromantes shastae*	ST	6-27-71						
Limestone salamander *Hydromantes brunus*	ST	6-27-71						
Black toad *Bufo exsul*[55]	ST	6-27-71						
Arroyo toad[56] *Bufo californicus*[57]			FE	1-17-95	Proposed (Revised) Final Proposed[58] Final	10-13-09 5-13-05 2-14-05 4-27-04 3-09-01	Final	1999

[46] The state listing refers to the entire range of the species.

[47] The Office of Administrative Law approved the listing on Aug 2, 2010. The regulations become effective on Aug 19, 2010.

[48] In 2004 the California tiger salamander was listed as "threatened" statewide. The Santa Barbara County and Sonoma County Distinct Vertebrate Population Segments (DPS), formerly listed as "endangered", were reclassified to "threatened". On Aug 19 2005 U.S. District court vacated the downlisting of the Sonoma and Santa Barbara populations from "endangered" to "threatened". Therefore, the Sonoma & Santa Barbara populations are once again listed as "endangered"

[49] Final rule published Aug 23, 2005 is for the central valley population only.

[50] Critical Habitat proposal published Aug 10, 2004 is for the central valley population only.

[51] Final rule published Nov 24, 2004 is for the Santa Barbara County population only.

[52] Proposed rule published Aug 2, 2005 is for the Sonoma County population only. The proposed rule published Aug 18, 2009 encompasses the same geographic area as the Aug 2, 2005 proposal.

[53] Since this newly described species was formerly considered to be a subpopulation of *Plethodon stormi,* and since *Plethodon stormi* is listed a Threatened under the California Endangered Species Act (CESA), *Plethodon asupak* retains the designation as a Threatened species under CESA.

[54] Current taxonomy: *Batrachoseps major aridus.*

[55] Current taxonomy: *Anaxyrus exsul*

[56] Former taxonomy: *Bufo microscaphus californicus.*

[57] Current taxonomy: *Anaxyrus californicus*

	LISTING STATUS			CRITICAL HABITAT		RECOVERY PLAN		
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
California red-legged frog[59] *Rana aurora draytonii*			FT	5-20-96	Final Proposed[60] Final	4-16-10 9-16-08 4-12-01	Final	2002
Mountain yellow-legged frog – Southern California DPS[61][62] *Rana muscosa*	*SCE or SCT[63]	9-21-10	FE	8-01-02	Final Proposed	10-16-06 9-13-05		
Mountain yellow-legged frog Rana sierrae	*SCE or SCT	9-21-10						
REPTILES								
Desert tortoise *Gopherus agassizii*	ST	8-03-89	FT	4-02-90	Final	2-08-94	Draft Revised Final	2008 1994
Green sea turtle *Chelonia mydas*			**FT** FE	7-28-78 10-13-70	Final	3-23-99	Revised	1998
Loggerhead sea turtle – North Pacific DPS[64] *Caretta caretta*			FPE **FT**	3-16-10 7-28-78	Proposed	3-19-80	Revised	1998
Olive (=Pacific) Ridley sea turtle *Lepidochelys olivacea*			FT	7-28-78	Proposed	3-19-80	Revised	1998
Leatherback sea turtle *Dermochelys coriacea*			FE	6-02-70	Proposed (Revised) Final	1-05-10 3-23-99	Revised	1998
Barefoot banded gecko[65] *Coleonyx switaki*	ST	10-02-80						
Coachella Valley fringe-toed lizard *Uma inornata*	SE	10-02-80	FT	9-25-80	Final	9-25-80	Final	1985
Blunt-nosed leopard lizard *Gambelia silus*[66]	SE	6-27-71	FE	3-11-67			Final	1998
Flat-tailed horned lizard *Phrynosoma mcallii*			Withdrawn[67] FPT[68]	6-28-06 11-29-93				
Island night lizard *Xantusia riversiana*			FT	8-11-77			Final	1984
Southern rubber boa *Charina bottae umbratica*[69]	ST	6-27-71						

[58] The Federal Circuit Court vacated critical habitat for the Arroyo toad on 10-30-02. The judge instructed the USFWS to begin the process of re-designating critical habitat for this species. New critical habitat was first proposed on 4-27-04 and proposed with revisions on 2-14-05. A new final rule became effective 5-13-05.

[59] Current taxonomy: *Rana draytoni*

[60] Proposed rule is for revised Critical Habitat boundaries

[61] Federal listing refers to the distinct population segment (DPS) in the San Gabriel, San Jacinto & San Bernardino Mountains only.

[62] The current common name for this species is Sierra Madre yellow-legged frog.

[63] The Fish and Game Commission notice of finding states that the mountain yellow-legged frog, Rana muscosa and Rana sierrae are candidates for listing as either endangered or threatened species.

[64] 1978 listing was for the worldwide range of the species. The Mar 16, 2010 proposed rule is for the north pacific DPS (north of the equator & south of 60 degrees north latitude).

[65] Current nomenclature: Barefoot gecko.

[66] Current taxonomy: *Gambelia sila.*is the scientific name and bluntnose leopard lizard is the common name

[67] On June 28, 2006 the USFWS determined that the posposed listing was not warranted and the proposed rule that had been reinstated on Nov 17, 2005 was withdrawn.

[68] On November 17, 2005, the U. S. District Court for the District of Arizona vacated the January 3, 2003 withdrawal of the proposed rule to list the flat-tailed horned lizard and reinstated the 1993 proposed rule.

[69] Current taxonomy: *Charina umbratica.*

	LISTING STATUS				CRITICAL HABITAT		RECOVERY PLAN	
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
Alameda whipsnake *Masticophis lateralis euryxanthus*	ST	6-27-71	FT	12-05-97	Final Proposed [70] Vacated[71] Final	11-01-06 10-18-05 5-09-03 10-03-00	Draft	2003
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	SE	6-27-71	FE	3-11-67			Final	1985
Giant garter snake *Thamnophis couchi gigas*[72]	ST	6-27-71	FT	10-20-93			Draft	1999
BIRDS								
Short-tailed albatross *Phoebastria albatrus*			FE	8-30-00			Final	2009
California brown pelican[73] (**Recovered**) *Pelecanus occidentalis californicus*	**delisted** SE	6-03-09 6-27-71	**delisted** FE	12-17-09 2-20-08 10-13-70			Final	1983
Aleutian Canada goose **(Recovered)** *Branta canadensis leucopareia*[74]			**delisted** FT FE	3-20-01 12-12-90 3-11-67			Final	1991
California condor *Gymnogyps californianus*	SE	6-27-71	FE	3-11-67	Final	9-22-77	Revised	1996
Bald eagle *Haliaeetus leucocephalus*	**SE**(rev) SE	10-02-80 6-27-71	**delisted**[75] FT FE(rev) FE	8-08-07 7-06-99 8-11-95 2-14-78 3-11-67			Final	1982
Swainson's hawk *Buteo swainsoni*	ST	4-17-83						
American peregrine falcon **(Recovered)** *Falco peregrinus anatum*	**delisted** SE	11-04-09 6-27-71	**delisted** FE	8-25-99 6-02-70	Final	9-22-77	Final	1982
Arctic peregrine falcon **(Recovered)** *Falco peregrinus tundrius*			**delisted** FT FE	10-05-94 3-20-84 6-02-70				
California black rail *Laterallus jamaicensis coturniculus*	ST	6-27-71						
California clapper rail *Rallus longirostris obsoletus*	SE	6-27-71	FE	10-13-70			Final	1984
Light-footed clapper rail *Rallus longirostris levipes*	SE	6-27-71	FE	10-13-70			Revised Final	1985 1979
Yuma clapper rail *Rallus longirostris yumanensis*	**ST** SE	2-22-78 6-27-71	FE	3-11-67			Final	1983

[70] The proposed rule redesignates Critical Habitat that was vacated in 2003.

[71] Due to legal action on 9 May 2003, the Critical Habitat designation has been completely vacated; there is currently no Critical Habitat for Alameda whipsnake.

[72] Current taxonomy and Federal listing: *Thamnophis gigas.*

[73] Federal: Brown pelican, *Pelecanus occidentalis.*

[74] Current taxonomy: *Branta hutchinsii leucopareia,* and common name is now cackling goose.

[75] The Post-delisting Monitoring Plan will monitor the status of the bald eagle over a 20 year period with sampling events held once every 5 years.

	LISTING STATUS				CRITICAL HABITAT		RECOVERY PLAN	
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
Greater sandhill crane *Grus Canadensis tabida*	ST	4-17-83					Draft (state)	
Western snowy plover[76] *Charadrius alexandrinus nivosus*			FT	4-05-93	Final Proposed Final	10-31-05 8-16-05 12-07-99[77]	Final Draft	2007 2001
Mountain plover[78] *Charadrius montanus*			FPT	6-29-10				
California least tern *Sterna antillarum browni*[79]	SE	6-27-71	FE	10-13-70			Revised Final	1985 1980
Marbled murrelet *Brachyramphus marmoratus*[80]	SE	3-12-92	FT	9-30-92	Proposed[81] Final	7-31-08 5-24-96	Final	1997
Xantus's murrelet *Synthliboramphus hypoleucus*	ST[82]	12-22-04						
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	**SE** ST	3-26-88 6-27-71						
Elf owl *Micrathene whitneyi*	SE	10-02-80						
Northern spotted owl *Strix occidentalis caurina*			FT	6-22-90	Final Proposed Final	9-12-08 6-17-07 1-15-92	Final Draft	2008 2007
Great gray owl *Strix nebulosa*	SE	10-02-80						
Gila woodpecker *Melanerpes uropygialis*	SE	3-17-88						
Gilded northern flicker[83] *Colaptes auratus chrysoides*	SE	3-17-88						
Willow flycatcher *Empidonax traillii*	SE[84]	1-02-91						
Southwestern willow flycatcher *Empidonax traillii extimus*	(SE)		FE	3-29-95	Final Proposed Final[85]	11-18-05 10-12-04 7-22-97	Final	2002
Bank swallow *Riparia riparia*	ST	6-11-89					Final (state)	1993
Coastal California gnatcatcher *Polioptila californica californica*			FT	3-30-93	Final Proposed[86] Final	1-18-08 4-24-03 10-24-00	Exempt	

[76] Federal status applies only to the Pacific coastal population.

[77] The Dec 7, 1999 designation was remanded & partially vacated by the US District Court for the District of Oregon on July 2, 2003.

[78] The Jun 29, 2010 proposed rule reinstates that portion of the Dec 5, 2002 proposed rule concerning the listing of the plover as threatened. It doesn't reinstate the portion of the rule regarding a special rule under section 4(d) of the ESA.

[79] Current taxonomy is *Sternula antillarum browni*

[80] Federal: *Brachyramphus marmoratus marmoratus* with a proposal (7-31-08) to change the name to *Brachyramphus marmoratus*.

[81] Proposed rule to revise the previously designated Critical Habitat.

[82] The Fish and Game Commission determined that Xantus's murrelet should be listed as a Threatened species February 24, 2004. As part of the normal listing process, this decision was reviewed by the Office of Administrative Law. The listing became effective on Dec 22, 2004.

[83] Current taxonomy: Gilded flicker (*Colaptes chrysoides*).

[84] State listing includes all subspecies.

[85] On May 11, 2001 the 10th Circuit Court of Appeals vacated the previously designated Critical Habitat

[86] Due to court order the previously designated critical habitat was vacated and the USFWS was directed to re-propose critical habitat.

	LISTING STATUS			CRITICAL HABITAT		RECOVERY PLAN		
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
San Clemente loggerhead shrike *Lanius ludovicianus mearnsi*			FE	8-11-77			Final	1984
Arizona Bell's vireo *Vireo bellii arizonae*	SE	3-17-88						
Least Bell's vireo *Vireo bellii pusillus*	SE	10-02-80	FE	5-02-86	Final	2-02-94	Draft	1998
Inyo California towhee[87] [88] *Pipilo crissalis eremophilus*	SE	10-02-80	FT	8-03-87	Final	8-03-87	Final	1998
San Clemente sage sparrow *Amphispiza belli clementeae*			FT	8-11-77			Final	1984
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	SE	1-10-74						
Santa Barbara song sparrow **(Extinct)**			**delisted**	10-12-83				
Melospiza melodia graminea			FE	6-04-73				
MAMMALS								
Buena Vista Lake shrew *Sorex ornatus relictus*			FE[89]	4-05-02	Final Proposed	2-23-05 8-19-04	Final	1998
Lesser long-nosed bat *Leptonycteris yerbabuenae*			FE	10-31-88			Final	1997
Riparian brush rabbit *Sylvilagus bachmani riparius*	SE	5-29-94	FE	3-24-00			Final	1998
Point Arena mountain beaver *Aplodontia rufa nigra*			FE	12-12-91			Final	1998
San Joaquin antelope squirrel[90] *Ammospermophilus nelsoni*	ST	10-02-80						
Mohave ground squirrel[91] *Spermophilus mohavensis*	ST	6-27-71						
Pacific pocket mouse *Perognathus longimembris pacificus*			FE	9-26-94			Final	1998
Morro Bay kangaroo rat *Dipodomys heermanni morroensis*	SE	6-27-71	FE	10-13-70	Final	8-11-77	Draft revision Final	2000 1982
Giant kangaroo rat *Dipodomys ingens*	SE	10-02-80	FE	1-05-87			Final	1998
Stephens' kangaroo rat *Dipodomys stephensi*[92]	ST	6-27-71	FE	9-30-88				
San Bernardino kangaroo rat *Dipodomys merriami parvus*			FE[93]	9-24-98	Final[94] Final	11-17-08 5-23-02		
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	SE	6-11-89	FE	7-08-88			Final	1998
Fresno kangaroo rat	**SE**	10-02-80	FE	3-01-85	Final	1-30-85	Final	1998
Dipodomys nitratoides exilis	SR	6-27-71						

[87] Federal: Inyo California (=brown) towhee.
[88] Current taxonomy is *Melozone crissalis eremophilus*
[89] Federal: Buena Vista Lake ornate shrew
[90] Current taxonomy: Nelson's antelope squirrel
[91] Current taxonomy: Xerospermophilus mohavensis
[92] Federal: includes *Dipodomys cascus.*
[93] Federal: San Bernardino Merriam's kangaroo rat
[94] This final revised designation constitutes a reduction of approximately 25,516 acres from the 2002 designation of Critical Habitat.

	LISTING STATUS				CRITICAL HABITAT		RECOVERY PLAN	
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
Salt-marsh harvest mouse *Reithrodontomys raviventris*	SE	6-27-71	FE	10-13-70			Final	1984
Amargosa vole *Microtus californicus scirpensis*	SE	10-02-80	FE	11-15-84	Final	11-15-84	Final	1997
Riparian woodrat *Neotoma fuscipes riparia*			FE[95]	3-24-00			Final	1998
Sierra Nevada red fox *Vulpes vulpes necator*	ST	10-02-80						
San Joaquin kit fox *Vulpes macrotis mutica*	ST	6-27-71	FE	3-11-67			Final	1998
Island fox *Urocyon littoralis*	ST[96]	6-27-71						
San Miguel Island Fox *Urocyon littoralis littoralis*	(ST)		FE	4-05-04	Final[97] (none) Proposed[98]	12-09-05 10-07-04		
Santa Rosa Island Fox *Urocyon littoralis santarosa*	(ST)		FE	4-05-04	Final 97 (none) Proposed 98	12-09-05 10-07-04		
Santa Cruz Island Fox *Urocyon littoralis santacruzae*	(ST)		FE	4-05-04	Final 97 (none) Proposed 98	12-09-05 10-07-04		
Santa Catalina Island Fox *Urocyon littoralis catalinae*	(ST)		FE	4-05-04	Final 97 (none) Proposed 98	12-09-05 10-07-04		
Guadalupe fur seal *Arctocephalus townsendi*	ST	6-27-71	**FT** FE	1-15-86 3-11-67			Draft (revised)	2007
Stellar (=northern) sea lion *Eumetopias jubatus*			FT	4-05-90	Final	3-23-99	Revised Final	2008 1992
Wolverine *Gulo gulo*	ST	6-27-71						
Southern sea otter *Enhydra lutris nereis*			FT	1-14-77			Revised Final	2003 1981
Pacific fisher *Martes pennanti(pacifica)* DPS	SCT or SCE[99]	Listing Not warranted						
Gray whale **(Recovered)** *Eschrichtius robustus*			delisted FE	6-15-94 6-02-70				
Sei whale *Balaenoptera borealis*			FE	6-02-70				

[95] Federal: Riparian (=San Joaquin Valley) woodrat

[96] State listing includes all 6 subspecies on all 6 islands. Federal listing is for only 4 subspecies on 4 islands

[97] The USFWS did not find any habitat on the 4 islands occupied by the foxes that meets the definition of Critical Habitat under the Act. Therefore, the final rule does not designate any Critical Habitat

[98] The USFWS did not find any habitat on the 4 islands occupied by the foxes that meets the definition of Critical Habitat under the Act. Therefore, the proposal is that zero Critical Habitat be designated.

[99] The Fish and Game Commission notice of finding states that the Pacific fisher is a candidate for listing as either an endangered or a threatened species. At the June 23, 2010 meeting the Commission determined that the listing was not warranted.

	LISTING STATUS				CRITICAL HABITAT		RECOVERY PLAN	
	State	List Date	Federal	Effective List Date	Designation	Effective Date	Version	Date
Blue whale *Balaenoptera musculus*			FE	6-02-70			Final	1998
Fin whale *Balaenoptera physalus*			FE	6-02-70			Draft	2006
Humpback whale[100] *Megaptera novaeangliae*			FE	6-02-70			Final	1991
Right whale[101] *Eubalaena japonica*[102]			FE	6-02-70			Final	1991
Sperm whale *Physeter macrocephalus*			FE	6-02-70			Draft	2006
Killer whale (Southern resident DPS) *Orcinus orca*			FE[103] FE	4-04-07 2-16-06 12-22-04			Final	2008
California (=Sierra Nevada) bighorn sheep *Ovis canadensis californiana*[104]	**SE** ST	8-27-99 6-27-71	FE	1-03-00	Final Proposed	9-04-08 7-25-07	Final Draft	2008 2003
Peninsular bighorn sheep DPS[105] *Ovis canadensis cremnobates*	ST	6-27-71	FE	3-18-98	Final Proposed (Revised) Final	5-14-09 10-10-07 3-05-01	Final	2000

[100] Also known as Hump-backed whale.

[101] Also known as Black right whale.

[102] The scientific name was clarified in the Federal Register Vol. 68, No. 69 April 10, 2003.

[103] The killer whale was listed as endangered by the NMFS on Feb 16, 2006 and by the USFWS on Apr 4, 2007.

[104] Current & Federal taxonomy: Sierra Nevada bighorn sheep (*Ovis canadensis sierrae)*

[105] Current taxonomy: the subspecies *O.c. cremnobates* has been synonymized with *O.c. nelsoni.* Peninsular bighorn sheep are now considered to be a Distinct Vertebrate Population Segment (DPS).

State of California
The Resources Agency
DEPARTMENT OF FISH AND GAME
Resource Management and Planning Division
Biogeographic Data Branch
California Natural Diversity Database

STATE AND FEDERALLY LISTED ENDANGERED, THREATENED, AND RARE PLANTS OF CALIFORNIA

October 2012

Designations and Subtotals for each Designation:

	Designations:	Subtotals:
SE	State-listed endangered	134
ST	State-listed threatened	22
SR	State-listed rare	64
SC	State candidate for listing	0
FE	Federally listed endangered	139
FT	Federally listed threatened	47
FPE	Federally proposed endangered	0
FPT	Federally proposed threatened	0
	Both State and Federally listed	125

State listing is pursuant to §1904 (Native Plant Protection Act of 1977) and §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals. Federal listing is pursuant with the Federal Endangered Species Act of 1973, as amended. For information regarding plant conservation, contact the Habitat Conservation Planning Branch, 1416 Ninth Street, Sacramento, CA 95814, phone (916) 653-9767, or the nearest Department of Fish and Game office. For information on this list, contact CNDDB's Information Services at (916) 324-3812. Scientific and common names for State-listed plants are listed in Title 14, §670.2. Scientific or common names in parentheses are the most scientifically accepted nomenclature but have yet to be officially adopted into the California Code of Regulations, Title 14, Division 1, §670.2.

State Designated Plants	**Classification**			
	State	**List Date**	**Federal**	**List Date**
Acanthomintha duttonii San Mateo thorn-mint	SE	Jul 1979	FE	Sep 18,1985
Acanthomintha ilicifolia San Diego thorn-mint	SE	Jan 1982	FT	Oct 13,1998
Agrostis blasdalei var. *marinensis* *(=Agrostis blasdalei)* Marin bent grass		Delisted April 2008.		
Allium munzii Munz's onion	ST	Jan 1990	FE	Oct 13,1998
Allium yosemitense Yosemite onion	SR	Jul 1982		

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Alopecurus aequalis var. *sonomensis* Sonoma alopecurus			FE	Oct 22,1997
Ambrosia pumila San Diego ambrosia			FE	July 2, 2002
Amsinckia grandiflora large-flowered fiddleneck	SE	Apr 1982	FE	May 08,1985
Arabis hoffmannii Hoffmann's rock cress			FE	Jul 31,1997
Arabis macdonaldiana McDonald's rock cress	SE	Jul 1979	FE	Sep 28,1978
Arctostaphylos bakeri (=*A. b.* ssp. *bakeri* and *A. b.* ssp. *sublaevis*) Baker's manzanita	SR	Sep 1979		
Arctostaphylos confertiflora Santa Rosa Island manzanita			FE	Jul 31,1997
Arctostaphylos densiflora Vine Hill manzanita	SE	Aug 1981		
Arctostaphylos edmundsii var. *parvifolia* Hanging Gardens manzanita		Delisted April 2008		
Arctostaphylos glandulosa ssp. *crassifolia* Del Mar manzanita			FE	Oct 07,1996
Arctostaphylos hookeri ssp. *hearstiorum* Hearst's manzanita	SE	Sep 1979		
Arctostaphylos hookeri ssp. *ravenii* Presidio manzanita	SE	Nov 1978	FE	Oct 26,1979
Arctostaphylos imbricata San Bruno Mountain manzanita	SE	Sep 1979		
Arctostaphylos morroensis Morro manzanita			FT	Dec 15,1994
Arctostaphylos myrtifolia Ione manzanita			FT	May 26,1999
Arctostaphylos pacifica Pacific manzanita	SE	Sep 1979		
Arctostaphylos pallida pallid manzanita	SE	Nov 1979	FT	Apr 22,1998
Arenaria paludicola marsh sandwort	SE	Feb 1990	FE	Aug 03,1993
Arenaria ursina Big Bear Valley sandwort			FT	Sep 14,1998
Astragalus agnicidus Humboldt milk-vetch	SE	Apr 1982		
Astragalus albens Cushenbury milk-vetch			FE	Aug 24,1994

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Astragalus brauntonii Braunton's milk-vetch			FE	Jan 29,1997
Astragalus claranus (= *A. clarianus*) Clara Hunt's milk-vetch	ST	Jan 1990	FE	Oct 22,1997
Astragalus jaegerianus Lane Mountain milk-vetch			FE	Oct 06,1998
Astragalus johannis-howellii Long Valley milk-vetch	SR	Jul 1982		
Astragalus lentiginosus var. *coachellae* Coachella Valley milk-vetch			FE	Oct 06,1998
Astragalus lentiginosus var. *piscinensis* Fish Slough milk-vetch			FT	Oct 06,1998
Astragalus lentiginosus var. *sesquimetralis* Sodaville milk-vetch	SE	Sep 1979		
Astragalus magdalenae var. *peirsonii* Peirson's milk-vetch	SE	Nov 1979	FT	Oct 06,1998
Astragalus monoensis (= *A. monoensis* var. *monoensis*) Mono milk-vetch	SR	Jul 1982		
Astragalus pycnostachyus var. *lanosissimus* Ventura Marsh milk-vetch	SE	Apr 2000	FE	May 21,2001
Astragalus tener var. *titi* coastal dunes milk-vetch	SE	Feb 1982	FE	Aug 12,1998
Astragalus traskiae Trask's milk-vetch	SR	Nov 1979		
Astragalus tricarinatus triple-ribbed milk-vetch			FE	Oct 06,1998
Atriplex coronata var. *notatior* San Jacinto Valley crownscale			FE	Oct 13,1998
Atriplex tularensis Bakersfield smallscale	SE	Jan 1987		
Baccharis vanessae Encinitas baccharis	SE	Jan 1987	FT	Oct 07,1996
Bensoniella oregona bensoniella	SR	Jul 1982		
Berberis nevinii Nevin's barberry	SE	Jan 1987	FE	Oct 13,1998
Berberis pinnata ssp. *insularis* island barberry	SE	Nov 1979	FE	Jul 31,1997
Blennosperma bakeri Sonoma sunshine	SE	Feb 1992	FE	Dec 02,1991
Blennosperma nanum var. *robustum* Point Reyes blennosperma	SR	Nov 1978		
Bloomeria humilis dwarf goldenstar	SR	Nov 1978		
Brodiaea coronaria ssp. *rosea* Indian Valley brodiaea	SE	Sep 1979		

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Brodiaea filifolia thread-leaved brodiaea	SE	Jan 1982	FT	Oct 13,1998
Brodiaea insignis Kaweah brodiaea	SE	Nov 1979		
Brodiaea pallida Chinese Camp brodiaea	SE	Nov 1978	FT	Sep 14,1998
Calamagrostis foliosa leafy reed grass	SR	Nov 1979		
Calochortus dunnii Dunn's mariposa lily	SR	Nov 1979		
Calochortus persistens Siskiyou mariposa lily	SR	Jul 1982		
Calochortus tiburonensis Tiburon mariposa lily	ST	May 1987	FT	Feb 03,1995
Calyptridium pulchellum Mariposa pussypaws			FT	Sep 14,1998
Calystegia stebbinsii Stebbins's morning-glory	SE	Aug 1981	FE	Oct 18,1996
Camissonia benitensis San Benito evening-primrose			FT	Feb 12,1985
Carex albida white sedge	SE	Nov 1979	FE	Oct 22,1997
Carex tompkinsii Tompkins's sedge	SR	Nov 1979		
Carpenteria californica tree-anemone	ST	Jan 1990		
Castilleja affinis ssp. *neglecta* Tiburon Indian paintbrush	ST	Jan 1990	FE	Feb 03, 1995
Castilleja campestris ssp. *succulenta* succulent owl's-clover	SE	Sep 1979	FT	Mar 26,1997
Castilleja cinerea ash-gray Indian paintbrush			FT	Sep 14,1998
Castilleja gleasonii Mt. Gleason Indian paintbrush	SR	Jul 1982		
Castilleja grisea San Clemente Island Indian paintbrush	SE	Apr 1982	FE	Aug 11,1977

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Castilleja mollis soft-leaved Indian paintbrush			FE	Jul 31,1997
Castilleja uliginosa Pitkin Marsh Indian paintbrush	SE	Nov 1978		
Caulanthus californicus California jewel-flower	SE	Jan 1987	FE	Jul 19,1990
Caulanthus stenocarpus slender-pod jewel-flower		Delisted April 2008		
Ceanothus ferrisae coyote ceanothus			FE	Feb 03,1995
Ceanothus hearstiorum Hearst's ceanothus	SR	Aug 1981		
Ceanothus maritimus maritime ceanothus	SR	Nov 1978		
Ceanothus masonii Mason's ceanothus	SR	Nov 1978		
Ceanothus ophiochilus Vail Lake ceanothus	SE	Jan 1994	FT	Oct 13,1998
Ceanothus roderickii Pine Hill ceanothus	SR	Jul 1982	FE	Oct 18,1996
Cercocarpus traskiae Catalina Island mountain-mahogany	SE	Apr 1982	FE	Aug 08,1997
Chamaesyce hooveri Hoover's spurge			FT	Mar 26,1997
Chlorogalum purpureum var. *purpureum*[1] purple amole			FT	Mar 20,2000
Chlorogalum purpureum var. *reductum*[2] Camatta Canyon amole	SR	Nov 1978	FT	Mar 20,2000
Chorizanthe howellii Howell's spineflower	ST	Jan 1987	FE	Jun 22,1992
Chorizanthe orcuttiana Orcutt's spineflower	SE	Nov 1979	FE	Oct 07,1996

[1] The U.S. Fish & Wildlife Service listed the entire species, *Chlorogalum purpureum*.

[2] The U.S. Fish & Wildlife Service listed the entire species, *Chlorogalum purpureum*.

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Chorizanthe parryi var. *fernandina* San Fernando Valley spineflower	SE	Aug 2001		
Chorizanthe pungens var. *hartwegiana* Ben Lomond spineflower			FE	Feb 04,1994
Chorizanthe pungens var. *pungens* Monterey spineflower			FT	Feb 04,1994
Chorizanthe robusta (includes vars. *hartwegii* and *robusta*) robust spineflower			FE	Feb 04,1994
Chorizanthe valida Sonoma spineflower	SE	Jan 1990	FE	Jun 22,1992
Cirsium ciliolatum Ashland thistle	SE	Sep 1982		
Cirsium fontinale var. *fontinale* fountain thistle	SE	Jul 1979	FE	Feb 03,1995
Cirsium fontinale var. *obispoense* Chorro Creek bog thistle	SE	Jun 1993	FE	Dec 15,1994
Cirsium hydrophilum var. *hydrophilum* Suisun thistle			FE	Nov 20,1997
Cirsium loncholepis La Graciosa thistle	ST	Feb 1990	FE	Mar 20,2000
Cirsium rhothophilum surf thistle	ST	Feb 1990		
Clarkia franciscana Presidio clarkia	SE	Nov 1978	FE	Feb 03,1995
Clarkia imbricata Vine Hill clarkia	SE	Nov 1978	FE	Oct 22,1997
Clarkia lingulata Merced clarkia	SE	Jan 1989		
Clarkia speciosa ssp. *immaculata* Pismo clarkia	SR	Nov 1978	FE	Dec 15,1994
Clarkia springvillensis Springville clarkia	SE	Sep 1979	FT	Sep 14,1998
Cordylanthus maritimus ssp. *maritimus* salt marsh bird's-beak	SE	Jul 1979	FE	Sep 28,1978
Cordylanthus mollis ssp. *mollis* soft bird's-beak	SR	Jul 1979	FE	Nov 20,1997
Cordylanthus nidularius Mt. Diablo bird's-beak	SR	Nov 1978		
Cordylanthus palmatus palmate-bracted bird's-beak	SE	May 1984	FE	Jul 01, 1986
Cordylanthus rigidus ssp. *littoralis* seaside bird's-beak	SE	Jan 1982		

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Cordylanthus tenuis ssp. *capillaris* Pennell's bird's-beak	SR	Nov 1978	FE	Feb 03,1995
Croton wigginsii Wiggins' croton	SR	Jan 1982		
Cryptantha roosiorum bristlecone cryptantha	SR	Jul 1982		
Cupressus abramsiana (= Callitropsis abramsiana) Santa Cruz cypress	SE	Nov 1979	FE	Jan 08,1987
Cupressus goveniana ssp. *goveniana* *(=Callitropsis goveniana)* Gowen cypress			FT	Aug 12,1998
Dedeckera eurekensis July gold	SR	Nov 1978		
Deinandra arida (*=Hemizonia arida*) Red Rock tarplant	SR	Jul 1982		
Deinandra conjugens (*=Hemizonia conjugens*) Otay tarplant	SE	Nov 1979	FT	Oct 13,1998
Deinandra increscens ssp. *villosa*(*=Hemizonia increscens* ssp. *villosa*) Gaviota tarplant	SE	Jan 1990	FE	Mar 20,2000
Deinandra minthornii (*= Hemizonia minthornii*) Santa Susana tarplant	SR	Nov 1978		
Deinandra mohavensis (*= Hemizonia mohavensis*) Mojave tarplant	SE	Aug 1981		
Delphinium bakeri Baker's larkspur	SE	April 2007	FE	Jan 26,2000
Delphinium hesperium ssp. *cuyamacae* Cuyamaca larkspur	SR	Jul 1982		
Delphinium luteum yellow larkspur	SR	Sep 1979	FE	Jan 26,2000
Delphinium variegatum ssp. *kinkiense* San Clemente Island larkspur	SE	Sep 1979	FE	Aug 11,1977
Dichanthelium lanuginosum var. *thermale* Geysers dichanthelium	SE	Sep 1978		
Dieteria asteroides var. *lagunensis* Mount Laguna aster (= *Machaeranthera asteroides* var. *lagunensis*)	SR	Sep 1979		
Dithyrea maritima beach spectaclepod	ST	Feb 1990		
Dodecahema leptoceras slender-horned spineflower	SE	Jan 1982	FE	Sep 28,1987
Downingia concolor var. *brevior* Cuyamaca Lake downingia	SE	Feb 1982		

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Dudleya abramsii ssp. *parva* (=*D. parva*) Conejo dudleya			FT	Jan 29,1997
Dudleya brevifolia (=*D. blochmaniae* ssp. *brevifolia*) short-leaved dudleya	SE	Jan 1982		
Dudleya cymosa ssp. *agourensis* [3] Santa Monica Mtns. dudleya			FT	Jan 29, 1997
Dudleya cymosa ssp. *marcescens* marcescent dudleya	SR	Nov 1978	FT	Jan 29,1997
Dudleya cymosa ssp. *ovatifolia* Santa Monica Mountains dudleya			FT	Jan 29,1997
Dudleya nesiotica Santa Cruz Island dudleya	SR	Nov 1979	FT	Jul 31,1997
Dudleya setchellii Santa Clara Valley dudleya			FE	Feb 03,1995
Dudleya stolonifera Laguna Beach dudleya	ST	Jan 1987	FT	Oct 13,1998
Dudleya traskiae Santa Barbara Island dudleya	SE	Nov 1979	FE	Apr 26,1978
Dudleya verityi Verity's dudleya			FT	Jan 29,1997
Enceliopsis nudicaulis var. *corrugata* Ash Meadows daisy			FT	May 20,1985
Eremalche kernensis Kern mallow			FE	Jul 19,1990
Eriastrum densifolium ssp. *sanctorum* Santa Ana River woollystar	SE	Jan 1987	FE	Sep 28,1987
Eriastrum hooveri Hoover's woolly-star			Delisted	Oct 7,2003
Eriastrum tracyi Tracy's eriastrum	SR	Jul 1982		
Erigeron parishii Parish's daisy			FT	Aug 24,1994
Eriodictyon altissimum Indian Knob mountainbalm	SE	Jul 1979	FE	Dec 15,1994
Eriodictyon capitatum Lompoc yerba santa	SR	Sep 1979	FE	Mar 20,2000

[3] The U.S. Fish & Wildlife Service has listed the more encompassing *Dudleya cymosa* ssp. *ovatifolia* from which ssp. *agourensis* was split.

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Eriogonum alpinum Trinity buckwheat	SE	Jul 1979		
Eriogonum apricum var. *apricum*[4] Ione buckwheat	SE	Aug 1981	FE	May 26,1999
Eriogonum apricum var. *prostratum*[5] Irish Hill buckwheat	SE	Jan 1987	FE	May 26,1999
Eriogonum butterworthianum Butterworth's buckwheat	SR	Nov 1979		
Eriogonum crocatum Conejo buckwheat	SR	Sep 1979		
Eriogonum giganteum var. *compactum* Santa Barbara Island buckwheat	SR	Nov 1979		
Eriogonum grande ssp. *timorum* (= Eriogonum grande var. timorum) San Nicolas Island buckwheat	SE	Nov 1979		
Eriogonum kelloggii Kellogg's buckwheat	SE	Apr 1982		
Eriogonum kennedyi var. *austromontanum* southern mountain buckwheat			FT	Sep 14,1978
Eriogonum ovalifolium var. *vineum* Cushenbury buckwheat			FE	Aug 24,1994
Eriogonum thornei (= *E. ericifolium* var. *thornei*) Thorne's buckwheat	SE	Nov 1979		
Eriogonum twisselmannii Twisselmann's buckwheat	SR	Jul 1982		
Eriophyllum congdonii Congdon's woolly sunflower	SR	Jul 1982		
Eriophyllum latilobum San Mateo woolly sunflower	SE	Jun 1992	FE	Feb 03,1995
Eryngium aristulatum var. *parishii* San Diego button-celery	SE	Jul 1979	FE	Aug 03,1993
Eryngium constancei Loch Lomond button-celery	SE	Jan 1987	FE	Dec 23,1986
Eryngium racemosum Delta button-celery	SE	Aug 1981		
Erysimum capitatum var. *angustatum* Contra Costa wallflower	SE	Nov 1978	FE	Apr 26,1978

[4] The U.S. Fish & Wildlife Service has listed *Eriogonum apricum* as the species, which includes both rare varieties.

[5] The U.S. Fish & Wildlife Service has listed *Eriogonum apricum* as the species, which includes both rare varieties.

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Erysimum menziesii[6] Menzies' wallflower	SE	Sep 1984	FE	Jun 22,1992
Erysimum teretifolium Santa Cruz wallflower	SE	Aug 1981	FE	Feb 04,1994
Fremontodendron decumbens Pine Hill flannelbush	SR	Jul 1979	FE	Oct 18,1996
Fremontodendron mexicanum Mexican flannelbush	SR	Jul 1982	FE	Oct 13,1998
Fritillaria gentneri Gentner's fritillary			FE	Dec 10,1999
Fritillaria roderickii Roderick's fritillary	SE	Nov 1979		
Fritillaria striata striped adobe-lily	ST	Jan 1987		
Galium angustifolium ssp. *borregoense* Borrego bedstraw	SR	Sep 1979		
Galium buxifolium box bedstraw	SR	Nov 1979	FE	Jul 31,1997
Galium californicum ssp. *sierrae* El Dorado bedstraw	SR	Nov 1979	FE	Oct 18,1996
Galium catalinense ssp. *acrispum* San Clemente Island bedstraw	SE	Apr 1982		
Gilia tenuiflora ssp. arenaria sand gilia	ST	Jan 1987	FE	Jun 22,1992
Gilia tenuiflora ssp. hoffmannii Hoffmann's slender-flowered gilia			FE	Jul 31,1997
Gratiola heterosepala Boggs Lake hedge-hyssop	SE	Nov 1978		
Grindelia fraxino-pratensis Ash Meadows gumplant			FT	May 20,1985
Hazardia orcuttii Orcutt's hazardia	ST	Aug 2002		
Helianthemum greenei island rush-rose			FT	Jul 31,1997
Helianthus niveus ssp. *tephrodes* Algodones Dunes sunflower	SE	Nov 1979		
Hesperolinon congestum Marin western flax	ST	Jun 1992	FT	Feb 03,1995

[6] The U.S. Fish & Wildlife Service separately listed all as endangered, *E. menziesii* ssp. *eurekense*, *E. menziesii* ssp. *menziesii*, and *E. menziesii* ssp. *yadonii*.

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Hesperolinon didymocarpum Lake County western flax	SE	Aug 1981		
Holmgrenanthe petrophila (= *Maurandya petrophila*) rock lady	SR	Jul 1982		
Holocarpha macradenia Santa Cruz tarplant	SE	Sep 1979	FT	Mar 20,2000
Howellia aquatilis water howellia			FT	Jul 14,1994
Ivesia callida Tahquitz ivesia	SR	Jul 1982		
Lasthenia burkei Burke's goldfields	SE	Sep 1979	FE	Dec 02,1991
Lasthenia conjugens Contra Costa goldfields			FE	Jun 18,1997
Layia carnosa beach layia	SE	Jan 1990	FE	Jun 22,1992
Lembertia congdonii (=*Monolopia congdonii*) San Joaquin woollythreads			FE	Jul 19,1990
Lesquerella kingii ssp. *bernardina* San Bernardino Mountains bladderpod			FE	Aug 24,1994
Lessingia germanorum San Francisco lessingia	SE	Jan 1990	FE	Jun 19,1997
Lewisia congdonii Congdon's lewisia	SR	Jul 1982		
Lilaeopsis masonii Mason's lilaeopsis	SR	Nov 1979		
Lilium occidentale western lily	SE	Jan 1982	FE	Aug 17,1994
Lilium pardalinum ssp. *pitkinense* Pitkin Marsh lily	SE	Nov 1978	FE	Oct 22,1997
Limnanthes bakeri Baker's meadowfoam	SR	Nov 1978		
Limnanthes douglasii var. *sulphurea* (=*Limnanthes douglasii ssp. sulphurea)* Point Reyes meadowfoam	SE	Apr 1982		
Limnanthes floccosa ssp. *californica* Butte County meadowfoam	SE	Feb 1982	FE	Jun 08,1992
Limnanthes gracilis var. *parishii* (=*Limnanthes gracilis ssp. parishii)* Parish's meadowfoam	SE	Jul 1979		
Limnanthes vinculans Sebastopol meadowfoam	SE	Nov 1979	FE	Dec 02,1991

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Lithophragma maximum San Clemente Island woodland star	SE	Feb 1982	FE	Aug 08,1997
Lotus argophyllus var. *adsurgens* San Clemente Island bird's-foot trefoil	SE	Nov 1979		
Lotus argophyllus var. *niveus* Santa Cruz Island bird's-foot trefoil	SE	Aug 1981		
Lotus dendroideus var. *traskiae* San Clemente Island lotus	SE	Apr 1982	FE	Aug 11,1977
Lupinus citrinus var. *deflexus* Mariposa lupine	ST	Jan 1990		
Lupinus milo-bakeri Milo Baker's lupine	ST	Jan 1987		
Lupinus nipomensis Nipomo Mesa lupine	SE	Jan 1987	FE	Mar 20,2000
Lupinus padre-crowleyi Father Crowley's lupine	SR	Aug 1981		
Lupinus tidestromii var. *tidestromii* (*=L. tidestromii*) Tidestrom's lupine	SE	Jan 1987	FE	Jun 22,1992
Machaeranthera lagunensis (see *Dieteria asteroides* var. *lagunensis*)				
Mahonia sonnei (*= Berberis sonnei*) Truckee barberry		Delisted April 2008	Delisted	Oct 1,2003
Malacothamnus clementinus San Clemente Island bush mallow	SE	Feb 1982	FE	Aug 11,1977
Malacothamnus fasciculatus var. *nesioticus* Santa Cruz Island bush mallow	SE	Nov 1979	FE	Jul 31,1997
Malacothrix indecora Santa Cruz Island malacothrix			FE	Jul 31,1997
Malacothrix squalida island malacothrix			FE	Jul 31,1997
Monardella linoides ssp. *viminea* (*=M. viminea*) willowy monardella	SE	Nov 1979	FE	Oct 13,1998
Nasturtium gambellii (*= Rorippa gambellii*) Gambel's water cress	ST	Feb 1990	FE	Aug 03,1993
Navarretia fossalis spreading navarretia			FT	Oct 13,1998
Navarretia leucocephala ssp. *pauciflora* few-flowered navarretia	ST	Jan 1990	FE	Jun 18,1997

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Navarretia leucocephala ssp. *plieantha* many-flowered navarretia	SE	Nov 1979	FE	Jun 18,1997
Nemacladus twisselmannii Twisselmann's nemacladus	SR	Jul 1982		
Neostapfia colusana Colusa grass	SE	Nov 1979	FT	Mar 26,1997
Nitrophila mohavensis Amargosa nitrophila	SE	Nov 1979	FE	May 20,1985
Nolina interrata Dehesa nolina	SE	Nov 1979		
Oenothera californica ssp. *eurekensis* Eureka Dunes evening-primrose	SR	Nov 1978	FE	Apr 26,1978
Oenothera deltoides ssp. *howellii* Antioch Dunes evening-primrose	SE	Nov 1978	FE	Apr 26,1978
Opuntia basilaris var. *treleasei* Bakersfield cactus	SE	Jan 1990	FE	Jul 19,1990
Orcuttia californica California Orcutt grass	SE	Sep 1979	FE	Aug 03,1993
Orcuttia inaequalis San Joaquin Valley Orcutt grass	SE	Sep 1979	FT	Mar 26,1997
Orcuttia pilosa hairy Orcutt grass	SE	Sep 1979	FE	Mar 26,1997
Orcuttia tenuis slender Orcutt grass	SE	Sep 1979	FT	Mar 26,1997
Orcuttia viscida Sacramento Orcutt grass	SE	Jul 1979	FE	Mar 26,1997
Ornithostaphylos oppositifolia Baja California birdbush	SE	Apr 2001		
Oxytheca parishii var. *goodmaniana* *(=Acanthoscyphus parishii var. goodmaniana* Cushenbury oxytheca			FE	Aug 24,1994
Packera ganderi (= *Senecio ganderi*) Gander's ragwort	SR	Jul 1982		
Packera layneae (= *Senecio layneae*) Layne's ragwort	SR	Nov 1979	FT	Oct 18,1996
Parvisedum leiocarpum (=*Sedella leiocarpa*) Lake County stonecrop	SE	Jan 1990	FE	Jun 18,1997
Pedicularis dudleyi Dudley's lousewort	SR	Sep 1979		
Pentachaeta bellidiflora white-rayed pentachaeta	SE	Jun 1992	FE	Feb 03,1995
Pentachaeta lyonii Lyon's pentachaeta	SE	Jan 1990	FE	Jan 29,1997
Phacelia insularis ssp. *insularis* northern Channel Islands phacelia			FE	Jul 31,1997

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Phlox hirsuta Yreka phlox	SE	Jan 1987	FE	Feb 3,2000
Piperia yadonii Yadon's rein orchid			FE	Aug 12,1998
Plagiobothrys diffusus San Francisco popcorn-flower	SE	Sep 1979		
Plagiobothrys strictus Calistoga popcorn-flower	ST	Jan 1990	FE	Oct 22,1997
Pleuropogon hooverianus North Coast semaphore grass	ST	Dec 2002		
Poa atropurpurea San Bernardino blue grass			FE	Sep 14,1998
Poa napensis Napa blue grass	SE	Jul 1979	FE	Oct 22,1997
Pogogyne abramsii San Diego mesa mint	SE	Jul 1979	FE	Sep 28,1978
Pogogyne clareana Santa Lucia mint	SE	Nov 1979		
Pogogyne nudiuscula Otay Mesa mint	SE	Jan 1987	FE	Aug 03,1993
Polygonum hickmanii Scott's Valley polygonum	SE	May 2005	FE	Apr 8,2003
Potentilla hickmanii Hickman's cinquefoil	SE	Sep 1979	FE	Aug 12,1998
Pseudobahia bahiifolia Hartweg's golden sunburst	SE	Aug 1981	FE	Feb 06,1997
Pseudobahia peirsonii San Joaquin adobe sunburst	SE	Jan 1987	FT	Feb 06,1997
Rorippa subumbellata Tahoe yellow cress	SE	Apr 1982		
Rosa minutifolia small-leaved rose	SE	Oct 1989		
Sanicula maritima adobe sanicle	SR	Aug 1981		
Sanicula saxatilis rock sanicle	SR	Jul 1982		
Sedella leiocarpa (= *Parvisedum leiocarpum*) Lake County stonecrop	SE	Jan 1990	FE	Jun 18,1997
Senecio ganderi (see *Packera ganderi*)				
Senecio layneae (=*Packera layneae*)				
Sibara filifolia Santa Cruz Island rock cress			FE	Aug 08,1997
Sidalcea covillei Owens Valley checkerbloom	SE	Jul 1979		

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Sidalcea hickmanii ssp. *anomala* Cuesta Pass checkerbloom	SR	Nov 1979		
Sidalcea hickmanii ssp. *parishii* Parish's checkerbloom	SR	Nov 1979	Removed as FC, 2006 Fed. Register	
Sidalcea keckii Keck's checker-mallow			FE	Feb 16,2000
Sidalcea oregana ssp. *valida* Kenwood Marsh checkerbloom	SE	Jan 1982	FE	Oct 22,1997
Sidalcea pedata bird-foot checkerbloom	SE	Jan 1982	FE	Aug 31,1984
Sidalcea stipularis Scadden Flat checkerbloom	SE	Jan 1982		
Silene campanulata ssp. *campanulata* Red Mountain catchfly	SE	Apr 1982		
Streptanthus albidus ssp. *albidus* Metcalf Canyon jewel-flower			FE	Feb 03,1995
Streptanthus niger Tiburon jewel-flower	SE	Feb 1990	FE	Feb 03,1995
Suaeda californica California seablite			FE	Dec 15,1994
Swallenia alexandrae Eureka Valley dune grass	SR	Aug 1981	FE	Apr 26,1978
Taraxacum californicum California dandelion			FE	Sep 14,1998
Thelypodium stenopetalum slender-petaled thelypodium	SE	Feb 1982	FE	Aug 31,1984
Thermopsis macrophylla var. *angina* (=*T. macrophylla*) Santa Ynez false lupine	SR	Aug 1981		
Thlaspi californicum Kneeland Prairie penny-cress			FE	Feb 9,2000
Thysanocarpus conchuliferus Santa Cruz Island fringepod			FE	Jul 31,1997
Trichostema austromontanum ssp. *compactum* Hidden Lake bluecurls			FT	Sep 14,1998
Trifolium amoenum showy Indian clover			FE	Oct 22,1997
Trifolium polyodon Pacific Grove clover	SR	Sep 1979		
Trifolium trichocalyx Monterey clover	SE	Nov 1979	FE	Aug 12,1998
Tuctoria greenei Greene's tuctoria	SR	Sep 1979	FE	Mar 26,1997
Tuctoria mucronata Crampton's tuctoria	SE	Jul 1979	FE	Sep 28,1978
Verbena californica California vervain	ST	Aug 1994	FT	Sep 14,1998

State Designated Plants	Classification			
	State	List Date	Federal	List Date
Verbesina dissita Big-leaved crownbeard	ST	Jan 1990	FT	Oct 07,1996

APPENDIX D
AIR QUALITY CALCULATIONS

CALCULATION SHEET-COMBUSTION EMISSIONS-CONSTRUCTION

Assumptions for Combustion Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	2	300	8	130	624000
Diesel Road Compactors	1	100	8	15	12000
Diesel Dump Truck	2	300	8	130	624000
Diesel Excavator	2	300	8	60	288000
Diesel Hole Trenchers	1	175	8	15	21000
Diesel Bore/Drill Rigs	0	300	8	60	0
Diesel Cement & Mortar Mixers	1	300	8	60	144000
Diesel Cranes	0	175	8	130	0
Diesel Graders	3	300	8	15	108000
Diesel Tractors/Loaders/Backhoes	1	100	8	90	72000
Diesel Bull Dozers	2	300	8	15	72000
Diesel Front End Loaders	2	300	8	30	144000
Diesel Fork Lifts	1	100	8	130	104000
Diesel Generator Set	2	40	8	130	83200

Emission Factors[1]							
Type of Construction Equipment	VOC g/hp-hr	CO g/hp-hr	NOx g/hp-hr	PM-10 g/hp-hr	PM-2.5 g/hp-hr	SO2 g/hp-hr	CO2 g/hp-hr
Water Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Road Compactors	0.370	1.480	4.900	0.340	0.330	0.740	536.200
Diesel Dump Truck	0.440	2.070	5.490	0.410	0.400	0.740	536.000
Diesel Excavator	0.340	1.300	4.600	0.320	0.310	0.740	536.300
Diesel Trenchers	0.510	2.440	5.810	0.460	0.440	0.740	535.800
Diesel Bore/Drill Rigs	0.600	2.290	7.150	0.500	0.490	0.730	529.700
Diesel Cement & Mortar Mixers	0.610	2.320	7.280	0.480	0.470	0.730	529.700
Diesel Cranes	0.440	1.300	5.720	0.340	0.330	0.730	530.200
Diesel Graders	0.350	1.360	4.730	0.330	0.320	0.740	536.300
Diesel Tractors/Loaders/Backhoes	1.850	8.210	7.220	1.370	1.330	0.950	691.100
Diesel Bull Dozers	0.360	1.380	4.760	0.330	0.320	0.740	536.300
Diesel Front End Loaders	0.380	1.550	5.000	0.350	0.340	0.740	536.200
Diesel Fork Lifts	1.980	7.760	8.560	1.390	1.350	0.950	690.800
Diesel Generator Set	1.210	3.760	5.970	0.730	0.710	0.810	587.300

CALCULATION SHEET-COMBUSTION EMISSIONS-CONSTRUCTION

1. Emission factors (EF) were generated using USEPA's preferred model for nonroad sources, the NONROAD2008 model. Emmisions were modeled for the 2007 calendar year. The VOC EFs includes exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2008 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2008 model is based on the population in U.S. for the 2007 calendar year.

Emission Calculations							
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO2 tons/yr	CO2 tons/yr
Water Truck	0.303	1.423	3.775	0.282	0.275	0.509	368.579
Diesel Road Paver	0.005	0.020	0.065	0.004	0.004	0.010	7.091
Diesel Dump Truck	0.303	1.423	3.775	0.282	0.275	0.509	368.579
Diesel Excavator	0.108	0.413	1.460	0.102	0.098	0.235	170.209
Diesel Hole Cleaners\Trenchers	0.012	0.056	0.134	0.011	0.010	0.017	12.399
Diesel Bore/Drill Rigs	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Cement & Mortar Mixers	0.097	0.368	1.155	0.076	0.075	0.116	84.057
Diesel Cranes	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Graders	0.042	0.162	0.563	0.039	0.038	0.088	63.828
Diesel Tractors/Loaders/Backhoes	0.147	0.651	0.573	0.109	0.106	0.075	54.835
Diesel Bull Dozers	0.029	0.109	0.378	0.026	0.025	0.059	42.552
Diesel Front End Loaders	0.060	0.246	0.793	0.056	0.054	0.117	85.089
Diesel Aerial Lifts	0.227	0.889	0.981	0.159	0.155	0.109	79.171
Diesel Generator Set	0.111	0.345	0.547	0.067	0.065	0.074	53.847
Total Emissions	**1.442**	**6.106**	**14.200**	**1.213**	**1.180**	**1.918**	**1390.237**

Conversion factors	
Grams to tons	1.102E-06

MOVES2010a MODEL ON-ROAD TRANSPORTATION AIR EMISSIONS-
DELIVERY MATERIALS AND COMMUTING DURING CONSTRUCTION ACTIVITIES

MOVES 2010a					
Source	**Fuel type**	**Number of vehicles**	**Miles traveled per day**	**Days of travel per year**	**Miles traveled per year**
Passenger cars	Gasoline	20	60	260	312,000
Passenger truck	Gasoline	20	60	260	312,000
Light commercial truck	Diesel	2	60	260	31,200
Short-haul truck	Diesel	4	130	260	135,200
Long-haul truck	Diesel	1	130	260	33,800

Emission Factors (MOVES 2010a Emission Rates)[1]							
Source	**VOC (g/mile)**	**CO (g/mile)**	**NOx (g/mile)**	**PM-10 (g/mile)**	**PM-2.5 (g/mile)**	**SO_2 (g/mile)**	**CO2 and CO2 Equivalents (g/mile)**
Passenger cars	8.497	2.892	0.576	0.019	0.018	0.005	320
Passenger truck	3.645	5.449	1.168	0.027	0.025	0.007	439
Light commercial truck	4.460	2.158	2.986	0.164	0.190	0.005	609
Short-haul truck	2.438	2.273	6.095	0.270	0.313	0.007	929
Long-haul truck	2.519	3.610	14.776	0.625	0.726	0.016	2,020

Total Emission for On-Road Construction Activities (tons/year)							
Source	**VOC**	**CO**	**NOx**	**PM-10**	**PM-2.5**	**SO_2**	**CO2 and CO2 Equivalents**
Passenger cars	2.921	0.994	0.198	0.007	0.006	0.002	110
Passenger truck	1.253	1.873	0.402	0.009	0.009	0.002	151
Light commercial truck	0.153	0.074	0.103	0.006	0.007	0.000	21
Short-haul truck	0.363	0.339	0.908	0.040	0.047	0.001	138
Long-haul truck	0.094	0.134	0.550	0.023	0.027	0.001	75
Total	**4.785**	**3.415**	**2.161**	**0.085**	**0.095**	**0.006**	**496**

Key:

Short-haul trucks catagory include trucks such as dump trucks and cement trucks.
Long-haul trucks category includes trucks such as semi-trailer (18 wheeler).

1. Emission factors were generated by USEPA prefered model MOVES2010a. MOVES simulates daily motor vehicle operations and produces emission rates. MOVES emission rates include sources from engine combustion, tire wear, brake wear, evaporative fuel permiation, vapor venting and leaking (running and parking), and crankcase loss. Emission rates are daily averages for each of the criteria pollutants. The averages from a comination of vehicle operations such as: stop and go, highway travel, acceleration at on-ramps, parking, start-up, extended idle, etc.

MOVES2010a MODEL ON-ROAD TRANSPORTATION AIR EMISSIONS- ONGOING OPERATIONS

MOVES 2010a					
Source	**Fuel type**	**Number of vehicles**	**Miles traveled per day**	**Days of travel per year**	**Miles traveled per year**
Passenger cars	Gasoline	-	0	365	-
Passenger truck	Gasoline	-	0	365	-
Light commercial truck	Diesel	-	0	365	-
Short-haul truck	Diesel	-	0	365	-
Long-haul truck	Diesel	-	0	365	-

Emission Factors (MOVES 2010a Emission Rates)[1]							
Source	**VOC (g/mile)**	**CO (g/mile)**	**NOx (g/mile)**	**PM-10 (g/mile)**	**PM-2.5 (g/mile)**	**SO_2 (g/mile)**	**CO2 and CO2 Equivalents (g/mile)**
Passenger cars	8.497	2.892	0.576	0.019	0.018	0.005	320
Passenger truck	3.645	5.449	1.168	0.027	0.025	0.007	439
Light commercial truck	4.460	2.158	2.986	0.164	0.190	0.005	609
Short-haul truck	2.438	2.273	6.095	0.270	0.313	0.007	929
Long-haul truck	2.519	3.610	14.776	0.625	0.726	0.016	2,020

Total Emission for On-Road Commuter Activities (tons/year)							
Source	**VOC**	**CO**	**NOx**	**PM-10**	**PM-2.5**	**SO_2**	**CO2 and CO2 Equivalents**
Passenger cars	0.00	0.00	0.00	0.00	0.00	0.00	-
Passenger truck	0.00	0.00	0.00	0.00	0.00	0.00	-
Light commercial truck	0.00	0.00	0.00	0.00	0.00	0.00	-
Short-haul truck	0.00	0.00	0.00	0.00	0.00	0.00	-
Long-haul truck	0.00	0.00	0.00	0.00	0.00	0.00	-
Total	0.00	0.00	0.00	0.00	0.00	0.00	-

Key:

Short-haul trucks catagory include trucks such as dump trucks and cement trucks.

Long-haul trucks category includes trucks such as semi-trailer (18 wheeler).

1. Emission factors were generated by USEPA prefered model MOVES2010a. MOVES simulates daily motor vehicle operations and produces emission rates. MOVES emission rates include sources from engine combustion, tire wear, brake wear, evaporative fuel permiation, vapor venting and leaking (running and parking), and crankcase loss. Emission rates are daily averages for each of the criteria pollutants. The averages from a comination of vehicle operations such as: stop and go, highway travel, acceleration at on-ramps, parking, start-up, extended idle, etc.

CALCULATION SHEET-FUGITIVE DUST-CONSTRUCTION

Assumptions for Combustion Emissions

Construction Fugitive Dust Emission Factors

	Emission Factor	Units	Source
General Construction Activities	0.19	ton PM10/acre-month	MRI 1996; EPA 2001; EPA 2006
New Road Construction	0.42	ton PM10/acre-month	MRI 1996; EPA 2001; EPA 2006

PM2.5 Emissions

PM2.5 Multiplier	0.10	(10% of PM10 emissions assumed to be PM2.5)	EPA 2001; EPA 2006
Control Efficiency	0.50	(assume 50% control efficiency for PM10 and PM2.5 emissions)	EPA 2001; EPA 2006

Project Assumptions

Construction Area (0.19 ton PM10/acre-month)

			Conversion Factors	
Duration of Soil Disturbance in Proje	8	months	0.000022957	acres per feet
Length	2	miles	5280	feet per mile
Length (converted)	10560	feet		
Width	24	feet		
Area	5.82	acres		

Staging Areas

Duration of Construction Project	8	months
Length		miles
Length (converted)		feet
Width		feet
Area	2.00	acres

	Project Emissions (tons/year)			
	PM10 uncontrolled	PM10 controlled	PM2.5 uncontrolled	PM2.5 controlled
Construction Area (0.19 ton PM10/ac	8.84	4.42	0.88	0.44
Staging Areas	0.38	0.19	0.04	0.02
Total	**9.22**	**4.61**	**0.92**	**0.46**

References:

USEPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999.* EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.

USEPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants.* Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.

MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1).* Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

Assumptions for Fugitive Emissions

General Construction Activities Emission Factor

0.19 ton PM10/acre-month Source: MRI 1996; EPA 2001; EPA 2006

The area-based emission factor for construction activities is based on a study completed by the Midwest Research Institute (MRI) Improvement of Specific Emission Factors (BACM Project No. 1), March 29, 1996. The MRI study evaluated seven construction projects in Nevada and California (Las Vegas, Coachella Valley, South Coast Air Basin, and the San Joaquin Valley). The study determined an average emission factor of 0.11 ton PM10/acre-month for sites without large-scale cut/fill operations. A worst-case emission factor of 0.42 ton PM10/acre-month was calculated for sites with active large-scale earth moving operations. The monthly emission factors are based on 168 work-hours per month (MRI 1996). A subsequent MRI Report in 1999, Estimating Particulate Matter Emissions from Construction Operations, calculated the 0.19 ton PM10/acre-month emission factor by applying 25% of the large-scale earthmoving emission factor (0.42 ton PM10/acre-month) and 75% of the average emission factor (0.11 ton PM10/acre-month).

The 0.19 ton PM10/acre-month emission factor is referenced by the EPA for non-residential construction activities in recent procedures documents for the National Emission Inventory (EPA 2001; EPA 2006). The 0.19 ton PM10/acre-month emission factor represents a refinement of EPA's original AP-42 area-based total suspended particle (TSP) emission factor in Section 13.2.3 Heavy Construction Operations. In addition to the EPA, this methodology is also supported by the South Coast Air Quality Management District and the Western Regional Air Partnership (WRAP) which is funded by the EPA and is administered jointly by the Western Governor's Association and the National Tribal Environmental Council. The emission factor is assumed to encompass a variety of non-residential construction activities including building construction (commercial, industrial, institutional, governmental), public works, and travel on unpaved roads. The EPA National Emission Inventory documentation assumes that the emission factors are uncontrolled and recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas.

New Road Construction Emission Factor

0.42 ton PM10/acre-month Source: MRI 1996; EPA 2001; EPA 2006

The emission factor for new road construction is based on the worst-case conditions emission factor from the MRI 1996 study described above (0.42 tons PM10/acre-month). It is assumed that road construction involves extensive earthmoving and heavy construction vehicle travel resulting in emissions that are higher than other general construction projects. The 0.42 ton PM10/acre-month emission factor for road construction is referenced in recent procedures documents for the EPA National Emission Inventory (EPA 2001; EPA 2006).

PM2.5 Multiplier **0.10**

PM2.5 emissions are estimated by applying a particle size multiplier of 0.10 to PM10 emissions. This methodology is consistent with the procedures documents for the National Emission Inventory (EPA 2006).

Control Efficiency for PM10 and PM2.5 **0.50**

The EPA National Emission Inventory documentation recommends a control efficiency of 50% for PM10 and PM2.5 in PM nonattainment areas. Wetting controls will be applied during project construction (EPA 2006).

References:

EPA 2001. *Procedures Document for National Emissions Inventory, Criteria Air Pollutants, 1985-1999.* EPA-454/R-01-006. Office of Air Quality Planning and Standards, United States Environmental Protection Agency. March 2001.

EPA 2006. *Documentation for the Final 2002 Nonpoint Sector (Feb 06 version) National Emission Inventory for Criteria and Hazardous Air Pollutants.* Prepared for: Emissions Inventory and Analysis Group (C339-02) Air Quality Assessment Division Office of Air Quality Planning and Standards, United States Environmental Protection Agency. July 2006.

MRI 1996. *Improvement of Specific Emission Factors (BACM Project No. 1).* Midwest Research Institute (MRI). Prepared for the California South Coast Air Quality Management District, March 29, 1996.

CALCULATION SHEET-SUMMARY OF EMISSIONS

Assumptions for Combustion Emissions									
Emission Source	VOC	CO	NOx	PM-10	PM-2.5	SO2	CO2	CO2 Equivalents	Total CO2
Combustion Emissions	1.44	6.11	14.20	1.21	1.18	1.92	1390.24	4,452	5,843
Construction Site-Fugitive PM-10	NA	NA	NA	4.61	0.46	NA	NA	NA	NA
Construction Workers Commuter & Trucking	4.78	3.42	2.16	0.08	0.09	0.01	NA	496	496
Total emissions-CONSTRUCTION	**6.23**	**9.52**	**16.36**	**5.91**	**1.74**	**1.92**	**1390**	**4,948**	**6,338**
De minimis Threshold (1)	100	100	100	70	100	100	NA	NA	25,000

1. Note that Imperial County is in non-attainment for Ozone, PM-10 (serious), and PM 2.5 (USEPA 2010b and CARB 2012).

Carbon Equivalents	Conversion Factor
N2O or NOx	311
Methane or VOCs	25

Source: EPA 2010 Reference, Tables and Conversions, Inventory of U.S. Greenhouse Gas Emissions and Sinks; http://www.epa.gov/climatechange/emissions/usinventoryreport.html