



FINAL

**ENVIRONMENTAL STEWARDSHIP PLAN
FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE
OF TACTICAL INFRASTRUCTURE
U.S. Border Patrol San Diego Sector,
El Cajon, Campo, and Boulevard Stations, California**

**U.S. Department of Homeland Security
U.S. Customs and Border Protection
U.S. Border Patrol**



July 2008

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TACTICAL INFRASTRUCTURE
U.S. BORDER PATROL, SAN DIEGO SECTOR,
EL CAJON, CAMPO, AND BOULEVARD STATIONS, CALIFORNIA**

July 2008

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COVER SHEET

FINAL ENVIRONMENTAL STEWARDSHIP PLAN FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF TACTICAL INFRASTRUCTURE U.S. BORDER PATROL SAN DIEGO SECTOR, EL CAJON, CAMPO, AND BOULEVARD STATIONS, CALIFORNIA

Responsible Agencies: U.S. Department of Homeland Security (DHS), U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP).

Affected Location: U.S./Mexico international border in San Diego County, California

Project Description: The Planned Action includes the construction, operation, and maintenance of tactical infrastructure (TI) to include approximately 10.2 miles of primary pedestrian fence and 5.2 miles of associated patrol and access roads along the U.S./Mexico international border within the USBP San Diego Sector, California. The Planned Project will be implemented in 12 discrete sections in east San Diego County, California.

Report Designation: Final Environmental Stewardship Plan (ESP).

Abstract: CBP plans to construct, maintain, and operate approximately 10.2 miles of TI along the U.S./Mexico international border in San Diego County, California. Individual sections would range from approximately 0.1 to 2 miles in length. Most of the construction would be within the 60-foot wide Roosevelt Reservation, located on public lands managed by the U.S. Bureau of Land Management (BLM). However, some of the new road construction would extend beyond the Roosevelt Reservation and affect additional Federal and private lands.

This ESP analyzes and documents environmental consequences associated with the Planned Action.

The public may obtain additional copies of the ESP from the project Web site at www.BorderFencePlanning.com; by emailing information@BorderFencePlanning.com; or by written request to Mr. Loren Flossman, Program Manager, SBI Tactical Infrastructure, 1300 Pennsylvania Ave, NW, Washington, DC 20229, Tel: (877) 752-0420, Fax: (703) 752-7754.

EXECUTIVE SUMMARY

BACKGROUND

United States (U.S.) Customs and Border Protection (CBP) will construct, operate, and maintain approximately 5.2 miles of new roads and 10.2 miles of primary pedestrian fence along the U.S./Mexico international border in eastern San Diego County, California. In addition, approximately 5.1 miles of existing primary vehicle barrier will be converted to primary pedestrian fence, and are included in the total of 10.2 miles. The Planned Action will be primarily restricted to the 60-foot-wide Roosevelt Reservation, which consists of public lands managed by the U.S. Bureau of Land Management (BLM). However, some of the new road construction will extend beyond the Roosevelt Reservation and affect additional Federal and private lands.

In Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), Congress mandated that the U.S. Department of Homeland Security (DHS) install fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes certain priority miles of fencing in areas most practical and effective in deterring illegal entry and smuggling into the United States. Congress has mandated that these priority miles be completed by December 2008. To that end, DHS plans to complete 370 miles of pedestrian fencing and 300 miles of vehicle fencing along the southwestern border by the end of 2008. As of March 21, 2008, 201 miles of primary pedestrian fence and 140 miles of vehicle fence remained to be constructed to meet the December 2008 deadline. These efforts support the CBP mission to prevent terrorists and terrorist weapons from entering the U.S., while also facilitating the flow of legitimate trade and travel.

On April 1, 2008, the Secretary of DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain laws that were an impediment to the expeditious construction of tactical infrastructure along the southwestern border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment.

Although the Secretary has exercised the authority vested in him by Congress, DHS and CBP remain committed to building tactical infrastructure in an environmentally responsible manner. In support of this commitment, CBP will continue to work in a collaborative manner with local government, state and Federal land managers, and the interested public to identify and minimize the impact to environmentally sensitive resources.

CBP is performing an environmental review of the fencing projects and will publish the results of this analysis in Environmental Stewardship Plans (ESPs), including mitigation and Best Management Practices (BMPs) developed to minimize adverse effects to the

environment. These ESPs will be developed for each USBP Sector scheduled for tactical infrastructure improvements, and will address each segment of pedestrian and vehicle fencing covered by the waiver.

Goals and Objectives of the Planned Action

The goal of the project is to increase border security within the USBP San Diego Sector with an ultimate objective of reducing illegal cross-border activity. The project further meets the objectives of the Congressional direction in the Fiscal Year (FY) 2007 DHS Appropriations Act (Public Law [P.L.] 109-295), Border Security Fencing, Infrastructure, and Technology appropriation to install fencing, infrastructure, and technology along the border.

The USBP San Diego Sector identified 12 distinct areas along the border that experience high levels of illegal cross-border activity. This activity occurs in areas near POEs where concentrated populations might live on either side of the border, contain thick vegetation that can provide concealment or have quick access to U.S. transportation routes. The Planned Action will help to deter illegal entries within the USBP San Diego Sector by improving enforcement efficiency, thus preventing terrorists and terrorist weapons, illegal aliens, drugs, and other cross border violators and contraband from entering the U.S., while providing a more safe work environment for USBP agents.

Planned Action

CBP will construct and maintain approximately 5.2 miles of new roads and 10.2 miles of primary pedestrian fence along the U.S./Mexico international border in eastern San Diego County, California. Some of these activities occur in the same location. Most of the construction will occur within the 60-foot-wide Roosevelt Reservation, which are public lands managed by the BLM. However, some of the new road construction (approximately 1.4 miles) will extend beyond the Roosevelt Reservation and affect additional Federal and private lands. In addition, approximately 5.1 miles of existing primary vehicle barrier will be converted to primary pedestrian fence, and are included in the total of 10.2 miles.

Routine maintenance of the roads will be conducted as needed to maintain the driving surface following construction. Maintenance will consist of grading and leveling the road surface, applying road surface material where appropriate, and applying a soil stabilizer if needed. Repairs and maintenance of the primary pedestrian fence will occur on an as-needed basis.

In addition, nine staging areas (temporary impact areas) will be used to accommodate construction equipment and stockpile materials during the construction activities. Temporary construction areas will be located in previously disturbed areas to the greatest extent practicable. Upon completion of construction activities, the temporary construction areas (i.e., staging areas) will be rehabilitated. Rehabilitation will include natural regeneration, planting with native species, and/or the distribution of dead plant (i.e., woody plant skeletons) and geologic (i.e., rocks and boulders) materials.

Numerous existing access roads will be used during the construction period to provide construction vehicles and equipment access between public highways and the border. However, none of these existing access roads will require additional improvements (i.e., straightening, widening, and drainage structures). The roads will be brought back to pre-project conditions once the construction is complete.

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION

Table ES-1 provides an overview of potential environmental impacts by specific resource areas. Chapters 3 through 12 of this ESP address these impacts in more detail. CBP followed specially developed design criteria to reduce adverse environmental impacts, and will implement mitigation measures to further reduce or offset adverse environmental impacts. Design criteria to reduce adverse environmental impacts include selecting a route that will minimize impacts, consulting with Federal and state agencies and other stakeholders to avoid or minimize adverse environmental impacts within operational needs, and developing appropriate BMPs to protect natural and cultural resources. Potential effects, including physical disturbance and construction of solid barriers on wetlands, riparian areas, streambeds, and floodplains, will be avoided or mitigated whenever possible. BMPs will include implementation of a Storm Water Pollution Prevention Plan (SWPPP), Construction Mitigation and Restoration (CM&R) Plan, Spill Prevention Control and Countermeasures Plan (SPCCP), Dust Control Plan, Fire Prevention and Suppression Plan, and Unanticipated Discovery Plan to protect natural and cultural resources.

Table ES-1. Summary of Anticipated Environmental Impacts

Resource Area	Effects of the Planned Action	Best Management Practices/Mitigation
Air Quality	Minor and temporary impact on air quality will occur during construction; air emissions will remain below <i>de minimis</i> levels.	Dust Control Plan. Maintain equipment according to specifications.
Noise	Minor temporary increases to ambient noise during construction activities will occur.	Equipment will be operated on an as-needed basis. A majority of the activities will occur away from population centers. Blasting Plan.
Land Use, Recreation, and Aesthetics	Land use within the Roosevelt Reservation will remain a Federal law enforcement zone, which is consistent with a Memorandum of Understanding between DHS and Department of the Interior (DOI). Approximately 21 acres of privately-owned land will be used for USBP activities. Negotiations are ongoing with private land owners, and they will be compensated at fair market value for any lands acquired. There will be a minor permanent impact on visual resources. Beneficial effects, such as reduced vandalism, habitat degradation, debris left by IAs, and wildfires will be expected.	No mitigation needed.
Soils	Negligible to minor impact on soils.	Dust Control Plan and SWPPP.
Hydrology and Groundwater	A temporary and one-time water usage will use 15 acre-feet of water. There will be a negligible to minor impact on the availability of water in the region. Grading and contouring will result in short-term minor adverse impacts.	SPCCP and CM&R plans.
Surface Waters and Waters of the United States	Minor and temporary impact on surface water resources from sedimentation and erosion caused by construction. Surface runoff potential will result in short-term minor adverse impacts on wetlands. Washes, wetlands, and other waters of the U.S. will be adversely impacted by construction.	Mitigate for 0.08 acres of wetlands impacts. SWPPP.
Vegetation Resources	Negligible to minor impact on vegetation communities, since vast amounts of similar communities occur adjacent to the project corridor.	Biological monitor on site during construction to ensure all BMPs and mitigation plans are followed.
Wildlife and Aquatic Resources	Fragmentation of wildlife habitat will occur, although the effect is expected to be minimal due to urban development, gaps in the infrastructure, and other disturbances. Beneficial impact on wildlife populations is anticipated as a result of protecting habitat from IA traffic.	Construction start-date to consider migratory birds. Survey of nesting migratory birds. Use of bollard style fence will minimize fragmentation effects for small animals.
Threatened and Endangered Species	Quino checkerspot butterfly and coastal California gnatcatcher will likely be adversely affected due to loss of habitat.	Implement BMPs and other mitigation for Quino checkerspot butterfly and coastal California gnatcatcher. See Appendix B.
Cultural Resources	No impacts will be expected.	Buffers consisting of fences around border monuments will be used.
Hazardous Waste	No impacts will be expected	SPCCP and CM&R plans.

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SECTION 1.0
GENERAL PROJECT DESCRIPTION

1.0 GENERAL PROJECT DESCRIPTION

1.1 INTRODUCTION TO THE ENVIRONMENTAL STEWARDSHIP PLAN

In Section 102(b) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), Congress mandated that the United States (U.S.) Department of Homeland Security (DHS) install fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwestern border. This total includes certain priority miles of fencing in areas most practical and effective in deterring illegal entry and smuggling into the U.S. Congress has mandated that these priority miles be completed by December 2008. To that end, DHS plans to complete 370 miles of pedestrian fencing and 300 miles of vehicle fencing along the southwestern border by the end of 2008. As of March 21, 2008, 201 miles of primary pedestrian fence and 140 miles of vehicle fence remained to be constructed to meet the December 2008 deadline. These efforts support the U.S. Customs and Border Protection (CBP) mission to prevent terrorists and terrorist weapons from entering the U.S., while also facilitating the flow of legitimate trade and travel.

On April 1, 2008, the Secretary of DHS, pursuant to his authority under Section 102(c) of IIRIRA, exercised his authority to waive certain laws that were an impediment to the expeditious construction of tactical infrastructure along the southwestern border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under these laws, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP strongly supports this objective and remains committed to being a good steward of the environment. A copy of the waiver is included as Appendix A.

In support of its commitment to environmental stewardship, CBP will continue to work in a collaborative manner with local government, state and Federal land managers, and the interested public to identify environmentally sensitive resources and develop appropriate best management practices (BMPs) to avoid or minimize adverse impacts resulting from the fencing projects.

CBP is conducting an environmental review of the fencing projects and will publish the results of this analysis in Environmental Stewardship Plans (ESPs), including mitigation and BMPs developed to minimize adverse effects to the environment. These ESPs will be developed for each U.S. Border Patrol (USBP) Sector scheduled for tactical infrastructure improvements, and will address each segment of pedestrian and vehicle fencing covered by a waiver.

The project area covered by this ESP has been determined to be an area of high illegal entry into the U.S., and the project area has been designated by the Secretary of DHS as an area of critical border tactical infrastructure (TI). As such, the project area is designated as an area where completion of border TI must be accomplished in an expeditious manner, and the Secretary of DHS has waived compliance with all Federal,

state, or other laws, regulations and legal requirements necessary for the completion of the TI (i.e., the Planned Action). This ESP is prepared in order to evaluate impacts of the Planned Action on natural and human resources in the project corridor, and to assist CBP and USBP in conserving critical resources during construction and operation of the TI being installed. This ESP is designed in a format that identifies each affected resource and evaluates potential impacts to each resource. This ESP was not prepared to comply with specific laws or regulations; rather it is a planning and guidance tool to assist CBP to accomplish construction in a manner that will minimize adverse impacts to the extent possible.

The Planned Action will be located adjacent to numerous TI components that were previously described in the document *Final Environmental Assessment for Various Road Improvements from Canyon City to the Imperial County Line, San Diego County, California, March 2003*, by DHS. Therefore, much of the information contained in the DHS 2003 Environmental Assessment (EA) will be incorporated by reference into this ESP.

Some resources within the Planned Action's region of influence (ROI), which is San Diego County, California, are not addressed in this ESP because they are not relevant to the analyses. The resources that are not addressed, and the reasons for eliminating them are:

- Utilities: The Planned Action will not affect any public utilities.
- Communications: The Planned Action will not affect communications systems in the area.
- Climate: The Planned Action will not affect nor be affected by the climate.
- Wild and Scenic Rivers: The Planned Action will not affect any designated Wild and Scenic Rivers because no rivers designated as such are located within or near the project corridor.
- Sustainability and Greening: Executive Order (EO) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (January 24, 2007) promotes environmental practices, including acquisition of bio-based products, environmentally preferable, energy-efficient, water-efficient, and recycled-content products, and maintenance of cost-effective waste prevention and recycling programs in their facilities. The Planned Action will use minimal amounts of resources during construction and maintenance and there will be minimal changes in USBP operations. Therefore, the Planned Action would have negligible impact on sustainability and greening.
- Human Health and Safety: Construction site safety is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and implementation of operational practices that reduce risks of illness, injury, death, and property damage. The Occupational Safety and Health Administration (OSHA) and U.S. Environmental Protection

Agency (EPA) issue standards that specify the amount and type of training required for industrial workers, the use of protective equipment and clothing, engineering controls, and maximum exposure limits with respect to workplace stressors.

Construction workers at any of the construction sites will be exposed to safety risks from the inherent dangers of construction sites. Contractors will be required to establish and maintain safety programs at the construction site. The Planned Action will not expose members of the general public to increased safety risks. Therefore, because the Planned Action will not introduce new or unusual safety risks, and assuming carefully followed construction protocols, detailed examination of safety is not included in this ESP.

1.2 USBP BACKGROUND

The mission of CBP is to prevent terrorists and terrorist weapons from entering the U.S., while also facilitating the flow of legitimate trade and travel. In supporting CBP's mission, USBP is charged with establishing and maintaining effective control of the U.S. border. USBP's mission strategy consists of five main objectives:

- Establish the requisite substantial probability of apprehending terrorists and their weapons as they attempt to enter illegally between the ports of entry (POEs).
- Deter illegal entries through improved enforcement.
- Detect, apprehend, and deter smugglers of humans, drugs, and other contraband.
- Leverage "smart border" technology to multiply the effect of enforcement personnel.
- Reduce crime in border communities and consequently improve quality of life and economic vitality of targeted areas.

USBP has nine administrative sectors along the U.S./Mexico international border. Each sector is responsible for implementing an optimal combination of personnel, technology, and infrastructure appropriate to its operational requirements. The San Diego Sector is responsible for San Diego County in California. The areas affected by the Planned Action include the southeastern portion of San Diego County.

1.3 GOALS AND OBJECTIVES OF THE PLANNED ACTION

The goal of the project is to increase border security within the USBP San Diego Sector with an ultimate objective of reducing illegal cross-border activity. The project further meets the objectives of the Congressional direction in the Fiscal Year (FY) 2007 DHS Appropriations Act (Public Law [P.L.] 109-295), Border Security Fencing, Infrastructure,

and Technology appropriation to install fencing, infrastructure, and technology along the border.

The USBP San Diego Sector identified 12 distinct areas along the border that experience high levels of illegal cross-border activity. This activity occurs in areas near POEs where concentrated populations might live on either side of the border, contain thick vegetation that can provide concealment or have quick access to U.S. transportation routes. The Planned Action will provide USBP agents with the tools necessary to strengthen their control of the U.S. borders between POEs in the USBP San Diego Sector. The Planned Action will help to deter illegal entries within the USBP San Diego Sector by improving enforcement, preventing terrorists and terrorist weapons from entering the U.S., reducing the flow of illegal drugs and other contraband, and enhancing response times, while providing a safer work environment for USBP agents.

1.4 STAKEHOLDER AND PUBLIC OUTREACH

Prior to the waiver discussed above, CBP prepared an environmental assessment (EA) and draft Finding of No Significant Impact (FONSI) to address the potential effects of the Planned Action. A Notice of Availability (NOA) for the draft EA and FONSI was published in the *San Diego Tribune* on 7 January 2008, announcing the release of documents for a 30-day public comment period. In addition, a public meeting was conducted in Alpine, California on 16 January 2008. This was done to solicit comments on the Planned Action and involve the local community in the decision-making process.

Although the Secretary of DHS issued the waiver, and thus, CBP has no responsibilities under the National Environmental Policy Act (NEPA) for this project, CBP reviewed, considered, and incorporated comments received from the public and other Federal, state, and local agencies, as appropriate, during the preparation of this ESP. Results of previous public and agency coordination efforts will be available at www.BorderFencePlanning.com.

In addition to the past public involvement and outreach program, CBP has continued to coordinate with various Federal agencies during the development of this ESP. These agencies are described in the following paragraphs.

U.S. Section, International Boundary and Water Commission (USIBWC) - CBP has coordinated with USIBWC to ensure that any construction along the international border does not adversely affect International Boundary Monuments or substantially impede floodwater conveyance within international drainages.

U.S. Army Corps of Engineers (USACE), Los Angeles District - CBP has coordinated all activities with USACE to identify potential jurisdictional Waters of the U.S., including wetlands, and to develop measures to avoid, minimize or compensate for losses to these resources.

U.S. Fish and Wildlife Service (USFWS) - CBP has coordinated extensively with USFWS to identify listed species that has the potential to occur in the project area and have cooperated with the USFWS to prepare a Biological Resources Plan (BRP) that presents the analysis of potential effects to listed species and the BMPs proposed to reduce or off-set any adverse impacts. A copy of the BRP is contained in Appendix B.

U.S. Bureau of Land Management (BLM) - CBP has continued to coordinate with BLM, since portions of the fence are planned for construction on BLM lands.

1.5 MITIGATION

It is CBP's policy to reduce impacts through the sequence of avoidance, minimization, mitigation, and finally, compensation. Mitigation efforts vary, and include activities such as restoration of habitat in other areas, acquisition of lands, and implementation of appropriate BMPs.

This section describes those measures that will be implemented to reduce or eliminate potential adverse impacts on the human and natural environment. Many of these measures have been incorporated by USBP as standard operating procedures for past projects. Environmental design measures are presented for each resource category that will be potentially affected. Additionally, all mitigation measures applied to Federal lands will also be extended to privately owned lands, as appropriate.

1.5.1 General Construction Activities

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 following accepted industry guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips. Although a major spill is unlikely to 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, etc.) will be used to absorb and contain the spill. A Spill Prevention, Control, and Countermeasures Plan (SPCCP) will be in place prior to the start of operations, and all personnel will be briefed on the implementation and responsibilities of this plan. All spills will be reported to the designated USBP point of contact for the Project. Furthermore, a spill of any regulated substance in a reportable quantity will be cleaned up and coordinated with the appropriate Federal and state agencies. Reportable quantities of regulated substances will be included as part of a project-specific Spill Prevention, Control and Countermeasures Plan (SPCCP). An SPCCP will be in place prior to the start of construction and all personnel will be briefed on the implementation and responsibilities of this plan. Additionally, all construction activities will follow DHS Management Directive 5100 for waste management.

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

Solid waste receptacles will be maintained at staging areas. 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.

The perimeter of all areas to be disturbed during construction or maintenance activities will be clearly demarcated using flagging or temporary construction fence, and no disturbance outside that perimeter will be authorized. Additionally, construction speed limits will not exceed 35 mph on major unpaved roads (graded with ditches on both sides) and 25 mph on all other unpaved roads.

1.5.2 Air Quality

Mitigation measures will be incorporated to ensure that emissions of particulate matter less than 10 microns in size (PM-10) do not significantly impact the environment. Measures will include dust suppression methods to minimize airborne particulate matter created during construction activities. Standard construction BMPs, such as routine watering of the construction site and access roads, will be used to control fugitive dust during the construction phases of the Planned Action. Additionally, all construction equipment and vehicles will need to be maintained in good operating condition to minimize exhaust emissions.

1.5.3 Noise

During the construction phase, short-term noise impacts are anticipated. All OSHA requirements will be followed by the contractor. The blasting contractor will provide further analysis of blasting techniques and measures to be taken to ensure negligible impacts from the blasting. Construction equipment will possess properly working mufflers and will be properly tuned to reduce backfires.

1.5.4 Soils

Vehicular traffic associated with construction and operational support will remain on established roads. Areas with highly erodible soils will be given special consideration when designing the Planned Action to ensure incorporation of erosion control techniques, such as straw bales (weed seed free), silt fencing, aggregate materials, wetting compounds, and rehabilitation, where possible, to decrease erosion. Rehabilitation will include re-vegetation or the distribution of organic (i.e., cacti skeletons and other woody debris) and geological (i.e., boulders and rocks) materials over the disturbed area to reduce erosion while allowing the area to naturally vegetate. In addition, erosion control measures and appropriate BMPs, described in the Storm Water Pollution Prevention Plan (SWPPP) and engineering designs, will be implemented before, during, and after construction activities.

Road maintenance will avoid, to the extent practicable, making wind rows with the soils once grading activities are completed. Any excess soils will be used on-site to raise and shape the road surface

1.5.5 Water Resources

Standard construction procedures will be implemented to minimize the potential for erosion and sedimentation during construction. All work may cease during heavy rains, and will not resume until conditions are suitable for the movement of equipment and material. All fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment area consisting of an impervious floor and bermed sidewalls capable of holding the volume of the largest container stored therein. The refueling of machinery will be completed following accepted guidelines, and all vehicles will have drip pans during storage to contain minor spills and drips. No refueling or storage will take place within 100 feet of any drainage. Other mitigation measures will be implemented, such as straw bales (weed and seed free), silt fencing, aggregate materials, wetting compounds, and re-vegetation with native plant species, where possible, to decrease erosion and sedimentation. Furthermore, a SWPPP will be completed before construction is initiated.

1.5.6 Biological Resources

Construction equipment will be cleaned using a high-pressure water system prior to entering and departing the project corridor to minimize the spread and establishment of non-native invasive plant species. Soil disturbances in temporary impact areas will be rehabilitated. Rehabilitation includes re-vegetation or the distribution of organic and geological materials over the disturbed area to reduce erosion while allowing the area to naturally revegetate. Rehabilitation methods will be developed in coordination with BLM. However, at a minimum, the rehabilitation plan will include the location of the mitigation areas, the plant species to be used, a planting schedule, measures to control non-native species, specific success criteria, and the party responsible for maintaining and meeting the success criteria. Seeds or plants native to San Diego County and that are compatible with the enhancement of protected species will be used to the extent practicable.

A qualified biologist (i.e., professional biologist with education and training in wildlife biology or ecology) will monitor construction operations to ensure adherence with the BMPs and provide advice to the construction contractor as needed.

To prevent entrapment of wildlife species during emplacement of vertical posts/bollards, all vertical fence posts/bollards that are hollow (i.e., those that will be filled with a reinforcing material such as concrete), shall be covered so as to prevent wildlife from entrapment. Covers will be deployed from the time the posts or hollow bollards are erected to the time they are filled with reinforcing material.

Numerous migratory birds could nest in the project corridor. Since construction or clearing activities cannot be scheduled to avoid the migratory bird nesting season, (typically February 15 through September 15), surveys will be performed to identify active nests. These surveys will occur prior to clearing and grubbing actions. If

construction activities will result in the take of a migratory bird, then appropriate mitigation measures will be implemented to minimize impacts.

During the development of this ESP, USFWS and CBP coordinated on various issues regarding protected species, and developed potential mitigation measures that will be implemented as part of the Planned Action. Below are some examples of mitigation measures to be implemented (see Appendix B for the entire list of measures):

- Prior to construction activities (excluding geotechnical), those patches of dwarf plantain (*Plantago erecta*), and/or other known host plants (*Plantago* spp.); plantain, (*Castilleja exserta*); annual owl's clover, and (*Cordylanthus rigidus*); thread-leaved birdsbeak occurring within and immediately adjacent to the project footprint, will be clearly delineated by a qualified biologist with experience identifying Quino checkerspot butterfly (QCB) (*Euphydryas editha quino*) habitat and familiar with the areas of known QCB activity near the construction corridors.
- No lights for construction purposes will be placed in a manner that will illuminate riparian areas.

1.5.7 Cultural Resources

All construction will be kept within previously surveyed areas. If any cultural material is discovered during the construction efforts, then all activities will halt until a qualified archaeologist assesses the cultural remains. Buffers will be established and delineated with fences around the two historic monuments that lie within the construction corridor in order to prevent any effects on these significant cultural resources. Construction activities near the monuments will be monitored to ensure avoidance.

1.5.8 Hazardous Materials

Refueling of machinery will be allowed only at designated staging areas using a properly located and designated fuel truck equipped with a proper spill containment kit. All vehicles will have drip pans during storage to contain minor spills and drips, in accordance with the SPCCP.

All used oil and solvents will continue to be recycled if possible. All non-recyclable hazardous and regulated wastes will continue to be collected, characterized, labeled, stored, transported, and disposed of in accordance with all Federal, state, and local regulations, including proper waste manifesting procedures. Construction activities planned adjacent to active agricultural areas will be coordinated as much as possible with local farmers to avoid exposure of construction personnel during pesticide or herbicide applications.

SECTION 2.0
DESCRIPTION OF THE PLANNED ACTION

2.0 DESCRIPTION OF THE PLANNED ACTION

The project corridor for this ESP extends from the Tecate POE to the eastern edge of O'Neil Valley, near the San Diego/Imperial County line (Figure 2-1). The project corridor is 100 to 250 feet wide and approximately 30 miles long. However, TI will not be built along the entire corridor. The Planned Action includes 5.2 miles of new roads and 10.2 miles of primary pedestrian fence within 12 discrete segments along the 30-mile corridor in areas that currently do not contain adequate TI. Construction of other tactical infrastructure might be required in the future as mission and operational requirements are continually reassessed. To the extent that additional actions are known, they are discussed in Chapter 13, Related Projects and Potential Effects, of this ESP. Figure 2-2 illustrates the location of the planned TI within the San Diego Sector. Details of the Planned Action are included below in Sections 2.1.1 through 2.1.6, and maps depicting these locations are included in Appendix C.

2.1 PLANNED ACTION

2.1.1 Existing Roads

Approximately 25 miles of existing access roads occur within the project corridor. These existing access roads consist of a myriad of San Diego County, BLM-managed, and privately owned roads, which are currently maintained by the various entities, including USBP, BLM, local and state government private companies, and private land owners. The USBP will use these roads to provide access between public roads (e.g., California Highway 80) and the project corridor. No improvements will be made to these roads; however, they will be returned to pre-construction condition at the completion of construction activities. Returning these roads to pre-construction condition will involve light grading and sloping of the roads.

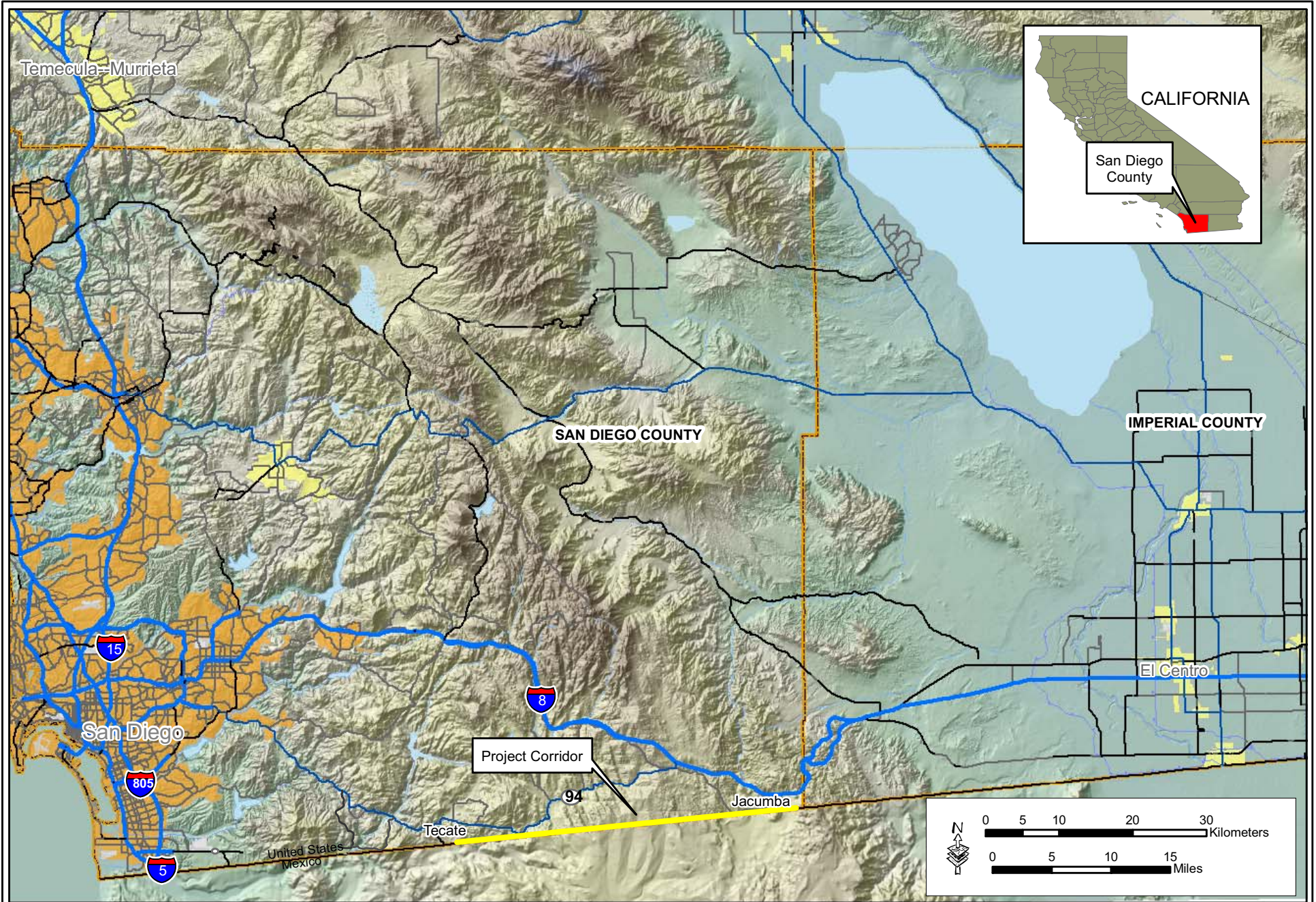


Figure 2-1: Vicinity Map

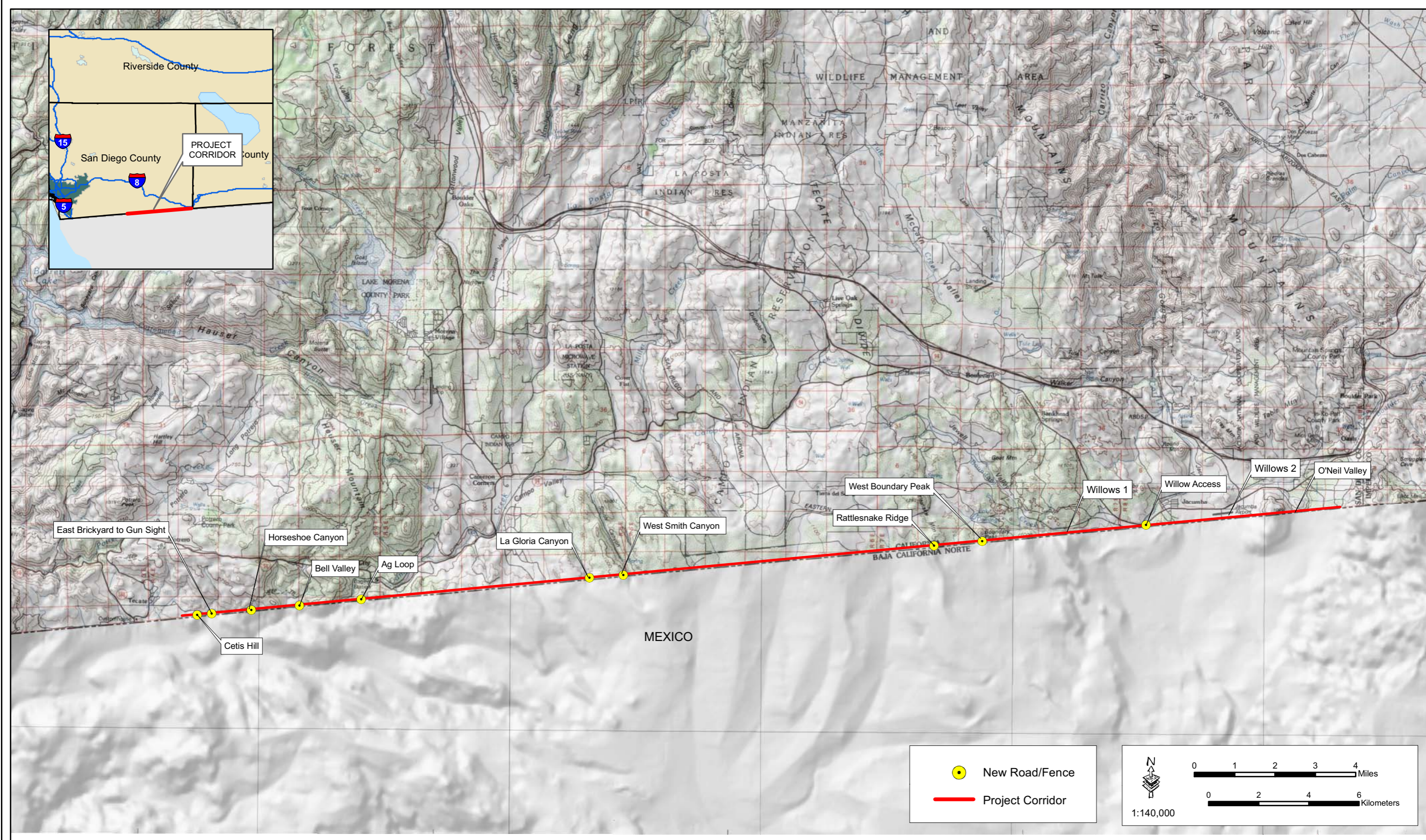


Figure 2-2: Project Location Map

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2.1.2 New Roads

New roads will be constructed at 11 different locations. These locations and the lengths of each road are described in Table 2-1. It should be noted that approximately 1.2 miles of the 5.2 miles of new road to be built will be located outside of the Roosevelt Reservation.

Table 2-1. New Road Construction, by USBP Station

Road Name	Affected Station	Miles	Road Type
Cetis' Hill	El Cajon	0.62	Construction
East Brickyard to Gunsight	El Cajon	0.25	Construction
Horseshoe Canyon	El Cajon	1.27	Construction
Bell Valley	El Cajon	0.18	Patrol
Ag Loop	El Cajon	0.92	Construction
La Gloria	Campo	0.35	Construction
West Smith Canyon	Campo	0.25	Patrol
Rattlesnake Ridge	Campo	1.14	Construction
West Boundary Peak	Campo	0.09	Construction
Willows Access Road	Boulevard	0.08	Access
Total		5.15	

As indicated in Table 2-1, there are three types of roads to be built, based on their intended use. Construction roads are needed to construct additional infrastructure, such as fence or future installation of lights or cameras. These roads are typically 16 to 24 feet wide to allow construction equipment to access the project site. The road is not improved (i.e., no all-weather surface is applied), but can be used for future maintenance purposes. With the exception of the Willows Access Road, a new primary pedestrian fence will be constructed along each of the new road segments.

Patrol roads are needed to provide a safe driving surface along the border. These are typically 28 feet wide, exclusive of parallel drainage ditches, shoulders, and safety berms. Patrols roads are typically constructed at grades less than 18 percent; thus, cut and fill activities are needed in terrain where hills and valleys occur. Aggregate and a soil stabilizing or binding agent (e.g., PennzSuppress®) will be added to the surface of the road once the construction is completed to reduce erosion and maintenance activities. A top shot of the soil stabilizing agent will be added to the surface on an annual basis to ensure the road surface longevity. Water bars will be installed at various locations along the road to direct storm water into parallel ditches or down slope to reduce erosion of the road surface. Some roads will have grades greater than 18 percent, and thus, will require pavement to ensure safe driving conditions and control erosion.

One new access road will be built as part of the Planned Action, Willows Access Road. Access roads (typically 12 to 16 feet wide) are constructed to allow USBP agents the ability to access areas that previously were unreachable due to rough terrain, no roads, or contained private lands. This road will not be improved (i.e., no all-weather surface is applied).

A low water crossing (LWC) or similar drainage structure will be necessary at some stream crossings to ensure access, except during extreme flood conditions. The design of the LWC has not been determined yet, but will typically consist of a concrete swale or rock gabions. Rip rap will be placed on the upstream and downstream side of the LWC for energy dissipation. The footprint of the LWC will be expected to extend approximately 25 to 40 feet on either side of the crossing to allow placement of the rip rap. Likewise, the designs for other types of drainage structures have not been finalized yet, but will be expected to include reinforced concrete pipe (RCP) with energy dissipation installed on either end of the RCP. Clean, native material will be brought in from local sources for fill activities.

Descriptions of the specific Planned Actions for implementation at each of the sites listed in Table 2-1 are presented below. These components are described in order from west to east (see Figure 2-2, previously).

- **Cetis' Hill.** Cetis' Hill is a large privately-owned hill bisected by the international border. Primary pedestrian fence has been installed along the border on either side of the hill, but not over the top of the hill. Access roads have been constructed to the top of the hill on the south side of the border, providing illegal aliens (IAs) with opportunities to conduct surveillance and illegally breach the border. A construction access and maintenance road will be constructed as close to the border as possible. Primary pedestrian fence will also be installed along the border and tie into the primary pedestrian fence on either side of Cetis' Hill. Current preliminary designs indicate that a permanent footprint, varying from 60 to 125 feet wide, will be needed to allow construction and maintenance of the road and fence. Approximately 5.0 acres will be permanently affected.
- **East Brickyard to Gunsight.** The East Brickyard to Gunsight road and fence section is located to the east of Cetis' Hill and is owned by BLM. This small section of road is needed because of the lack of barrier, ongoing development on the Mexican side of the border, and the advantage of high ground it will provide USBP. A construction access/maintenance road will be constructed within the Roosevelt Reservation and a primary pedestrian fence will be installed along the southern toe of the road. This will permanently affect about 0.9 acre.
- **Horseshoe Canyon.** USBP's existing patrol road begins to veer northward of the border immediately east of the East Brickyard to Gunsight component, traversing Sacred Canyon and eventually Horseshoe Canyon. Consequently, no border barriers, except for very short reaches of temporary vehicle barrier (TVB), have been installed in this reach, and the area has become a high-traffic route for both illegal pedestrians and vehicles. Under the Planned Action, a construction access and maintenance road will be constructed in this area as close to the border as practicable and a primary pedestrian fence will be installed on the southern toe of the road. Cut and fill activities will be needed at

some minor drainages to keep the footprint close to the border and to avoid creating unsafe driving conditions.

The cut and fill at Horseshoe Canyon will be more extensive, however. The footprint will be approximately 200 feet wide in the bottom of the canyon and approximately 40 feet high. The slopes will be 2:1 (2 feet horizontal to 1 foot vertical). The total length of the Horseshoe Canyon component will be approximately 1.27 miles. The western end of the road/fence will begin at the end of the East Brickyard to Gunsight project component and continue east. An existing access road will be improved to allow construction. The eastern end of the road/fence will dead-end in a steep rock outcrop on the eastern side of Horseshoe Canyon. Another existing access road on the western side of Horseshoe Canyon will be improved to facilitate construction.

The two access roads and the construction/maintenance road and primary pedestrian fence will affect a total of approximately 6.9 acres. The footprint for this component is contained within BLM land.

- **East Bell Valley.** The East Bell Valley component will consist of constructing a short (0.18 mile) segment of patrol road and primary pedestrian fence. There exist segments of primary pedestrian fence in this reach that need to be connected. The East Bell Valley will tie all these segments together and extend the patrol road as far east as practicable. The road will be widened to 60 feet in this reach to accommodate an all-weather patrol road and associated parallel drainage ditches. Approximately 0.9 acre will be permanently affected by this action.
- **Ag Loop.** The Ag Loop road is located east of the Eastern Railroad Tunnel which extends into Mexico. This area is used as an advantage point by IAs and smugglers, who use either the tunnel or existing high ground at the Ag Loop to breach the border when USBP agents are not present. Patrol roads in this area are located far to the north, due to terrain restrictions, and the area between the border and the patrol roads provides excellent concealment opportunities. The Planned Action is to extend existing access roads south to the border and then install a construction access/maintenance road and primary pedestrian fence along the border for approximately 0.92 mile. This action will help to reduce illegal vehicle and pedestrian traffic and allow USBP agents to gain the advantage of the higher ground for surveillance. This component will permanently affect approximately 5.2 acres, all of which is located within BLM lands.
- **La Gloria Canyon.** A patrol road and primary pedestrian fence will be constructed across La Gloria Canyon. The road is needed to allow quick access across La Gloria Canyon. The current patrol road is approximately 0.2 miles north of the border; however, because of the severe grades and sharp curves, driving time from one side to the other takes up to 10 minutes, in good weather. This is an unsafe condition for USBP agents

during emergency situations, and it provides excellent opportunities for IAs to escape into the U.S. This component will need extensive cut and fill activities to create a road platform that traverses the canyon. The entire length will be approximately 0.35 mile long; the width and height of the embankment will be approximately 100 feet and 35 feet, respectively. Primary pedestrian fence will be installed from the ends of the existing primary pedestrian fence on either side of La Gloria Canyon to the primary pedestrian fence along the road embankment. This component will affect approximately 3.3 acres. This corridor is contained within BLM lands.

- **West Smith Canyon.** Smith Canyon is a deeply incised canyon (approximately 500 feet deep) within BLM lands that trends northwest to southeast. The current access road to the western rim of the canyon is located approximately 600 to 800 feet north of the border. There is also an 800-foot-long gap in the primary pedestrian fence that creates opportunity for illegal pedestrians and vehicles to breach the border. Under the Planned Action, the existing patrol road will be extended to the western rim of Smith Canyon and primary pedestrian fence installed along the southern toe of the road. The road segment will be approximately 0.25 mile long and up to 60 feet wide. Blasting will probably be needed to construct the road. Approximately 0.9 acre will be affected by this component.
- **Rattlesnake Ridge.** The existing patrol road in the Rattlesnake Ridge area is located approximately 0.5 mile north of the border and is situated on private lands within the San Diego Gas and Electric Company (SDG&E) utility right of way. The length of patrol road is approximately 17 miles starting at the western edge of Rattlesnake Ridge to the border at Larry Pearce Road. This length and the circuitous route requires up to 30 minutes for USBP agents to respond to incursions or emergency actions that occur within this reach. No primary pedestrian fence has been installed in this area, so it, too, is a high-traffic area for illegal pedestrian and vehicular traffic. The Planned Action is to construct a patrol road and primary pedestrian fence as close to the border as practicable. The construction footprint will be maintained within the Roosevelt Reservation; thus, some vertical grades will be greater than 18 percent. The road will be approximately 1.1 mile long. Construction of this road will reduce by about 20 to 25 minutes the amount of time needed by USBP agents to respond to emergencies. Installation of the primary pedestrian fence will be expected to prevent illegal vehicle traffic and substantially reduce illegal pedestrian traffic. The road and primary pedestrian fence will permanently affect approximately 8.0 acres.
- **West Boundary Peak.** The existing primary pedestrian fence has a gap approximately 425 feet long. The fence was not installed by previous Joint Task Force North (JTF-N) actions due to large boulders and a small drain. Under the Planned Action, primary pedestrian fence will be installed in the gap and a necessary access/maintenance road will be

constructed. This will remove an opportunity for illegal pedestrian and vehicle traffic to breach the border. It will also provide continuous and parallel access along the border that currently is not available. The road and primary pedestrian fence footprint will affect approximately 0.4 acre within the Roosevelt Reservation.

- **Willows Access Road.** In the Jacumba area, USBP's current access from Old Highway 80 to the border is through private property. Landowners have threatened to prevent use of these access roads; consequently, USBP has recently acquired an easement to access the border. The easement will be developed into an access road. Use of the road will be restricted to government agencies and their representatives. The road will be approximately 16 feet wide and have parallel drainage on either side. The total area anticipated to be affected will be less than 0.3 acre.

2.1.3 Road Improvements

In addition to the new roads, slight improvements to the existing border road will be implemented at various locations along the project corridor. Improvements will include widening the road to encompass the entire 60-foot-wide Roosevelt Reservation and applying an all-weather surface, as described above. The majority of the existing border road is currently 60 feet wide; however, many reaches are about 35 to 40 feet wide or contain large boulders, trees, or narrow strips of vegetation that create concealment opportunities for IAs and increase health and safety risks for USBP agents. These obstacles will also hinder transport and use of construction equipment during the construction activities. Approximately 2 miles of roads along the entire 30-mile-long corridor will be widened or improved to remove large boulders and trees. This road widening will impact approximately 8 acres within the 30-mile corridor.

2.1.4 Fence

Approximately 10.2 miles of primary pedestrian fence will be built as part of the Planned Action, including both new construction (5.1 miles) and conversion of existing PVBs to primary pedestrian fence (5.1 miles). The primary pedestrian fence will be installed in the same areas described for the roads, with exception of the Willows Access Road. Table 2-2 provides the location and length of each fence segment.

Table 2-2. Fence Construction, by USBP Station

Area Name	Affected Station	Length (miles)	Fence Type
Cetis' Hill	El Cajon	0.62	New
East Brickyard to Gunsight	El Cajon	0.25	New
Horseshoe Canyon	El Cajon	1.27	New
Bell Valley	El Cajon	0.18	New
Ag Loop	El Cajon	0.92	New
La Gloria	Campo	0.35	New
Smith Canyon	Campo	0.25	New
Rattlesnake Ridge	Campo	1.14	New
West Boundary Peak	Campo	0.09	New
Willows 1	Boulevard	2.00	Conversion
Willows 2	Boulevard	2.00	Conversion
O'Neil Valley	Boulevard	1.16	Conversion
Total		10.23	

The primary pedestrian fence will be installed approximately 3 feet north of the international border, within the Roosevelt Reservation. The primary pedestrian fence will be a bollard style design. Three areas (Willows 1, Willows 2, and O'Neil Valley) currently contain permanent vehicle barriers (PVB), and these barriers will be converted to or replaced with primary pedestrian fence, as appropriate. Any PVBs that are removed will be recycled.

2.1.5 Blasting

Blasting might be needed in certain sections that have large rocks or boulders that create sharp curves, large humps in the road, or other driving hazards that need to be eliminated (i.e., West Smith Canyon). Holes will be drilled into the center of the larger rocks and detonating material will be placed in the holes and activated in order to split or fracture the rock into smaller, more manageable pieces for removal. Because this process will create immediate, but short-lived increase in noise levels, a noise analysis will be conducted prior to construction by the blasting contractor. In addition, the contractor will implement a plan that will ensure the action will not risk injury or significantly affect people near the construction site.

2.1.6 Lighting

To account for heat restrictions for adequate concrete drying and curing processes, most concrete pours for low water crossings, other drainage structures, and fencing will need to take place during the pre-dawn hours of summer months. However, the possibility exists that work will have to occur on a 24-hour basis. A 24-hour schedule will be implemented only when additional efforts are needed in order to maintain the work task schedule as mandated by Congress. In order to facilitate construction activities during these work hours, portable lights will be used. It is estimated that no more than 10 lights will be in operation at any one time at each project site.

A 6-kilowatt self-contained diesel generator powers these lights (Photograph 2-1). Each unit typically has four 400- to 1000-watt lamps. The portable light systems can be towed to the desired construction location as needed and removed upon completion of construction activities. Lights will be oriented to illuminate the work area, with the area affected by illumination limited to 200 feet from the light source.



Photograph 2-1. Portable lights

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SECTION 3.0
AIR QUALITY



3.0 AIR QUALITY

3.1 AFFECTED ENVIRONMENT

Information on air quality within the project corridor was discussed and described in the DHS 2003 EA, and is incorporated herein by reference. San Diego County is classified as a moderate non-attainment area for carbon monoxide (CO) and the 8-hour ozone (O₃) (EPA 2007a). Air emissions from internal combustion engines produce volatile organic compounds and nitrogen oxides, which are precursor molecules that react with oxygen in the atmosphere to create O₃. CO in San Diego County is a result of combustion byproducts of cars, trucks, and industrial operations utilizing petroleum for energy needs. Although San Diego County is in non-attainment for CO and 8-hour O₃, the project area is located outside of the City of San Diego and within remote locations that have good wind dispersal patterns. While issuance of the waiver eliminated the requirement for CBP to comply with the Clean Air Act (CAA), the National Ambient Air Quality Standards (NAAQS) have been used to evaluate the potential impacts to air quality associated with the fencing projects in and to develop BMPs to minimize those impacts.

3.2 ENVIRONMENTAL CONSEQUENCES

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the CAA, for the TI segments addressed in this ESP, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the CAA as the basis for evaluating potential environmental impacts and appropriate mitigations.

A minimal increase in local air pollution will be expected from primary pedestrian fence and road construction. Temporary increases in air pollution will result from the use of construction equipment, portable lights, and fugitive dust. Due to the short duration of the individual projects, any impacts on ambient air quality during construction activities are expected to be short-term, and can be reduced through the use of standard dust control techniques, including roadway watering and chemical dust suppressants, such as PennzSuppress® or an equivalent product. During construction, proper and routine maintenance of all vehicles and other construction equipment will ensure that emissions are within the equipment's design standards. Air emissions from the Planned Action will be temporary and will result in negligible to moderate impacts on air quality in the region.

EPA's NONROAD 2005 Model was used, as recommended by EPA's *Procedures Document for National Emission Inventory, Criteria Air Pollutants, 1985-1999* (EPA 2001), to calculate emissions from construction equipment such as bulldozers, cranes, etc. Assumptions were made regarding the type of equipment, the total number of days

each piece of equipment would be used, and the number of hours per day each type of equipment would be used.

Similarly, emissions from delivery trucks and commuters traveling to the job site, were calculated using the EPA MOBILE6.2 Model (EPA 2001). Construction workers will temporarily increase the combustible emissions in the airshed during their commute to and from the project area. These emissions were calculated in the air emission analysis and included in the total emission estimates.

Furthermore, large amounts of dust (i.e., fugitive dust) can arise from the mechanical disturbance of surface soils, including grading, driving, and road and fence construction. Fugitive dust emissions were calculated using the emission factor of 0.11 ton per acre per month, which is a more current standard than EPA's 1985 *Compilation of Air Pollutant Emission Factors*, also known as AP-42 (EPA 2001). The total air quality emissions were calculated for the construction activities occurring in San Diego County to compare to the General Conformity Rule. Results of these calculations are presented in Table 3-1 and Appendix D.

Table 3-1. Total Air Emissions (tons/year) from Construction Activities vs. *de minimis* Levels

Pollutant	Total (tons/year)	<i>de minimis</i> Thresholds (tons/year)
Carbon Monoxide	43.21	100
Volatile Organic Compounds	9.73	100
Nitrogen Oxides	87.57	100
PM-10	20.35	NA
PM-2.5	9.50	NA
Sulfur Dioxide	10.76	NA

Source: 40 CFR 51.853 and GSRC air emission model projections.

As can be seen from Table 3-1, the construction activities will not exceed *de minimis* thresholds. There will be negligible to moderate impacts on air quality from the implementation of the Planned Action.

Impacts from combustible air emissions from USBP traffic are expected to be the same before and after the construction activities. Construction workers will temporarily increase the combustible emissions in the air shed during their commute to and from the project area.

Dust and small rock fragments will be emitted into the air during blasting detonation; however, these will be expected to immediately settle and fall to the ground, causing no major or long-term negative impacts on air quality. CO will be the most important factor in air quality in the area. This gas will be produced during detonation, depending on the type and amount of explosives used for the activities (MEMCL 1999). Transporting winds will facilitate dispersion and alleviate high concentrations of CO in the project

area. Furthermore, the blasting contractor will be required to use BMPs to ensure minimal fugitive dust and other emission impacts from the blasting.

Diesel generators will be used to power the portable lights, and these generators will cause low amounts of air emissions. Since amounts will be below the *de minimis* threshold (i.e., 100 tons per year), emissions will not violate national or state standards. If a 24-hour work schedule is needed, then the portable lights will operate throughout the night; however, this will be temporary, and as construction activities are completed within a particular area the lights will be relocated to a new area. Furthermore, a 24-hour schedule will only occur due to unforeseen circumstances or if congressionally mandated schedules dictate it to be necessary. Regardless, the impacts from the operation of the light generators will be temporary; thus, they will have negligible effects on air quality in the region.

Construction and operation of TI will increase border security in the project corridor and may result in a change to illegal traffic patterns. However, changes to IA traffic patterns result from a myriad of factors in addition to USBP operations and, therefore, are considered unpredictable and beyond the scope of this ESP.

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SECTION 4.0
NOISE



4.0 NOISE

4.1 AFFECTED ENVIRONMENT

Noise is generally described as unwanted sound, which can be based on either objective effects (hearing loss, damage to structures, etc.) or subjective judgments (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 a sound level. The threshold of human hearing is approximately 0 dB, and the threshold of discomfort or pain is around 120 dB.

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 EPA (EPA 1972; FICON 1992).

Several examples of noise pressure levels in decibel – A weighted scale (dBA) are listed in Table 4-1. A DNL of 65 dBA is most commonly used for noise planning purposes, and represents a compromise between community impacts and the need for activities like construction, which do cause noise. Areas exposed to a DNL above 65 dBA are generally not considered suitable for residential use. A DNL of 55 dBA was identified by the EPA as a level below which there is effectively no adverse impact (EPA 1972).

Table 4-1. dBA Sound Levels of Typical Noise Environments

dBA	Overall Level	Noise Environment
120	Uncomfortably Loud (32 times as loud as 70 dBA)	Military jet takeoff at 50 ft
100	Very loud (8 times as loud as 70 dBA)	Jet flyover at 1,000 ft
80	Loud (2 times as loud as 70 dBA)	Propeller plane flyover at 1,000 ft Diesel truck 40 mph at 50 ft
70	Moderately loud	Freeway at 50 ft from pavement edge Vacuum cleaner (indoor)
60	Relatively quiet (1/2 as loud as 70 dBA)	Air condition unit at 10 ft Dishwasher at 10 ft (indoor)
50	Quiet (1/4 as loud as 70 dBA)	Large transformers Small private office (indoor)
40	Very quiet (1/8 as loud as 70 dBA)	Bird calls Lowest limit of urban ambient sound
10	Extremely quiet (1/64 as loud as 70 dBA)	Just audible
0	Threshold of hearing	

Source: Wyle Research Corporation 1992.

Some noise levels are continuous sounds (e.g., air conditioner, vacuum cleaner) whose levels are constant for some time. Other noise levels, like the automobile or heavy truck, are the maximum sound during a vehicle passby. Noise levels such as urban daytime and urban nighttime are averages over some extended period.

4.2 ENVIRONMENTAL CONSEQUENCES

Noise levels created by the transport of construction vehicles, construction equipment, and construction activities will vary depending on several factors, such as climatic conditions, season, and the condition of the equipment. Construction and transport activities could occur on a 24-basis if needed. However, a 24-hour schedule will be implemented only when additional efforts are needed in order to maintain the work task schedule as mandated by Congress. Noise levels will decrease to an inaudible level as the distance between the construction activities and potential noise receptors increases. Table 4-2 describes noise emission levels for construction equipment which range from 73 dBA to 82 dBA (Federal Highway Administration [FHWA] 2007).

Table 4-2. dBA Sound Levels of Construction Equipment

Type of Construction Equipment	dBA
Backhoe	78
Crane	81
Dump Truck	76
Excavator	81
Front end loader	79
Generator	73
Concrete mixer truck	79
Bull dozer	82

Source: FHWA 2007

No sensitive noise receptors exist within the project corridor. Construction activities will create temporary and minor increases in ambient noise levels. Blasting contractors will be required to establish BMPs that will ensure that any blasting activities will have minimal noise impacts locally and regionally.

Assuming the worst-case scenario of 82 dBA for a bulldozer, as will be the case during the road construction along the project corridor, all areas within 350 feet of the project corridor will have noise levels exceeding 65 dBA. Construction noise levels will attenuate to 55 dBA at a distance of 1,100 feet from construction activities. Attenuation could be achieved at much shorter distances depending upon the local topography, vegetation, climatic conditions, and time of year. Noise impacts will detract from the undeveloped characteristics of the project corridor. However, this level of noise is expected to be minimal and localized and is expected to return to pre-project conditions at the completion of construction. Therefore, noise impacts will be temporary, with minimal impacts on ambient noise levels.

Vibration levels and airblast overpressure will increase as a result of blasting activities. Airblast overpressure is low frequency air pressure, which usually falls below the sound level that a human ear can hear; however, the energy that is produced could potentially damage nearby structures (MEMCL 1999). Table 4-3 shows a range of vibration and airblast overpressure based upon distance from the affected structure. Vibration levels are measured by the peak particle velocity (PPV) and recorded in inches per second (IPS). Airblast overpressure levels are measured and recorded in decibels (dB). The dB levels for the blasting falls within the “uncomfortably loud” category (120 dB), as shown in Table 4-3. However, the overpressures will not be high enough to damage nearby structures. Industry acceptable maximum PPV level near residential dwellings is 2.00 IPS and the noise level maximum is 140 db for construction related blasting.

Additionally, BMPs, such as the use of blasting mats, will be implemented to minimize the potential for debris and reduce increases in noise levels. Minimal impacts will occur as a result of the blasting activities due to the temporary nature of the work and use of proper BMPs.

Table 4-3. Vibration and Airblast Overpressure Levels

Distance from Blast Site to Structure	Calculated PPV	Calculated dB
900 feet	0.06 IPS	123.14 dB
775 feet	0.07 IPS	124.54 dB
485 feet	0.15 IPS	129.02 dB
300 feet	0.32 IPS	133.63 dB

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SECTION 5.0
LAND USE, RECREATION AND AESTHETICS



5.0 LAND USE, RECREATION AND AESTHETICS

5.1 AFFECTED ENVIRONMENT

5.1.1 Land Use

A description of land use and how it is identified is herein incorporated by reference from the DHS 2003 EA. In summary, land within the project areas is predominately undeveloped. Land use is indicative of land ownership, with ownership in the project corridor divided between private ownership and Federal lands. BLM is the majority landowner for the project corridor, including the 60-foot-wide Roosevelt Reservation, which is used for recreation and grazing rights. In 1994, BLM issued the South Coast Resource Management Plan (RMP), which provides management guidance and identifies land use decisions to be implemented under BLM jurisdiction within the South Coast Region. The goals of the RMP were to provide a framework for BLM to maximize values and the multiple uses of BLM lands through a rational, consistently applied set of guidelines (BLM 1994). An example of this would be the promotion and protection of long-term recovery abilities for both flora and fauna within BLM lands. The private lands within and near the project corridor are typically developed as single-residence ranch land or remain undeveloped and held for occasional use (i.e., recreation) or investment purposes.

5.1.2 Aesthetics

Visual and aesthetic resources were discussed in the DHS 2003 EA, and this information is incorporated herein by reference. 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. It is essentially based on an individual's or group of individuals' judgment as to whether or not an object is pleasing and/or will affect quality of life. With the exception of small residential communities near Canyon City, Campo, and Jacumba, the project region is characterized by undeveloped, open landscapes. The major appeal of the region is its vast areas of naturally occurring landscape. At a closer look, however, a large number of illegal trails and roads, damage from human-induced wildland fires, and litter left behind by IAs can be found throughout the project corridor, all of which detracts from the region's natural beauty. There are no unique, natural, or man-made features in the project area that create any visual landscapes different than those described above.

5.2 ENVIRONMENTAL CONSEQUENCES

5.2.1 Land Use

With the implementation of the Planned Action, land use within the Roosevelt Reservation will remain a Federal law enforcement zone. The Planned Action will conform to the BLM South Coast Resource Management Plan and will not impact BLM's guidance for lands under BLM jurisdiction (Hill 2007). Privately-owned land and land owned by BLM is currently open and undeveloped. The land use in the project corridor in these areas will change from open and undeveloped to USBP infrastructure,

which would impact recreational opportunities. However, open space is common within this area and the Planned Action will not pose a major change to the land use or recreational opportunities regionally. The staging areas, which are needed to store and stockpile materials and equipment, will temporarily affect approximately 22 acres. These areas will be rehabilitated upon completion of construction activities and the current land use restored; therefore, impacts associated with the staging areas are considered temporary and minimal.

Approximately 21 acres of privately-owned land will be used for USBP activities. Negotiations are ongoing with private land owners, and they will be compensated at fair market value for any lands acquired by USBP for the Planned Action.

5.2.2 Aesthetics

The construction of primary pedestrian fence and road will have adverse impacts on the appearance of the project corridor. However, the Planned Action is extending existing roads and fences that have already degraded the aesthetic value of the project area. In addition, illegal trails and trash currently detract from the visual qualities of the project corridor. The presence of construction equipment, use of staging areas, and use of portable lighting will have a minimal impact on appearance during construction. Additionally, as a mitigation measure, all staging areas will be rehabilitated upon completion of construction activities; thus, further minimizing impacts. The Planned Action will not substantially or permanently degrade the existing visual character of the region; thus, impacts would be considered minimal.

Construction and operation of TI will increase border security in the project corridor and may result in a change to illegal traffic patterns. However, changes to IA traffic patterns result from a myriad of factors in addition to USBP operations, and therefore, are considered unpredictable and beyond the scope of this ESP.

SECTION 6.0
GEOLOGICAL RESOURCES AND SOILS



6.0 GEOLOGICAL RESOURCES AND SOILS

6.1 AFFECTED ENVIRONMENT

General information regarding soil associations, soil types, and geology within the project corridor and region was previously presented in the DHS 2003 EA, and is incorporated herein by reference. The entire project corridor is located within the Peninsular Range Geomorphic Province, which is mostly composed of granitic rock (Nyman 2002). The Peninsular Ranges Province was formed by the Southern California Batholith, a composite of several bodies of igneous rock formed in the subsurface (Demere 1997). These bodies of rock, having varying chemical composition, shifted from gabbro to granodiorite. In the Cretaceous period, the Nevadan Orogeny caused major upward thrusting in southern California (Sharp 1976).

The project corridor consists of soils in the Tollhouse, La Posta, Rock land, Calpine, Kitchen Creek, and Mottsville associations. The Tollhouse association is described as consisting of shallow, somewhat excessively or excessively drained soils that formed in material weathered from granitic rocks (USDA 1973). The La Posta association consists of well-drained stony fine sandy loams that have clay subsoils (USDA 1973). Exposed bedrock and large boulders dominate the Rock land association, which consists of rocks and boulders with little vegetation (USDA 1973). The La Posta association is somewhat excessively drained loamy coarse sands over decomposed granodiorite; the Mottsville association is similar, but is associated with alluvial fans. All these soils have a severe erodibility rating (USDA 1973). None of these soils are considered prime farmland.

6.2 ENVIRONMENTAL CONSEQUENCES

Minor surface impacts on geologic formations will be expected from road and primary pedestrian fence construction activities. Although geologic formations will be adversely affected, these effects will be minimal and localized. No dangerous or unstable conditions will be created within any geologic unit as a result of the Planned Action. Additionally, the Planned Action will not expose people or structures to potential substantial adverse effects. Furthermore, no geologic resource is found exclusively within the project corridor; thus, no geologic resources will be removed from future scientific study. Therefore, the Planned Action will not have a major adverse impact on any geologic unit or local or regional geologic formation.

The Planned Action will have a direct, permanent impact on approximately 40 acres of soils. These include: 13 acres of Tollhouse association soils, 8 acres of La Posta association soils, 5 acres of Rock land association soils, 4 acres of the Calpine soils, 5 acres of Kitchen Creek soils, and 5 acres of Mottsville association soils. These soils are common locally and regionally; therefore, no major impacts are expected.

Short-term impacts on soils, such as increased runoff, can be expected from the construction of roads; however, these impacts will be alleviated once construction is

finished. Long-term effects on soils will be compaction from vehicles on new roads. Pre- and post-construction BMPs will 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 rip-rap or sediment traps, will be some of the BMPs expected to be implemented.

The temporary operation of portable lights within the construction footprint will have no effect on soils. The potential exists for petroleum, oil, and lubricants (POLs) to be spilled during refueling of the generators; however, drip pans will be provided for the power generators to capture any POLs accidentally spilled during maintenance activities or leaks from the equipment; thus, the operation of the portable lights will have negligible impacts.

SECTION 7.0
WATER RESOURCES



7.0 WATER RESOURCES

7.1 AFFECTED ENVIRONMENT

7.1.1 Groundwater

The region's groundwater conditions were discussed in detail in the DHS 2003 EA, and that information is incorporated herein by reference. The Planned Action area lies within the Peninsular Range geomorphic province. This province covers a large portion of southern California, including all of San Diego County. Large quantities of water are stored in the granitic rock from which this area formed. Most of the stored groundwater moves through the area through cracks and fractures (Nyman 2002) and is replenished through rain and snow events. Therefore, these aquifers are stable and not in a deficit situation (Nyman 2002).

7.1.2 Surface Water and Waters of the U.S.

The list of water quality limited segments in the Tijuana River Watershed and their pollutants of impairment are provided in Table 7-1.

Table 7-1. Water Quality Limited Segments in the Tijuana River Watershed

Waterbody	Pollutants of Impairment
Tijuana River	Bacteria, Trace Elements, Solids, Low Dissolved Oxygen, Trash, Eutrophic, Pesticides, and Trash
Tijuana River Estuary	Bacteria, Low Dissolved Oxygen, Eutrophic, Pesticides, Trash, Thallium, Synthetic Organics, Lead, and Nickel

Source: EPA 2007a

The project area is located in the Tijuana River watershed (CA 91111000). Several ephemeral washes (Campo Creek, Boundary Creek, and several small unnamed creeks) cross the project area and contribute as water sources to the Tijuana River. No Total Maximum Daily Loads (TMDLs) have been developed by the California EPA (CalEPA) for streams in the project area (EPA 2007a).

The Tijuana River, Campo Creek, and other creeks in the area have the following designated beneficial uses:

- **Contact Water Recreation** – includes uses of water for recreational activities involving body contact with water where ingestion of water is reasonably possible.
- **Non-contact Water Recreation** – includes uses of water for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion is reasonably possible.
- **Warm Freshwater Habitat** – includes uses of water that support warm water ecosystems (e.g., aquatic habitat, vegetation, fish, and wildlife).

- **Wildlife Habitat** – includes uses of water that support terrestrial ecosystems including preservation and enhancement of terrestrial habitats, vegetation, wildlife, or wildlife water and food sources (California Regional Water Quality Control Board 1994)

The lack of beneficial uses listed for any given area does not rule out the possibility of existing or future beneficial uses.

The Tijuana River stream segment is on California's 303(d) list of impaired waters for eutrophication, bacteria indicators, low dissolved oxygen, pesticides, synthetic organics, solids, trace elements, and trash. This subsegment of the Tijuana River is not meeting designations for beneficial uses of primary and secondary contact recreation and wildlife and fish propagation. Sources of pollution are non-point sources and point sources (CalEPA 2007).

Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (Environmental Laboratory 1987). Due to the climate of the project area, most of the surface drainage channels are dry much of the year and are considered ephemeral. One potential jurisdictional wetland and six potential unvegetated tributary waters could be considered other WUS occur within the project corridor. The location of the wetland and WUS are illustrated in Figure 7-1.

7.1.3 Floodplains

A floodplain is the area adjacent to a river, creek, lake, stream, or other open waterway that is subject to flooding when there is a significant rain. If an area is in the 100-year floodplain, there is a 1 in 100 chance in any given year that the area will flood. Federal Emergency Management Agency (FEMA) floodplain maps were reviewed to identify project locations within mapped floodplains (FEMA 2007 and San Diego County 2007). CBP determined that none of the project components will be constructed within mapped floodplains based upon review of the FEMA maps.

7.2 ENVIRONMENTAL CONSEQUENCES

7.2.1 Groundwater

Water will be needed for road construction, widening, and maintenance. Workable soil moisture content must be obtained in order to properly compact soils for road construction and to reduce fugitive dust emissions during construction. Water for construction and maintenance will be hauled into the project corridor from existing wells or wells that were previously analyzed in the DHS 2003 EA. It is assumed that for primary pedestrian fence and road construction, approximately 1 acre-foot of water per mile will be needed for concrete and dust suppression, while road widening will require approximately 0.5 acre-foot per mile for dust suppression. The total amount of water that will be required to facilitate construction of the Planned Action will be approximately

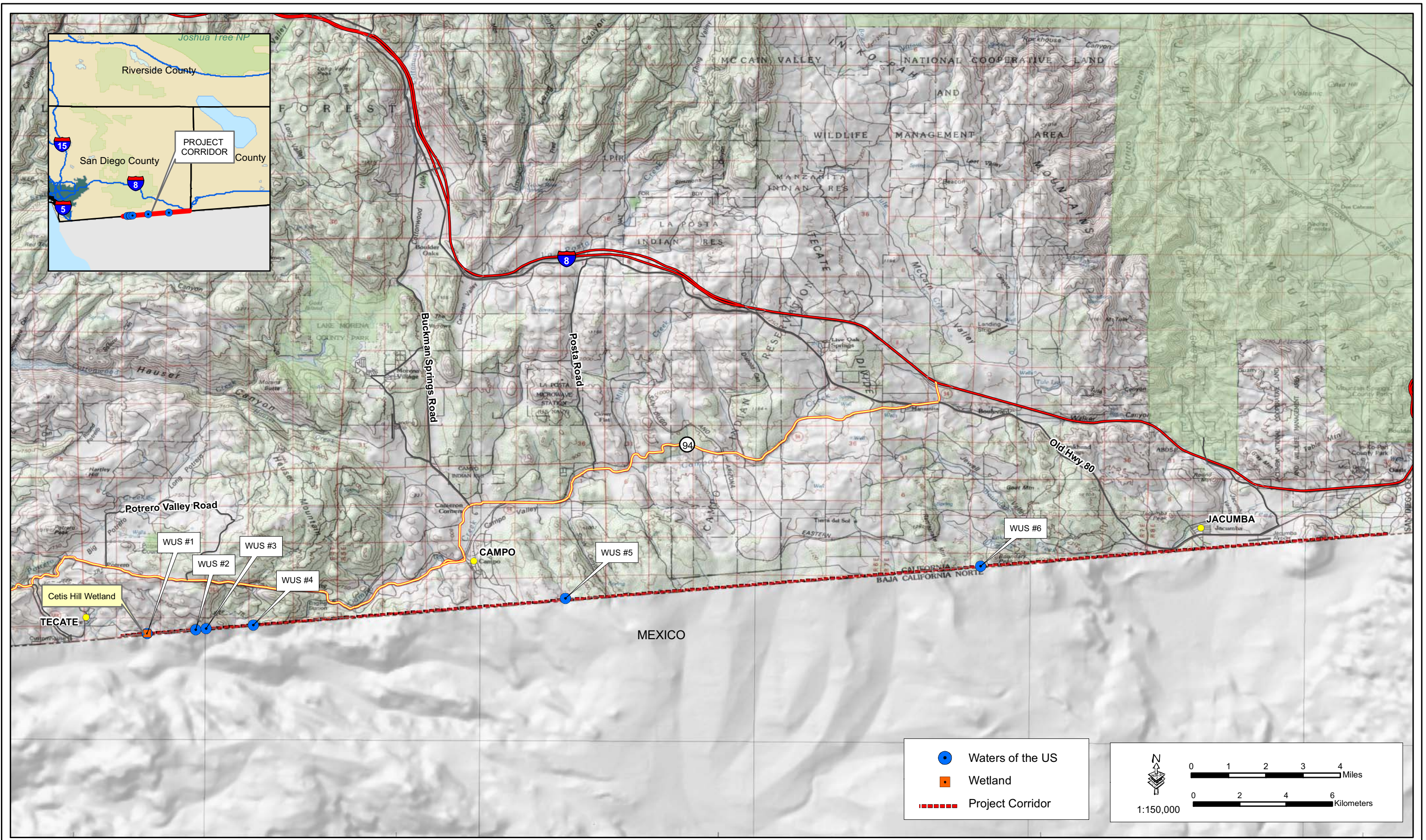


Figure 7-1: Waters of the US and Wetland at Cetus Hill

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15 acre-feet. This quantity will be consumed during the construction activities, which will be completed by December 2008. A hydrology report conducted for the DHS 2003 EA is included in Appendix E, which provides specific details on the region's groundwater resources. Although groundwater will be used from within the project corridor, the area is adequately recharged via rains and snow-melt each year. Therefore, no major impacts on groundwater or hydrology, locally or regionally, are expected as the aquifer is stable and not in a deficit situation.

7.2.2 Surface Water and Waters of the U.S.

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the CWA, for the TI segments addressed in this ESP, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the CWA as the basis for evaluating potential environmental impacts and appropriate mitigations.

The Planned Action will not have a permanent impact on any perennial or intermittent streams, as none are present within the project corridor. As mentioned previously, six jurisdictional ephemeral WUS were identified during field surveys within the project corridor. The WUS will be traversed using some type of drainage structure, which could include concrete low water crossings, improvements to existing dirt/gravel crossings, reinforced concrete pipes, box culverts, or bridges. The expected impacts to each WUS are presented in Table 7-2.

Table 7-2. Impacts on Potential Waters of the U.S.

Planned Action Component	WUS No.	Acres Impacted
Cetis' Hill	1	0.041
Horseshoe Canyon	2	0.016
Horseshoe Canyon	3	0.038
East Bell Valley	4	0.008
LaGloria Canyon	5	0.033
West Boundary Peak	6	0.005
TOTAL		0.142

Existing drainage patterns of transboundary runoff will not be changed as a result of the Planned Action. In addition, rip-rap, rock, or other energy dissipating materials will be placed downstream of the drainage structures to alleviate flow velocity, long-term erosion, and downstream sedimentation.

One jurisdictional wetland was also delineated within the project corridor, and is located adjacent to the WUS found near the Cetis Hill project component (See Figure 7-1). This wetland totals approximately 0.08 acres in size and will be filled as part of the Planned Action. CBP will seek advice from USACE Los Angeles District regarding appropriate potential mitigation or compensation for the loss of 0.08 acres of wetland.

During construction activities, water quality within ephemeral drains will be protected through the implementation of BMPs (e.g., silt fences). General BMPs routinely employed as part of CBP construction projects were previously described in Section 1.5. Additionally, the primary pedestrian fence (bollard style) has been designed to ensure that proper conveyance of floodwaters is achieved and that floodwaters are not backed up on either side of the border.

No impacts are expected on surface water or WUS from the placement of up to 10 portable lights. To reduce the potential of surface water contamination, lights will not be placed in or adjacent to drainages. As a precaution, catch pans will be placed under the portable light generators to contain any accidental POL spills that may occur during refueling or operation.

The construction of stream crossings within the project corridor could have indirect adverse impacts on ephemeral drains during seasonal rain events; these will include stream channel sedimentation, stream bank erosion, and possible release of POLs into stream channels. However, equipment needed for construction activities will not be staged or maintained in or near any surface water resources to prevent surface water contamination from accidental POL spills.

The Planned Action will also be expected to have an indirect beneficial impact on WUS by reducing erosion and sedimentation resulting from degraded road segments and off-road travel associated with vehicles deviating from road surface to avoid degraded road segments.

The Planned Action will not result in severe erosion or sedimentation, nor will it substantially alter existing drainage patterns. Therefore, because of the limited impacts expected coupled with the use of mitigation measures outlined in Section 1.5, the Planned Action will result in minimal impacts on WUS and water quality.

7.2.3 Floodplains

None of the construction activities would occur within the 100-year floodplain; therefore, no impediments to stream flow or increases in storm water runoff will occur that could cause flood elevations or flood flow velocities to increase. The Planned Action will have no impacts on floodplains.

SECTION 8.0
BIOLOGICAL RESOURCES
(VEGETATION, WILDLIFE, AQUATIC SPECIES, SPECIAL STATUS SPECIES)

8.0 BIOLOGICAL RESOURCES (VEGETATION, WILDLIFE, AQUATIC SPECIES, SPECIAL STATUS SPECIES)

8.1 AFFECTED ENVIRONMENT

8.1.1 Vegetation

General information regarding vegetation within the project corridor and region was previously given in the DHS 2003 EA, and is incorporated herein by reference. During October 2007, additional pedestrian surveys were conducted for each of the project sites to identify specific community types, sensitive species, and habitat suitable to support sensitive species. Table 8-1 lists the vegetation communities identified at each project site. It should also be noted that these surveys were conducted immediately prior to the 2007 wildfires, and much of the vegetation in the areas in and surrounding the western-most project sites has been destroyed by these fires.

Table 8-1. Vegetation Communities and Impacts (acreage) within the Project Area

Project Site	Vegetation Community	Acreage Impacted
Cetis Hill	Coastal Sage Scrub	5.0
East Brickyard to Gunsight	Coastal Sage Scrub	0.9
Horseshoe Canyon	Coastal Sage Scrub/Chamise Chaparral	2.3/4.6
East Bell Valley	Chamise Chaparral	0.9
Ag Loop	Chamise Chaparral	5.2
La Gloria Canyon	Mixed Chaparral and Coast Live Oak Woodland	3.3
West Smith Canyon	Mixed Chaparral	0.9
Rattlesnake Ridge	Mixed Chaparral	8.0
West Boundary Peak	Chamise Chaparral	0.4
Willow Access Road	Mixed Chaparral	0.3
Road Widening (Willows 1)	Disturbed coastal sage scrub	6.0
Road Widening (Ag Loop and East Bell Valley)	Chamise chaparral	2.0
Total		39.9

Coastal sage scrub is identified by low scrub shrubs that are drought-resistant and most active in the rainy periods of winter and early spring (Holland 1986). Dominant plant species typically found within this vegetation community are California sagebrush (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Rhus laurina*), and white sage (*Salvia apiana*) (Holland 1986). Plant species observed within the coastal sage scrub community include broom baccharis (*Baccharis sarothroides*), broom matchweed (*Gutierrezia californica*), peppergrass (*Lepidium* spp.), chalk-lettuce (*Dudleya pulverulenta*), caterpillar phacelia (*Phacelia cicutaria*), tocalote (*Centaurea melitensis*), and riggut grass (*Bromus diandrus*). This community occurs in the western portions of the project corridor, specifically at Cetis Hill, East Brickyard to Gunsight, and the extreme western portion (i.e., near Sacred Canyon) of the Horseshoe Canyon project reach.

Chamise chaparral is dominated by chamise (*Adenostoma fasciculatum*) that is often densely interwoven with little understory when mature (Holland 1986). Chamise is adapted to revegetating areas cleared by fire by stump sprouting (Holland 1986). Other plant species observed within the chamise chaparral vegetation community include red shank (*Adenostoma sparsifolium*), holly-leaved cherry (*Prunus ilicifolia*), sugar bush (*Rhus ovata*), lilac (*Ceanothus* sp.), Mexican manzanita (*Arctostaphylos pungens*), our Lord's candle (*Yucca whipplei*), yerba santa (*Eriodictyon crassifolium*), San Diego bushmallow (*Malocothamnus densiflorus*), Davidson's buckwheat (*Eriogonum davidsonii*), brittlebush (*Encelia farinosa*), broom matchweed, broom baccharis, deerweed (*Lotus scoparius*), wild oat (*Avena* sp.), rock rose (*Helianthemum scoparium*), saw-toothed goldenbush (*Hazardia squarrosa*), sagebrush (*Artemisia* sp.), California milkweed (*Asclepias californica*), San Diego County sunflower (*Viguiera laciniata*), and thistle (*Cirsium* sp.).

Mixed chaparral is typically dominated by scrub oak (*Quercus berberidifolia*), chamise, and any one of several taxa in manzanita (*Arctostaphylos* sp.) and *Ceanothus* species (Holland 1986). Mixed chaparral is also adapted for repeated fires, to which many species respond by stump sprouting (Holland 1986). Plant species observed during field surveys within the mixed chaparral vegetation community include Tecate cypress (*Cupressus forbesii*), sugar bush, deerweed, four-wing saltbush (*Atriplex canescens*), mustard (*Brassica* sp.), prickly pear (*Opuntia phaeacantha*), our Lord's candle, valley cholla (*Opuntia parryi* var. *parryi*), catclaw acacia (*Acacia greggii*), Mexican manzanita, Davidson's buckwheat, lilac, California buckwheat (*Eriogonum fasciculatum*), Mormon tea (*Ephedra californica*), and holly-leaved cherry.

Coast live oak woodlands are dominated by coast live oak (*Quercus agrifolia*), which can grow up to 90 feet in height (Holland 1986). The shrub layer in the coast live oak woodland is typically poorly developed, but may include toyon (*Heteromeles arbutifolia*), *Ribes* spp., laural sumac, or Mexican elderberry (*Sambucus mexicana*). The herb component is continuous and dominated by *Bromus* spp. and other introduced taxa (Holland 1986). Plant species observed during field surveys include lemonade berry (*Rhus integrifolia*), caterpillar phacelia, mustard, deerweed, Mexican manzanita, western ragweed (*Ambrosia psilostachya*), aster (*Aster* sp.), spiny cocklebur (*Xanthium spinosum*), San Diego honeysuckle (*Lonicera subspicata*), scrub oak, curly dock (*Rumex crispus*), California peony (*Paeonia californica*), chamise, mountain mahogany (*Cercocarpus betuloides*), holly-leaved cherry, and California deergrass (*Muhlenbergia rigens*). This community occurred only as a small patch on the east side of LaGloria Canyon and was an inclusion within the surrounding mixed chaparral community.

8.1.2 Wildlife

California is one of the most biologically diverse areas in North America. Within its 160,000 square miles, California harbors more unique animals than any other state (Steinhart 1990). The native faunal components of the Peninsular Range support 432 species of birds, which are dominated by wood warblers (40 species), swans, geese, and ducks (34 species), sandpipers and phalaropes (30 species), gulls and terns (20 species), sparrows and towhees (20 species), and tyrant flycatchers (22 species). The

majority of these species occurs in spring and fall when neotropical migrants (e.g., flycatchers and warblers) pass through on their way to either summer breeding or wintering grounds. The majority of the 94 mammalian species found in the Peninsular Range are evening bats and rodents, with rodents being the most common. Only 17 species of amphibians are found within this province, with frogs being the most abundant and common. A total of 54 species of reptiles inhabit the Peninsular Range, with the iguanid lizards and colubrid snakes being dominant (Ingles 1957; Stebbins 1985; Holt 1990).

Wildlife species observed within the project corridor during field visits conducted in October 2007 were western scrub jay (*Aphelocoma californica*), common raven (*Corvus corax*), California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculatus*), American kestrel (*Falco sparverius*), California quail (*Callipepla californica*), house finch (*Carpodacus mexicanus*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), red-tailed hawk (*Buteo jamaicensis*), mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*) scat, and desert cottontail (*Sylvilagus audubonii*).

8.1.3 Protected Species and Critical Habitat

General information regarding Federal, state, and BLM threatened and endangered species, critical habitat, and a list of protected species within the San Diego County was previously given in the DHS 2003 EA, and is incorporated herein by reference. A full list of Federal and state threatened and endangered species occurring within San Diego County can be found in Appendix F.

The Federally-listed species with the greatest potential to occur within or near the project corridor are the least Bell's vireo (*Vireo bellii pusillus*), coastal California gnatcatcher, Quino Checkerspot Buttery (QCB), arroyo toad (*Bufo microscaphus californicus*), desert bighorn sheep (*Ovis canadensis nelsonii*), Otay tarplant (*Hemizonia conjugens*), willow monardella (*Monardella linoides* ssp. *viminea*), Encinitas baccharis (*Baccharis vanessae*), and San Diego thornmint (*Acanthomintha ilicifolia*).

Biological surveys were completed for each portion of the Planned Action in October 2007 to determine the presence of potential habitat for protected species. No Federally-listed threatened or endangered species were observed during the biological surveys for this project or from past surveys in the area (USACE 1994, 1997; DHS 2003); however, due to schedule conflicts, the October 2007 surveys were not conducted during the proper season or in accordance with USFWS protocol for least Bells' vireo, coastal California gnatcatcher, QCB and arroyo toad. Thus, only habitat assessments could be made to determine the presence of suitable habitat for these species.

However, from March 14th through March 18th 2008, Mr. Michael Klein of Klein-Edwards Professional Services, conducted a suitable habitat analysis for the QCB within the project corridor. Mr. Klein is a USFWS QCB permitted biologist, 10 (a) permit number TE-039305-3. According to Mr. Klein's findings, approximately 27 acres within the footprint of the project is considered suitable habitat for the QCB. The areas that were dismissed as being suitable habitat were disturbed or lacked proper host plants or

nectar resources. Table 8-2 depicts each project component and the presence of suitable QCB habitat within the particular project component.

Table 8-2. Suitable QCB Habitat

Project Component	Suitable Habitat (Yes/No)	QCB Habitat Impacted (Acres)
Cetis' Hill	Yes	5.0
East Brickyard to Gunsight	No	0
Horseshoe Canyon	Yes	6.9
East Bell Valley	No	0
Ag Loop	Yes	5.2
La Gloria	No	0
West Smith Canyon	Yes	0.9
Rattlesnake Ridge	Yes	8.0
West Boundary Peak	Yes	0.4
Willows	No	0
O'Neil Valley	No	0
Airport Mesa	No	0
Staging Areas	No	0
Road Widening	No	0
Total		26.4

Although the desert bighorn sheep is listed as endangered within San Diego County the potential for this species to occur in the project corridor is minimal due to the lack of habitat. However, bighorn sheep are known to occur east of the project corridor in Imperial County within the Jacumba Mountains.

There is little potential for the least Bell's vireo or the arroyo toad to occur at or near the project sites due to the lack of suitable habitat. However, Boundary Creek, near the Willows project site, has historic records of arroyo toads further north (upstream). Suitable habitat for the coastal California gnatcatcher was observed at the western extreme of the Horseshoe Canyon site, as Diegan coastal sage scrub vegetation was present.

Although the East Brickyard to Gunsight and Cetis Hill project sites also displayed Diegan coastal sage scrub vegetation, these sites had a greater level of disturbance due to the proximity to residential and commercial establishments on the border as well as recent wildfires. Therefore, these areas were not considered high-quality suitable habitat.

Otay tarplant, willowy monardella, Encinitas baccharis, and San Diego thornmint were not observed within the areas surveyed for the individual project sites during October 2007.

The Wildlife and Habitat Data Analysis Branch of the California Department of Fish and Game (CDFG) maintains lists of Wildlife of Special Concern. These lists include species whose occurrence in California is or may be in jeopardy, or species with known

or perceived threats or population declines. The California Natural Diversity Database (CNDDDB) is a statewide inventory of the locations and conditions of Federally protected species as well as the state's rare species and natural communities. The CDFG currently lists 99 species that are considered endangered, threatened, or species of concern within San Diego County (CNDDDB 2007). The CNDDDB indicated no known locations of Federally-listed species within 1 mile of the project sites (CNDDDB 2007); however, numerous state-listed species have been reported near the project corridor, as shown in Figures 8-1 and 8-2.

The BLM Manual 6840 provides policy and guidance for the conservation of special status species of plants and animals and the ecosystems upon which they depend. These are species which are proposed for listing, officially listed as threatened or endangered, or are candidates for listing as threatened or endangered under the provisions of the Environmental Species Act (ESA); those listed by a state in a category such as threatened or endangered implying potential endangerment or extinction; and those designated by each BLM State Director as Sensitive. Tecate cypress (*Cupressus forbesii*), a BLM sensitive plant species, is known to occur near the Willows Access project site. The Thorne's hairstreak butterfly (*Callophrys gryneus thornei*) is also a BLM sensitive butterfly that uses the Tecate cypress as its host plant. The remaining BLM sensitive species are included in the list provided in Appendix F.

8.2 ENVIRONMENTAL CONSEQUENCES

8.2.1 Vegetation Communities

The Planned Action will permanently alter approximately 40 acres of vegetation (see Table 8-1). Road widening will impact 2 acres of chamise chaparral and 6 acres of disturbed coastal sage scrub. The new road and fence construction will permanently impact 9 acres of mixed chaparral, 14 acres of chamise chaparral, 3 acres of mixed chaparral/coast oak woodlands, and 6 acres of coastal sage scrub. It should be noted that approximately 0.65 miles within the project footprint (0.25 mile west of Horseshoe Canyon and 0.4 mile east of Ag Loop) as well as all the staging areas have not been surveyed. However, CBP will ensure that biological surveys are completed prior to any construction activities within these areas. Although the project footprint has not been surveyed, through aerial photography interpretation as well as knowledge of the project corridor, these areas have been accounted for in the vegetation communities to be impacted.

The staging areas are expected to temporarily affect approximately 22 acres. The staging areas will be rehabilitated upon completion of construction activities and, thus, would represent only a short-term minor impact. These plant communities are both locally and regionally common, and the permanent loss of 40 acres of vegetation will not adversely affect the population viability or fecundity of any floral or faunal species. Therefore, impacts are expected to be minimal to moderate.

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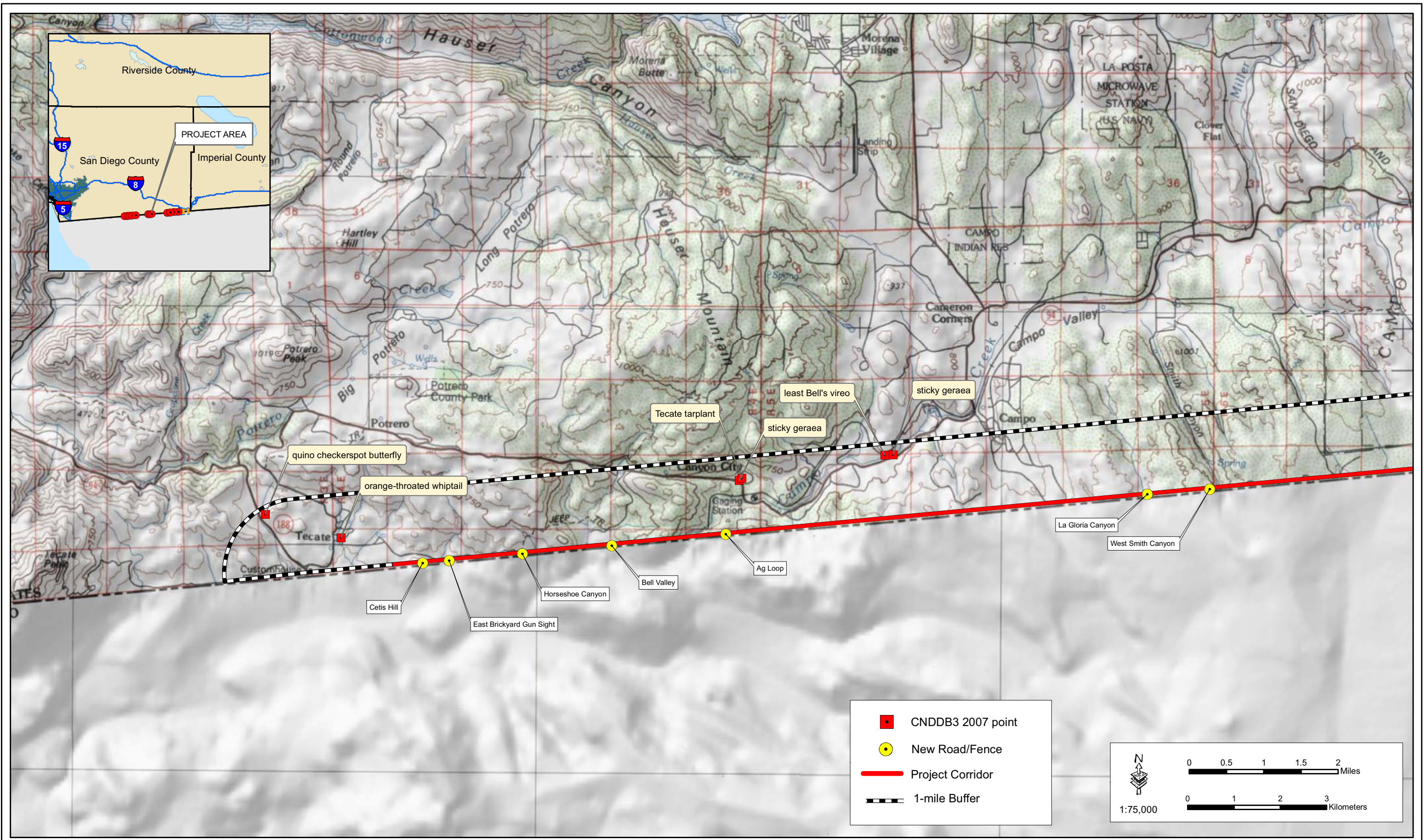


Figure 8-1: Proposed Action & CNDDDB Map 1

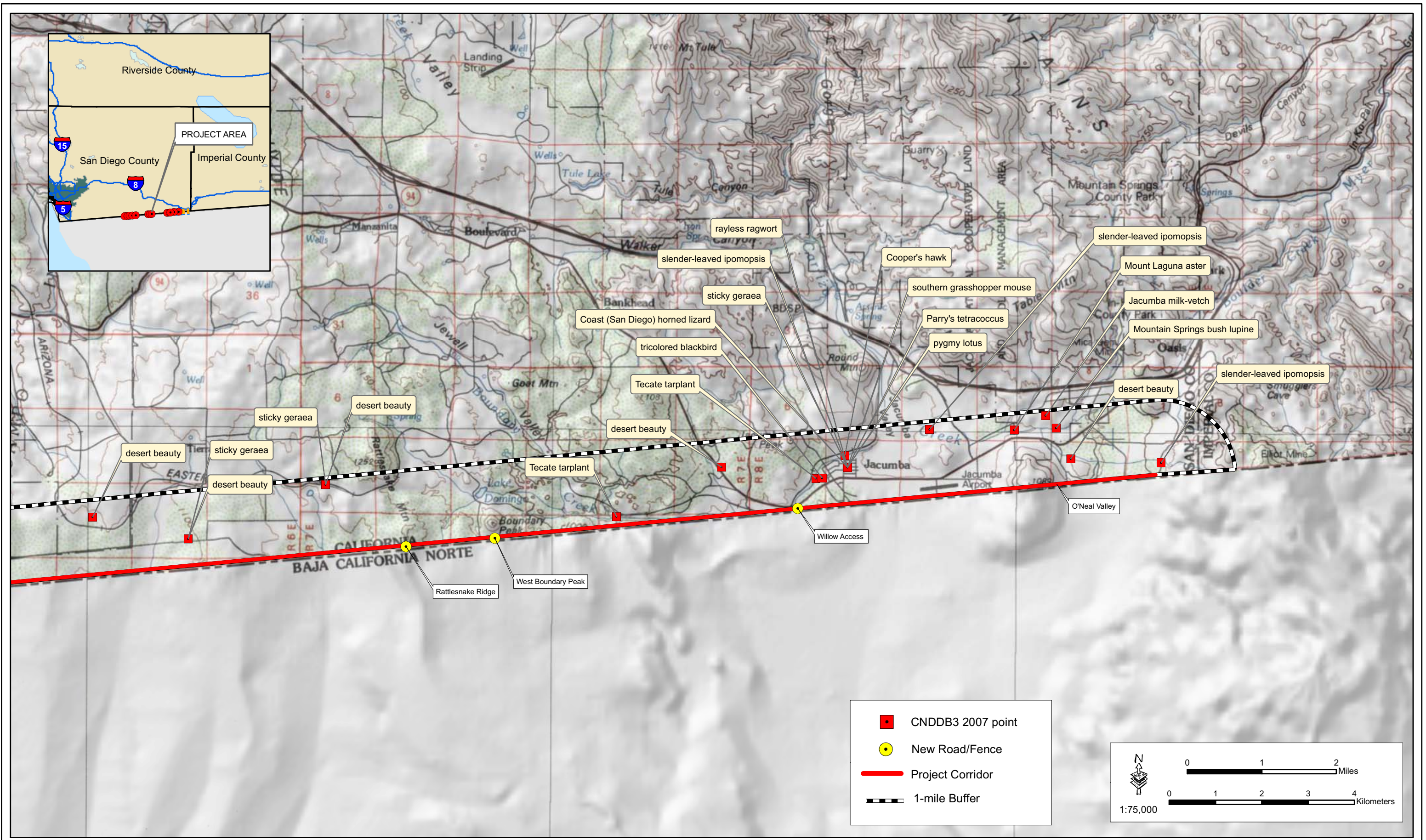


Figure 8-2: Proposed Action & CNDDDB Map 2

The Planned Action will also have temporary indirect impacts on vegetation. Fugitive dust emissions resulting from construction will affect photosynthesis and respiration of plants within and adjacent to the project corridor. The magnitude of these effects will depend upon several biotic and abiotic factors, including the speed and type of vehicles, climatic conditions, success of wetting measures during construction, and the general health and density of nearby vegetation. Acute toxicity tests have been completed for PennzSuppress® to determine its effects on plant growth. Based upon these tests and the EPA's assessment of "low concern", PennzSuppress® is considered not to be harmful to plant growth (PennzSuppress® 2002).

The use of portable lighting could affect plant growth, but these effects will be temporary. As construction activities are completed within a particular area, the lights will be moved to the new construction area. It should be emphasized that a 24-hour work schedule will only occur when construction crews are delayed due to weather or unforeseen circumstances and need to work 24 hours a day to maintain schedule. Also, all lights will be removed from the project corridor upon completion of construction activities, and the lights will be fitted with backlighting shields to minimize any stray light from escaping to areas outside of the project area. Therefore, no major adverse impacts on vegetation from the use of portable lights are expected.

Beneficial indirect impacts, such as a reduction of damage to native vegetation from illegal activities and consequent USBP enforcement activities, will occur as IAs and smuggling activities are reduced or potentially eliminated within the area. Conversely, construction and operation of TI will increase border security in the project corridor and may result in a change to illegal traffic patterns. However, changes to IA traffic patterns result from a myriad of factors in addition to USBP operations and, therefore, are considered unpredictable and beyond the scope of this ESP.

The Planned Action is not expected to promote the establishment and spread of non-native and invasive species. Following construction, daily traffic and regular maintenance (1 to 3 times per year) of the roads will impede the establishment of non-native and invasive species. Further, temporary impact areas will be rehabilitated by the use of native vegetation or the distribution of organic and geological materials in association with natural revegetation. Rehabilitation efforts for temporary impact areas and mitigation measures, such as those outlined in Section 1.5, will reduce the potential for establishment of non-native and invasive species. Therefore, this action will not have a major impact on the spread of non-native and invasive species.

8.2.2 Wildlife

The Planned Action will permanently impact approximately 40 acres of wildlife habitat. These impacts will be considered negligible, as some of the project components occur near and within previously disturbed areas (e.g., due to road widening), TI will be constructed near existing infrastructure, and the wildlife habitat is locally and regionally common. Staging areas will temporarily impact 22 acres of wildlife habitat, but these will be rehabilitated upon completion of construction activities; therefore, any impacts of

the staging areas are considered negligible. The use of PennzSuppress® will not result in adverse impacts to wildlife (PennzSuppress® 2002).

The Planned Action will not have direct impacts on fish or other aquatic species, because the construction activities will not take place in naturally flowing or standing water. Mitigation measures will be implemented for construction in or near washes, as stated in Section 1.5, to reduce potential impacts to riparian areas from erosion or sedimentation.

Mobile animals (e.g., birds) will escape to areas of similar habitat, while other slow or sedentary species of reptiles, amphibians, and small mammals could potentially be lost. As a result, direct minor adverse impacts on wildlife species in the vicinity of the project corridor are expected. Although some animals may be lost, this Planned Action will not result in any substantial reduction of the breeding opportunities for birds and other animals on a regional scale due to the suitable, similar habitat adjacent to the project corridor. Additionally, mitigation measures will be implemented to ensure minimal impact on migratory birds.

Although the primary pedestrian fence could impede transboundary migration patterns of animals, especially larger mammals (e.g., mule deer), thus fragmenting habitat within the project corridor, these impacts will be considered minimal. Habitat fragmentation typically affects species with small population sizes or that are dependent upon migration to obtain spatially or temporally limited resources. The primary pedestrian fence design (bollard style) will allow the transboundary migration of reptiles, amphibians, and small mammals; thus, reducing potential fragmentation effects. Wildlife will also still be able to migrate across the U.S./Mexico border either to the east or west of some of the project components. In addition, the species located within the project corridor that could be affected by fragmentation are regionally common in both the U.S. and Mexico. Therefore, no major adverse effects on the region's wildlife population are anticipated.

Increased noise during construction activities could have short-term impacts on wildlife species (e.g., mule deer, red-tailed hawk, desert cottontail, and California towhee). Physiological responses from noise range from minor responses, such as an increase in heart rate, to more damaging effects on metabolism and hormone balance. Long-term exposure to noise can cause excessive stimulation to the nervous system and chronic stress that is harmful to the health of wildlife species and their reproductive fitness (Fletcher 1990). Behavioral responses vary among species of animals and even among individuals of a particular species. Variations in response may be due to temperament, sex, age, or prior experience. Minor responses include head-raising and body-shifting, and usually, more disturbed mammals will travel short distances. Panic and escape behavior results from more severe disturbances, causing the animal to leave the area (Busnel and Fletcher 1978). Since the highest period of movement for most wildlife species occurs during nighttime or low daylight hours, and construction activities will be conducted during daylight hours to the maximum extent practicable, short-term impacts of noise on wildlife species are expected to be minimal to moderate.

The operation of portable lights could potentially affect wildlife. Some species, such as insectivorous bats, may benefit from the concentration of insects that will be attracted to the lights. However, the portable lights will only illuminate a minimal amount of area (200 feet per light), will be fitted with backlighting shields, will not shine into riparian areas, and will be temporary. The adverse and beneficial effects of lighting on reptiles and amphibians are currently unknown (Rich and Longcore 2006). However, the temporary exposure to light as a result of the project will not significantly alter circadian rhythms in mammals and birds. This artificial lighting may cause activity levels of diurnal animals to increase; however, any increase will not create major impacts (Rich and Longcore 2006). It is anticipated that the temporary lights will not operate any longer than 4 weeks in one location, no more than 0.5 mile of lights will be in operation at any one time, and no more than 10 lights will be used at once at each project location. The generators used for these lights produce noise levels to 75 dBA within 20 feet of the generators, but attenuate to acceptable levels of 65 dBA at 75 feet (Caltrans 1998). Noise emissions from the generators will create minimal impacts. Wildlife will not be exposed to a nighttime lighting source once the planned construction activities are complete. Therefore, impacts on wildlife are expected to be negligible as a result of the operation of portable lights.

Construction and operation of TI will increase border security in the project corridor and may result in a change to illegal traffic patterns. However, changes to IA traffic patterns result from a myriad of factors in addition to USBP operations and, therefore, are considered unpredictable and beyond the scope of this ESP. Beneficial indirect impacts will be expected from the protection afforded to areas north of the project corridor.

8.2.3 Protected Species and Critical Habitat

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the ESA, for the TI segments addressed in this ESP, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the ESA as the basis for evaluating potential environmental impacts and appropriate mitigations.

The Planned Action has the potential to adversely affect the coastal California gnatcatcher and the QCB. However, only three of the project sites, Horseshoe Canyon, East Brickyard to Gunsight, and Cetis' Hill, supported coastal sage scrub vegetation that could be utilized by the coastal California gnatcatcher. East Brickyard to Gunsight and Cetis' Hill are highly disturbed due to wildfires that occurred prior to the biological surveys, and are in proximity to developed areas along the border. Therefore, the gnatcatcher habitat that currently exists at these sites is considered low quality.

Conversely, based upon current design concepts, 6.9 acres of mixed coastal sage scrub and chamise chaparral habitat will be impacted at the Horseshoe Canyon project site. CBP has determined that this loss of habitat may adversely affect the coastal California gnatcatcher, although there is an abundance of similar and higher quality habitat north of the project site and within the region. CBP has maintained close

coordination with USFWS and USFWS has provided valuable guidance to CBP regarding these adverse impacts to the gnatcatcher and potential mitigation measures that would be implemented.

The use of portable lighting and a 24-hour work schedule could also have adverse impacts on the gnatcatcher due to the potential disturbance of nesting and breeding opportunities. However, nighttime construction and use of portable lights will occur if it is necessary to meet congressionally mandated schedules or in the event of schedule delays due to weather or unforeseen circumstances. The portable lights will be removed upon completion of construction activities. The portable lights will be equipped with backlighting shields to minimize stray light in potential habitat north of the project corridor and no lights used for construction will be positioned in a manner to illuminate riparian areas.

Potential habitat for the least Bell's vireo is located along Boundary Creek, near the Willows 1 project site. Noise created during construction activities at this project site could have an impact, if they are indeed present. However, due to the temporary nature of the construction, CBP has determined that the Planned Action may affect, but is not likely to adversely affect, the least Bell's vireo.

As seen previously in Table 8-2, suitable habitat for the QCB exists within 27 acres of the total acreage to be disturbed as a result of the project. This loss of suitable habitat is likely to create adverse impacts for the QCB. Therefore, CBP has determined that the Planned Action may adversely affect the QCB and is has developed a BRP (Appendix B) to identify measures to reduce adverse impacts. Mitigation measures will be implemented to effect impacts for both the QCB and the gnatcatcher.

The likelihood of bighorn sheep inhabiting the project corridor is limited due to the lack of habitat; therefore, no direct impacts are expected as a result of the Planned Action. Construction and operation of TI will increase border security in the project corridor and may result in a change to illegal traffic patterns. However, changes to IA traffic patterns result from a myriad of factors in addition to USBP operations and, therefore, are considered unpredictable and beyond the scope of this ESP. Therefore, CBP has determined the Planned Action will have may affect the bighorn sheep; however, the nature or intensity of such effects cannot be accurately predicted at this time.

No effects on any other Federally protected species are expected, as the project sites lack suitable habitat or the species were not observed in the project corridor during recent biological surveys.

No state-listed species are expected to occur in or near the project sites; therefore, no direct impacts are anticipated for any state-listed species. The Tecate cypress is located within the footprint of the Willows Access Road and will be permanently impacted. Up to eight immature specimens of Tecate cypress will be removed by the construction of the Willows Access Road, depending upon the final road design and alignment. This loss, however, will not be considered a long-term, major impact with

respect to this species' population. The design of the road will be developed to avoid these specimens to the maximum extent practicable.

Construction and operation of TI will increase border security in the project corridor and may result in a change to illegal traffic patterns. However, changes to IA traffic patterns result from a myriad of factors in addition to USBP operations and, therefore, are considered unpredictable and beyond the scope of this ESP.

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SECTION 9.0
CULTURAL RESOURCES

9.0 CULTURAL RESOURCES

9.1 AFFECTED ENVIRONMENT

9.1.1 Cultural Overview

Cultural, historical, and archaeological resources were previously discussed in the DHS 2003 EA, and this information is incorporated herein by reference. The archaeological record in southern California begins approximately 12,000 years ago. Chartkoff and Chartkoff recognize four major periods: Paleoindian, Archaic, “Pacific” (herein referred to as Late Prehistoric, consistent with Erlandson 1994; Moratto 1984), and Historic (Vargas et al. 2002).

The Paleoindian Period (12,000 – 8,000 B.P.) is characterized by small, mobile bands of hunter-gatherers. There is only sparse evidence of terminal Paleoindian occupation in the San Diego area. Lasting from the terminal Pleistocene to the Altithermal in the San Diego region is a series of cultures termed the Western Pluvial Lakes Tradition (WPLT). Typically, WPLT sites are associated with pluvial lakes and the associated lake, marsh, and grassland environments. In the San Diego region, the cultural expression that parallels the WPLT has been classified by Moratto as a “Paleo-Coastal Tradition,” which includes the San Dieguito Complex (Moratto 1984; Vargas et al. 2002).

The Archaic Period (8,000 – 2500 B.P.) occupations that followed the San Dieguito Complex were originally defined as the Shell Midden Culture and were later renamed the La Jolla Complex (Vargas et al. 2002). The La Jolla tool kits include ceramics, large-stemmed and indented-based points, and unique discoidal and cogged stones of unknown function, and sites of this complex are frequently recognized by milling stone assemblages associated with shell middens (Vargas et al. 2002).

The Late Prehistoric Period (2500 – 200 B.P.) arose gradually from the Archaic and is characterized by a shift to a more local economy and the development of complex societies. Both True (1966, 1970) and Moratto (1984) suggest that for the San Diego Area the La Jolla evolved into the Cuyamaca Complex, which in turn evolved into the historic Digueño speakers.

The Historic Period (200 B.P. – present) marks the advent of European settlement in California. The first Spanish explorer in San Diego County was Juan Rodigro Cabrillo in 1542. Soon afterwards, other missions and presidios were established farther north along the coast of California. The mission complexes sought to convert the indigenous Yuman-speaking inhabitants to Christianity and make them loyal to the Spanish Crown. Mexico declared its independence in 1822 and replaced the colonial Spanish missions with the rancho system. Mexico held this area of California until the Mexican-American War ended in 1848 with the signing of the Treaty of Guadalupe-Hidalgo and California was ceded to the U.S. By the 1850–1870 interval, California became a state and San Diego became an American frontier town. With its position on the San Diego Bay and plans for the construction of a railroad connection, San Diego became the

regional economic center and a merchant port. In 1919, the San Diego and Arizona Railroad was completed. Portions of the rail line occur north of the project area, west of Jacumba.

9.1.2 Previous Archaeological Investigations

A site record search was conducted by the South Coastal Information Center (SCIC) at San Diego State University in August 2007 to determine if previously recorded sites are located within the project Area of Potential Effect (APE). The records search included site descriptions and locations of previously recorded sites, locations of previously conducted archaeological investigations, and historic reference data such as historic homes databases and historic maps. The records search indicated that 44 archaeological sites are located within 1 mile of the project APE. These sites include prehistoric resource procurement and processing sites and temporary camps with minor habitation, and historic railroad, mining, and homesteading sites from the turn of the twentieth century through the middle 20th century. Of the 44 previously recorded archaeological sites, two sites are mapped by SCIC as being within or very close to the project area. One site, SDI 5164, consisted of a prehistoric lithic scatter of three to four flakes. This site is located outside the current APE and was not relocated from the description of the site record. The other site, SDI 14,425, consisted of a single bedrock milling feature with one grinding surface and no associated artifacts or subsurface midden. This site was relocated and falls within the APE. The records search also indicated that 31 previously conducted archaeological investigations have occurred within 1 mile of the project area. Three of these investigations appear to overlap the current project area.

9.1.3 Current Archaeological Investigations

A Class III cultural resources survey was conducted within the APE of the project. The cultural resources survey identified one previously recorded and one newly recorded prehistoric cultural resources and two historic cultural resources. The previously recorded prehistoric cultural resource consisted of two bedrock milling loci, including approximately four bedrock-milling features with 14 grinding surfaces (12 slicks and two basins). The site measures approximately 180 feet east/west by 23 feet north/south. No artifacts or other features were observed on the surface. Inspection of eroded and disturbed portions of the site revealed no evidence of subsurface artifacts or darkened midden soil. The second prehistoric cultural resource recorded consisted of a single retouched flake. No other artifacts or features were found associated with this isolate.

The two historic cultural resources identified were International Boundary Monuments No. 243 and No. 235. The monuments are associated with numerous treaties signed with Mexico concerning the surveying and marking of the international border and the subsequent resurveying, upkeep, and maintenance of the border markers stretching from El Paso, Texas/Ciudad Juarez, and Chihuahua to the Pacific Ocean. These treaties include the 1848 Treaty of Guadalupe Hidalgo, the 1853 Gadsen Treaty, and the Conventions of 1882, 1884, and 1889. Border Monuments No. 243 and No. 235 are also associated with U.S. Commissioner John Whitney Barlow, a prominent figure in American history.

9.2 ENVIRONMENTAL CONSEQUENCES

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the NHPA, for the TI segments addressed in this ESP, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the NHPA as the basis for evaluating potential environmental impacts and appropriate mitigations.

The two prehistoric cultural resources identified are not considered historic properties. Two historic objects, International Boundary Monument Numbers 243 and 235, are located within the project corridor and could be potentially affected by the Planned Action. These monuments are considered historic properties. Mitigation measures to prevent effects to these historic properties are outlined in Section 1.5. These measures, as well as other potential mitigation measures developed through coordination with the BLM or California State Historic Perseverations Office, will ensure that there are no effects on these historic properties. Additionally, all Federally recognized tribes affiliated with the project corridor have been consulted regarding the project.

As a result, the Planned Action will not result in major impacts on cultural resources, provided mitigation measures are properly implemented.

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SECTION 10.0
SOCIOECONOMICS



10.0 SOCIOECONOMICS

10.1 AFFECTED ENVIRONMENT

10.1.1 Socioeconomics

The population in San Diego County in 2005 was 2,933,462 (U.S. Census Bureau 2005a). The 2005 racial mix of San Diego County was predominantly Caucasian (79.8 percent), followed by people of Asian descent (10.2 percent), followed by African Americans (5.6 percent), with the remaining 3.2 percent of the population split between American Indians and Alaskan Natives, Native Hawaiians, and other races (U.S. Census Bureau 2005a). Approximately 29 percent of the 2005 population of San Diego County identify themselves as of Hispanic or Latino origin (U.S. Census Bureau 2005a).

The total number of jobs in San Diego County in 2004 was 1,838,917, an increase of 29 percent over the number of jobs in 1994 (1,421,394) (Bureau of Economic Analysis [BEA] 2004a). The 2006 annual average unemployment rate for San Diego County was 4.0 percent. This is lower than the 4.2 percent average annual unemployment rate for the State of California (Bureau of Labor Statistics 2006).

In 2004, San Diego County had a per capita personal income (PCPI) of \$37,965 (BEA 2004b). This PCPI ranked 13th in the State of California, and was 108 percent of the state average of \$35,219, and 115 percent of the national average of \$33,050. The average annual growth rate of PCPI from 1994 to 2004 was 5.3 percent. This average annual growth rate was higher than the growth rate for the state (4.3 percent) and the nation (4.1 percent). In 2004, San Diego County had a total personal income (TPI) of \$111.4 billion. This TPI ranked 3rd in the state and accounted for 8.8 percent of the state total. The 2004 TPI reflected an increase of 7.1 percent from 2003, which was higher than 2003–2004 state change of 6.6 percent and the national change of 6.0 percent during the same period.

The estimated number of people of all ages living in poverty in San Diego County was 308,791 in 2004. This represented 10.9 percent of the population of the county, which is lower than the percentage of both the state's and the nation's population that live in poverty (U.S. Census Bureau 2004). The median household income in 2004 for San Diego County was \$51,939. This was higher than the 2004 median household income for both the state and the nation (U.S. Census Bureau 2004).

San Diego County had a total of 1,113,207 housing units in the 2005 Census (U.S. Census Bureau 2005b). The 2000 homeownership rate for San Diego County was 55.4 percent, compared to the state homeownership rate of 56.9 percent (U.S. Census Bureau 2005b).

10.1.2 Environmental Justice

Minority and poverty status in the vicinity of the project was examined to determine if any minority and/or low-income communities would potentially be disproportionately

affected by implementation of the Project. No low-income and minority populations are present within the ROI.

10.1.3 Protection of Children

Children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. Special risks to children related to construction activity may include safety, noise, pollutants, and hazardous materials. Children would be more likely to be present in residential neighborhoods adjacent to the project corridor rather than in the less populated agricultural areas.

10.2 ENVIRONMENTAL CONSEQUENCES

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under Executive Order (EO) 12898 and EOI 13045 for the TI segments addressed in this ESP, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with the EOs as the basis for evaluating potential environmental impacts and appropriate mitigations.

10.2.1 Socioeconomics

Because the project corridor encompasses private lands, the local tax base could be reduced. As mentioned previously in Section 6.0, 21 acres of privately owned lands could be acquired by CBP for the purposes of constructing the project. If this occurs, these 21 acres will be taken out of the San Diego County tax base. This minimal reduction of tax base will not be expected to create substantial decreases in the overall county tax base; therefore, no major impacts will be expected to occur.

Direct beneficial impacts of the Planned Action include minor and temporary increases in sales volume, material purchases, and sales taxes. Additionally, implementation of the Planned Action will reduce the amount of illegal traffic in the region, which, in turn, will reduce the associated societal and economic costs to the region. These societal and economic costs include, but are not limited to, the costs of removal of trash, overall degradation of property, reduction in property value, and degradation of natural and cultural resources. Consequently, this reduction in illegal traffic will have an indirect beneficial long-term impact on the local economy.

Construction and operation of TI will increase border security in the project corridor and may result in a change to illegal traffic patterns. However, changes to IA traffic patterns result from a myriad of factors in addition to USBP operations and, therefore, are considered unpredictable and beyond the scope of this ESP.

The Planned Action will not affect the region's population or housing markets and will not require an increased demand on public services that exceeds current capacity. Therefore, minimal to moderate impacts would occur.

10.2.2 Environmental Justice

No disproportionate environmental effects have been identified for any resource area or population (minority, low-income, or otherwise) analyzed in this ESP. Furthermore, there will be no displacements of residences or businesses.

Elimination of illegal cross-border activities will benefit the entire population of San Diego County, regardless of age, nationality, ethnicity, or economic status. Thus, the Planned Action will not disproportionately affect minority or low income populations.

10.2.3 Protection of Children

No residences or other facilities that would be associated with children are located near or within the project corridor. Therefore, no impacts relating to the protection of children will occur as a result of the Planned Action.

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SECTION 11.0
ROADWAYS AND TRAFFIC



11.0 ROADWAYS AND TRAFFIC

11.1 AFFECTED ENVIRONMENT

The primary transportation routes associated with the project are California Highway 94 and Old Highway 80. These roads generally parallel the U.S./Mexico border south of Interstate 8, and are the main roads for several towns (e.g., Jacumba and Campo) located north of the project corridor; however, these roads are also heavily traveled by large trucks transporting goods to Mexico through the Tecate POE. Highway 94 and Old Highway 80 provide access to Interstate 8 through various San Diego County roads. San Diego County maintained roads, such as Thing Road, Humphries Road, and Shockey Truck Trail, will be used to access the project component work sites (see Appendix C, Detailed Project Maps).

11.2 ENVIRONMENTAL CONSEQUENCES

With the implementation of the Planned Action, primary pedestrian fence and border/construction roads will be constructed to assist USBP in maintaining a secure border. It is expected that an average of 5 to 10 vehicle trips per day will occur on Highway 94 or Old Highway 80 while 15 to 25 vehicle trips per day are anticipated for county roads. The use of Highway 94 and Old Highway 80 will create minimal to moderate, but temporary, increases in current traffic levels along these roads. These roads are currently used as primary access routes to the Tecate POE; therefore, the type of vehicles used to transport equipment and materials will not vary greatly from the vehicles currently traveling on these roads. The delivery of equipment along these roads will occur primarily at the beginning and completion of the project, although materials will be delivered periodically throughout the construction process. Once the equipment and materials are within the project corridor, staging areas will be used as storage sites, thus, limiting the amount of heavy vehicle trips needed along these roads.

The use of county roads will be more frequent, as these roads will be used for border access through the project corridor to move construction activities from site to site. No construction activities (i.e., improvements) will occur on county roads; however, these roads will be brought back to pre-construction condition upon completion of the project. The county roads are currently used as patrol roads by USBP and are the only means of access to the different project components within the project corridor. The temporary increase in vehicle traffic will not cause a major adverse impact to existing traffic and capacity of the public transportation system.

The Willows Access Road connects to Old Highway 80 near Jacumba, and will need a driveway to be installed to connect the access road and Old Highway 80. Clear line of sight is achieved up to 400 feet to the west and over 1000 feet to the east of the junction of the Willows Access Road and Old Highway 80. This new driveway, as well as the use of county-maintained roads, will need construction and encroachment permits from San Diego County. The county requires these permits for any work performed within the

San Diego County's right-of-way (ROW), such as driveways or temporary road access points onto county-maintained roads.

The use of USBP constructed access roads (i.e., Willows Access Road) will be limited to government only use. The patrol roads created along the border, too, will be for the strict use of USBP; however, the existing access roads such as Thing Road and Humphries Road will continue to be publicly accessible roads. Therefore, minimal to moderate impacts to traffic along public roads will occur as a result of the Planned Action.

No long-term impacts are expected due to implementation of the Planned Action. Traffic levels will return to pre-construction levels upon completion of the project. Additionally, maintenance activities will be needed periodically along the new patrol and access roads. Impacts as a result of these activities will be negligible due to their temporary nature.

SECTION 12.0
HAZARDOUS MATERIALS

12.0 HAZARDOUS MATERIALS

12.1 AFFECTED ENVIRONMENT

EPA maintains a list of hazardous waste sites, particularly waste storage/treatment facilities or former industrial manufacturing sites in the U.S. EPA databases, Environmental and Compliance History Online and Envirofacts Data Warehouse, were reviewed for the locations of hazardous waste sites within or near the project corridor (EPA 2007b, 2007c). According to both of these databases, no hazardous waste sites are located near or within the project corridor.

Unregulated solid waste within east San Diego County has become a severe problem in recent years due to illegal vehicle and foot traffic. According to the Ninth Report of the Good Neighbor Environmental Board (GNEB) to the President and Congress of the U.S., the average IA disposes of approximately 8 pounds of waste a day. This waste consists of backpacks, clothing, blankets, water bottles, plastic sheeting, food, and other debris (GNEB 2006). Within the project area, these forms of unregulated solid waste are the most commonly observed.

12.2 ENVIRONMENTAL CONSEQUENCES

Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) for the TI segments addressed in this ESP, the Secretary committed the Department to responsible environmental stewardship of our valuable natural and cultural resources. CBP supports this objective and has applied the appropriate standards and guidelines associated with CERCLA as the basis for evaluating potential environmental impacts and appropriate mitigations.

The potential exists for POL spills to occur while refueling construction equipment or portable lighting used during the implementation of the Planned Action. However, clean-up materials (e.g., oil mops) will be maintained at the project site to allow immediate action in case an accidental spill occurs. Drip pans will be provided for stationary equipment to capture any POL that is accidentally spilled during maintenance activities or leaks from the equipment. In addition, a SPCCP will be in place prior to the start of construction, and all personnel will be briefed on the implementation and responsibilities of this plan. BLM will be provided a copy of the SPCCP prior to the start of construction activities.

Sanitary facilities will be provided during construction activities and waste products will be collected and disposed of by licensed contractors. No gray water will be discharged to the ground. Disposal contractors will dispose of all waste in strict compliance with Federal, state, and local regulations, in accordance with the contractor's permits.

The infrastructure will also have indirect beneficial impacts through the reduction of solid waste. As illegal foot traffic is reduced or eliminated within the project corridor, so will be the solid waste that is associated with it.

SECTION 13.0
RELATED PROJECTS AND POTENTIAL EFFECTS

13.0 RELATED PROJECTS AND POTENTIAL EFFECTS

This section of the ESP addresses the potential impacts associated with the implementation of the Planned Action and other projects/programs that are planned for the region.

USBP has been conducting law enforcement actions along the border since its inception in 1924 and has continuously transformed its methods as new missions, IA modes of operation, 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 impacted thousands of acres with synergistic and cumulative impacts on soil, wildlife habitats, water quality, and noise. Beneficial effects, too, have resulted from the construction and use of these roads and fences including, but not limited to: increased employment and income for border regions and its surrounding communities; protection and enhancement of sensitive resources north of the border; reduction in crime within urban areas near the border; increased land value in areas where border security has increased; and increased knowledge of the biological communities and pre-history of the region through numerous biological and cultural resources surveys and studies.

With continued funding and implementation of CBP's environmental conservation measures, including environmental education and training of its agents, use of biological and archaeological monitors, wildlife water systems, and restoration activities, adverse impacts of future and ongoing projects will be prevented or minimized. However, recent, ongoing, and reasonably foreseeable proposed projects will result in cumulative impacts. General descriptions of these types of activities are discussed in the following paragraphs.

Cumulative Fencing along Southwestern Border. There are currently 62 miles of landing mat fence at various locations along the U.S./Mexico international border (CRS 2006); 14 miles of single, double, and triple fence in San Diego, California; 70 miles of new primary pedestrian fence approved and currently under construction at various locations along the U.S./Mexico international border; and fences at POE facilities throughout the southern border. In addition, 225 miles of fence (including the 10 miles under the Planned Action considered in this ESP) are currently being studied for Texas, New Mexico, Arizona, and California.

Past Actions. Past actions are those within the cumulative effects analysis areas that have occurred prior to the development of this ESP. The effects of these past actions are generally described throughout the previous sections. For example, the existing TI has contributed to the existing environmental conditions of the area.

Present Actions. Present actions include current or funded construction projects, USBP or other agency actions in close proximity to the fence locations, and current resource management programs and land use activities within the cumulative effects

analysis areas. Ongoing actions considered in the cumulative effects analysis include the following:

- Ongoing maintenance of approximately 104 miles of patrol roads throughout the Brown Field, El Cajon, and Campo Stations' AOs. The roads adjacent to or nearest the project area are the Marroon Valley Road (6.6 miles) and Barrett Truck Trail (9.6 miles).
- USBP recently constructed a new Campo Border Patrol Station near Kitchen Creek in east San Diego County. The station footprint affected approximately 25 acres, including horse pasture and paddocks, helipad, and buffer zone. Construction was completed in May 2008.
- CBP/USBP is currently constructing a border infrastructure system along the U.S./Mexico border within San Diego County. The infrastructure system project spans 14 miles and includes: secondary and tertiary fences, patrol and maintenance roads, lights, and integrated surveillance and intelligence system resources. Approximately 9 miles of the 14-mile project have been completed or are currently under construction. These projects were addressed under separate EAs as pilot projects for the barrier system. When completed, the infrastructure system will impact approximately 297 acres, consisting of disturbed/developed lands, coastal sage scrub, maritime succulent scrub, and grasslands.

Reasonably Foreseeable Future Actions. Reasonably foreseeable future actions consist of activities that have been approved and can be evaluated with respect to their effects. The following activities are reasonably foreseeable future actions:

- The Strategic Border Initiative (SBI) is a comprehensive program focused on transforming border control through technology and infrastructure. The goal of the program is to field the most effective proven technology, infrastructure, staffing, and response platforms, and integrate them into a single comprehensive border security suite for DHS. Potential future SBI projects include deployment of sensor technology, communications equipment, command and control equipment, fencing, barriers capable of stopping a vehicle, and any required road or components such as lighting and all-weather access roads.
- CBP/USBP is currently proposing the expansion and improvement of the Highway 94 Checkpoint, near Dulzura, California, within the Brown Field Station's AO. CBP proposes to develop two parcels of land on the western and eastern sides of the Highway 94 checkpoint as parking areas. The western portion encompasses approximately 0.75 acre and will be purchased or leased from the State of California. The eastern portion is currently under lease and will be developed, as originally planned when the checkpoint was first established in 1997. This portion encompasses approximately 1.5 acres.

- The FY 2007 DHS Appropriations Act provided \$1.2 billion for the installation of fencing, infrastructure, and technology along the border (CRS 2006). CBP is proposing to construct up to 225 miles of primary fence in the Rio Grande Valley, Marfa, Del Rio, and El Paso, Texas; Tucson and Yuma, Arizona; El Centro and San Diego, California, sectors. In addition, up to 200 miles of vehicle barriers are also currently being planned in the El Centro, Yuma, Tucson, El Paso and Marfa sectors.
- CBP/USBP is currently planning the development of the Pack Trail (see BLM project below) to a patrol road and primary pedestrian fence. This project will connect the southern end of the Puebla Tree Trail to the Monument 250 Road, a total distance of about 3.28 miles. Primary pedestrian fence will be installed along the border as part of this project. Due to the terrain, extensive cut and fill activities will be required; this will adversely impact and encroach onto the Otay Mountain Wilderness Area.

USBP may find it necessary to implement other activities and operations that are currently not foreseen or mentioned in this document. These actions could be in response to national emergencies or security events like the terrorist attacks on September 11, 2001, or to changes in the mode of operations of potential IAs.

In addition, projects are currently being planned by other Federal entities which could affect areas in use by USBP. The following is a list of projects that the BLM is conducting or has completed within the U.S./Mexico border region:

- Planned collaborative project for upgrading the Border Pack Trail. The trail runs east-west along the border below the Otay Mountain Wilderness. The wilderness boundary is actually 100 feet north of the edge of the trail. The existing trail is mainly a hiking trail, but all-terrain vehicles (ATVs) could access the trail at this time with some difficulty. USBP is proposing to upgrade the trail to better accommodate ATVs and larger patrol vehicles safely. This will include widening the trail and constructing turnarounds and pull-outs.
- The BLM is proposing to prepare an amendment to the South Coast RMP for BLM-administered public lands in the Border Mountains area of San Diego County. The plan amendment proposes to establish management guidelines for lands acquired since 1994 and designate a route of travel network.
- SDG&E has proposed to construct a new 150-mile transmission line between the cities of El Centro and San Diego. The stated purpose of this project is to achieve greater reliability of renewable energy sources within San Diego from Imperial County, reduce energy costs, and improve the reliability of electrical services within San Diego. SDG&E has submitted an application with the California Public Utilities Commission (CPUC) to construct the Sunrise Powerlink Project. Currently, a joint

EIS/Environmental Impact Report is being developed between BLM and the CPUC.

A summary of the anticipated cumulative impacts is presented in the following sections. These discussions are given for each of the resources described previously.

13.1 AIR QUALITY

The emissions generated during and after the construction of the primary pedestrian fence will be short-term and minor. Although maintenance of the primary pedestrian fence will have cumulative impacts on the region's airshed, these impacts are considered minor, even when combined with the other proposed developments in the border region. Deterrence of and improved response time to IA crossings created by the construction of infrastructure will lead to improved control of the border. A result of this improved control will be to reduce the number of off-road enforcement actions that are currently necessary by USBP agents.

13.2 NOISE

Most of the noise generated by the Planned Action will occur during construction, and thus, will not contribute to cumulative impacts on ambient noise levels. Routine maintenance of the primary pedestrian fence and roads will result in slight temporary increases in noise levels that will continue to sporadically occur over the long-term and will be similar to those of ongoing PVB and road maintenance within the project corridor. Potential sources of noise from other projects are not enough (temporally or spatially) to increase ambient noise levels above the 65 dBA range at the project sites. Thus, the noise generated by the construction and maintenance of the infrastructure, when considered with the other existing and proposed projects in the region, will be considered to have minor cumulative adverse effects.

13.3 LAND USE, RECREATION AND AESTHETICS

The Planned Action will primarily affect lands located in the Roosevelt Reservation, which was set aside specifically for border control actions. This project, therefore, is consistent with the authorized land use and, when considered with other potential alterations of land use, would not be expected to have a major cumulative adverse impact. The permanent alteration of 2 acres of private lands as a result of this project, when combined with other private land alterations near the TI, would be considered to have a negligible cumulative impact on land use in the ROI.

There will be no major impacts on visual resources from implementing the Planned Action, due in part to the existing border TI and other disturbances. Construction and maintenance of the primary pedestrian fence and road, when considered with existing and proposed developments in the surrounding area, will result in minor to moderate cumulative impacts on the visual quality of the region. Areas north of the border will

experience beneficial, indirect cumulative effects from the reduction of trash and debris produced by IAs.

13.4 GEOLOGICAL RESOURCES AND SOILS

The Planned Action will not create any dangerous or unstable conditions within any geologic unit, nor will it expose people or structures to potential substantial adverse effects. Further, no geologic resource is located exclusively within the project corridor. The impact of the Planned Action, when combined with past and proposed projects in the region, will be considered to have minor cumulative adverse impacts on geological resources.

The Planned Action and other USBP actions have not reduced prime farmland soils or agricultural production. Pre- and post-construction SWPPP measures will be implemented to control soil erosion. No inappropriate soil types are located in the project corridor that will present a safety risk. The permanent impact on 40 acres, when combined with past and proposed projects in the region, will constitute a minor to moderate cumulative adverse impact.

13.5 WATER RESOURCES

Construction and maintenance of the infrastructure will have negligible impacts on hydrology or groundwater resources. The SWPPP and BMPs to be developed and implemented will reduce erosion and sedimentation during construction to negligible levels and will eliminate post-construction erosion and sedimentation from the sites. The same measures will be implemented for other construction projects; therefore, cumulative impacts will be minor.

Construction and maintenance of the fence and roads will have minor to moderate impacts on surface water resources, wetlands, or WUS. The Planned Action will not substantially alter drainage patterns (north or south of the project corridor), and mitigation will be implemented, as appropriate. The combination of a SWPPP and BMPs will reduce erosion and sedimentation during construction to negligible levels and will eliminate post-construction erosion and sedimentation from the site. The same measures will be implemented for other construction projects; therefore, cumulative impacts will be considered minor.

No impediments to flood conveyance or increase in flood flow velocities will occur as a result of the Planned Action, as no floodplains would be impacted. Therefore, no cumulative impacts will occur as a result of the Planned Action.

13.6 BIOLOGICAL RESOURCES

Removal of 40 acres of locally and regionally common plant communities will not have major cumulative impacts on vegetation communities because of the vast amounts of similar vegetation communities surrounding the project corridor. The long-term viability

of species and communities in the project region will not be threatened. The loss of 40 acres, when combined with other ground-disturbing or development projects in the ROI, will have minor cumulative impacts on vegetation communities.

Removal of 40 acres of habitat will have minor cumulative impacts on wildlife populations, since habitat in the project corridor is considered common, and similar habitat is abundant both locally and regionally. The design of the fence (bollard) ensures no adverse impacts to the transboundary migration capabilities of small mammals and reptiles. Regardless, even after the completion of these segments, there will still be large remote areas along the border, within the San Diego Sector, that do not contain barriers; consequently, there will still be ample opportunities for transboundary migration and exchange of genetic material of larger mammals. Therefore, the long-term viability of species and communities in the project region will not be threatened. The loss of 40 acres of wildlife habitat, when combined with other ground-disturbing or development projects in the project region, will have minor to moderate cumulative impacts on the region's biological resources.

CBP has maintained close coordination with USFWS regarding the QCB and coastal California gnatcatcher and USFWS has provided valuable guidance to CBP regarding these species. Through the use of BMPs developed in coordination with USFWS, the potential impacts as a result of the Planned Action, as well as other past, present, and future actions, would ensure that major cumulative impacts on protected species do not occur.

13.7 CULTURAL RESOURCES

The Planned Action will have no effect on historic properties, provided avoidance measures are implemented as described. Therefore, this action, when combined with other existing and proposed projects in the region, will have negligible cumulative impacts on cultural resources.

13.8 SOCIOECONOMICS

Construction of the infrastructure will have temporary cumulative beneficial impacts on the region's economy. There will be negligible adverse impacts on the socioeconomics of the region via a reduced tax base. Regardless, when combined with the other currently proposed or ongoing projects within the region, the Planned Action is considered to have minor cumulative impacts.

13.9 ROADWAYS AND TRAFFIC

Although this project and other ongoing projects will increase traffic loads within local road systems during construction, these impacts will be short-term, and traffic volumes will return to pre-construction levels upon completion of the projects. Therefore, the creation of substantial increases in traffic volume or road system capacity over the long-term will not be expected. Thus, minor cumulative impacts will occur.

13.10 HAZARDOUS MATERIALS

Only minor increases in the use of hazardous substances (e.g., POL) will occur as a result of the construction and maintenance of the primary pedestrian fence. No health or safety risks will be created by the Planned Action. When combined with other ongoing and proposed projects in the region, the Planned Action will have a negligible cumulative effect.

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SECTION 14.0
REFERENCES



14.0 REFERENCES

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SECTION 15.0
ABBREVIATIONS AND ACRONYMS

15.0 ABBREVIATIONS AND ACRONYMS

APE	Area of Potential Effect
AO	Areas of Operation
ATV	all-terrain vehicle
BEA	Bureau of Economic Analysis
BMP	Best Management Practices
BLM	Bureau of Land Management
BP	before present
BRP	Biological Resources Plan
CAA	Clean Air Act
CalEPA	California EPA
CBP	U.S. Customs and Border Protection
CDFG	California Department of Fish and Game
CFR	Code of Federal Regulations
CM&R	Construction Mitigation and Restoration Plan
CNDDB	California Natural Diversity Database
CO	Carbon Monoxide
CPUC	California Public Utilities Commission
CRS	Congressional Research Service
dB	decibel
dBA	decibel – A weighted scale
DHS	U.S. Department of Homeland Security
DNL	day-night average sound level
DOI	Department of the Interior
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESP	Environmental Stewardship Plan
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FY	fiscal year
GNEB	Good Neighbor Environmental Board
IA	illegal alien
IIRIRA	Illegal Immigration Reform and Immigrant Responsibility Act
INS	Immigration and Naturalization Service
IPS	inches per second
JTF-6	Joint Task Force Six
JTF-N	Joint Task Force North
LWC	low water crossing
MEMCL	Maunsell Environmental Management Consultants, Ltd.
MOA	Memorandum of Agreement

MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOA	Notice of Availability
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
PCPI	per capita personal income
PL	Public Law
PM-10	Particulate<10 micrometers
PM-2.5	Particulate<2.5 micrometers
POE	port of entry
POL	petroleum, oil, and lubricants
PPV	peak particle velocity
PVB	primary vehicle barrier
QCB	Quino Checkerspot Butterfly
RCP	reinforced concrete pipe
RMP	Resource Management Plan
ROI	region of influence
ROW	right-of-way
SBI	Secure Border Initiative
SCIC	South Coastal Information Center
SDG&E	San Diego Gas & Electric Company
SPCCP	Spill Prevention, Control, and Countermeasures Plan
SWPPP	Storm Water Pollution Prevention Plan
TI	Tactical Infrastructure
TMDL	Total Maximum Daily Loads
TPI	total personal income
U.S.	United States
USACE	United States Army Corps of Engineers
USBP	United States Border Patrol
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USIBWC	United States Section, International Boundary Water Commission
WPLT	Western Pluvial Lakes Tradition
WUS	Waters of the U.S.

APPENDIX A
Waiver



FOR FURTHER INFORMATION CONTACT: Ken Hunt, Executive Director, 245 Murray Lane, Mail Stop 0550, Washington, DC 20528, 703-235-0780 and 703-235-0442, privacycommittee@dhs.gov.

Purpose and Objective: Under the authority of 6 U.S.C. section 451, this charter establishes the Data Privacy and Integrity Advisory Committee, which shall operate in accordance with the provisions of the Federal Advisory Committee Act (FACA) (5 U.S.C. App).

The Committee will provide advice at the request of the Secretary of DHS and the Chief Privacy Officer of DHS on programmatic, policy, operational, administrative, and technological issues within the DHS that relate to personally identifiable information (PII), as well as data integrity and other privacy-related matters.

Duration: The committee's charter is effective March 25, 2008, and expires March 25, 2010.

Responsible DHS Officials: Hugo Teufel III, Chief Privacy Officer and Ken Hunt, Executive Director, 245 Murray Drive, Mail Stop 0550, Washington, DC 20528, privacycommittee@dhs.gov, 703-235-0780.

Dated: April 1, 2008.

Hugo Teufel III,

Chief Privacy Officer.

[FR Doc. E8-7277 Filed 4-7-08; 8:45 am]

BILLING CODE 4410-10-P

DEPARTMENT OF HOMELAND SECURITY

Office of the Secretary

Determination Pursuant to Section 102 of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as Amended

AGENCY: Office of the Secretary, Department of Homeland Security.

ACTION: Notice of determination; correction.

SUMMARY: The Secretary of Homeland Security has determined, pursuant to law, that it is necessary to waive certain laws, regulations and other legal requirements in order to ensure the expeditious construction of barriers and roads in the vicinity of the international land border of the United States. The notice of determination was published in the **Federal Register** on April 3, 2008. Due to a publication error, the Project Area description was inadvertently omitted from the April 3 publication. For clarification purposes, this document is a republication of the April 3 document including the omitted Project Area description.

DATES: This Notice is effective on April 8, 2008.

Determination and Waiver

The Department of Homeland Security has a mandate to achieve and maintain operational control of the borders of the United States. Public Law 109-367, 2, 120 Stat. 2638, 8 U.S.C. 1701 note. Congress has provided the Secretary of Homeland Security with a number of authorities necessary to accomplish this mandate. One of these authorities is found at section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 ("IIRIRA"). Public Law 104-208, Div. C, 110 Stat. 3009-546, 3009-554 (Sept. 30, 1996) (8 U.S.C 1103 note), as amended by the REAL ID Act of 2005, Public Law 109-13, Div. B, 119 Stat. 231, 302, 306 (May 11, 2005) (8 U.S.C. 1103 note), as amended by the Secure Fence Act of 2006, Public Law 109-367, 3, 120 Stat. 2638 (Oct. 26, 2006) (8 U.S.C. 1103 note), as amended by the Department of Homeland Security Appropriations Act, 2008, Public Law 110-161, Div. E, Title V, 564, 121 Stat. 2090 (Dec. 26, 2007). In Section 102(a) of the IIRIRA, Congress provided that the Secretary of Homeland Security shall take such actions as may be necessary to install additional physical barriers and roads (including the removal of obstacles to detection of illegal entrants) in the vicinity of the United States border to deter illegal crossings in areas of high illegal entry into the United States. In Section 102(b) of the IIRIRA, Congress has called for the installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwest border, including priority miles of fencing that must be completed by December of 2008. Finally, in section 102(c) of the IIRIRA, Congress granted to me the authority to waive all legal requirements that I, in my sole discretion, determine necessary to ensure the expeditious construction of barriers and roads authorized by section 102 of the IIRIRA.

I determine that the following area of Hidalgo County, Texas, in the vicinity of the United States border, hereinafter the Project Area, is an area of high illegal entry:

- Starting approximately at the intersection of Military Road and an unnamed road (i.e. beginning at the western end of the International Boundary Waters Commission (IBWC) levee in Hidalgo County) and runs east in proximity to the IBWC levee for approximately 4.5 miles.
- Starting approximately at the intersection of Levee Road and 5494 Wing Road and runs east in proximity

to the IBWC levee for approximately 1.8 miles.

- Starting approximately 0.2 mile north from the intersection of S. Depot Road and 23rd Street and runs south in proximity to the IBWC levee to the Hidalgo POE and then east in proximity to the new proposed IBWC levee and the existing IBWC levee to approximately South 15th Street for a total length of approximately 4.0 miles.

- Starting adjacent to Levee Road and approximately 0.1 miles east of the intersection of Levee Road and Valley View Road and runs east in proximity to the IBWC levee for approximately 1.0 mile then crosses the Irrigation District Hidalgo County #1 Canal and will tie into the future New Donna POE fence.

- Starting approximately 0.1 mile east of the intersection of County Road 556 and County Road 1554 and runs east in proximity to the IBWC levee for approximately 3.4 miles.

- Starting approximately 0.1 mile east of the Bensten Groves road and runs east in proximity to the IBWC levee to the Progreso POE for approximately 3.4 miles.

- Starting approximately at the Progreso POE and runs east in proximity to the IBWC levee for approximately 2.5 miles.

In order to deter illegal crossings in the Project Area, there is presently a need to construct fixed and mobile barriers and roads in conjunction with improvements to an existing levee system in the vicinity of the border of the United States as a joint effort with Hidalgo County, Texas. In order to ensure the expeditious construction of the barriers and roads that Congress prescribed in the IIRIRA in the Project Area, which is an area of high illegal entry into the United States, I have determined that it is necessary that I exercise the authority that is vested in me by section 102(c) of the IIRIRA as amended. Accordingly, I hereby waive in their entirety, with respect to the construction of roads and fixed and mobile barriers (including, but not limited to, accessing the project area, creating and using staging areas, the conduct of earthwork, excavation, fill, and site preparation, and installation and upkeep of fences, roads, supporting elements, drainage, erosion controls, safety features, surveillance, communication, and detection equipment of all types, radar and radio towers, and lighting) in the Project Area, all federal, state, or other laws, regulations and legal requirements of, deriving from, or related to the subject of, the following laws, as amended: The National Environmental Policy Act (Pub. L. 91-190, 83 Stat. 852 (Jan. 1,

1970) (42 U.S.C. 4321 *et seq.*), the Endangered Species Act (Pub. L. 93–205, 87 Stat. 884) (Dec. 28, 1973) (16 U.S.C. 1531 *et seq.*), the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act) (33 U.S.C. 1251 *et seq.*), the National Historic Preservation Act (Pub. L. 89–665, 80 Stat. 915 (Oct. 15, 1966) (16 U.S.C. 470 *et seq.*), the Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), the Clean Air Act (42 U.S.C. 7401 *et seq.*), the Archeological Resources Protection Act (Pub. L. 96–95, 16 U.S.C. 470aa *et seq.*), the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*), the Noise Control Act (42 U.S.C. 4901 *et seq.*), the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*), the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 *et seq.*), the Archeological and Historic Preservation Act (Pub. L. 86–523, 16 U.S.C. 469 *et seq.*), the Antiquities Act (16 U.S.C. 431 *et seq.*), the Historic Sites, Buildings, and Antiquities Act (16 U.S.C. 461 *et seq.*), the Farmland Protection Policy Act (7 U.S.C. 4201 *et seq.*), the Coastal Zone Management Act (Pub. L. 92–583, 16 U.S.C. 1451 *et seq.*), the Federal Land Policy and Management Act (Pub. L. 94–579, 43 U.S.C. 1701 *et seq.*), the National Wildlife Refuge System Administration Act (Pub. L. 89–669, 16 U.S.C. 668dd–668ee), the Fish and Wildlife Act of 1956 (Pub. L. 84–1024, 16 U.S.C. 742a, *et seq.*), the Fish and Wildlife Coordination Act (Pub. L. 73–121, 16 U.S.C. 661 *et seq.*), the Administrative Procedure Act (5 U.S.C. 551 *et seq.*), the Rivers and Harbors Act of 1899 (33 U.S.C. 403), the Eagle Protection Act (16 U.S.C. 668 *et seq.*), the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 *et seq.*), the American Indian Religious Freedom Act (42 U.S.C. 1996), the Religious Freedom Restoration Act (42 U.S.C. 2000bb), and the Federal Grant and Cooperative Agreement Act of 1977 (31 U.S.C. 6303–05).

I reserve the authority to make further waivers from time to time as I may determine to be necessary to accomplish the provisions of section 102 of the IIRIRA, as amended.

Michael Chertoff,

Secretary.

[FR Doc. E8–7450 Filed 4–7–08; 8:45 am]

BILLING CODE 4410–10–P

DEPARTMENT OF HOMELAND SECURITY

Office of the Secretary

Determination Pursuant to Section 102 of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, as Amended

AGENCY: Office of the Secretary, Department of Homeland Security.

ACTION: Notice of determination; correction.

SUMMARY: The Secretary of Homeland Security has determined, pursuant to law, that it is necessary to waive certain laws, regulations and other legal requirements in order to ensure the expeditious construction of barriers and roads in the vicinity of the international land border of the United States. The notice of determination was published in the **Federal Register** on April 3, 2008. Due to a publication error, the description of the Project Areas was inadvertently omitted from the April 3 publication. For clarification purposes, this document is a republication of the April 3 document including the omitted description of the Project Areas.

DATES: This Notice is effective on April 8, 2008.

Determination and Waiver

I have a mandate to achieve and maintain operational control of the borders of the United States. Public Law 109–367, 2, 120 Stat. 2638, 8 U.S.C. 1701 note. Congress has provided me with a number of authorities necessary to accomplish this mandate. One of these authorities is found at section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (“IIRIRA”). Public Law 104–208, Div. C, 110 Stat. 3009–546, 3009–554 (Sept. 30, 1996) (8 U.S.C. 1103 note), as amended by the REAL ID Act of 2005, Public Law 109–13, Div. B, 119 Stat. 231, 302, 306 (May 11, 2005) (8 U.S.C. 1103 note), as amended by the Secure Fence Act of 2006, Public Law 109–367, 3, 120 Stat. 2638 (Oct. 26, 2006) (8 U.S.C. 1103 note), as amended by the Department of Homeland Security Appropriations Act, 2008, Public Law 110–161, Div. E, Title V, 564, 121 Stat. 2090 (Dec. 26, 2007). In Section 102(a) of IIRIRA, Congress provided that the Secretary of Homeland Security shall take such actions as may be necessary to install additional physical barriers and roads (including the removal of obstacles to detection of illegal entrants) in the vicinity of the United States border to deter illegal crossings in areas of high illegal entry into the United

States. In Section 102(b) of IIRIRA, Congress has called for the installation of fencing, barriers, roads, lighting, cameras, and sensors on not less than 700 miles of the southwest border, including priority miles of fencing that must be completed by December 2008. Finally, in section 102(c) of the IIRIRA, Congress granted to me the authority to waive all legal requirements that I, in my sole discretion, determine necessary to ensure the expeditious construction of barriers and roads authorized by section 102 of IIRIRA.

I determine that the following areas in the vicinity of the United States border, located in the States of California, Arizona, New Mexico, and Texas are areas of high illegal entry (collectively “Project Areas”):

California

- Starting approximately 1.5 mile east of Border Monument (BM) 251 and ends approximately at BM 250.
- Starting approximately 1.1 miles west of BM 245 and runs east for approximately 0.8 mile.
- Starting approximately 0.2 mile west of BM 243 and runs east along the border for approximately 0.5 mile.
- Starting approximately 0.7 mile east of BM 243 and runs east along the border for approximately 0.9 mile.
- Starting approximately 1.0 mile east of BM 243 and runs east along the border for approximately 0.9 mile.
- Starting approximately 0.7 mile west of BM 242 and stops approximately 0.4 mile west of BM 242.
- Starting approximately 0.8 mile east of BM 242 and runs east along the border for approximately 1.1 miles.
- Starting approximately 0.4 mile east of BM 239 and runs east for approximately 0.4 mile along the border.
- Starting approximately 1.2 miles east of BM 239 and runs east for approximately 0.2 mile along the border.
- Starting approximately 0.5 mile west of BM 235 and runs east along the border for approximately 1.1 miles.
- Starting approximately 0.8 mile east of BM 235 and runs east along the border for approximately 0.1 mile.
- Starting approximately 0.6 mile east of BM 234 and runs east for approximately 1.7 miles along the border.
- Starting approximately 0.4 mile east of BM 233 and runs east for approximately 2.1 miles along the border.
- Starting approximately 0.05 mile west of BM 232 and runs east for approximately 0.1 mile along the border.

- Starting approximately 0.2 mile east of BM 232 and runs east for approximately 1.5 miles along the border.

- Starting 0.6 mile east of Border Monument 229 heading east along the border for approximately 11.3 miles to BM 225.

- Starting approximately 0.1 mile east of BM 224 and runs east along the border for approximately 2.5 miles.

- Starting approximately 2.3 miles east of BM 220 and runs east along the border to BM 207.

Arizona

- Starting approximately 1.0 mile south of BM 206 and runs south along the Colorado River for approximately 13.3 miles.

- Starting approximately 0.1 mile north of County 18th Street running south along the border for approximately 3.8 miles.

- Starting at the Eastern edge of BMGR and runs east along the border to approximately 1.3 miles west of BM 174.

- Starting approximately 0.5 mile west of BM 168 and runs east along the border for approximately 5.3 miles.

- Starting approximately 1 mile east of BM 160 and runs east for approximately 1.6 miles.

- Starting approximately 1.3 miles east of BM 159 and runs east along the border to approximately 0.3 mile east of BM 140.

- Starting approximately 2.2 miles west of BM 138 and runs east along the border for approximately 2.5 miles.

- Starting approximately 0.2 miles east of BM 136 and runs east along the border to approximately 0.2 mile west of BM 102.

- Starting approximately 3 miles west of BM 99 and runs east along the border approximately 6.5 miles.

- Starting approximately at BM 97 and runs east along the border approximately 6.9 miles.

- Starting approximately at BM 91 and runs east along the border to approximately 0.7 miles east of BM 89.

- Starting approximately 1.7 miles west of BM 86 and runs east along the border to approximately 0.7 mile west of BM 86.

- Starting approximately 0.2 mile west of BM 83 and runs east along the border to approximately 0.2 mile east of BM 73.

New Mexico

- Starting approximately 0.8 mile west of BM 69 and runs east along the border to approximately 1.5 miles west of BM 65.

- Starting approximately 2.3 miles east of BM 65 and runs east along the border for approximately 6.0 miles.

- Starting approximately 0.5 mile east of BM 61 and runs east along the border until approximately 1.0 mile west of BM 59.

- Starting approximately 0.1 miles east of BM 39 and runs east along the border to approximately 0.3 mile east of BM 33.

- Starting approximately 0.25 mile east of BM 31 and runs east along the border for approximately 14.2 miles.

- Starting approximately at BM 22 and runs east along the border to approximately 1.0 mile west BM 16.

- Starting at approximately 1.0 mile west of BM 16 and runs east along the border to approximately BM 3.

Texas

- Starting approximately 0.4 miles southeast of BM 1 and runs southeast along the border for approximately 3.0 miles.

- Starting approximately 1 Mi E of the intersection of Interstate 54 and Border Highway and runs southeast approximately 57 miles in proximity to the IBWC levee to 3.7 miles east of the Ft Hancock POE.

- Starting approximately 1.6 miles west of the intersection of Esperanza and Quitman Pass Roads and runs along the IBWC levee east for approximately 4.6 miles.

- Starting at the Presidio POE and runs west along the border to approximately 3.2 miles west of the POE.

- Starting at the Presidio POE and runs east along the border to approximately 3.4 miles east of the POE.

- Starting approximately 1.8 miles west of Del Rio POE and runs east along the border for approximately 2.5 miles.

- Starting approximately 1.3 Mi north of the Eagle Pass POE and runs south approximately 0.8 miles south of the POE.

- Starting approximately 2.1 miles west of Roma POE and runs east approximately 1.8 miles east of the Roma POE.

- Starting approximately 3.5 miles west of Rio Grande City POE and runs east in proximity to the Rio Grande river for approximately 9 miles.

- Starting approximately 0.9 miles west of County Road 41 and runs east approximately 1.2 miles and then north for approximately 0.8 miles.

- Starting approximately 0.5 mile west of the end of River Dr and runs east in proximity to the IBWC levee for approximately 2.5 miles.

- Starting approximately 0.6 miles east of the intersection of Benson Rd

and Cannon Rd and runs east in proximity to the IBWC levee for approximately 1 mile.

- Starting at the Los Indios POE and runs west in proximity to the IBWC levee for approximately 1.7 miles.

- Starting at the Los Indios POE and runs east in proximity to the IBWC levee for approximately 3.6 miles.

- Starting approximately 0.5 mile west of Main St and J Padilla St intersection and runs east in proximity to the IBWC levee for approximately 2.0 miles.

- Starting approximately 1.2 miles west of the Intersection of U.S. HWY 281 and Los Ranchitos Rd and runs east in proximity to the IBWC levee for approximately 2.4 miles.

- Starting approx 0.5 miles southwest of the intersection of U.S. 281 and San Pedro Rd and runs east in proximity to the IBWC levee for approximately 1.8 miles.

- Starting approximately 0.1 miles southwest of the Intersection of Villanueva St and Torres Rd and runs east in proximity to the IBWC levee for approximately 3.6 miles.

- Starting approximately south of Palm Blvd and runs east in proximity to the City of Brownsville's levee to approximately the Gateway-Brownsville POE where it continues south and then east in proximity to the IBWC levee for a total length of approximately 3.5 miles.

- Starting at the North Eastern Edge of Ft Brown Golf Course and runs east in proximity to the IBWC levee for approximately 1 mile.

- Starting approximately 0.3 miles east of Los Tomates-Brownsville POE and runs east and then north in proximity to the IBWC levee for approximately 13 miles.

In order to deter illegal crossings in the Project Areas, there is presently a need to construct fixed and mobile barriers (such as fencing, vehicle barriers, towers, sensors, cameras, and other surveillance, communication, and detection equipment) and roads in the vicinity of the border of the United States. In order to ensure the expeditious construction of the barriers and roads that Congress prescribed in the IIRIRA in the Project Areas, which are areas of high illegal entry into the United States, I have determined that it is necessary that I exercise the authority that is vested in me by section 102(c) of the IIRIRA as amended.

Accordingly, I hereby waive in their entirety, with respect to the construction of roads and fixed and mobile barriers (including, but not limited to, accessing the project area, creating and using staging areas, the

conduct of earthwork, excavation, fill, and site preparation, and installation and upkeep of fences, roads, supporting elements, drainage, erosion controls, safety features, surveillance, communication, and detection equipment of all types, radar and radio towers, and lighting) in the Project Areas, all federal, state, or other laws, regulations and legal requirements of, deriving from, or related to the subject of, the following laws, as amended: The National Environmental Policy Act (Pub. L. 91–190, 83 Stat. 852 (Jan. 1, 1970) (42 U.S.C. 4321 *et seq.*)), the Endangered Species Act (Pub. L. 93–205, 87 Stat. 884 (Dec. 28, 1973) (16 U.S.C. 1531 *et seq.*)), the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act) (33 U.S.C. 1251 *et seq.*)), the National Historic Preservation Act (Pub. L. 89–665, 80 Stat. 915 (Oct. 15, 1966) (16 U.S.C. 470 *et seq.*)), the Migratory Bird Treaty Act (16 U.S.C. 703 *et seq.*), the Clean Air Act (42 U.S.C. 7401 *et seq.*), the Archeological Resources Protection Act (Pub. L. 96–95, 16 U.S.C. 470aa *et seq.*), the Safe Drinking Water Act (42 U.S.C. 300f *et seq.*), the Noise Control Act (42 U.S.C. 4901 *et seq.*), the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*), the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 *et seq.*), the Archeological and Historic Preservation Act (Pub. L. 86–523, 16 U.S.C. 469 *et seq.*), the Antiquities Act (16 U.S.C. 431 *et seq.*), the Historic Sites, Buildings, and Antiquities Act (16 U.S.C. 461 *et seq.*), the Wild and Scenic Rivers Act (Pub. L. 90–542, 16 U.S.C. 1281 *et seq.*), the Farmland Protection Policy Act (7 U.S.C. 4201 *et seq.*), the Coastal Zone Management Act (Pub. L. 92–583, 16 U.S.C. 1451 *et seq.*), the Wilderness Act (Pub. L. 88–577, 16 U.S.C. 1131 *et seq.*), the Federal Land Policy and Management Act (Pub. L. 94–579, 43 U.S.C. 1701 *et seq.*), the National Wildlife Refuge System Administration Act (Pub. L. 89–669, 16 U.S.C. 668dd–668ee), the Fish and Wildlife Act of 1956 (Pub. L. 84–1024, 16 U.S.C. 742a, *et seq.*), the Fish and Wildlife Coordination Act (Pub. L. 73–121, 16 U.S.C. 661 *et seq.*), the Administrative Procedure Act (5 U.S.C. 551 *et seq.*), the Otay Mountain Wilderness Act of 1999 (Pub. L. 106–145), Sections 102(29) and 103 of Title I of the California Desert Protection Act (Pub. L. 103–433), 50 Stat. 1827, the National Park Service Organic Act (Pub. L. 64–235, 16 U.S.C. 1, 2–4), the National Park Service General

Authorities Act (Pub. L. 91–383, 16 U.S.C. 1a–1 *et seq.*), Sections 401(7), 403, and 404 of the National Parks and Recreation Act of 1978 (Pub. L. 95–625), Sections 301(a)–(f) of the Arizona Desert Wilderness Act (Pub. L. 101–628), the Rivers and Harbors Act of 1899 (33 U.S.C. 403), the Eagle Protection Act (16 U.S.C. 668 *et seq.*), the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001 *et seq.*), the American Indian Religious Freedom Act (42 U.S.C. 1996), the Religious Freedom Restoration Act (42 U.S.C. 2000bb), the National Forest Management Act of 1976 (16 U.S.C. 1600 *et seq.*), and the Multiple Use and Sustained Yield Act of 1960 (16 U.S.C. 528–531).

This waiver does not supersede, supplement, or in any way modify the previous waivers published in the **Federal Register** on September 22, 2005 (70 FR 55622), January 19, 2007 (72 FR 2535), and October 26, 2007 (72 FR 60870).

I reserve the authority to make further waivers from time to time as I may determine to be necessary to accomplish the provisions of section 102 of the IIRIRA, as amended.

Michael Chertoff,

Secretary.

[FR Doc. E8–7451 Filed 4–7–08; 8:45 am]

BILLING CODE 4410–10–P

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

[USCG–2008–0202]

Information Collection Request to Office of Management and Budget; OMB Control Numbers: 1625–0044, 1625–0045, and 1625–0060

AGENCY: Coast Guard, DHS.

ACTION: Sixty-day notice requesting comments.

SUMMARY: In compliance with the Paperwork Reduction Act of 1995, the U.S. Coast Guard intends to submit Information Collection Requests (ICRs) and Analyses to the Office of Management and Budget (OMB) requesting an extension of their approval for the following collections of information: (1) 1625–0044, Outer Continental Shelf Activities—Title 33 CFR Subchapter N; (2) 1625–0045, Adequacy Certification for Reception Facilities and Advance Notice—33 CFR part 158; and (3) 1625–0060, Vapor Control Systems for Facilities and Tank Vessels. Before submitting these ICRs to OMB, the Coast Guard is inviting comments as described below.

DATES: Comments must reach the Coast Guard on or before June 9, 2008.

ADDRESSES: To avoid duplicate submissions to the docket [USCG–2008–0202], please submit them by only one of the following means:

(1) *Online:* <http://www.regulations.gov>.

(2) *Mail:* Docket Management Facility (DMF) (M–30), U.S. Department of Transportation, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590–0001.

(3) *Hand delivery:* DMF between the hours of 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is 202–366–9329.

(4) *Fax:* 202–493–2251.

The DMF maintains the public docket for this notice. Comments and material received from the public, as well as documents mentioned in this notice as being available in the docket, will become part of this docket and will be available for inspection or copying at room W12–140 on the West Building Ground Floor, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. You may also find this docket on the Internet at <http://www.regulations.gov>.

A copy of the complete ICR is available through this docket on the Internet at <http://www.regulations.gov>. Additionally, copies are available from Commandant (CG–611), U.S. Coast Guard Headquarters (Attn: Mr. Arthur Requina), 2100 2nd Street, SW., Washington, DC 20593–0001. The telephone number is 202–475–3523.

FOR FURTHER INFORMATION CONTACT: Mr. Arthur Requina, Office of Information Management, telephone 202–475–3523, or fax 202–475–3929, for questions on these documents. Contact Ms. Renee V. Wright, Program Manager, Docket Operations, 202–366–9826, for questions on the docket.

SUPPLEMENTARY INFORMATION:

Public Participation and Request for Comments

The Coast Guard invites comments on whether this information collection request should be granted based on it being necessary for the proper performance of Departmental functions. In particular, the Coast Guard would appreciate comments addressing: (1) The practical utility of the collections; (2) the accuracy of the estimated burden of the collections; (3) ways to enhance the quality, utility, and clarity of information subject to the collections; and (4) ways to minimize the burden of

APPENDIX B
Biological Resources Plan

BIOLOGICAL RESOURCES PLAN
FOR
CONSTRUCTION, OPERATION, AND MAINTENANCE
OF TACTICAL INFRASTRUCTURE
FOR
SAN DIEGO SECTOR, CALIFORNIA

EL CAJON STATION
CAMPO STATION
BOULEVARD STATION



U.S. DEPARTMENT OF HOMELAND SECURITY
U.S. CUSTOMS AND BORDER PROTECTION
U.S. BORDER PATROL SAN DIEGO SECTOR

Prepared by



JUNE 2008

ABBREVIATIONS AND ACRONYMS

BMP	Best Management Practice
BRP	Biological Resources Plan
CBP	U.S. Customs and Border Protection
DAPTF	Declining Amphibian Population Task Force
DHS	U.S. Department of Homeland Security
ESP	Environmental Stewardship Plan
FR	Federal Register
GIS	Geographic Information System
GPS	Global Positioning System
IIRIRA	Illegal Immigration Reform and Immigrant Responsibility Act
mph	miles per hour
OBP	Office of Border Patrol
PCE	Primary constituent element
PV-1	Personnel-Vehicle Fence Type I
SR	State Route
SWPPP	Storm Water Pollution Prevention Plan
U.S.	United States
USBP	U.S. Border Patrol
USFWS	U.S. Fish and Wildlife Service

EXECUTIVE SUMMARY

The United States (U.S.) Department of Homeland Security (DHS), Customs and Border Protection (CBP), U.S. Border Patrol (USBP) plans to construct, operate, and maintain approximately 10.24 miles of tactical infrastructure in 13 discrete sections (designated as Sections A2-B through A2-N) in the USBP San Diego Sector. Tactical infrastructure consists of primary pedestrian fence, and patrol and access roads in 13 sections along the U.S./Mexico international border in San Diego County, California. Ten federally listed taxa are known to occur, or could occur, within or adjacent to the project area (see **Table ES-1**).

Of the species listed above, the Project is likely to adversely affect only the Quino checkerspot butterfly and California coastal gnatcatcher. The Project may affect, but is not likely to adversely affect Quino checkerspot butterfly critical habitat and the least Bell's vireo. The project may affect peninsular bighorn sheep and peninsular bighorn sheep critical habitat; however, the nature or intensity of the effects cannot be accurately predicted, at this time. It has been determined that the Project will have no effect on coastal California gnatcatcher critical habitat, the southwestern willow flycatcher, the arroyo toad, the Otay tarplant, Encinitas baccharis, the willowy monardella, and the San Diego thornmint. Therefore, these species will not be discussed in detail in this Biological Resources Plan (BRP).

On April 1, 2008, the Secretary of DHS, pursuant to his authority under Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), exercised his authority to waive certain environmental and other laws in order to ensure expeditious construction of tactical infrastructure along the U.S./Mexico international border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws that are included in the waiver, including the Endangered Species Act, the Secretary committed DHS to continue to protect valuable natural and cultural resources. CBP strongly supports the Secretary's commitment to responsible environmental stewardship. To that end, CBP has prepared the following BRP, which analyzes the potential impacts on threatened and endangered species associated with construction of tactical infrastructure in the USBP's San Diego Sector. The BRP also discusses CBP's plans as to how potential impacts on threatened and endangered species can be mitigated. The BRP will help to guide CBP's efforts going forward.

Table ES-1. Federally Listed Species and Critical Habitats Potentially Occurring Within the Project Area and the Determination of Effects

Species	Listing/Critical Habitat Designated	Determination of Effect
Quino checkerspot butterfly, <i>Euphydryas editha quino</i>	Endangered	Likely to adversely affect
Quino checkerspot butterfly, <i>Euphydryas editha quino</i> Critical Habitat	Designated (2002)	Not likely to adversely affect
Quino checkerspot butterfly, <i>Euphydryas editha quino</i> Critical Habitat	Proposed (2008)	Not likely to adversely affect
Coastal California gnatcatcher, <i>Poliophtila californica californica</i>	Threatened	Likely to adversely affect
Coastal California gnatcatcher, <i>Poliophtila californica californica</i> Critical Habitat	Revised (2007)	No effect
Southwestern willow flycatcher, <i>Empidonax traillii extimus</i>	Endangered	No effect
Least Bell's vireo, <i>Vireo bellii pusillus</i>	Endangered	Not likely to adversely affect
Arroyo toad, <i>Bufo californicus</i>	Endangered	No effect
Peninsular bighorn sheep, <i>Ovis canadensis</i>	Endangered	May affect
Peninsular bighorn sheep, <i>Ovis Canadensis</i> Critical Habitat	Designated (2001)	May affect
	Revised proposed designation (2007)	May affect
Otay tarplant, <i>Deinandra conjugens</i>	Threatened	No effect
Encinitas baccharis, <i>Baccharis vanessae</i>	Threatened	No effect
Willow/Jennifer's Monardella, <i>Monardella linoidea</i> ssp. <i>viminea</i> / <i>Monardella stoneana</i>	Endangered	No effect
San Diego Thornmint, <i>Acanthomintha ilicifolia</i>	Threatened	No effect

Notes:

¹ The U.S. Fish and Wildlife Service anticipates the revised final critical habitat designation for the Quino checkerspot butterfly will be published in the *Federal Register* in 2008.

² The U.S. Fish and Wildlife Service anticipates the revised final critical habitat designation for the Peninsular bighorn sheep will be published in the *Federal Register* in October 2008.

BIOLOGICAL RESOURCES PLAN
SAN DIEGO SECTOR
EL CAJON, CAMPO, AND BOULEVARD STATIONS

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1. PROJECT DESCRIPTION

The United States (U.S.) Department of Homeland Security (DHS), Customs and Border Protection (CBP), U.S. Border Patrol (USBP) will construct, operate, and maintain 225 miles of pedestrian and vehicle fence (i.e., the PF 225 Project) along the U.S./Mexico international border, with construction expected to be completed by December 31, 2008.

On April 1, 2008, the Secretary of DHS, pursuant to his authority under Section 102(c) of the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), exercised his authority to waive certain environmental and other laws in order to ensure expeditious construction of tactical infrastructure along the U.S./Mexico international border. Although the Secretary's waiver means that CBP no longer has any specific legal obligations under the laws that are included in the waiver, including the Endangered Species Act, the Secretary committed DHS to continue to protect valuable natural and cultural resources. CBP strongly supports the Secretary's commitment to responsible environmental stewardship. To that end, CBP has prepared the following BRP, which analyzes the potential impacts on threatened and endangered species associated with construction of tactical infrastructure in the USBP's San Diego Sector. The BRP also discusses CBP's plans as to how potential impacts on threatened and endangered species can be mitigated. The Biological Resources Plan (BRP) will help to guide CBP's efforts going forward.

1.1 LOCATION

CBP, USBP plans to construct, operate, and maintain approximately 10.24 miles of tactical infrastructure in 13 discrete sections (designated as Sections A2-B through A2-N) in the USBP San Diego Sector (see **Figure 1-1**). Tactical infrastructure consists of primary pedestrian fence, and patrol and access roads in 13 sections along the U.S./Mexico international border in San Diego County, California (see **Appendix A** for detailed maps). Lights will not be constructed as part of the Project. **Table 1-1** summarizes the characteristics of each section of tactical infrastructure.

1.2 CONSTRUCTION, OPERATION, AND MAINTENANCE

The Project construction will impact a total of 119 acres and consists of the following Project components: (1) the installation and maintenance of new barrier fence combined with a parallel border fence patrol road; (2) road improvements to existing roads to improve access for construction, maintenance, and patrols; (3) new road construction to access tactical infrastructure; and (4) the development of temporary construction staging areas.

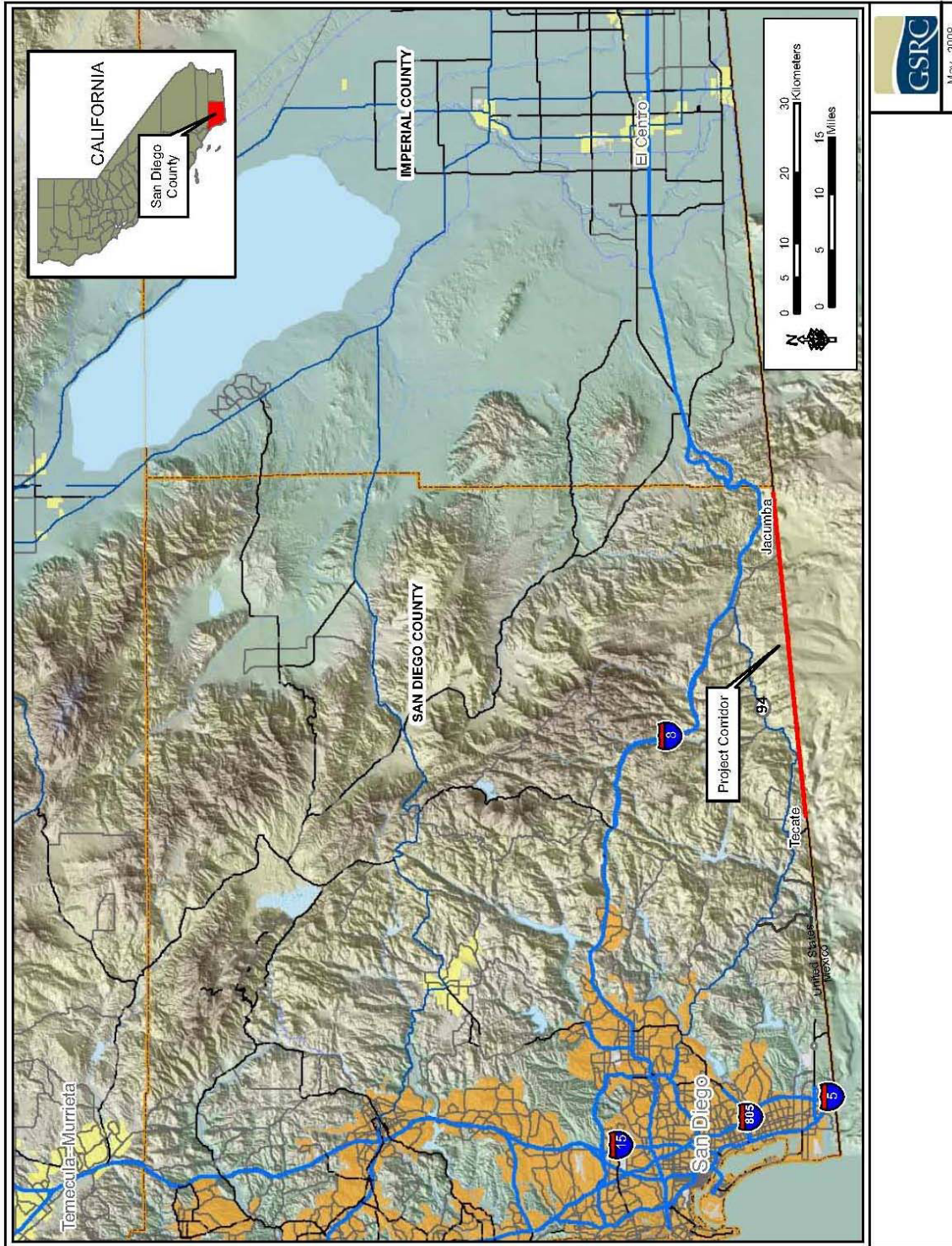


Figure 1-1-1. General Location of the Project in San Diego County, California

Table 1-1. Details of Sections A2-B through A2-N

Section	Section Name	Fence Length (miles)	Tactical Infrastructure	Approximate Cut/Fill (cubic yards)	Drainage Structures	Site Access	Permanent Impacts Associated with Footprint of Patrol Road and Fence*
A2-B	Ceti's Hill	0.62	Patrol road, fence, and 150-foot retaining wall; fence will tie into existing fence on both sides of hill	9,000/15,000	2–3 culverts	Humphries road from west and east	5.0 acres of Diegan coastal sage scrub
A2-C	Brickyard	0.25	Patrol road and fence across slope; fence will tie into existing fence on both sides of hill	2,000–6,000/ 1,000–5,000	2 culverts	Humphries road from west and east	0.9 acres of Diegan coastal sage scrub
A2-D	Horseshoe	1.27	Patrol road and fence across two canyons; 2 additional permanent access roads (one will be a widening of a foot trail, the other will be through an undisturbed area)	46,000–114,000/ 16,000–69,000	3–5 culverts	Humphries road from west and east and 2 new access roads	2.3 acres of Diegan coastal sage scrub/4.6 acres of chamise chaparral
A2-E	East Bell Valley	0.18	Patrol road and fence across slope (extending from an existing fence and dead-ending at a steep hill), 150-foot retaining wall	4,000/2,000	3 culverts	Humphries road from west and Bell Valley Truck Trail from east	0.9 acres of chamise chaparral

Section	Section Name	Fence Length (miles)	Tactical Infrastructure	Approximate Cut/Fill (cubic yards)	Drainage Structures	Site Access	Permanent Impacts Associated with Footprint of Patrol Road and Fence*
A2-F	Ag Loop	0.92	Patrol road and fence (east of the Eastern Railroad cross-border tunnel, south of Canyon City and extend west from an existing patrol road and vehicle fence); two retaining walls; patrol road on east will be widened	16,000–39,000/ 12,000–13,000	2 culverts	SR 94 out of Canyon City connecting to unnamed dirt roads from west and unnamed dirt roads from east	5.2 acres of chamise chaparral
A2-G	La Gloria	0.35	Patrol road and two sections of fence across incised canyon (fence will tie into existing landing mat fence on west and extend east to the switchback on the west side of the canyon; there will be a small gap, and the second section will extend east across La Gloria canyon and tie into existing fence); patrol road will be widened for 0.33 miles between A2-G and A2-H	44,000/11,000	3 culverts	Existing patrol road from east and west	3.3 acres of mixed chaparral and coast live oak woodland

Section	Section Name	Fence Length (miles)	Tactical Infrastructure	Approximate Cut/Fill (cubic yards)	Drainage Structures	Site Access	Permanent Impacts Associated with Footprint of Patrol Road and Fence*
A2-H	West Smith Canyon	0.25	Patrol road and fence (fill in a short gap between existing landing mat fence and the west side of Smith Canyon); the canyon will not be filled, therefore a 0.35-mile gap will remain across the canyon	1,600/900	2 culverts	Existing border patrol road from west and existing north-south giving access to SR 94	0.9 acres of mixed chaparral
A2-I	Rattlesnake Ridge	1.14	Patrol and fence (will tie into existing fence); three retaining walls; existing patrol road to the west will be widened; blasting will be required	66,000–118,000/ 13,000–33,000	2–5 culverts	San Diego Gas and Electric Road from west and Larry Pierce Road on east; both will connect to SR 94	8.0 acres of mixed chaparral
A2-J	West Boundary Peak	0.09	Fence (will be installed in the gap); an access/maintenance road will be constructed	None planned	1 low water crossing	San Diego Gas and Electric Road from west and east	0.4 acres of chamise chaparral
A2-K	Willows 1	2.00	Conversion of post-on-rail and landing mat fence to Fence Type PV-1, includes a 0.08 north-south access road	None	None	Existing patrol road	0.3 acres of mixed chaparral for the access road

Section	Section Name	Fence Length (miles)	Tactical Infrastructure	Approximate Cut/Fill (cubic yards)	Drainage Structures	Site Access	Permanent Impacts Associated with Footprint of Patrol Road and Fence*
A2-L	Willow Access 2	2.00	Conversion of post-on-rail and landing mat fence to Fence Type PV-1	None	None	Existing patrol road	None
A2-M	Airport Mesa	0.009	Access road (0.67 miles long) on east side of Airport Mesa to top at scope pad sites (will each require permanent removal of 800 square feet of vegetation); pedestrian fence (fence type not available, but not PV-1); also includes conversion of landing mat fence to barrier fence (Fence Type PV-1)	29,000/1,000	2 culverts	Old Highway 80, existing border patrol road on the west and east	5.3 acres of semi-desert chaparral
A2-N	O'Neil Valley	1.16	Conversion of post-on-rail and landing mat fence to Fence Type PV-1	None	None	Existing patrol road	None

1.2.1 Fence Installation

The Project includes the construction of a total of approximately 8 miles of new Personnel-Vehicle Fence Type 1 (PV-1). Installation of new fence and the associated patrol road will permanently impact approximately 37 acres consisting of Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, southern mixed chaparral, redshank chaparral, and semi-desert chaparral. In most sections, the fence will close the gaps between existing fence segments. In other sections, gaps will remain in the fence. Existing barrier fence within the project area has already been deployed in approximately half of the action area.

The PV-1 fence is an anchored, 18-foot (above ground) grout-filled steel bollard-style fence with 4-inch gaps between each bollard. It is designed to prevent passage by both people and vehicles. Panels of the fence will be welded together off-site and transported to the site by small trucks with lowboy trailers. Using a crane, fence panels will be set in concrete-filled trenches or holes. Blasting will be necessary in some areas (e.g., Ag Loop, West Smith Canyon, Rattlesnake Ridge) to access the fence alignment and create a building pad for the fence and associated patrol road. The trench will otherwise be dug by a trencher or similar equipment. An alternative in rocky terrain is to drill individual holes into the rock for each bollard. Construction of new fence will be completed using a trencher, driller, cement mixer, and crane. No pile driving will be implemented for construction of PV-1 fence.

New fence construction will occur approximately 3 feet north of the international border within the 60-foot-wide Roosevelt Reservation. This 60-foot-wide area constitutes the primary project corridor in which the majority of construction and maintenance activities will occur.

1.2.2 Roads

Many unpaved roads currently exist in a narrow band along the international border. These roads are used by CBP for patrol and to access the international border. Patrol roads (including the border fence patrol road) are needed to provide a safe driving surface along the border and generally follow adjacent and parallel to the international border where fencing exists. Patrol roads also include dead-end roads giving access to vantage points, scope sites, and other tactical infrastructure. Access roads provide access to the border fence itself, as well as the border fence patrol road. Generally, access roads will include those north-south roads from State Route (SR) 94, Old Highway 80, and Interstate 8.

Approximately 25 miles of existing access roads occur within the project corridor. These existing access roads consist of a myriad of San Diego County, BLM-managed, and privately owned roads, which are currently maintained by the various entities, including USBP, BLM, local and state government private companies, and private land owners. The USBP will use these roads to provide access between public roads (e.g., California Highway 80) and the project

corridor. No improvements will be made to these roads; however, they will be returned to pre-construction condition at the completion of construction activities. Returning these roads to pre-construction condition will involve light grading and sloping of the roads.

A low-water crossing or similar drainage structure will be required at some stream crossings to ensure access, except during extreme flood conditions. The designs of the structures have not yet been determined, but will typically consist of a concrete swale or rock gabions. Riprap will be placed on the upstream and downstream side of the crossing for energy dissipation. The footprint of the crossing will be expected to extend approximately 25 to 40 feet on either side of the crossing to allow placement of the riprap. Likewise, the designs for other types of drainage structures have not yet been finalized, but are expected to include reinforced concrete pipe with energy dissipation installed on either end of the pipe. Clean, native material will be brought in from local sources for fill activities.

Blasting might be needed in certain sections that have large rocks or boulders that create sharp curves, large humps in the road, or other driving hazards that need to be eliminated (i.e., as found in West Smith Canyon). Holes will be drilled into the center of the larger rocks and explosive material will be placed in the holes and detonated in order to split or fracture the rock into smaller, more manageable pieces for removal. Because this process will create immediate, but short-lived increase in noise levels, a noise analysis will be conducted prior to construction by the blasting contractor. Dust and small rock fragments will be emitted into the air during blasting detonation; however, these will be expected to immediately settle and fall to the ground. Localized, negligible impacts on plants would occur from the settling of dust and small rock fragments. Blasting contractors will be required to establish a blasting plan with Best Management Practices (BMPs) that will ensure that any blasting activities will have minimal noise impacts locally and regionally. Additional information on the increase in noise and pressure associated with blasting is presented in **Section 4.2 of this Environmental Stewardship Plan (ESP)**.

Impacts on vegetation from the construction of new patrol roads are included in the impacts presented in **Table 1-1**. Additionally, road widening will permanently impact a total of approximately 8 acres consisting of chamise chaparral and mixed chaparral (see **Table 1-2**).

1.2.3 Staging Areas

The Project includes the construction of eight staging areas, temporarily impacting a total of approximately 23 acres (see **Table 1-3**). Staging areas are needed to accommodate construction equipment and stockpile materials. All vegetation within these staging areas will be cleared. Following completion of construction, staging areas will be restored to a vegetated state (see

Table 1-2. Road Widening Impacts

Section	Chamise Chaparral (acres)	Disturbed Diegan Coastal Sage Scrub (acres)
A2-E: East Bell Valley	1.1	0
A2-F: Ag Loop	0.5	0
A-2K: Willows 1	0	6.4
Totals	1.6	6.4

Table 1-3. Staging Area Temporary Impacts

Section	Disturbed and Undisturbed Diegan Coastal Sage Scrub (acres)	Disturbed Barren (acres)	Disturbed and Undisturbed Nonnative Grassland (acres)	Disturbed Semi-Desert Chaparral (acres)	Fallow Field (acres)
A2-B: Ceti's Hill	2.07	0	0	0	0
A2-C: East Brickyard	0	0.83	0	0	0
A2-E: East Bell Valley	0	0	3.84	0	0
A2-F: Ag Loop	0	1.92	0	0	0
A2-F: Ag Loop	0	0.52	0	0	0
A2-G: LaGloria	1.87	0	0	0	0
A2-H: Smith Canyon and A2-I: Rattlesnake Ridge	0	0	1.88	0	0
A2-M: Airport Mesa	0	0	0	7.0	0
A2-N: O'Neil Valley	0	0	0	0	2.03
A2-N: O'Neil Valley	0	6.76	0	0	0
Subtotal	3.94	10.03	5.72	7	2.03
Total Temporary Impact = 28.72					

Section 1.3). Note that staging areas have not been surveyed and estimated temporary impacts are based on previously available information.

1.2.4 Operations and Maintenance

There will be no change in overall USBP Sector operations. The fences will be made from nonreflective steel. No painting will be required. Fence maintenance will include removing any accumulated debris on the fence after a rain event to avoid potential future flooding. Sand and brush that builds up against the fence will be removed, as needed. Brush removal could include mowing, removal of small trees, and application of herbicide, if needed. During normal patrols, Sector personnel will observe the condition of the fence. Any destruction or breaches of the fence will be repaired, as needed.

Access roads and the border fence patrol road will be regularly maintained during construction by using water to compact soils and provide safe driving conditions. A tackifier (such as road oil or PennzSuppress) will be applied to the roads post-construction and as necessary to attempt to increase the durability and longevity of the roads.

Operational activities (such as patrols and apprehensions) will begin using new patrol roads that are being constructed, but no significant change in the number of patrols is expected. The USBP San Diego Sector operations routinely adapt to evolving operational requirements, and will continue to do so under the Project. The USBP San Diego Sector will retain its current flexibility to use the most effective methods to provide a law enforcement resolution to illegal cross-border activity.

1.3 BEST MANAGEMENT PRACTICES

1.3.1 Pre-Construction

Cultural, geotechnical, and biological surveys were necessary prior to barrier fence construction and have been reviewed by the U.S. Fish and Wildlife Service (USFWS). Avoidance and minimization measures for cultural and biological surveys were judged to be not necessary based on the lack of impacts associated with the surveys. The following subset of BMPs applicable to the habitats and species found in the project area are Project objectives and will be implemented to the extent possible:

General

1. For each Project, CBP will either perform reconnaissance level surveys (i.e., not protocol surveys) for federally listed species or their suitable habitat, or assume the presence of a federally listed species based on suitable habitat or known presence, and implement appropriate measures as part of Project design and planning.

2. To the extent practicable, conduct geotechnical surveys outside the bird breeding season (February 15 to August 31) and bighorn sheep lambing season (January 1 to May 31) when working within habitat occupied by these species or within 100 meters of habitat occupied by these species.
3. Survey activities will avoid destroying native trees and shrubs to the extent practicable. If native vegetation must be impacted, the vegetation will be crushed versus cut.
4. Areas outside the impact corridor, designated access roads, or staging areas where native vegetation is crushed by drill rigs or other machinery will be recorded with Global Positioning System (GPS) and included in the Project report.
5. Areas impacted by drill rigs or other machinery during geotechnical activities that are outside the PF 225 construction footprint will be assessed by the CBP or its contractor. Adverse effects identified will be mitigated (e.g., with access trail restoration or barricades).
6. All pits and trenches related to geotechnical activities will be refilled with parent material when geotechnical activities are completed.
7. Construction of, or improvement to, access roads was not proposed for pre-construction activities and therefore is not part of the pre-construction component of this coordination.

Vegetation

1. Survey activities will avoid wetlands.
2. Survey activities will avoid all federally threatened and endangered plant species.

Quino Checkerspot Butterfly

1. Geotechnical surveys within occupied Quino checkerspot butterfly habitat or designated critical habitat will be accomplished with the assistance of a qualified biologist. The qualified biologist will direct geotechnical surveyors and their equipment to avoid impacting areas likely to contain Quino checkerspot butterfly host plant species or diapause habitat.

Arroyo Toad

2. Pre-construction activities will avoid Cottonwood Creek, Tijuana River, and Bell Valley Creek to the extent practicable. Specifically, to the extent practicable, all geotechnical work will occur outside the 100-year floodplain to avoid impacts on aestivating arroyo toads.

1.3.2 Construction BMPs

The following BMPs should be implemented to avoid or minimize impacts associated with the Project. These represent Project objectives for

implementation to the extent possible and will be incorporated into construction and monitoring contracts.

General BMPs

1. For each Project, CBP will either perform reconnaissance level surveys (i.e., not necessarily protocol surveys), or assume the presence of a federally listed species, based on suitable habitat or known presence, and implement appropriate measures as part of Project design and planning.
2. Individuals of federally listed species found in the project area will be relocated by a qualified biological monitor to a safe location immediately outside the impact corridor and in accordance with accepted species handling protocols to the extent practicable.
3. Construction work areas will be delineated and marked clearly in the field prior to habitat clearing, and the marked boundaries maintained throughout the construction period. Construction work areas include staging, laydown, and temporary stockpiling areas, and access and haul roads.
4. A construction contractor employee education program will be developed. All construction employees (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the Project. They will be advised of the potential impact to the federally listed species and the potential for penalties associated with taking such species. At a minimum, the program will include the following topics: description and occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to human activities, and Project features designed to reduce the impacts on these species and promote continued successful occupation of the project area environs.

Included in this program will be color photos of the listed species, which should be shown to the employees. Following the education program, the photos will be posted in the contractor and resident engineer office, where they should remain through the duration of the Project. The selected construction manager will be responsible for ensuring that employees are aware of the listed species. This BMP does not apply to border patrol operations.

5. CBP will designate a qualified biologist who will serve as the designated biological monitor for overseeing proper application of protective measures for federally listed species during construction activities within designated areas. The biological monitor will immediately notify the Project proponent's designated representative to halt specific construction activities that might be out of compliance with the ESP for the Project. In such an event, those construction activities will be suspended until the problem is rectified. All such actions will be documented and included in the Project Report.

6. If an individual of a federally listed species is found in the designated project area, work will cease in the area of the species until either a qualified biological monitor can safely remove the individual, or it moves away on its own.
7. To the extent practicable and as schedule permits, the biological monitor will monitor construction activities within designated areas during critical times, such as breeding seasons, vegetation removal, and the installation of BMPs and exclusion fencing, to ensure that all avoidance and minimization measures are properly constructed and followed.
8. Construction speed limits will not exceed 35 miles per hour (mph) on major unpaved roads (graded with ditches on both sides) and 25 mph on all other unpaved roads.
9. Transmission of disease vectors and invasive nonnative aquatic species can occur if vehicles cross infected or infested streams or other waters and water or mud remains on the vehicle. If these vehicles subsequently cross or enter uninfected or infested waters, the disease or invasive species could be introduced to the new area. To prevent this, crossing of streams or marsh areas with flowing or standing water will be avoided, if possible; if avoidance is not possible, the vehicle will be sprayed with a 10 percent bleach solution or allowed to dry completely to kill any organisms.
10. All equipment maintenance, staging, laydown, dispensing of fuel or oil, or any other such construction activities will occur in designated upland areas. The designated upland areas will be located in such a manner as to prevent any runoff from entering waters of the United States, including wetlands.
11. Typical erosion-control measures and BMPs will be employed throughout the project area in accordance with the Project Storm Water Pollution Prevention Plan (SWPPP).
12. No off-road vehicle activity by construction workers or Project contractors will occur outside any section along the project corridor or existing access roads identified for use in the Project description.
13. No pets owned or under the care of CBP personnel or any and all construction workers will be permitted inside the Project's construction boundaries, adjacent native habitats, or other associated work areas. Use of CBP working dogs during CBP operations is excluded from this BMP.
14. Light poles and other pole-like structures will be designed to discourage roosting by birds, particularly ravens or raptors that might use the poles for hunting perches, by installing bird control products (such as those manufactured by Bird-B-Gone).
15. To prevent entrapment of wildlife species during the construction of the Project, all excavated, steep-walled holes or trenches more than 2 feet

deep will be covered at the close of each working day by plywood. Each morning before the start of construction and before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. Any animals so discovered will be allowed to escape voluntarily, without harassment, before construction activities resume, or removed from the trench or hole by the biological monitor or other qualified biologist and allowed to escape unimpeded.

16. Existing roads will be utilized for construction purposes to the extent practicable. If an existing road is available for Project purposes, even if improvement is necessary, that road will be utilized.
17. Potential for erosion off the designated roadbed into federally listed species habitat will be avoided or minimized.
18. Potential for entrapment of surface flows within the roadbed due to incisement or edging berms created by grading will be avoided or minimized.
19. Widening of existing or created roadbed beyond the design parameters due to improper maintenance and use will be avoided or minimized.
20. To the extent practicable, stream crossings will not be located near or at bends or meanders but rather at straight stream reaches where channel stability is enhanced.
21. Excessive use for construction purposes of unimproved roads that results in their deterioration such that it affects the surrounding threatened and endangered species habitat areas will be monitored, and corrective maintenance will be provided.
22. The minimal number of roads needed for the Project will be constructed and maintained to proper standards. Roads no longer needed, with Sector approval, will be closed and restored to natural surface and topography using appropriate techniques. The GPS coordinates of roads that are thus closed will be recorded and integrated into the Office of Border Patrol (OBP) Geographic Information System (GIS) database.
23. Roads will be designed to minimize road kill and fragmentation of federally listed populations to the extent practicable. Underpasses for wildlife might be appropriate to minimize road kill and population fragmentation. Exclusion fencing might be appropriate where road kill is likely or to direct species to underpasses or other passageways.
24. Disturbed areas will be utilized to the extent practical for any construction-related activities, including staging, laydown, and stockpiling.
25. All construction will follow CBP's management directive 5100 for waste management.
26. A CBP-approved spill protection plan will be developed and implemented at construction and maintenance sites to ensure that any toxic substances are properly handled and their escape into the environment is

prevented. Agency standard protocols will be used. Drip pans underneath equipment, containment zones used when refueling vehicles or equipment, and other measures will be implemented, as appropriate.

27. Waste materials and other discarded materials will be removed from the site as quickly as possible.
28. Waste water—meaning water used for Project purposes that is contaminated with construction materials, or that was used for cleaning equipment and thus carries oils, other toxic materials, or other contaminants as defined in state regulations—will be stored in closed containers on site until removed for disposal. Concrete wash water will not be dumped on the ground, but will be collected and moved offsite for disposal.
29. Soil-binding agents will be applied during the late summer/early fall months to avoid impacts on federally listed species. Soil-binding agents will not be used in or near surface waters (such as wetlands, perennial streams, intermittent streams, and washes).
30. Fill slopes associated with canyon fills will be restored per measures 31 to 33 (below), using native species. If slope stabilization is necessary (such as gabions or riprap), such material will be placed only at the toe-of-slope and in a manner that will not preclude fauna from accessing the fill slopes, the culvert/underpass, and the habitat beyond the fill slopes.

BMPS for Temporary Impacts

The following apply as offsetting conservation measures for temporary impacts.

31. All generally native areas, as opposed to generally developed areas, temporarily impacted by construction activities (e.g., staging areas or temporary access roads) will be revegetated with native plant species using a standardized restoration plan. The restoration plan will describe revegetating all temporarily disturbed generally native areas associated with the Project. All native seed and plant stock will be from seed and propagules collected within a 5-mile radius of the work area to the extent practicable. All seeding will occur during the first winter or fall following completion of the work, prior to expected winter rains.
32. No invasive exotic plant species will be seeded or planted adjacent to or near sensitive vegetation communities or waters of the United States. Impacted areas will be reseeded with plant species native to local habitat types, and will avoid the use of species listed as High or Moderate in the California Invasive Plant Council's Invasive Plant Inventory (Revision 2005) to the extent practicable. Areas hydroseeded for temporary erosion-control measures will use only native plant species appropriate to surrounding habitat types.

33. Temporary impact areas will be restored in kind, except that temporary impacts on disturbed habitat and nonnative grassland in generally native areas will be revegetated with the most appropriate native plant palette following completion of the work.

Quino Checkerspot Butterfly (Quino)

1. Prior to the potential for Project impacts to occur (excluding geotechnical), all patches of dwarf plantain (*Plantago erecta*), and other known host plants occurring within and immediately adjacent to the Project footprint (*Plantago* spp.; *Castilleja exserta*, annual owl's clover; and *Cordylanthus rigidus*, thread-leaved birdsbeak), will be clearly delineated by a biologist who has experience identifying Quino habitat and is familiar with the areas of known Quino activity near the construction corridors. The host plant areas determined to be within the Project footprint will be delineated for future reference. The host plant areas determined to be immediately outside the Project footprint will be delineated with orange snow fencing or equivalent during construction activities to avoid additional direct impacts.

Peninsular Bighorn Sheep. During any construction activities in Section A2-N and along associated access roads identified for use in the Project description, if a sheep is seen within 1 mile of the activity, any work that could disturb the sheep will cease. For vehicle operations, this will entail stopping the vehicle until the sheep moves away. Vehicles can continue on at reduced speeds (10 to 15 mph) once the sheep has moved away. For construction, the biological monitor will request that work be suspended until the sheep moves out of the area. As the schedule permits, construction crews will wait up to 3 hours from the initial sighting for the sheep to move beyond 1 mile away from the Project activity or vehicle. After that, if the construction schedule permits, project personnel may retreat from the area in the direction from which they came.

1.3.3 Mitigation

1. Using funds contributed to the mitigation pool by CBP, USFWS may offset permanent direct and indirect impacts on approximately 26.4 acres of Quino checkerspot butterfly and 14.6 acres of coastal California gnatcatcher habitat (see **Table 1-4**). USFWS may assign the equivalent funds needed to adaptively manage and monitor 94.3 acres of habitat. USFWS may use these monies to fund conservation actions benefitting these species.

Actual impacts to habitats will be documented during construction by the environmental monitors and included in the Project Report which will be made available to USFWS. Mitigation ratios and current estimates of impacts for each habitat type are presented in **Tables 1-4**.

Table 1-4. Summary of Permanent Impacts of the Project on Habitat and Mitigation to Offset Impacts

Section	Quino Habitat Impact (acres)	Coastal California Gnatcatcher Habitat Impact (acres)	Overlap (acres)	Total Acres of Impact	Mitigation Ratio	Compensation (acres)
A2-B: Ceti's Hill	5.0	5.0	5.0	5.0	3:1	15
A2-C: Brickyard	0	0.9	0	0.9	3:1	2.7
A2-D: Hoseshoe Canyon	6.9	2.3	2.3	6.9	3:1	20.7
A2-E: East Bell Valley	0	0	0	0	0	0
A2-F: Ag Loop	5.2	0	0	5.2	3:1	15.6
A2-G: La Gloria	0	0	0	0	0	0
A2-H: West Smith Canyon	0.9	0	0	0.9	3:1	2.7
A2-I: Rattlesnake Ridge	8.0	0	0	8	3:1	24
A2-J: West Boundary Peak	0.4	0	0	0.4	3:1	1.2
A2-K: Willows1	0	6.4 ^a	0	6.4	2:1 ^a	12.8
A2-L: Willows2	0	0	0	0	0	0
A2-M: Airport Mesa	0	0	0	0	0	0
A2-N: O'Neil Valley	0	0	0	0	0	0
Total	26.4	14.6	7.3	33.7	--	94.3

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2. DESCRIPTION OF SPECIES AND THEIR HABITAT

2.1 QUINO CHECKERSPOT BUTTERFLY

The Quino checkerspot butterfly was listed as endangered on January 16, 1997.

2.1.1 Distribution

The historic distribution of the Quino checkerspot butterfly included coastal California south of Ventura County and inland valleys south of the Tehachapi Mountains. However, approximately 75 percent of its historic range has been lost, and currently it is found only in western Riverside County, southern San Diego County, and northern Baja California, Mexico (Mattoni et al. 1997).

2.1.2 Natural History

Habitat. The Quino checkerspot butterfly is found in several plant communities, from scrub on coastal bluffs, coastal sage, chaparral, and oak woodlands to desert pinyon-juniper woodlands. However, it is only found in openings within these plant communities having a sufficient cover of larval food plants and annual forbs that provide nectar for adults. The larval host plants are annuals that thrive in clay soils but can also occur in other soil types (Mattoni et al. 1997).

Breeding. Adults are flying from late February to April. Females lay egg masses consisting of 120 to 180 eggs that hatch in 7 to 10 days. Total egg production ranges from 400 to 800 eggs per female. Prediapause larvae undergo two or three molts before entering diapauses as third or fourth instar larvae. Prediapause larvae are communal, while postdiapause larvae are solitary. Diapause breaks after sufficient rainfalls to establish food plants. The postdiapause larvae progress through three to seven more instars before they pupate among low plants or under rocks. Adults emerge in about 10 days (Mattoni et al. 1997).

Diet. Larvae feed on dwarf plantain (*Plantago erecta*), purple owl's clover (*Castilleja exserta*), white snapdragon (*Antirrhinum coulterianum*), woolly plantain (*Plantago patagonica*), and bird's beak (*Cordylanthus rigidus*) (Mattoni et al. 1997).

2.1.3 Threats

This species is threatened by agricultural and urban development and other land use changes, habitat fragmentation, invasive nonnative plant species, and disrupted fire regimes (Mattoni et al. 1997).

2.2 COASTAL CALIFORNIA GNATCATCHER

The coastal California gnatcatcher was listed as threatened on March 30, 1993.

2.2.1 Distribution

The coastal California gnatcatcher is a resident bird species found from Los Angeles County southward to northwestern Baja California, Mexico, extending south to the vicinity of El Rosario, Mexico, and eastward to the eastern base of the Sierra San Pedro Martir. This species has been extirpated from Ventura County (NatureServe 2007a).

2.2.2 Natural History

Habitat. The coastal California gnatcatcher makes use of several distinctive subassociations of the coastal sage scrub plant community, particularly communities dominated by California sagebrush (*Artemisia californica*). It generally avoids crossing areas of unsuitable habitat (NatureServe 2007a).

Breeding. This species breeds from February to mid-July, with an average clutch size of 3.8 and 3 to 4 clutches laid per year. Incubation is carried out by both sexes and lasts about 14 days, with a 16-day nestling period. The nest is an open cup style (NatureServe 2007a).

Diet. The coastal California gnatcatcher is a ground and shrub-foraging insectivore (NatureServe 2007a).

2.2.3 Threats

The remaining populations of coastal California gnatcatchers are highly fragmented by urban development and expanding transportation corridors. They are also threatened by brown-headed cowbird parasitism as a result of habitat fragmentation. Wildfires can also have a significant impact (NatureServe 2007a).

2.3 LEAST BELL'S VIREO

The least Bell's vireo was listed as endangered on May 2, 1986.

2.3.1 Distribution

Least Bell's vireo is a migratory songbird that once had a widespread breeding range throughout the Central Valley of California to the Sierra Nevada foothills and Coast Ranges. It extended into northwestern Baja California, Mexico, and included populations in Death Valley and the Mojave Desert. By 1990, 80 percent of the U.S. population was found along only five drainages: Santa Margarita River, Sweetwater River, San Luis Rey River, San Diego River, and Santa Ana River. The winter range extends to the Cape region of Baja California, with some individuals remaining in southern California (NatureServe 2007b).

2.3.2 Natural History

Habitat. The least Bell's vireo uses dense brush, mesquite, willow-cottonwood forest, streamside thickets, and scrub oak habitats in arid regions, but frequently near water. Moist woodland, bottomlands, woodland edge, scattered cover, and hedgerows are used in cultivated areas, and willow-dominated woodlands are used in riparian areas. Open woodland and brush are used in winter (NatureServe 2007b).

Breeding. Migration into the breeding range occurs near the end of March. Nests are constructed in shrubs or low trees about 1 meter above the ground in a horizontal or downsloping twig fork, often near the edge of a thicket. Nesting vegetation in California is frequently willow (*Salix* sp) or rose (*Rosa* sp.). Three to five eggs are laid in a clutch, and incubation lasts 14 days. Both adults tend the young, which fledge at 10 to 12 days. Some pairs can raise multiple broods annually in some areas. Migration out of breeding areas takes place in July to late September, but some individuals will overwinter in the United States (NatureServe 2007b).

Diet. The least Bell's vireo diet consists primarily of insects, but it will also eat spiders, snails, and fruits. This species forages in dense brush and sometimes in treetops. They glean prey from leaves and bark but will also hover-hunt and hawk prey (NatureServe 2007b).

2.3.3 Threats

The least Bell's vireo has a limited range in southern California and Baja California and is threatened by habitat loss and parasitism by cowbirds (NatureServe 2007).

2.4 PENINSULAR BIGHORN SHEEP

The population of bighorn sheep in the United States Peninsular Ranges was listed as endangered on March 18, 1998.

2.4.1 Distribution

The current population is approximately 334 animals, distributed in 8 known ewe groups (subpopulations) in Riverside, Imperial, and San Diego counties from the San Jacinto Mountains south to the Mexican border (USFWS 2000).

2.4.2 Habitat Requirements

The Peninsular bighorn sheep is restricted to the east-facing, lower elevation slopes [typically below 4,600 feet (1,400 meters)] of the Peninsular Ranges along the northwestern edge of the Sonoran Desert. Bighorn sheep are wide-ranging animals that require a variety of habitat characteristics related to topography, visibility, water availability, and forage quality and quantity. Steep topography is

required for lambing and rearing habitat and for escaping from predators. Open terrain with good visibility is critical because bighorn sheep primarily rely on their sense of sight to detect predators. In their hot, arid habitat, water availability in some form is critical, especially during the summer. A wide range of forage resources and vegetation associations is needed to meet annual and drought-related variations in forage quality and availability (USFWS 2000).

2.4.3 Threats

Limiting factors apparently vary with each ewe group and are not well understood in all cases. The range of factors appears to include predation, urban-related sources of mortality, low rates of lamb recruitment, disease, habitat loss, and human-related disturbance (USFWS 2000).

Human disturbance has the potential to disrupt normal bighorn sheep social behaviors and use of essential resources, and cause bighorn sheep to abandon traditional habitat. Human disturbance in the form of construction activities has been found to cause bighorn sheep to abandon traditional habitat. While they eventually returned to the area following cessation of construction activities, ewes have been observed abandoning lambing habitat while construction activities were ongoing within their home range (Etchberger and Krausman 1999).

Human disturbance in other essential habitats, including foraging habitat, could also cause bighorn sheep to abandon habitat. The Peninsular bighorn sheep use alluvial fans and washes in spring and summer (March through August) or during any period of limited forage availability, such as times of drought, since wash vegetation remains green longer than vegetation in other areas (Andrew 1994). Alluvial fans and wash areas are also important during the reproductive season (March through August), because nursing ewes often concentrate their foraging efforts in areas with higher forage quality. Alluvial fans contain more productive soils and support greater herbaceous growth than steeper, rockier soils, during this nutritionally demanding period. In the Peninsular Ranges, bighorn sheep have been frequently observed within 0.5 miles from mountainous habitat feeding in or moving across washes and alluvial fans (DeForge and Scott 1982).

3. ACTION AREA

The action area consists of those lands that will be directly and indirectly impacted by the Project and are known to be occupied or potentially occupied by federally listed species. Maps depicting the location of the tactical infrastructure are provided in **Appendix A**.

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4. EFFECTS OF THE ACTION

4.1 QUINO CHECKERSPOT BUTTERFLY

The Project is likely to adversely affect the Quino checkerspot butterfly throughout the impact areas in Section A2-B through A2-N. The majority of adverse effects will occur through the direct loss of habitat. Quino will be in different life stages during the construction timeframe and might be killed or injured during construction activities. However, BMPs will help to reduce or avoid these impacts (see **Section 1.3**).

A survey of the project corridor in March 2008 indicated that approximately 27 acres of suitable Quino checkerspot butterfly habitat occur within the project footprint of the project is considered suitable habitat for the Quino checkerspot butterfly (CBP 2008). The areas that were dismissed as being suitable habitat were disturbed or lacked proper host plants or nectar resources. The presence or absence of suitable Quino checkerspot butterfly habitat is presented in **Table 4-1**.

Table 4-1. Impacts on Quino Checkerspot Butterfly, by Section

Section	Suitable Habitat (Yes/No)	Permanent Impact (acres)
A2-B: Ceti's Hill	Yes	5.0
A2-C: Brickyard	No	0
A2-D: Hoseshoe Canyon	Yes	6.9
A2-E: East Bell Valley	No	0
A2-F: Ag Loop	Yes	5.2
A2-G: La Gloria	No	0
A2-H: West Smith Canyon	Yes	0.9
A2-I: Rattlesnake Ridge	Yes	8.0
A2-J: West Boundary Peak	Yes	0.4
A2-K: Willows1	No	0
A2-L: Willows2	No	0
A2-M: Airport Mesa	No	0
A2-N: O'Neil Valley	No	0
Total Impact		26.4

Although BMPs will be implemented to avoid and minimize effects on individuals during construction, there is a relatively high likelihood that some individuals of the species will be killed during construction. This butterfly's biology is somewhat unusual for butterflies in general, in that the 3rd or 4th larval growth (instar) will enter into its winter stasis (diapause) sometime in May (Emmel and Emmel 1973,

USFWS 2003). It remains this way until sufficient winter rains stimulate plant growth (USFWS 2003). If sufficient plant growth occurs, then the caterpillars come out of diapause and continue their feeding until they reach larval maturity, pupate, and then finally emerge as adults. If the winter rains are appropriate, caterpillars emerge from diapause sometime in January. Pupation occurs sometime in February, and adults emerge in March. Females are usually mated on the day they emerge from pupae (USFWS 2003). Depending on the amount and timing of the rains, the timeline could shift either earlier or later. Diapause typically occurs in or near the host plant patch upon which the larvae were feeding prior to entering diapause (USFWS 2003). Adults will disperse to suitable habitat and are known to disperse anywhere from 1 to 3 kilometers a year. Sometimes dispersal could be farther if it is wind-assisted.

The best scenario to reduce effects on individual Quino checkerspot butterflies is for construction—clearing or removing host plants from the 60-foot impact corridor—to start immediately after emergence of the adults in March. However, since individual variation in time of emergence occurs, some Quino will likely still be in pupation and unable to disperse away from the impact area. Therefore, even under this best-timing scenario, some individuals will still likely be killed. Numbers of individuals lost to construction could increase from this minimum, depending upon the timing of land clearing for the construction effort. As such, direct effects of construction activities on this species will be short-term, major, and adverse, while long-term effects will be moderately adverse.

Indirect effects from construction and subsequent operation of the access and patrol roads include dust impacts on individuals and habitat that will extend beyond the boundaries of the project corridor. Increased settling of dust on larval host species and on nectar-providing species for the adults could reduce palatability of larval host plants and reduce availability of nectar to adults. With the use of BMPs to reduce dust emissions during construction, these effects are anticipated to be short- and long-term, minor to moderate, and adverse in the project area.

A beneficial effect anticipated from the Project is the reduction of foot traffic and grazing impacts on habitat for and individuals of this species. This area currently receives heavy foot traffic and illegal cattle grazing. These activities undoubtedly result in adverse effects due to reduction of habitat quantity and quality, and to crushing of individuals. The potential cessation of these illegal activities in this area could result in short- and long-term, minor to major, beneficial effects on this species.

4.2 QUINO CHECKERSPOT BUTTERFLY CRITICAL HABITAT

The Project in Section A2-K may affect, but is not likely to adversely affect, Quino checkerspot butterfly critical habitat. Primary constituent elements (PCEs) for Quino checkerspot butterfly critical habitat include grassland and open-canopy woody plant communities, such as coastal sage scrub, open red shank

chaparral, and open juniper woodland, with host plants or nectar plants; undeveloped areas containing grassland or open-canopy woody plant communities, within and between habitat patches, utilized for Quino checkerspot butterfly mating, basking, and movement; or prominent topographic features, such as hills and/or ridges, with an open woody or herbaceous canopy at the top. Prominence should be determined relative to other local topographic features (67 FR 18356 – 18395).

While Section A2-K is in Quino checkerspot butterfly habitat, this section will require the conversion of an existing fence. Additionally, the March 2008 survey indicated that no suitable Quino checkerspot butterfly habitat occurs in Section A2-K. Therefore, the area impacted is previously disturbed and is not expected to contain the PCEs for Quino checkerspot butterfly.

4.3 COASTAL CALIFORNIA GNATCATCHER

The Project is likely to adversely affect the coastal California gnatcatcher. The majority of adverse effects will occur through the direct loss of habitat. Additionally, gnatcatchers will be nesting and generally active throughout the construction timeframe, potentially resulting in the loss or abandonment of nests.

Coastal California gnatcatchers were not observed during the October 2007 surveys, although surveys were not conducted during the proper season, or in accordance with USFWS protocol (CBP 2008). However, habitat for coastal gnatcatcher was identified during the October 2007 surveys. This species occurs almost exclusively in mature coastal sage scrub habitat (NatureServe 2007), with occasional populations in maritime chaparral. Coastal sage scrub is present in Section A2-B, A2-C, A2-D, A2-G, and A2-K (see **Tables 1-1, 1-2, and 1-3**). However, Section A2-D, Horseshoe Canyon, has the highest quality habitat for the coastal California gnatcatcher. Temporary and permanent impacts on its habitat in each section are presented in **Table 4-2**.

Table 4-2. Impacts on Coastal California Gnatcatcher Habitat (Diegan Coastal Sage Scrub), by Section

Section	Permanent Impact (acres)	Temporary Impact (acres)
A2-B: Ceti's Hill	5.0	2.07
A2-C: Brickyard	0.9	0
A2-D: Horseshoe	2.3 ^a	0.00
A2-G: LaGloria	0.0	1.87
A-2K: Willows 1	6.4 ^a	0
Total Impact	14.6	3.94

Note: ^a Disturbed coastal sage scrub.

A beneficial effect anticipated to result from the Project is the reduction of foot traffic and grazing impacts on habitat for and individuals of this species. This area currently receives heavy foot traffic and illegal cattle grazing. Cross-border violators sometimes set wildfires in this area. These activities undoubtedly result in adverse effects due to reduction of habitat quantity and quality, interference with breeding and nesting behaviors, and potentially even direct mortality of eggs or young in nests. Reduction and potentially even cessation of these illegal activities in this area could result in short- and long-term, minor to major, beneficial effects on this species.

Adverse indirect effects will occur, as construction will occur during this bird's reproductive season. Nest failure for the gnatcatcher could occur as a result of construction-related activities, such as noise, disturbance, and repetitive flushing in or near occupied habitat. However, most of the project corridor does not contain currently suitable habitat. Additionally, this species may also be indirectly affected by the invasion and spread of exotic plant species associated with the development of new access and patrol roads and the widening of existing ones. The invasion of exotic plant species can lead to the loss of native habitat through type conversion of the plant community.

4.4 LEAST BELL'S VIREO

The Project may affect, but is not likely to adversely affect, the least Bell's vireo. One occurrence of least Bell's vireo has been recorded since 1986 along the access road between Sections A2-F (Ag Loop) and A2-G (La Gloria). However, this bird was not observed during biological surveys of the project area in October 2007, although surveys were not conducted during the proper season, or in accordance with USFWS protocol (CBP 2008). The vegetation type that occurs along the access roads between these sections is southern mixed chaparral. Survey results indicate that there is little potential for suitable habitat within the impact corridor. However, potential habitat for least Bell's vireo does occur near Section A2-K (Willows 1). Noise created during construction activities could have an impact on this species if it is present. However, due to the temporary nature of construction, the Project is not likely to adversely affect the least Bell's vireo.

4.5 PENINSULAR BIGHORN SHEEP

The Project may affect peninsular bighorn sheep; however, the nature or intensity of such effects cannot be accurately predicted at this time. The entire Project is located southwest of its known range (USFWS 2000). NatureServe data indicate that the nearest documented occurrence of sheep was 2.8 miles to the east of the westernmost end of A-2N. Therefore, no direct effects are expected; however, indirect effects could result from increased or decreased disturbance. Bighorn sheep populations (*Ovis canadensis*) are affected by many human activities in North American deserts (USFWS 2000). Cumulative effects of human disturbance have been implicated in a number of effects, including the

abandonment of habitat. There is evidence that in some circumstances, sheep may habituate to predictable human activity (USFWS 2000). However, even in otherwise optimum habitat, sheep are known to abandon an area, either temporarily or permanently, when the limit of their tolerance to disturbance is exceeded (USFWS 2000).

Changes in cross-border violator traffic patterns result from a myriad of factors in addition to border patrol operations and therefore are considered unpredictable and beyond the scope of this BRP. Impacts on Peninsular bighorn sheep and its critical habitat due to construction-related disturbance will be minimized through use of the BMPs (see **Species-Specific Conservation Measures** in **Section 1.3.2**). The conservation measures requiring that any work that could disturb the bighorn sheep cease as soon as individuals are observed within 1 mile of any construction activities or along associated access roads will minimize the extent to which individuals avoid use of the Project area for foraging. Additionally, the USFWS might decide to conduct a telemetry study to determine the effects of the Project.

4.6 PENINSULAR BIGHORN SHEEP CRITICAL HABITAT

The Project may affect peninsular bighorn sheep in Section A2-N; however, the nature or intensity of such effects cannot be accurately predicted at this time. Critical habitat is located less than 1 mile from Section A2-N. The primary biological and physical constituent elements under the current designation of critical habitat, that are essential to the conservation of Peninsular bighorn sheep include space for the normal behavior of groups and individuals; protection from disturbance; availability of the various native desert plant communities found on different topographic slopes, aspects, and landforms, such as steep slopes, rolling foothills, alluvial fans, and canyon bottoms; a range of habitats that provide forage, especially during periods of drought; steep, remote habitat for lambing, rearing of young, and escape from disturbance and/or predation; water sources; suitable linkages allowing individual bighorn to move freely between ewe groups, and maintain connections between subpopulations within the Peninsular Range metapopulation; and other essential habitat components to accommodate population expansion to a recovery level (66 Federal Register [FR] 8650-8676).

The following are the revised primary constituent elements for peninsular bighorn sheep that are currently proposed (72 FR 57740-57779).

1. Moderate to steep, open slopes (20 to 60 percent) and canyons, with canopy cover of 30 percent or less (below 4,600 feet (1,402 meters) elevation in the Peninsular Ranges) that provide space for sheltering, predator detection, rearing of young, foraging and watering, mating, and movement within and between ewe groups.
2. Presence of a variety of forage plants, indicated by the presence of shrubs (e.g., *Ambrosia* spp., *Caesalpinia* spp., *Hyptis* spp., *Sphaeralcea* spp.,

Simmondsia spp.), that provide a primary food source year round, grasses (e.g., *Aristida* spp., *Bromus* spp.) and cacti (e.g., *Opuntia* spp.) that provide a source of forage in the fall, and forbs (e.g., *Plantago* spp., *Ditaxis* spp.) that provide a source of forage in the spring.

3. Steep, rugged, slopes (60 percent slope or greater) (below 4,600 feet (1,402 meters) elevation in the Peninsular Ranges) that provide secluded space for lambing as well as terrain for predator evasion.
4. Alluvial fans, washes, and valley bottoms that provide important foraging areas where nutritious and digestible plants can be more readily found during times of drought and lactation and that provide and maintain habitat connectivity by serving as travel routes between and within ewe groups, adjacent mountain ranges, and important resources areas, such as foraging areas and escape terrain.
5. Intermittent and permanent water sources that are available during extended dry periods and that provide relatively nutritious plants and drinking water.

No direct effects on primary constituent elements of peninsular bighorn sheep are expected; however, indirect effects could result from increased or decreased disturbance. As stated above, the nature or intensity of such effects cannot be accurately predicted at this time.

Impacts on Peninsular bighorn sheep and its critical habitat due to construction-related disturbance will be minimized through use of the BMPs (see **Species-Specific Conservation Measures** in **Section 1.3.2**). The conservation measures requiring that any work that could disturb the bighorn sheep cease as soon as individuals are observed within 1 mile of any construction activities or along associated access roads will minimize the extent to which individuals avoid use of the Project area for foraging. Additionally, the USFWS might decide to conduct a telemetry study to determine the effects of the Project.

5. DETERMINATION OF EFFECT

Table 5-1 summarizes the federally listed species and habitats that are known to occur within 25 miles of the United States/Mexico international border in Val Verde County. There are 13 federally listed taxa that are known to occur, or have the potential to occur, within or adjacent to the project area. Additionally, three of the listed species have designated critical habitat in or near the project area.

Of the species listed above, the Project is likely to adversely affect the Quino checkerspot butterfly (Sections A2-B, A2-D, A2-F, A2-H, A2-I, and A2-J) and California coastal gnatcatcher (Sections A2-B, A2-C, A2-D, A2-G, and A2-K). The Project may affect, but is not likely to adversely affect, Quino checkerspot butterfly critical habitat (Section A2-K) and the least Bell's vireo (Sections A2-F and A2-G). The project may affect peninsular bighorn sheep and peninsular bighorn sheep critical habitat (Section A-2N); however, the nature or intensity of the effects cannot be accurately predicted at this time. It has been determined that the Project will have no effect on coastal California gnatcatcher critical habitat, the southwestern willow flycatcher, the arroyo toad, the Otay tarplant, Encinitas baccharis, the willowy monardella, and San Diego thornmint for the reasons listed below. Construction and operation of tactical infrastructure will increase border security in the San Diego Sector and might result in a change to illegal traffic patterns. Changes in cross-border violator traffic patterns result from a myriad of factors in addition to border patrol operations, and therefore, are considered unpredictable and beyond the scope of this BRP.

Southwestern Willow Flycatcher. The Project will have no effect on the southwestern willow flycatcher. There are no occurrences of this bird within 1 mile of the survey area. It was not observed during biological surveys of the project area in October 2007 (CBP 2008). Additionally, as a result of the surveys it was determined that there was little potential for suitable habitat.

Arroyo Toad. The Project will have no effect on the arroyo toad. The arroyo toad was not observed during biological surveys of the project area in October 2007; although surveys were not conducted during the proper season, or in accordance with USFWS protocol (CBP 2008). Additionally, as a result of the survey it was determined that there was little potential for suitable habitat (CBP 2008). Suitable habitat was identified upstream of Section A2-K (CBP 2008). Because this is upstream of the Project, no direct or indirect effects are expected.

Otay Tarplant. The Project will have no effect on the Otay tarplant. The entire Project is located east of its known range (USFWS 2004).

Willowy/Jennifer's Monardella. The Project will have no effect on the willowy/Jennifer's monardella. The entire Project is located east of the known range of this species complex (Reiser 1994).

Encinitas Baccharis. The Project will have no effect on Encinitas baccharis. The entire Project is located outside its known range (Reiser 1994).

Table 5-1. Federally Listed Species and Critical Habitats Potentially Occurring Within the Project Area and the Determination of Effects

Species	Listing/Critical Habitat Designated	Determination of Effect
Quino checkerspot butterfly, <i>Euphydryas editha quino</i>	Endangered	Likely to adversely affect
Quino checkerspot butterfly, <i>Euphydryas editha quino</i> Critical Habitat	Designated (2002)	Not likely to adversely affect
Quino checkerspot butterfly, <i>Euphydryas editha quino</i> Critical Habitat	Proposed (2008)	Not likely to adversely affect
Coastal California gnatcatcher, <i>Poliophtila californica californica</i>	Threatened	Likely to adversely affect
Coastal California gnatcatcher, <i>Poliophtila californica californica</i> Critical Habitat	Revised (2007)	No effect
Southwestern willow flycatcher, <i>Empidonax traillii extimus</i>	Endangered	No effect
Least Bell's vireo, <i>Vireo bellii pusillus</i>	Endangered	Not likely to adversely affect
Arroyo toad, <i>Bufo californicus</i>	Endangered	No effect
Peninsular bighorn sheep, <i>Ovis canadensis</i>	Endangered	May affect
Peninsular bighorn sheep, <i>Ovis Canadensis</i> Critical Habitat	Designated (2001)	May affect
	Revised proposed designation (2007)	May affect
Otay tarplant, <i>Deinandra conjugens</i>	Threatened	No effect
Encinitas baccharis, <i>Baccharis vanessae</i>	Threatened	No effect
Willow/Jennifer's Monardella, <i>Monardella linoidea</i> ssp. <i>viminea</i> / <i>Monardella stoneana</i>	Endangered	No effect
San Diego Thornmint, <i>Acanthomintha ilicifolia</i>	Threatened	No effect

Notes:

¹ The U.S. Fish and Wildlife Service anticipates the revised final critical habitat designation for the Quino checkerspot butterfly will be published in the *Federal Register* in 2008.

² The U.S. Fish and Wildlife Service anticipates the revised final critical habitat designation for the Peninsular bighorn sheep will be published in the *Federal Register* in October 2008.

San Diego Thornmint. The project will have no effect on the San Diego thornmint. Although the October survey was not conducted at the right time of year to determine the presence of San Diego thornmint, Natureserve data indicate that all elements of occurrence are more than 20 miles from the project area. Additionally, the correct soil types do not occur at the Project area. The plant usually occurs on heavy clay soils in openings within coastal sage scrub, chaparral, and native grassland of coastal San Diego County, and in isolated populations south to San Telmo in northern Baja California. The preferred soils are also more clay/sand than most soils found in the project area.

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6. REFERENCES

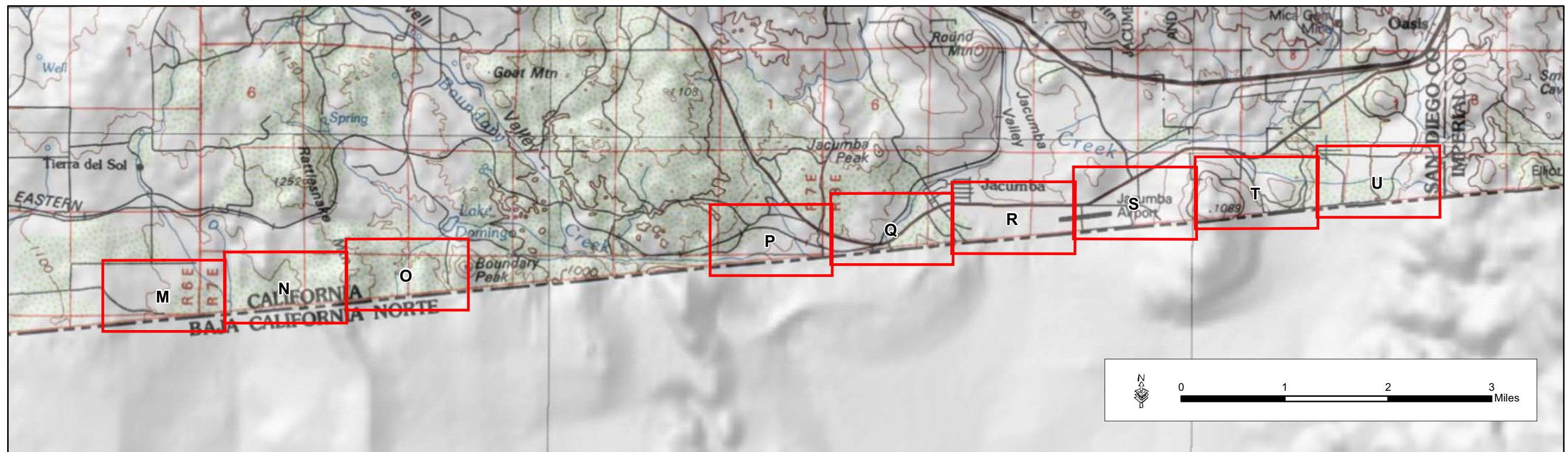
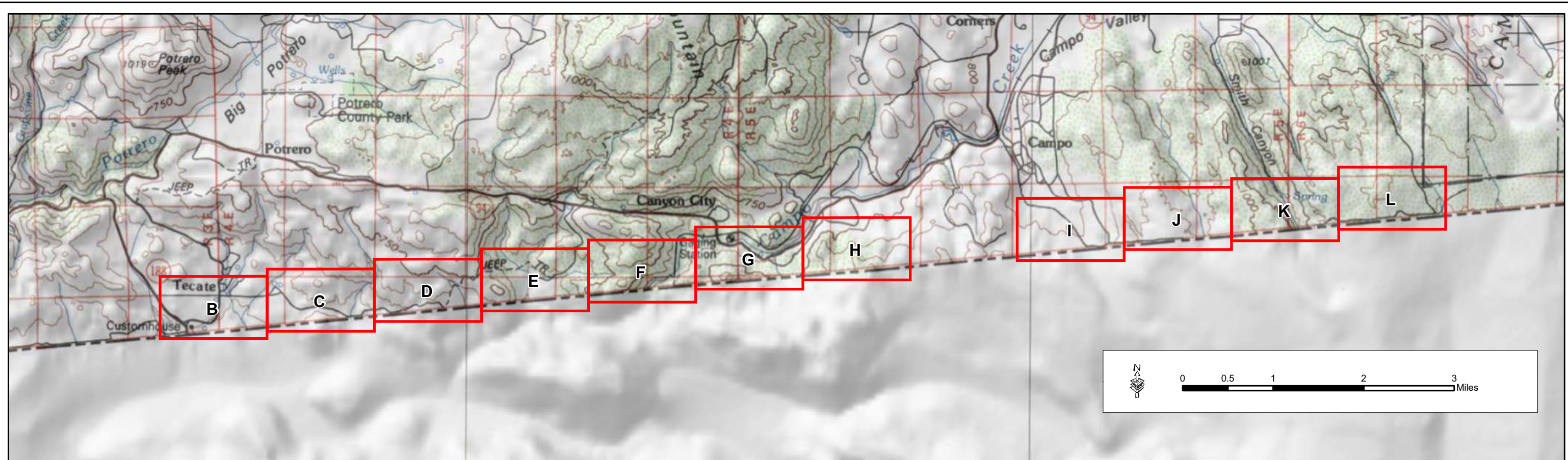
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- USFWS 2004 U.S. Fish and Wildlife Service. 2004. *Recovery Plan for Deinandra conjugens (Otay Tarplant)*. Portland, Oregon. Vii+65pp.
- USFWS 2008 U.S. Fish and Wildlife Service. 2008. *5-Year Review for Monardella linoides subsp. Vininea (Willow Monardella)*. Carlsbad, California.

APPENDIX A
ACTION AREA MAPS

APPENDIX C
Detailed Project Maps



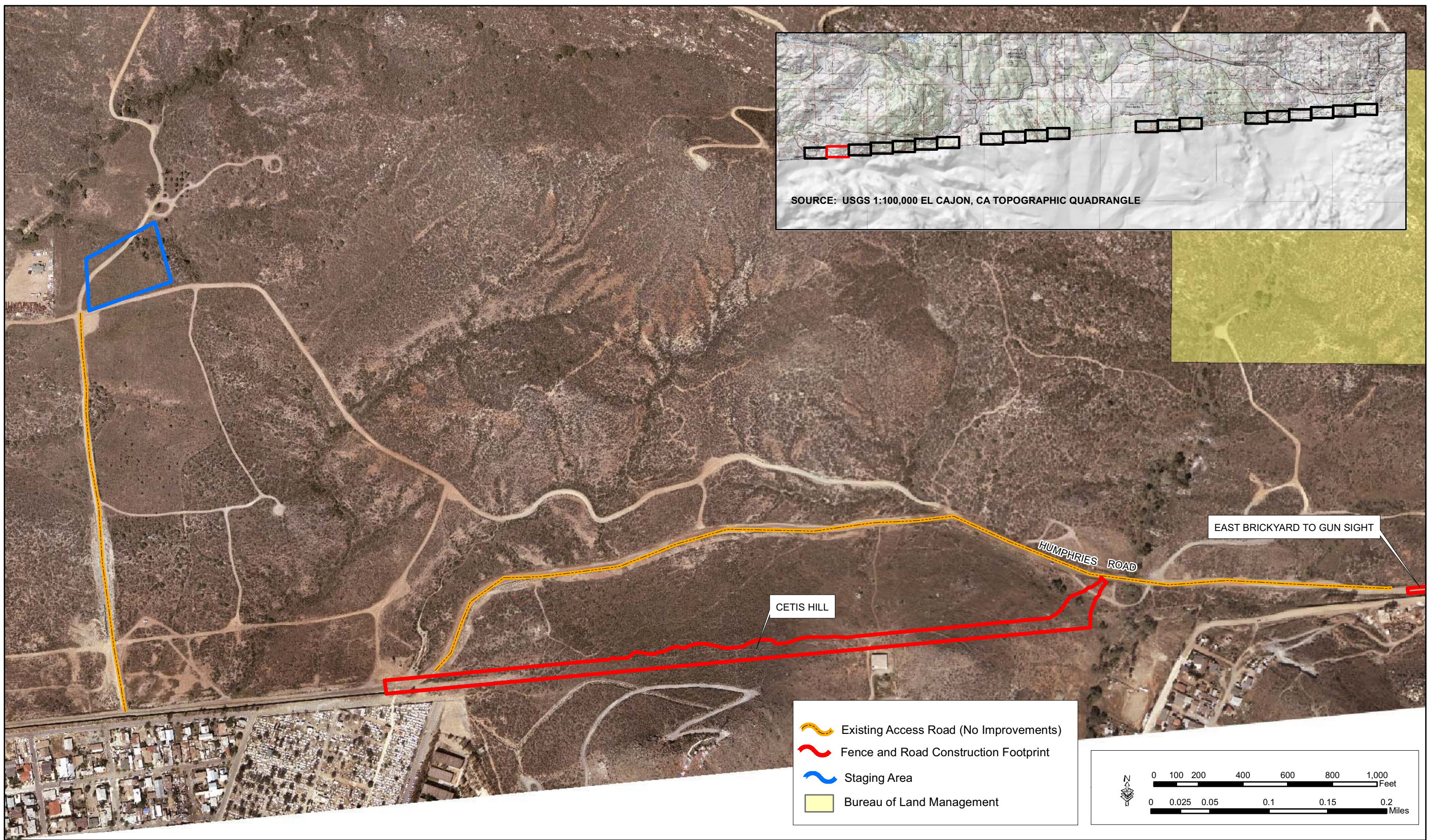


Corridor Map A: Index Map

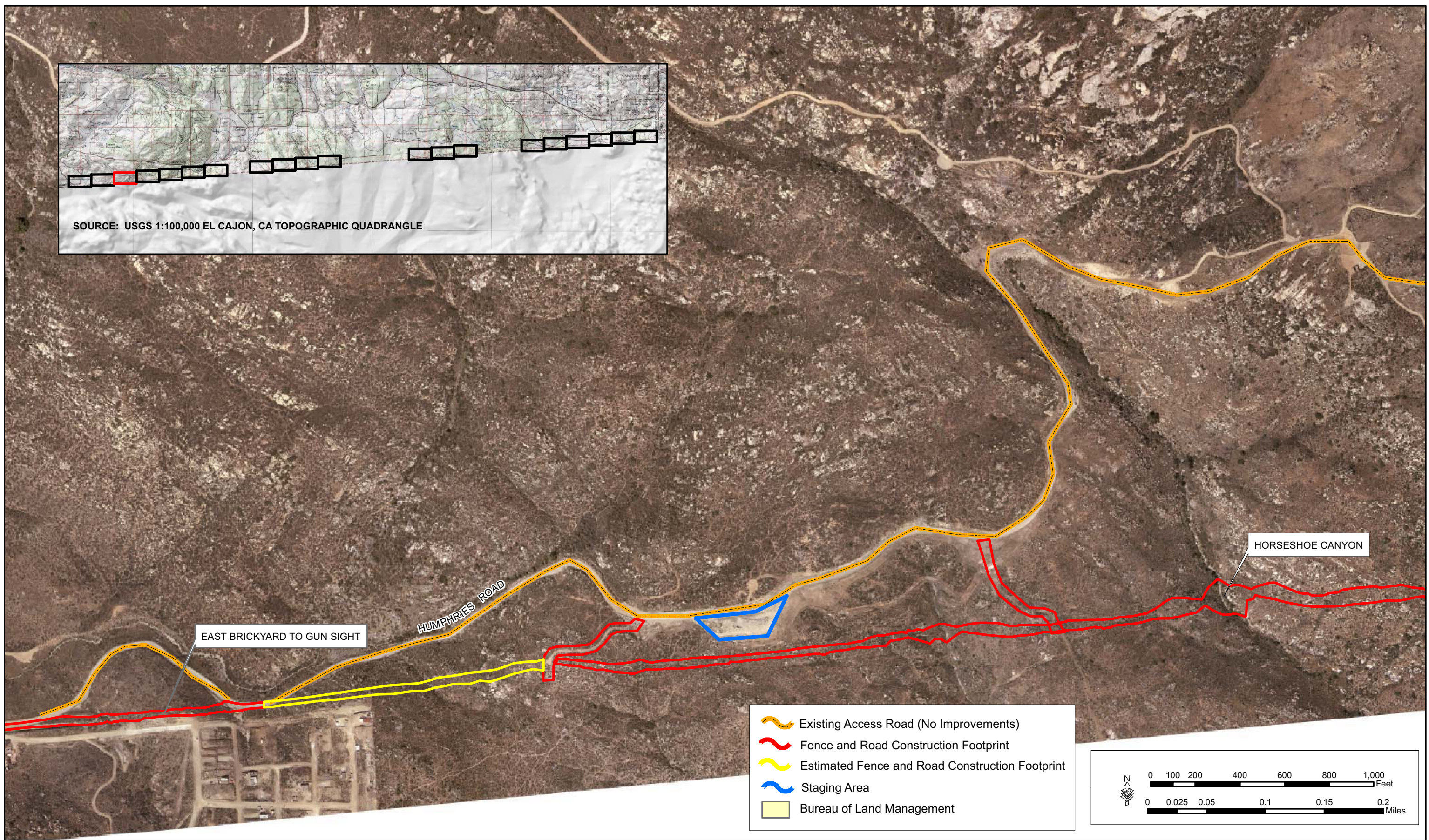


SOURCE: USGS 1:100,000 EL CAJON, CA TOPOGRAPHIC QUADRANGLE

Corridor Map B: Access Road

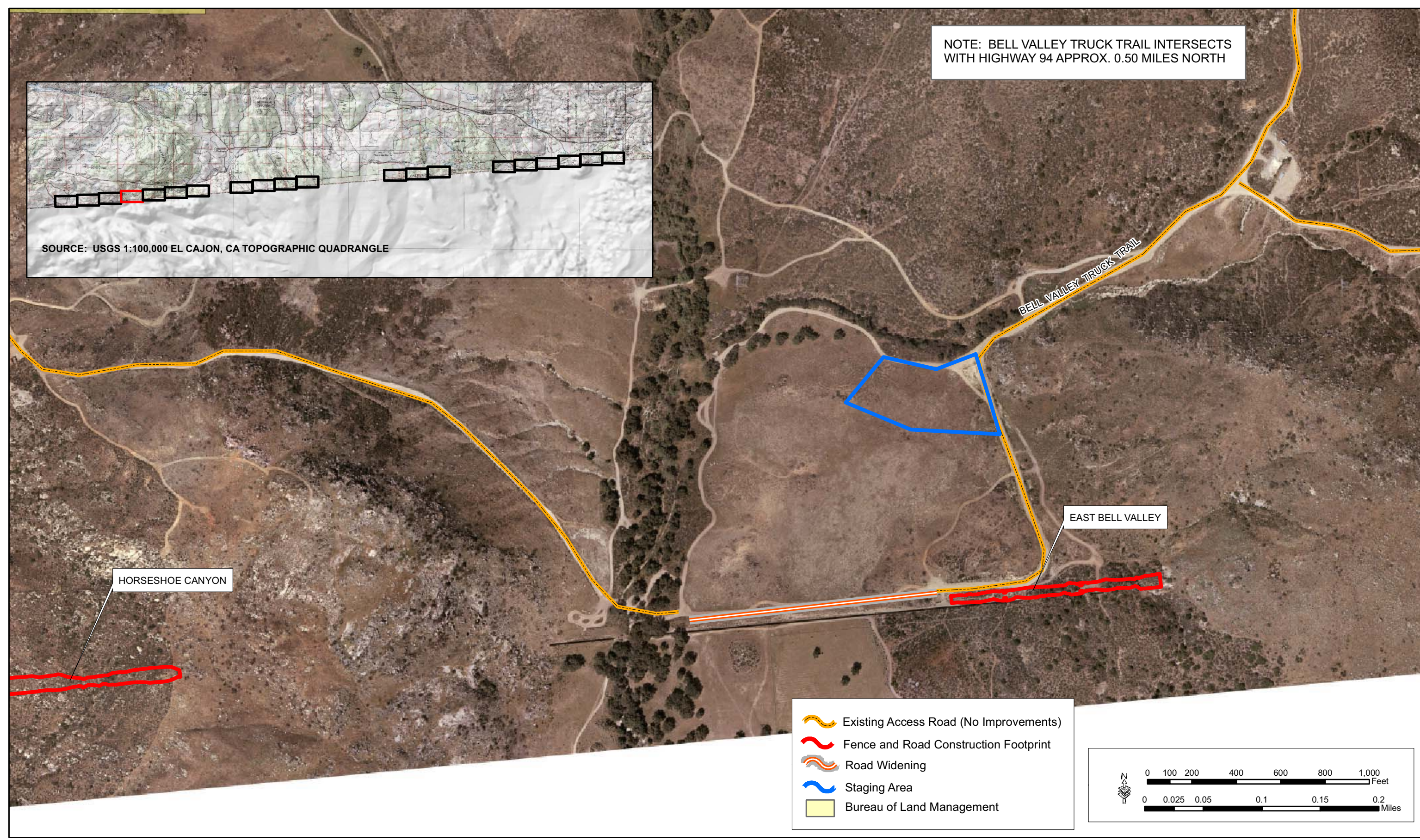
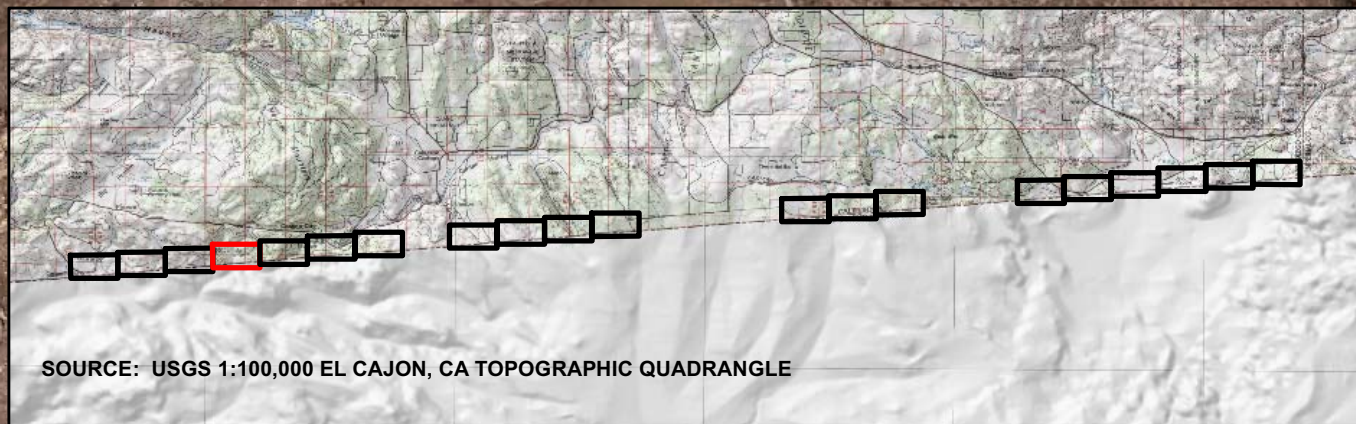


Corridor Map C: Cetis Hill, Staging Area, and Access Road

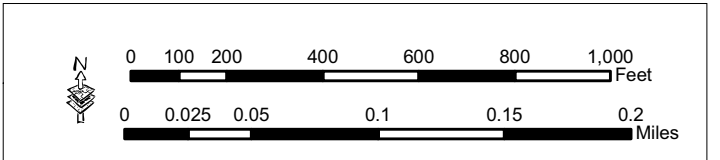


Corridor Map D: East Brickyard to Gun Sight, Horseshoe Canyon, Staging Area and Access Road

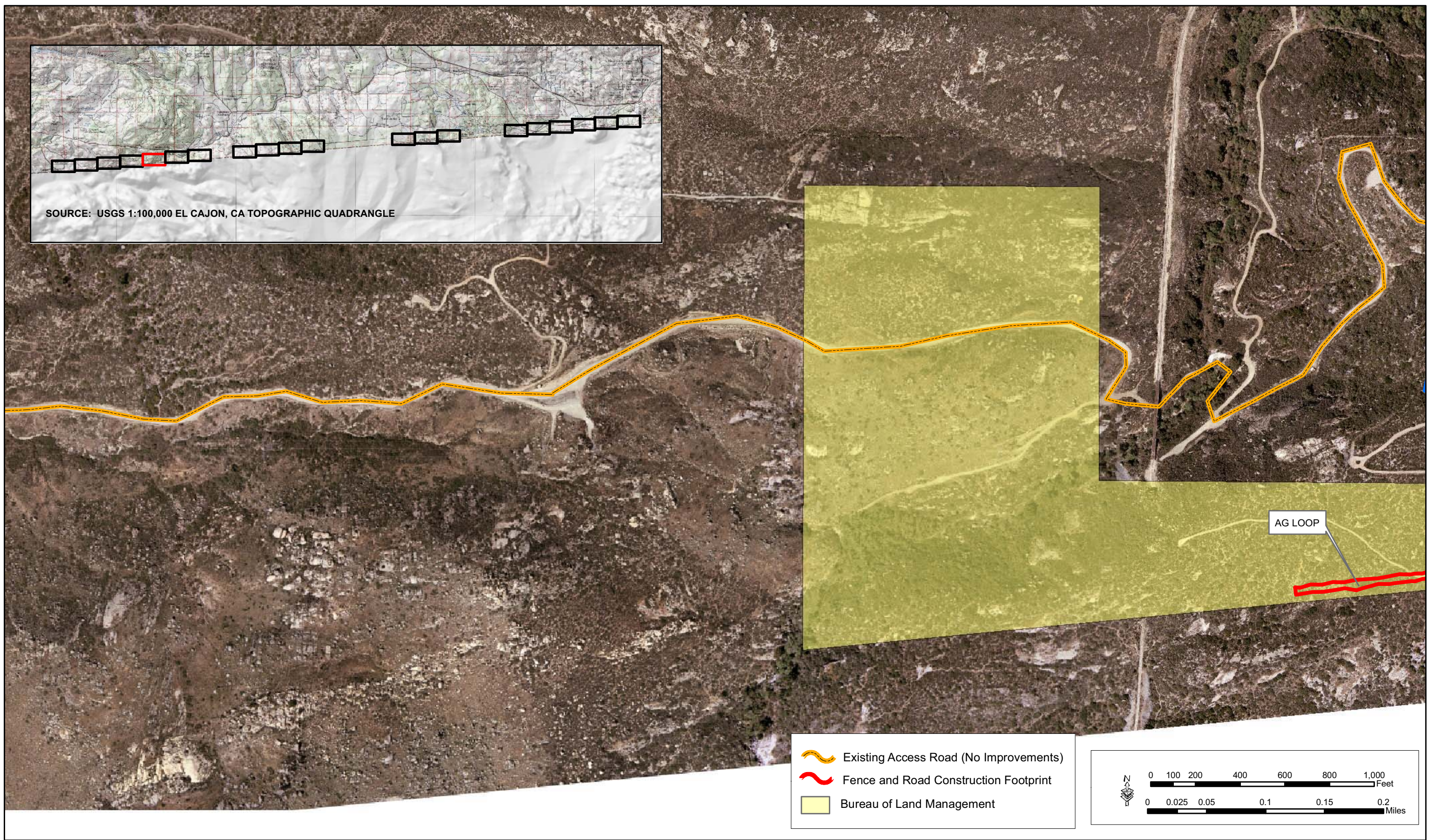
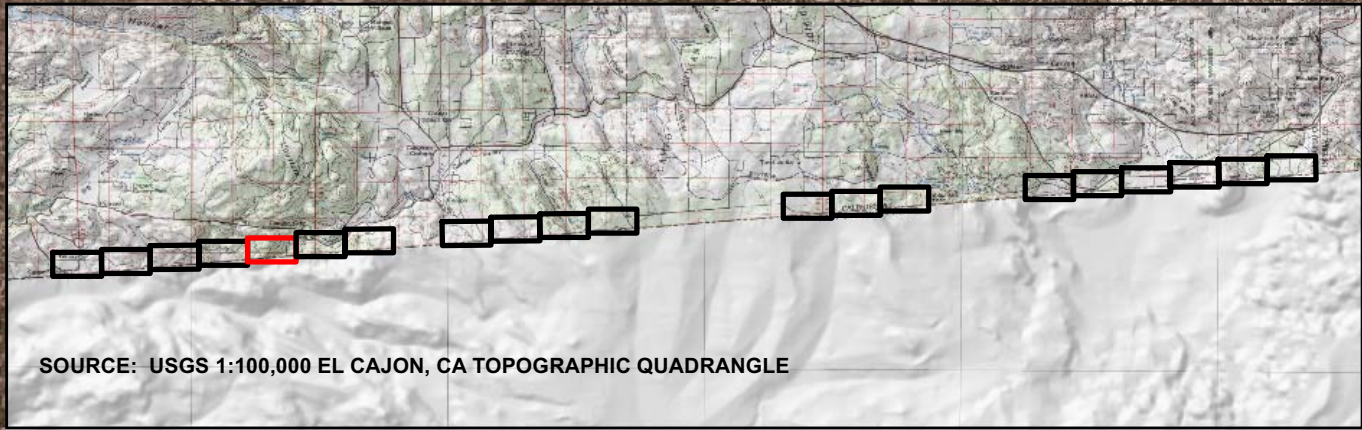
NOTE: BELL VALLEY TRUCK TRAIL INTERSECTS WITH HIGHWAY 94 APPROX. 0.50 MILES NORTH






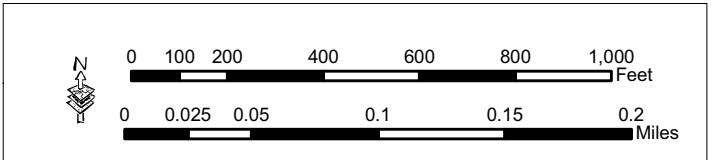
- Existing Access Road (No Improvements)
- Fence and Road Construction Footprint
- Road Widening
- Staging Area
- Bureau of Land Management



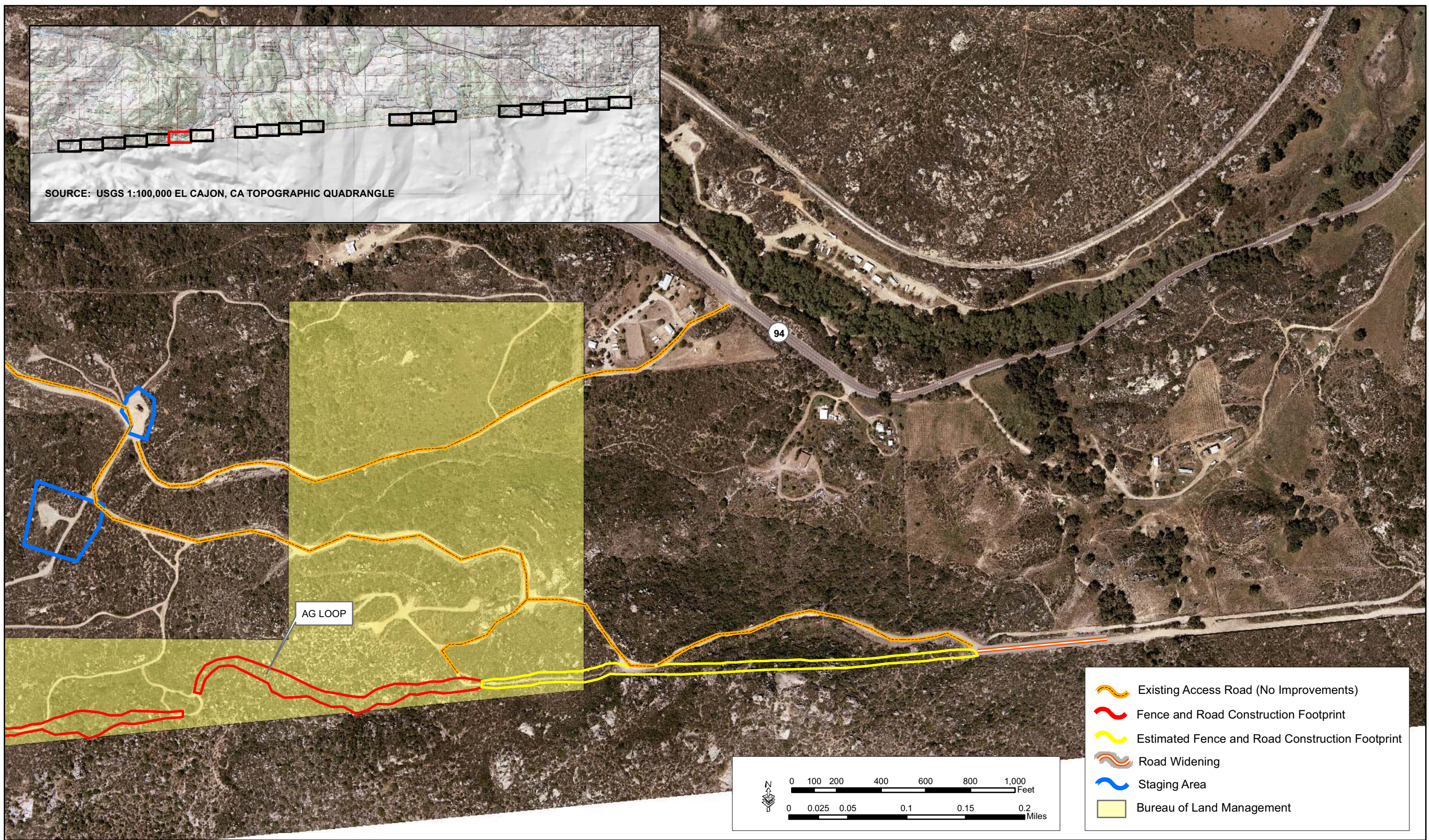
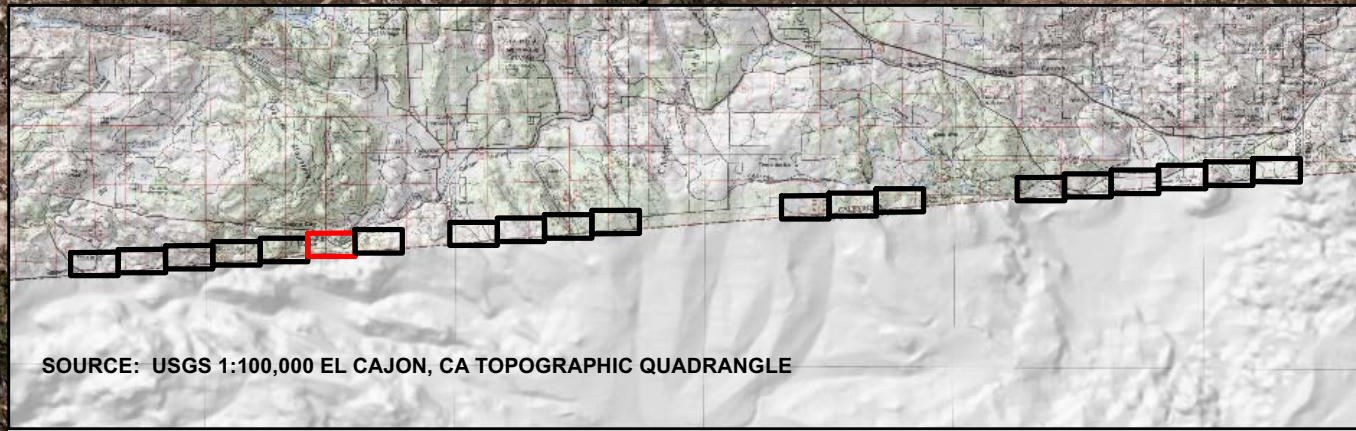
Corridor Map E: Horseshoe Canyon, East Bell Valley, Road Widening, Staging Area, and Access Roads



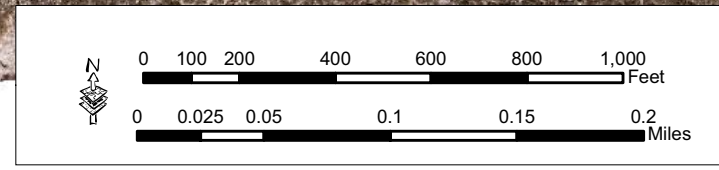
-  Existing Access Road (No Improvements)
-  Fence and Road Construction Footprint
-  Bureau of Land Management



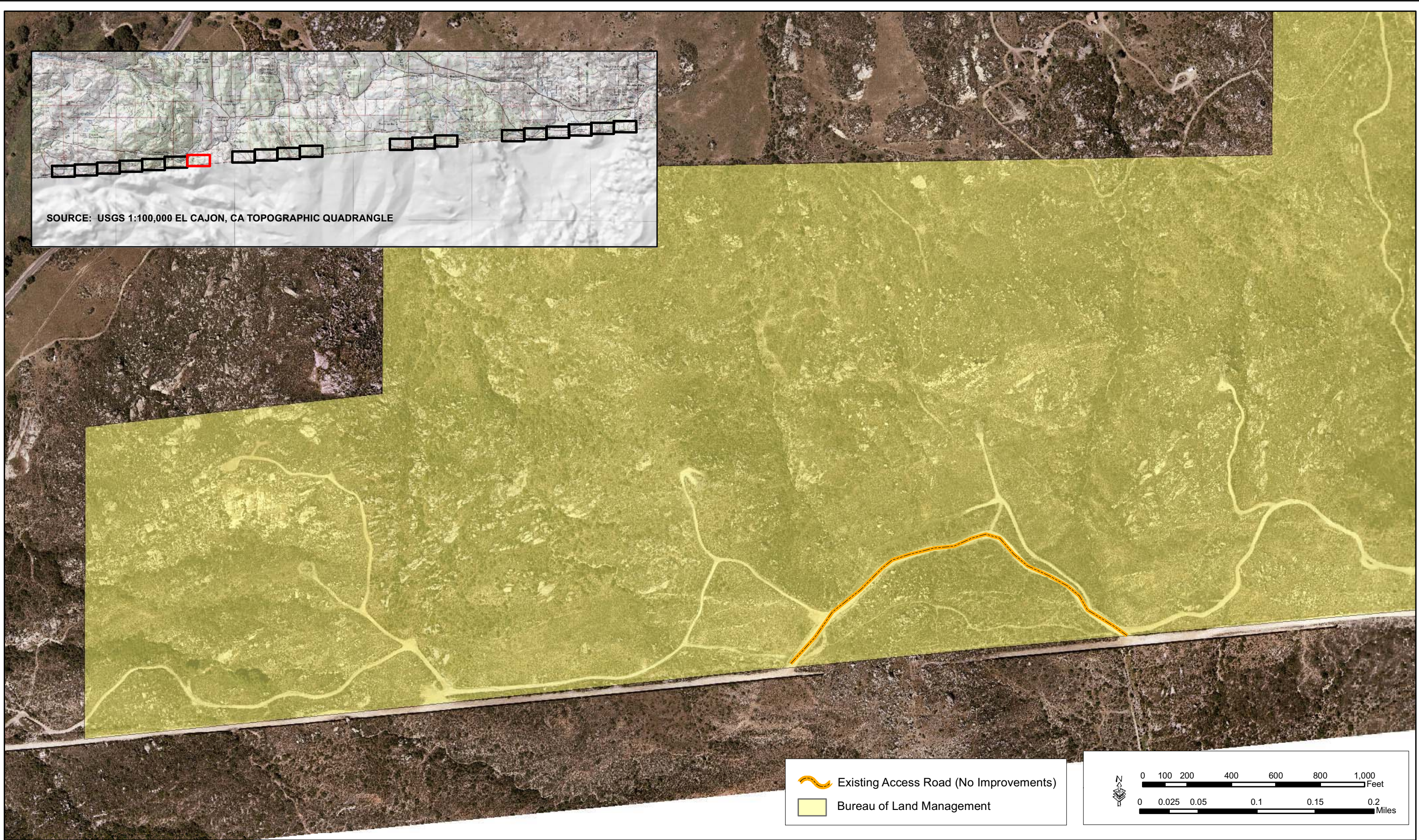
Corridor Map F: Ag Loop and Access Road





-  Existing Access Road (No Improvements)
-  Fence and Road Construction Footprint
-  Estimated Fence and Road Construction Footprint
-  Road Widening
-  Staging Area
-  Bureau of Land Management




Corridor Map G: Ag Loop, Road Widening, Staging Area, and Access Road



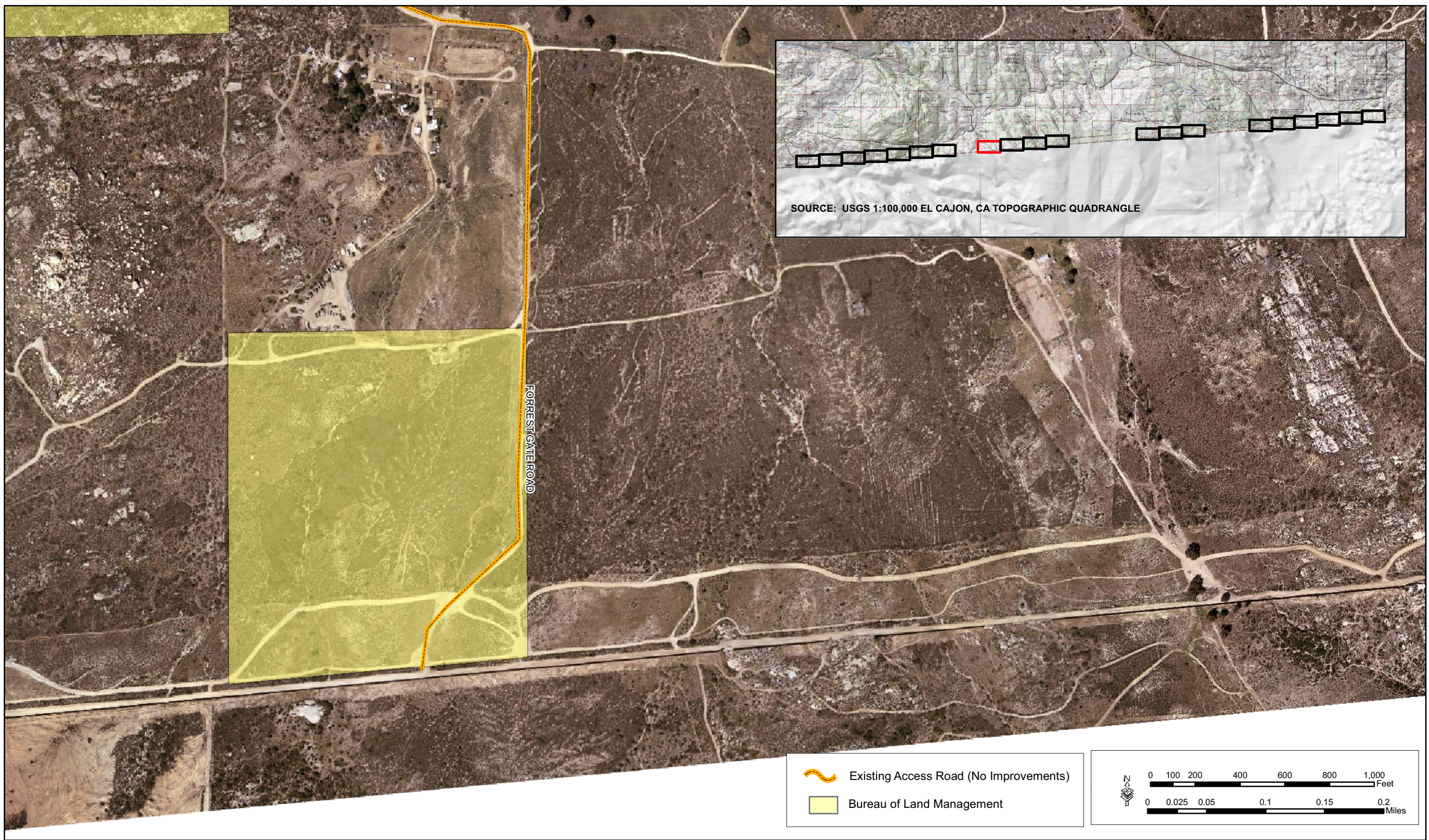
 Existing Access Road (No Improvements)

 Bureau of Land Management

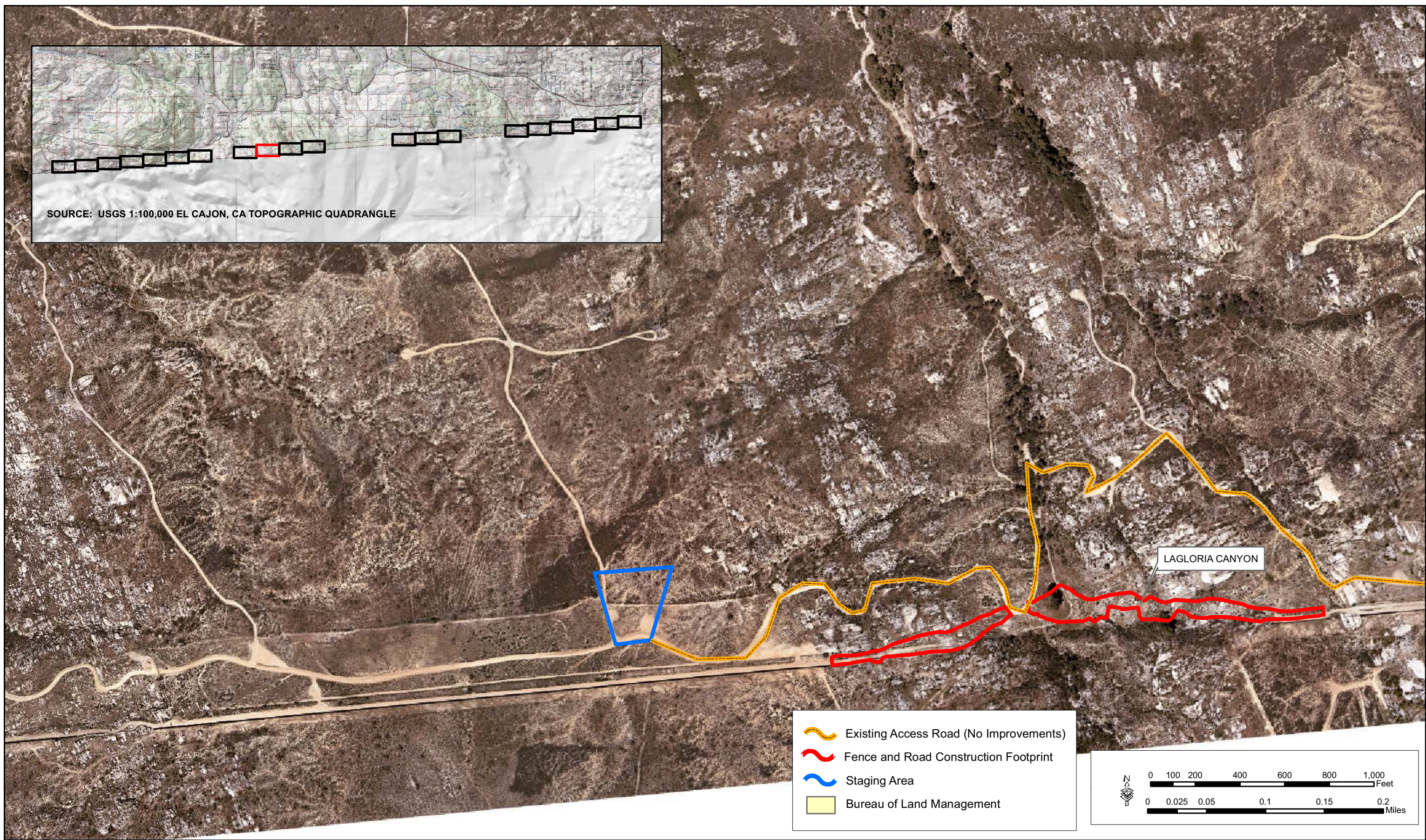
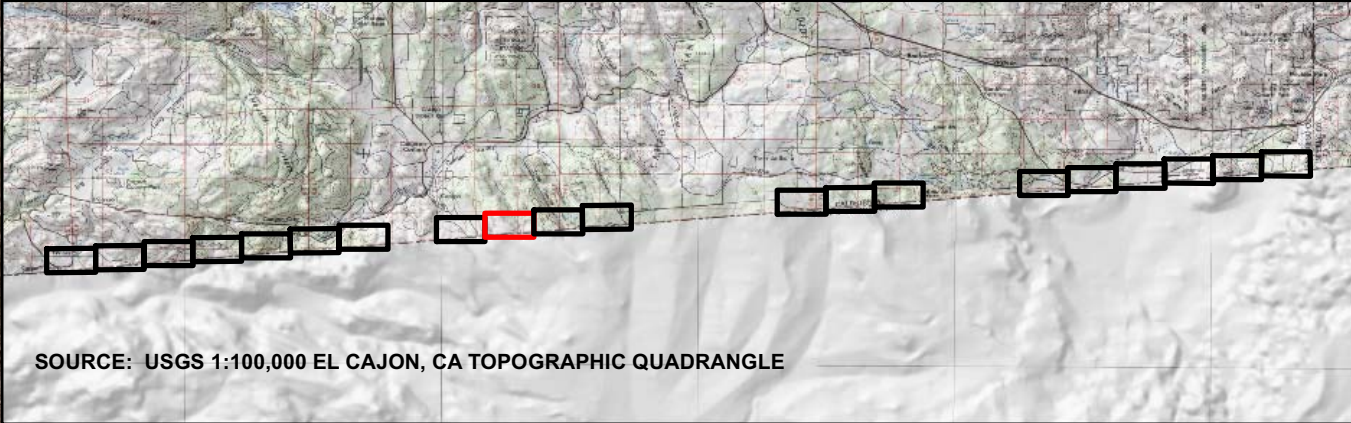
 0 100 200 400 600 800 1,000 Feet

0 0.025 0.05 0.1 0.15 0.2 Miles

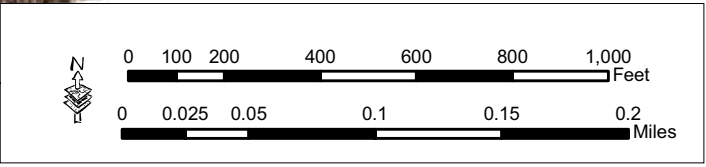
Corridor Map H: Access Road



Corridor Map I: Access Road

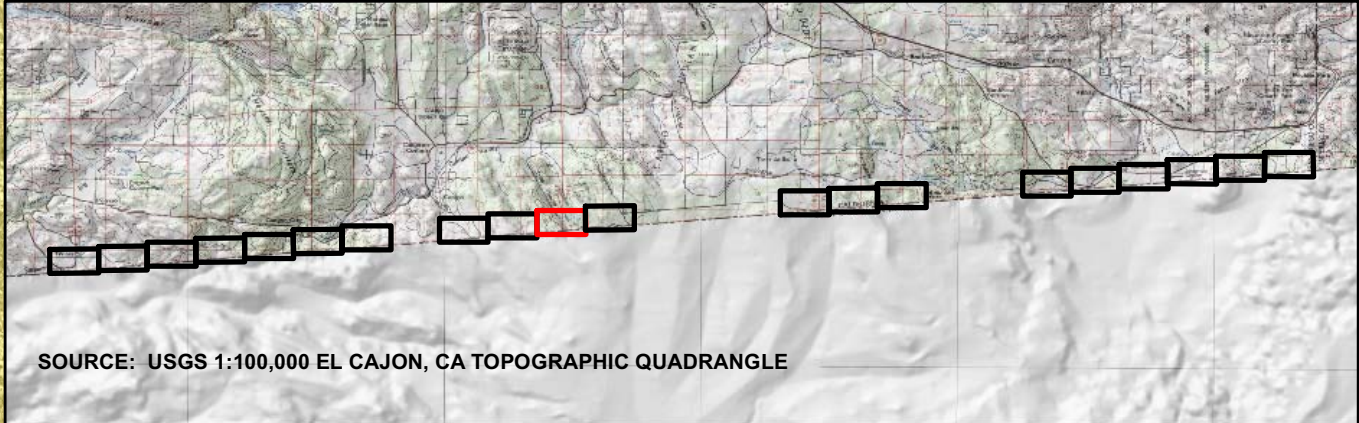


- Existing Access Road (No Improvements)
- Fence and Road Construction Footprint
- Staging Area
- Bureau of Land Management



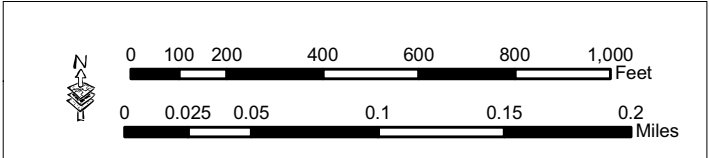
Corridor Map J: LaGloria Canyon, Staging Area, and Access Road

HIGHWAY 94 IS 2.5 MILES TO THE NORTH

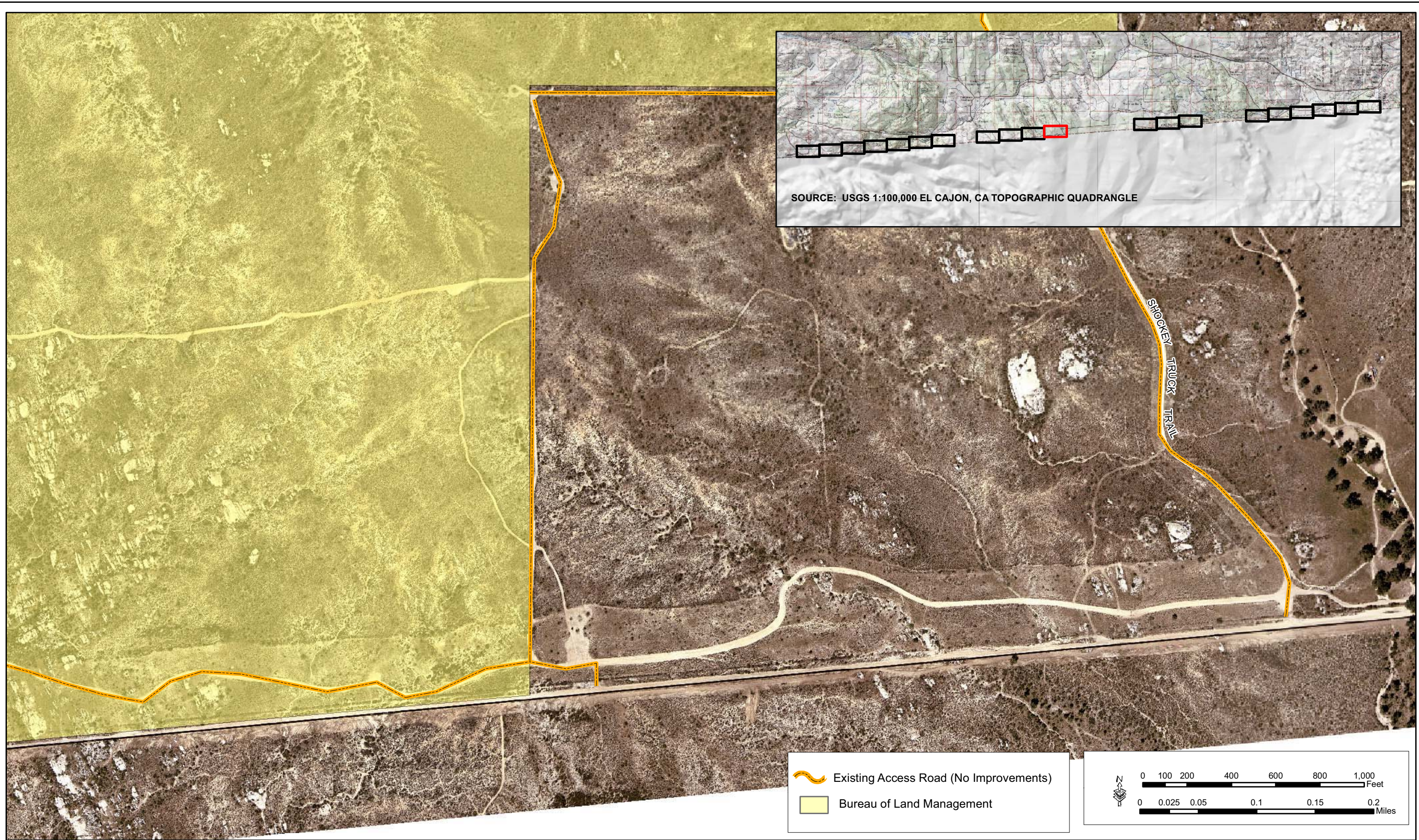


WEST SMITH CANYON

- Existing Access Road (No Improvements)
- Fence and Road Construction Footprint
- Road to be Abandoned & Rehabilitated
- Bureau of Land Management

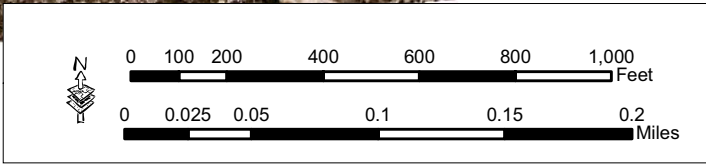
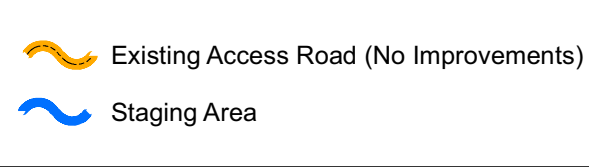
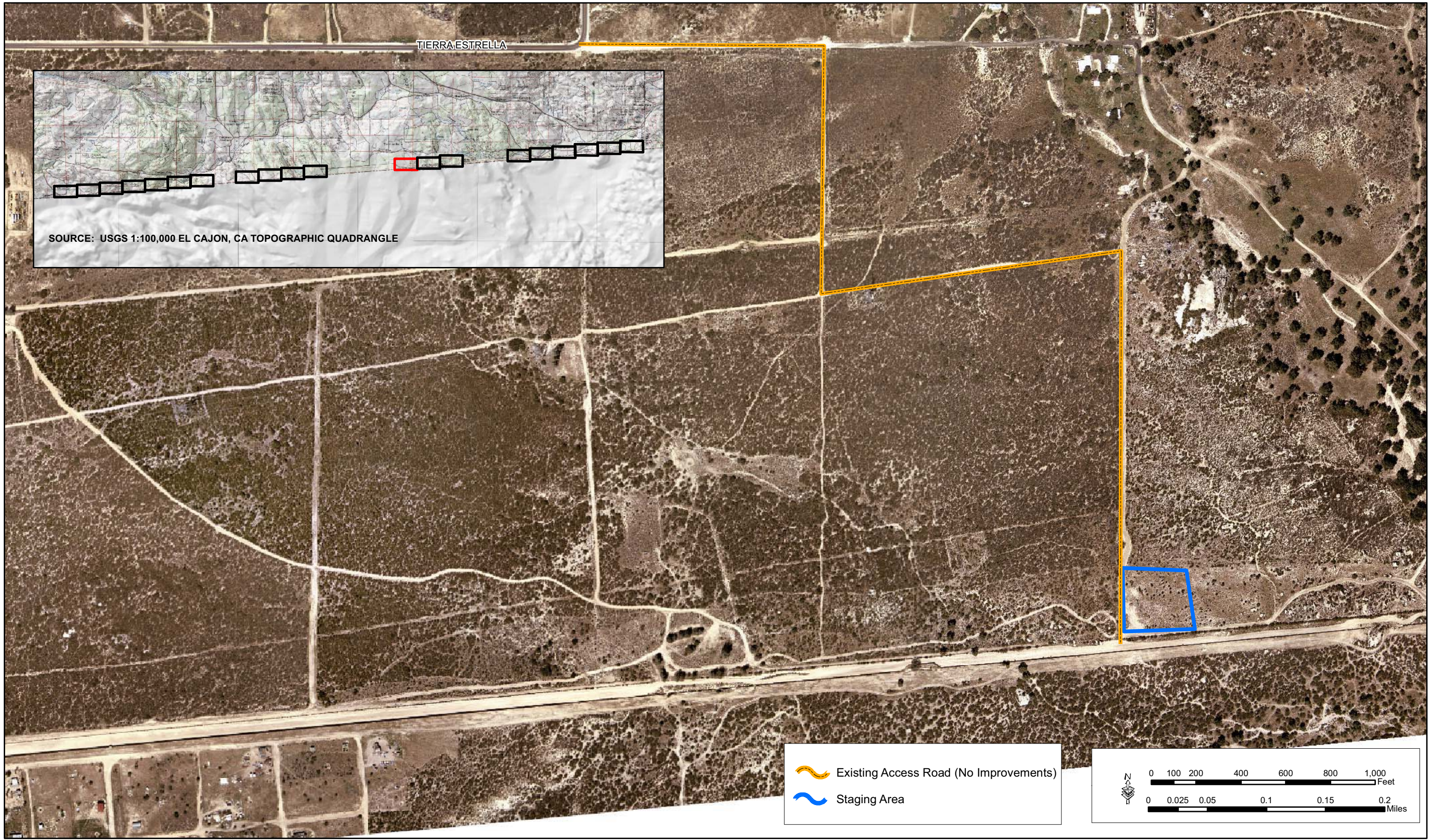
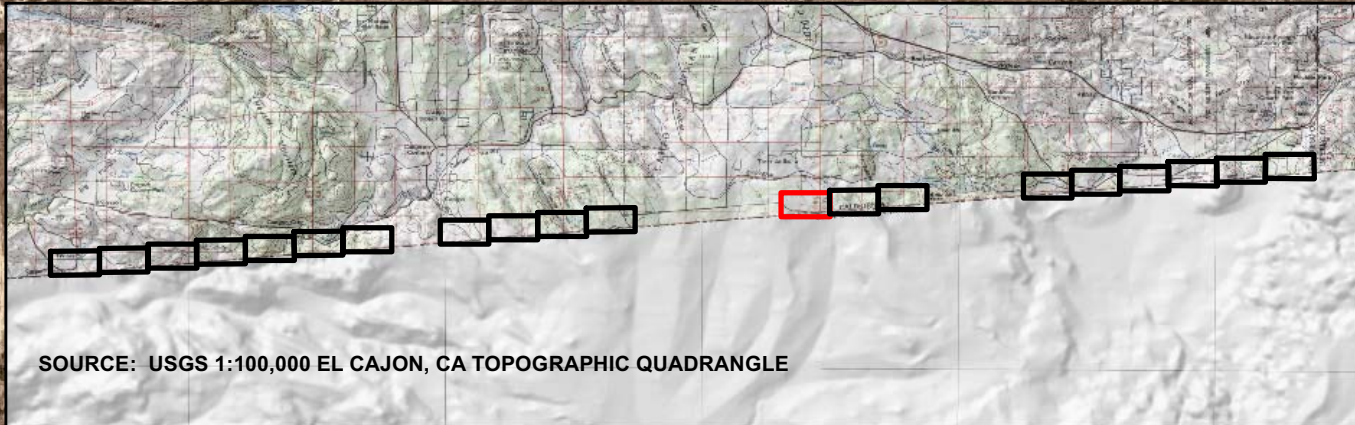


Corridor Map K: West Smith Canyon, and Access Roads

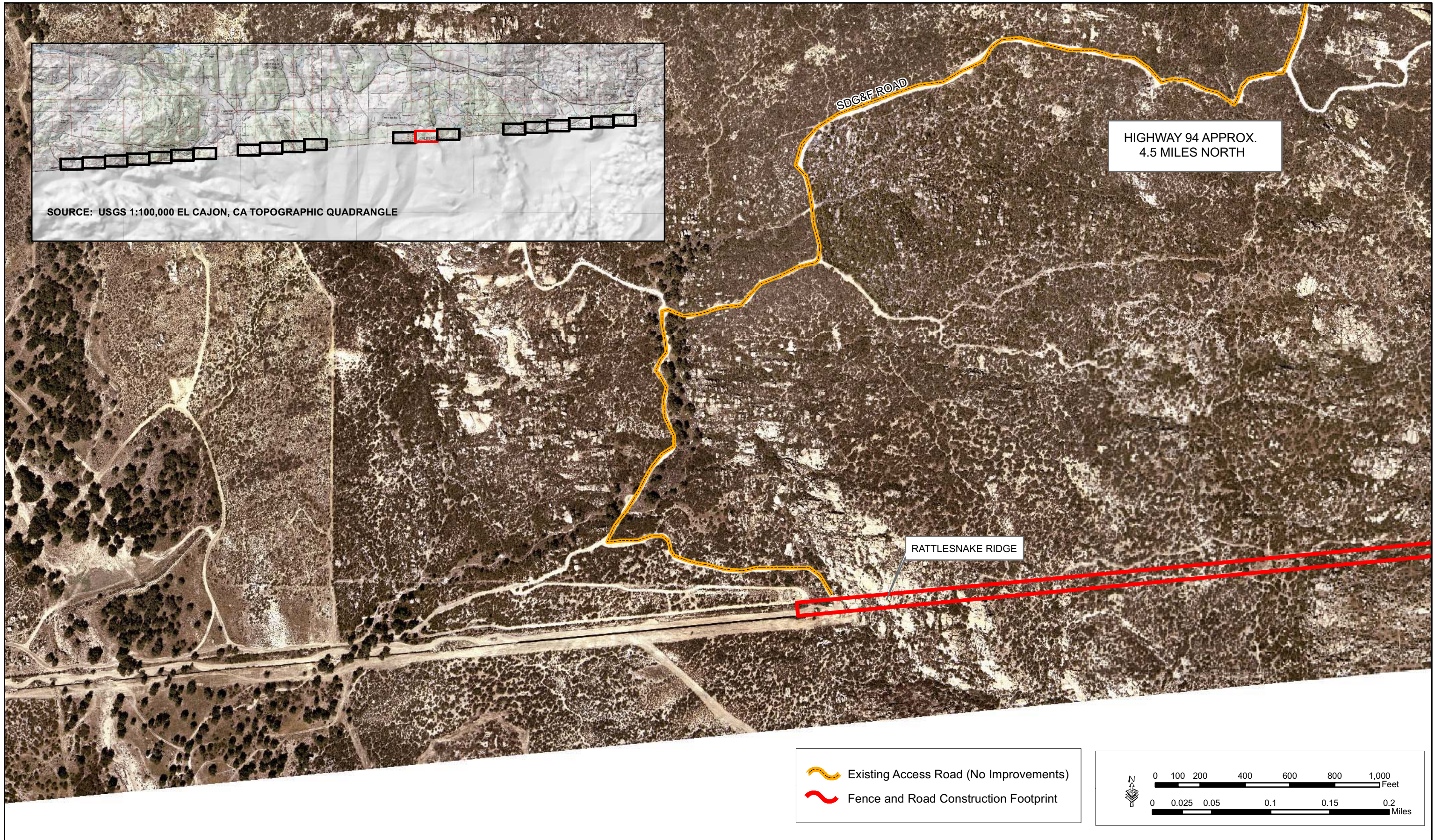


Corridor Map L: Access Roads

TIERRA ESTRELLA





Corridor Map M: Staging Area, and Access Road

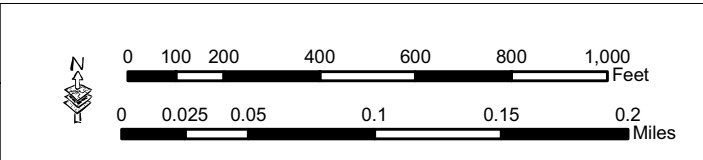


SOURCE: USGS 1:100,000 EL CAJON, CA TOPOGRAPHIC QUADRANGLE

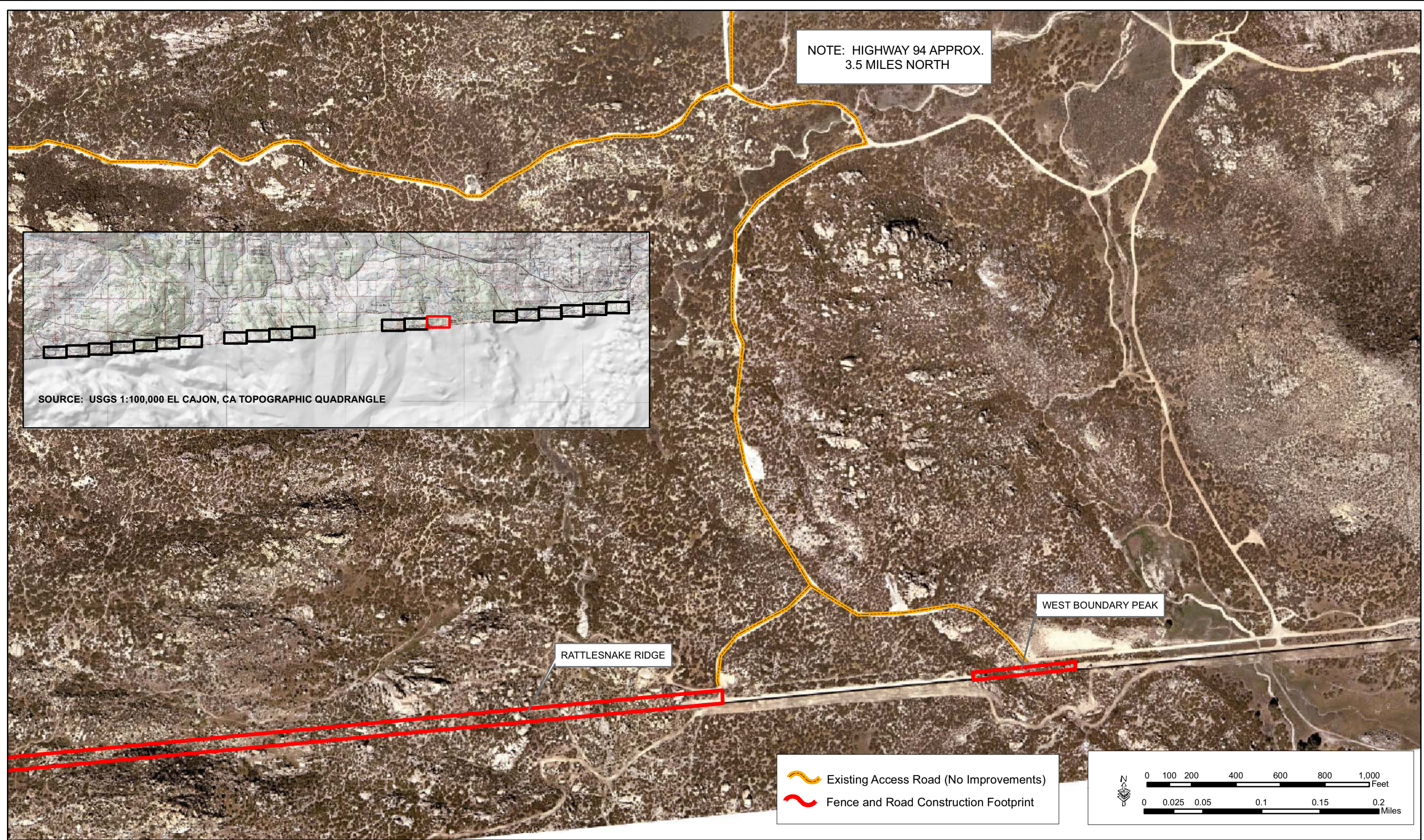
HIGHWAY 94 APPROX.
4.5 MILES NORTH

RATTLESNAKE RIDGE

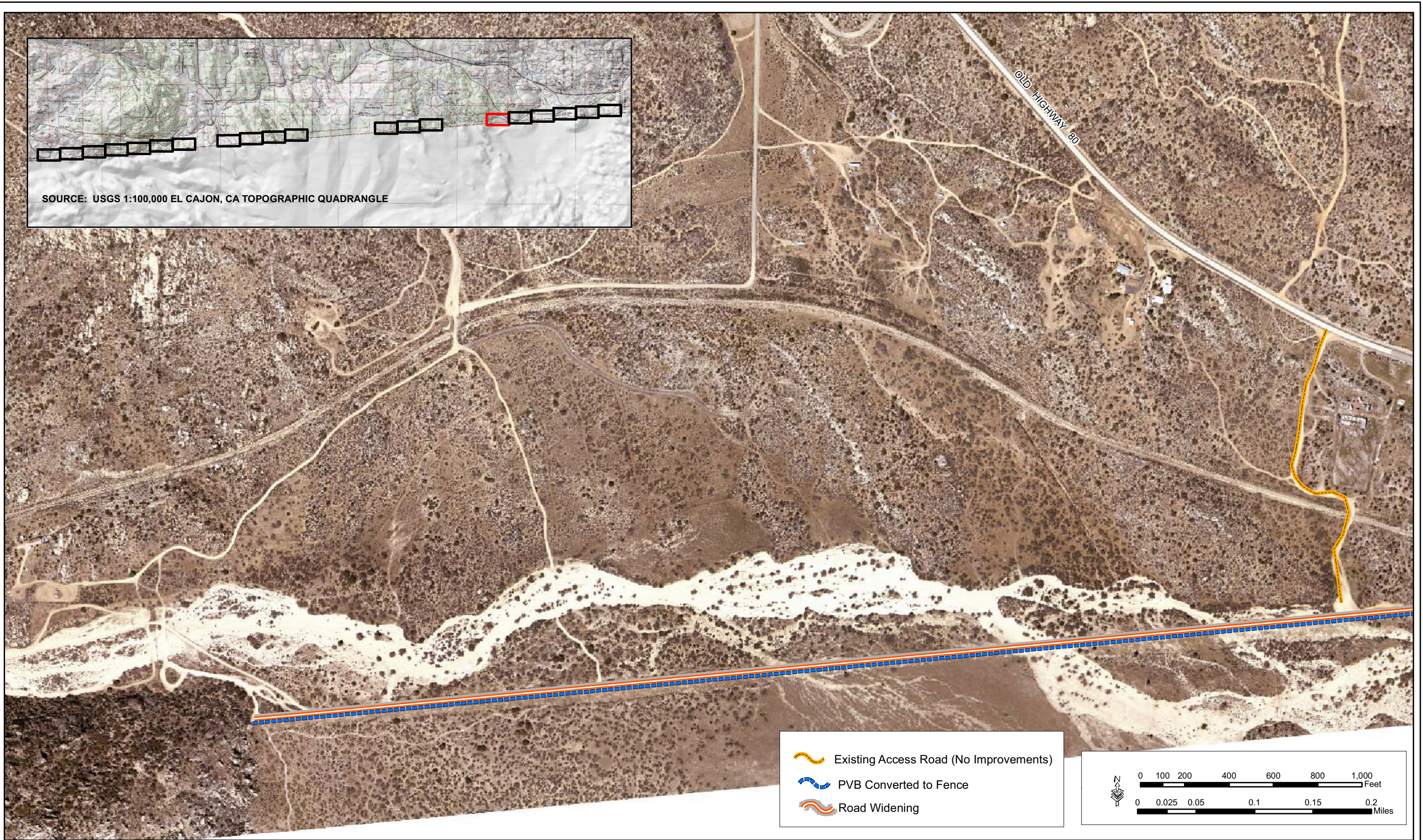
-  Existing Access Road (No Improvements)
-  Fence and Road Construction Footprint



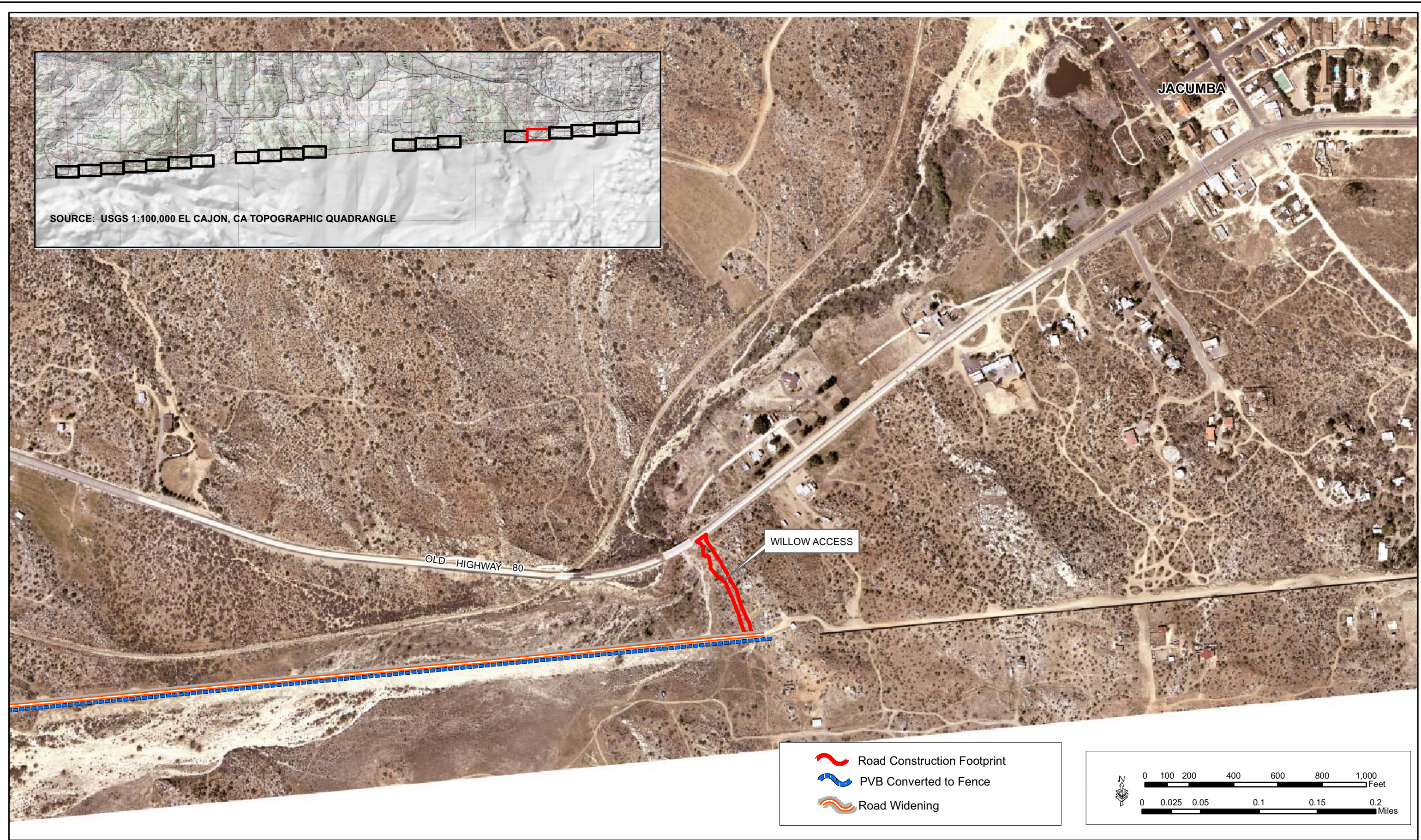
Corridor Map N: Rattlesnake Ridge and Access Road



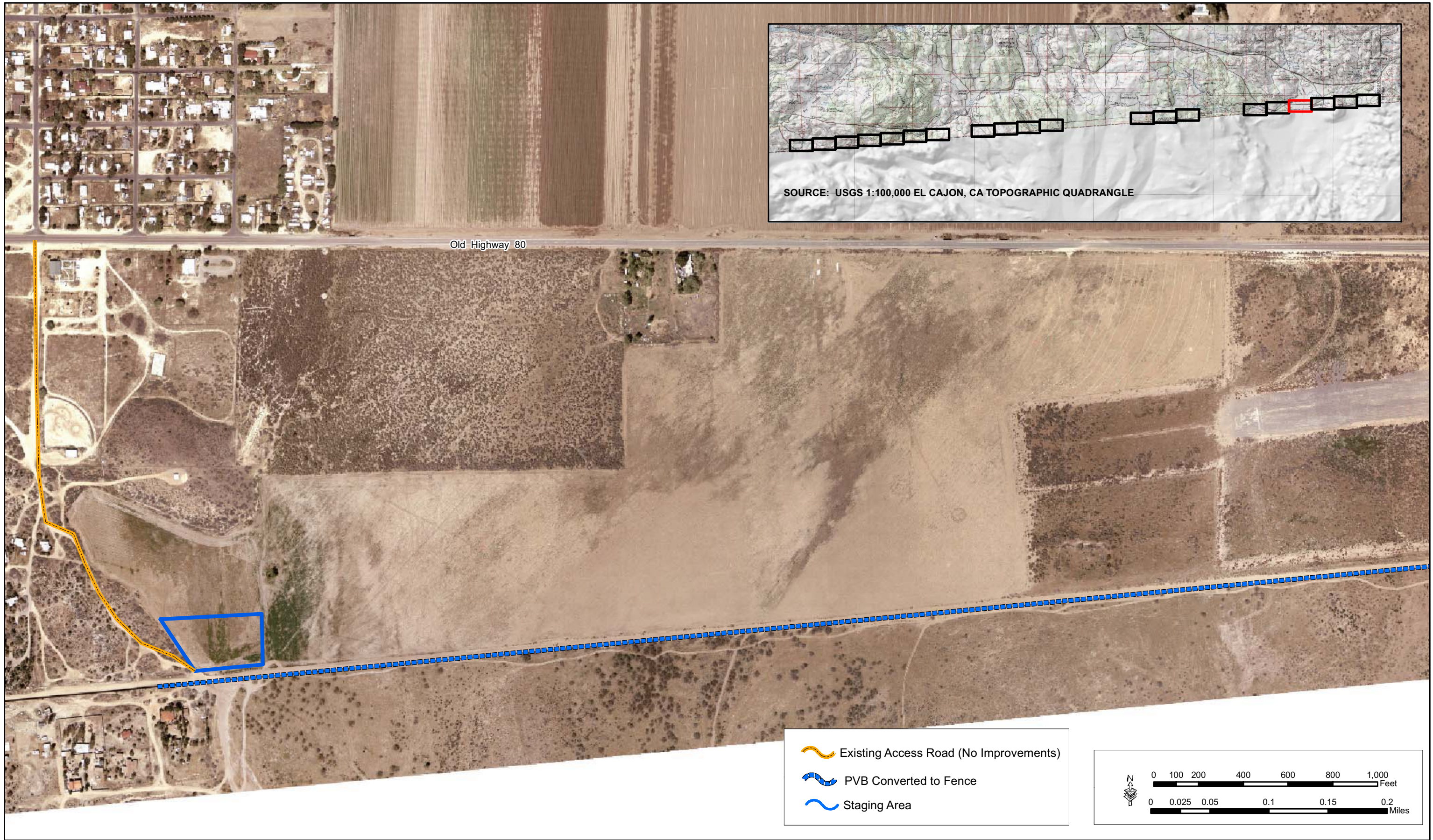
Corridor Map O: Rattlesnake Ridge, West Boundary Peak, and Access Roads



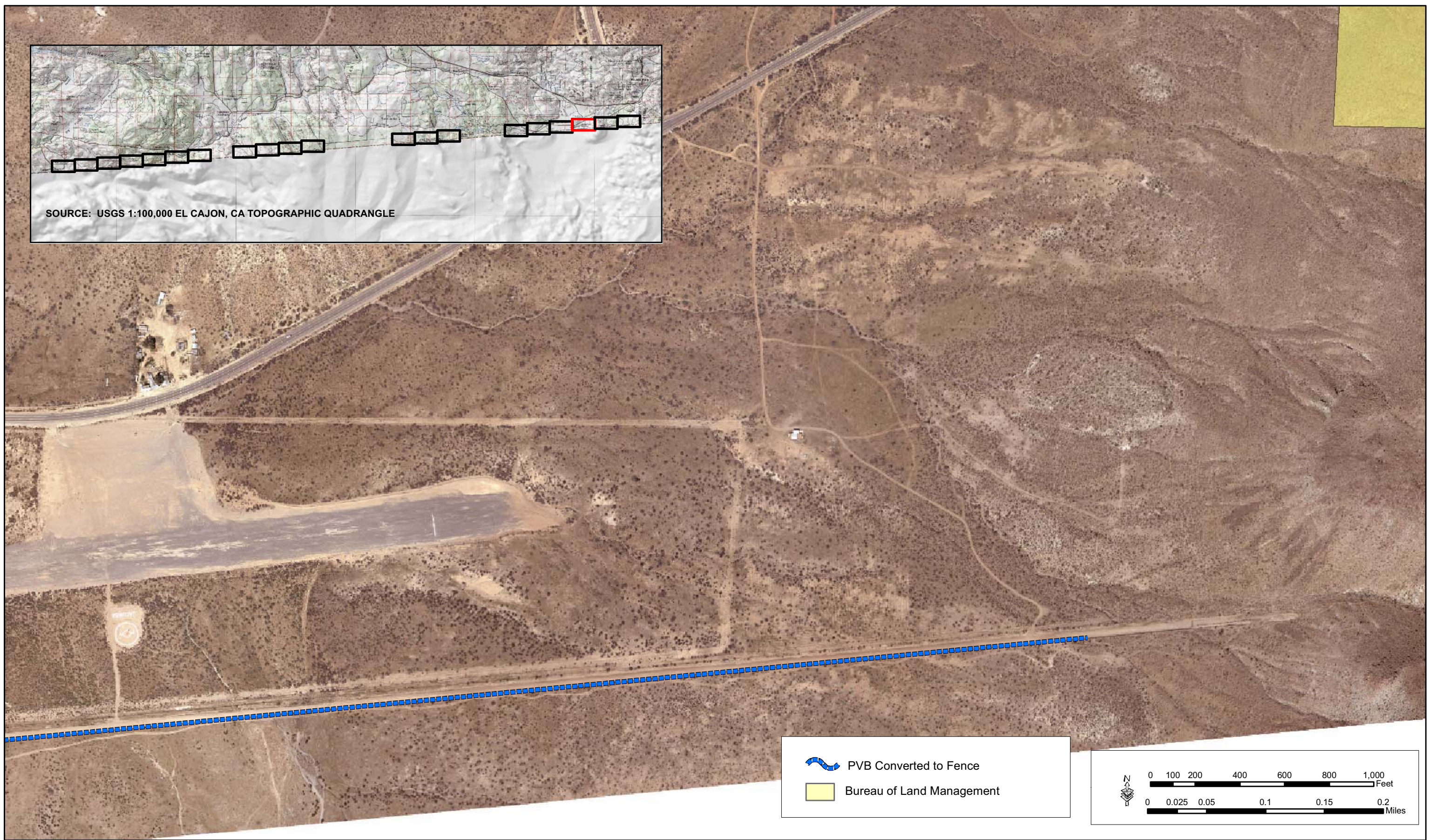
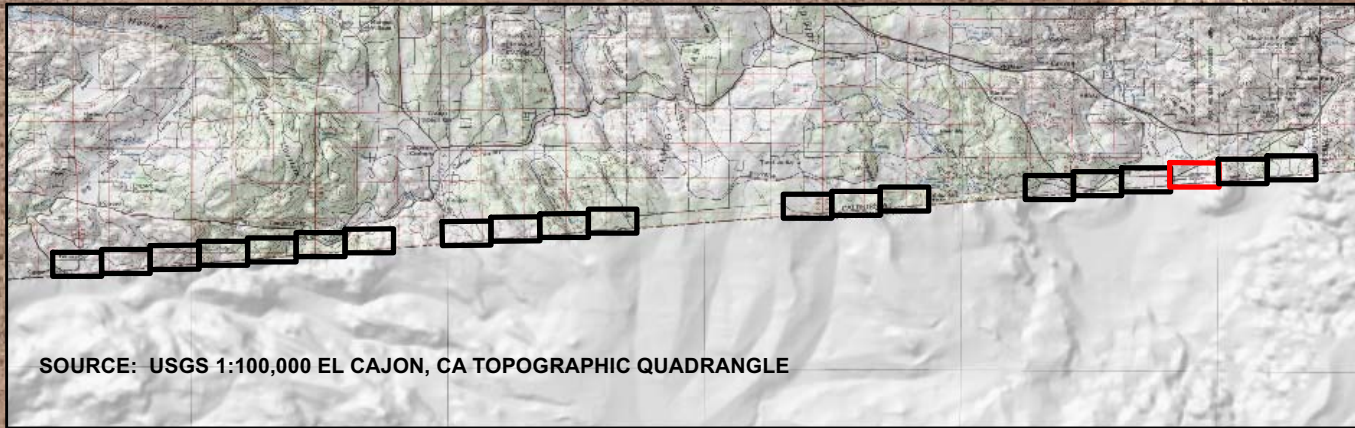
Corridor Map P: Road Widening and PVB Converted to Fence (Willows 1)





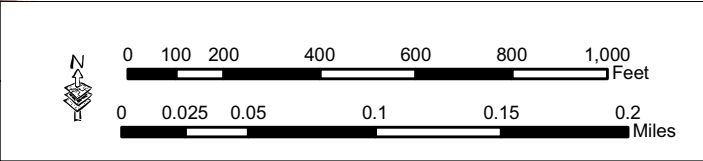
Corridor Map Q: Willow Access Road, Road Widening, and PVB Converted to Fence (Willows 1)



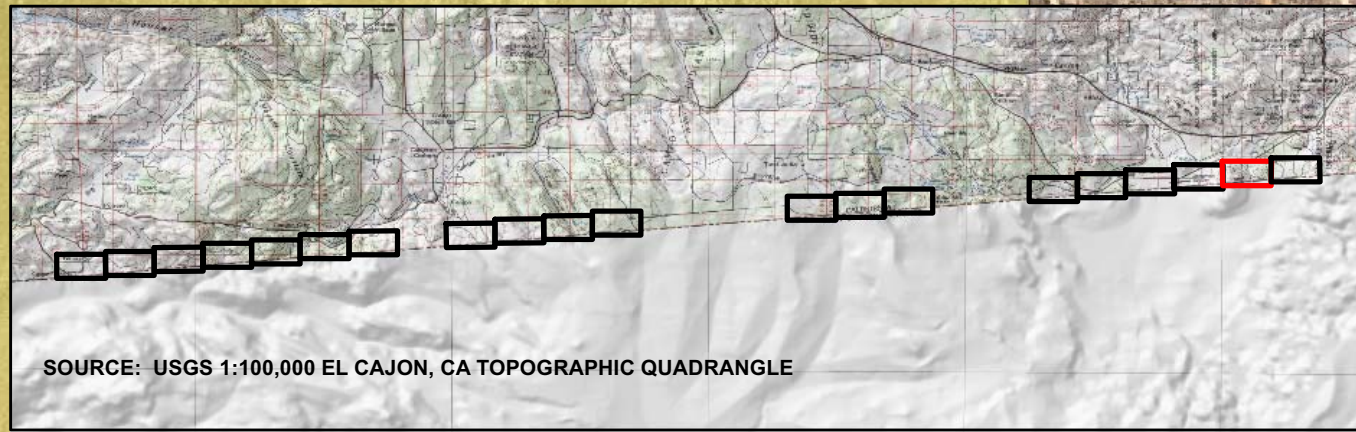
Corridor Map R: Staging Area, Access Road and PVB Converted to Fence (Willows 2)



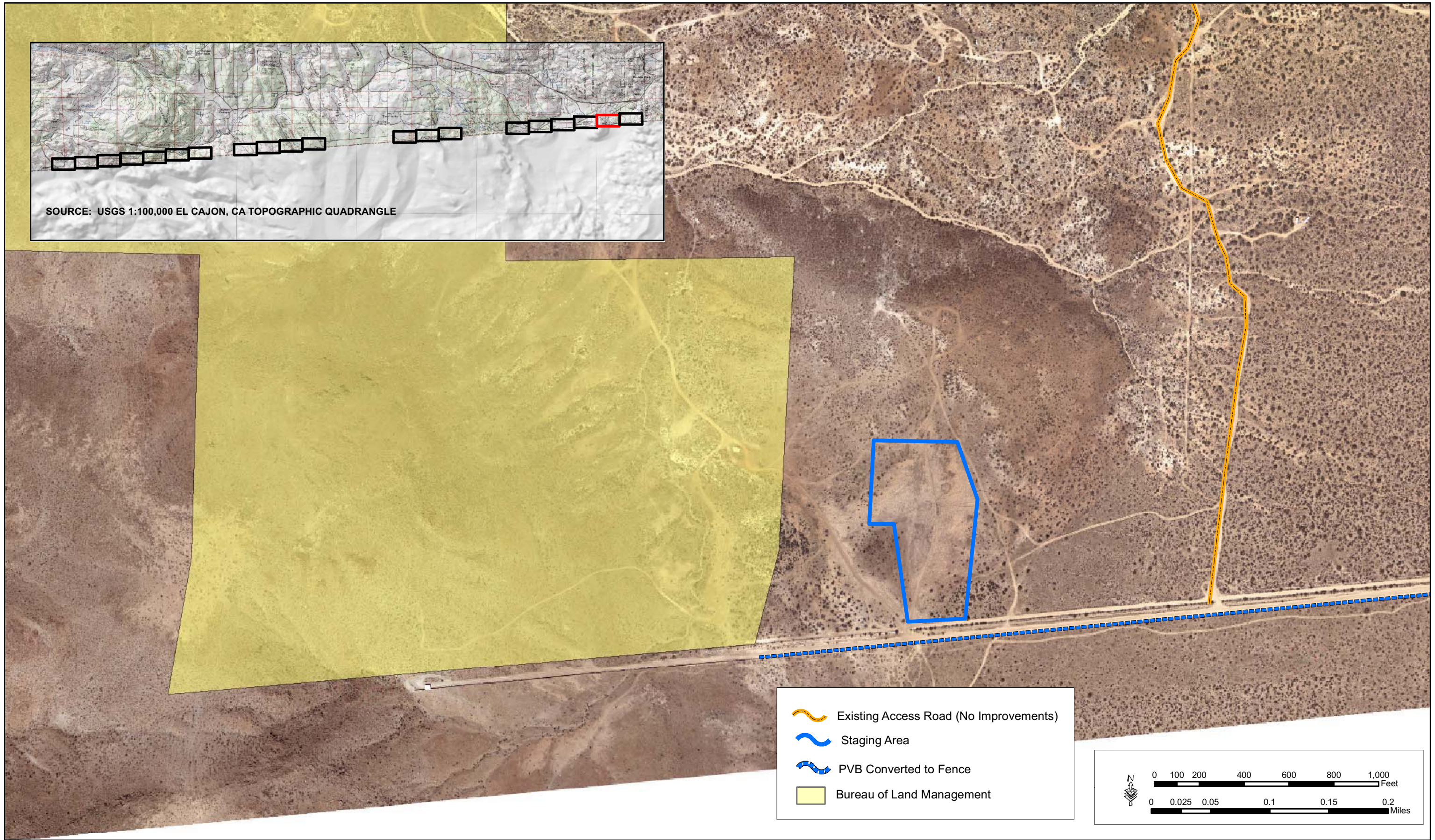
 PVB Converted to Fence
 Bureau of Land Management







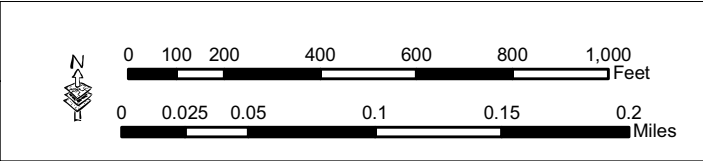
Corridor Map S: PVB Converted to Fence (Willows 2)



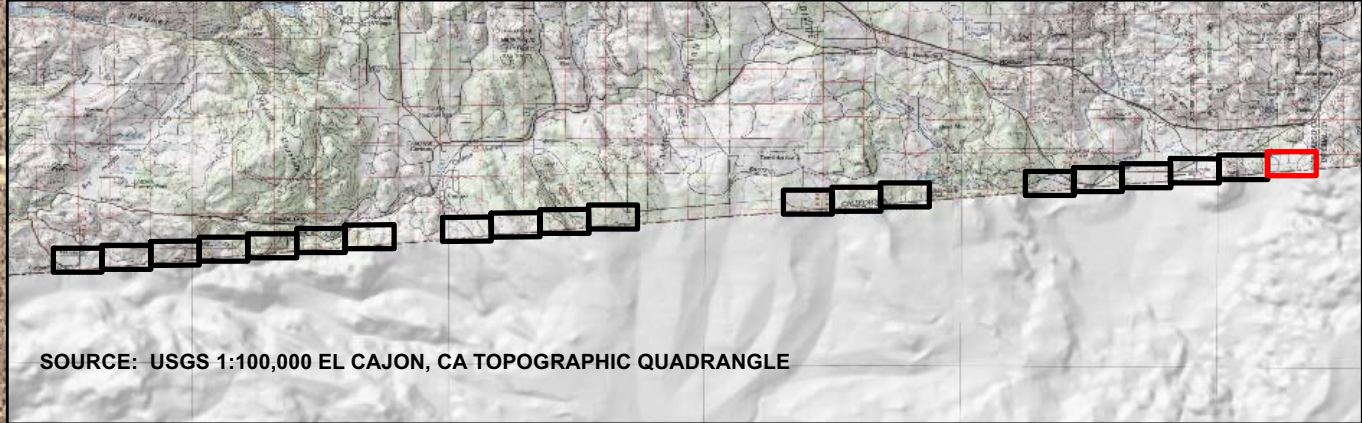
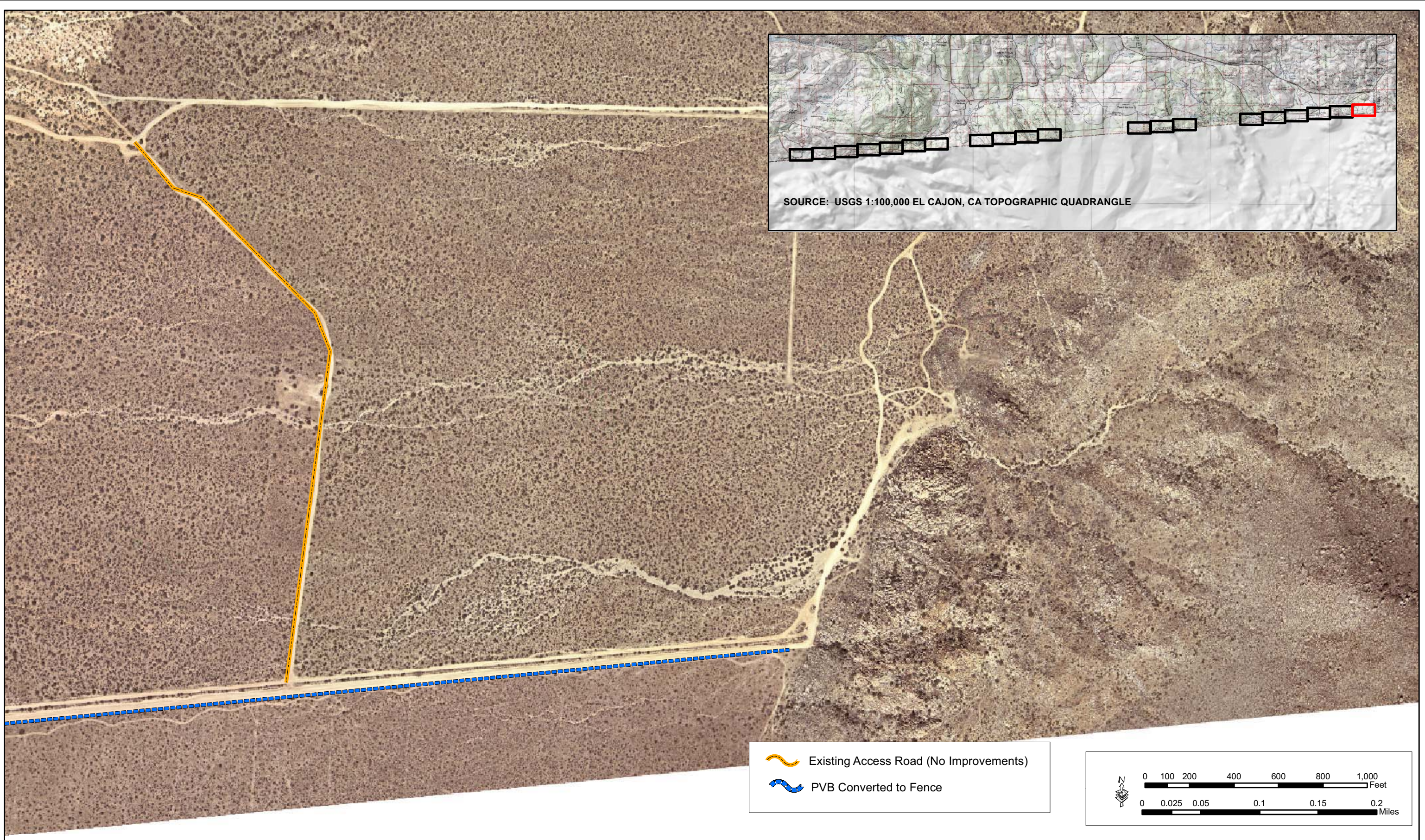
SOURCE: USGS 1:100,000 EL CAJON, CA TOPOGRAPHIC QUADRANGLE





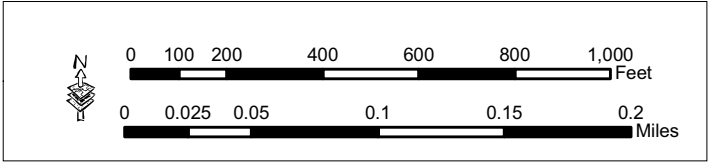
-  Existing Access Road (No Improvements)
-  Staging Area
-  PVB Converted to Fence
-  Bureau of Land Management



Corridor Map T: Staging Area, Access Road, and PVB Converted to Fence (O'Neil Valley)



	Existing Access Road (No Improvements)
	PVB Converted to Fence



Corridor Map U: Access Road and PVB Converted to Fence (O'Neil Valley)

APPENDIX D
Air Quality Calculations

CALCULATION SHEET-COMBUSTABLE EMISSIONS-PLANNED ACTION

Assumptions for Combustable Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	2	300	10	240	1440000
Diesel Road Compactors	1	100	10	240	240000
Diesel Dump Truck	2	300	10	240	1440000
Diesel Excavator	1	300	10	240	720000
Diesel Hole Cleaners/Trenchers	2	175	10	240	840000
Diesel Bore/Drill Rigs	2	300	10	240	1440000
Diesel Cement & Mortar Mixers	3	300	10	240	2160000
Diesel Cranes	2	175	10	240	840000
Diesel Graders	1	300	10	240	720000
Diesel Tractors/Loaders/Backhoes	0	100	10	240	0
Diesel Bull Dozers	1	300	10	240	720000
Diesel Front End Loaders	1	300	10	240	720000
Diesel Fork Lifts	3	100	10	240	720000
Diesel Generator Set	10	40	10	240	960000

Emission Factors							
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-COMBUSTABLE EMISSIONS-PLANNED ACTION

Emission factors (EF) were generated from the NONROAD2005 model for the 2006 calendar year. The VOC EFs includes exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2005 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2005 model is based on the population in U.S. for the 2006 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	0.698	3.285	8.712	0.651	0.635	1.174	850.568
Diesel Road Paver	0.098	0.391	1.296	0.090	0.087	0.196	141.814
Diesel Dump Truck	0.698	3.285	8.712	0.651	0.635	1.174	850.568
Diesel Excavator	0.270	1.031	3.650	0.254	0.246	0.587	425.522
Diesel Hole Cleaners\Trenchers	0.472	2.259	5.378	0.426	0.407	0.685	495.979
Diesel Bore/Drill Rigs	0.952	3.634	11.346	0.793	0.778	1.158	840.570
Diesel Cement & Mortar Mixers	1.452	5.522	17.329	1.143	1.119	1.738	1260.856
Diesel Cranes	0.407	1.203	5.295	0.315	0.305	0.676	490.796
Diesel Graders	0.278	1.079	3.753	0.262	0.254	0.587	425.522
Diesel Tractors/Loaders/Backhoes	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Bull Dozers	0.286	1.095	3.777	0.262	0.254	0.587	425.522
Diesel Front End Loaders	0.302	1.230	3.967	0.278	0.270	0.587	425.443
Diesel Fork Lifts	1.571	6.157	6.792	1.103	1.071	0.754	548.108
Diesel Generator Set	1.280	3.978	6.316	0.772	0.751	0.857	621.316
Total Emissions	8.764	34.150	86.322	6.998	6.812	10.760	7802.583

Conversion factors	
Grams to tons	1.102E-06

CALCULATION SHEET-SUMMARY OF EMISSIONS-PLANNED ACTION

Proposed Action Construction Emissions for Criteria Pollutants (tons per year)						
Emission source	VOC	CO	NOx	PM-10	PM-2.5	SO ₂
Combustable Emissions	8.76	34.15	86.32	7.00	6.81	10.76
Construction Site-fugitive PM-10	NA	NA	NA	13.33	2.67	NA
Construction Workers Commuter & Trucking	0.97	9.06	1.25	0.02	0.02	NA
Total emissions	9.73	43.21	87.57	20.35	9.50	10.76
De minimis threshold	100.00	100.00	100.00	NA	NA	NA

APPENDIX E
Hydrology Report



NYMAN & ASSOCIATES

3168 Sherry Drive

Baton Rouge, LA 70816-5009

March 3, 2003

Kate Koske Roussel
Natural Resources
Gulf South Research Corporation
7602 GSRI Avenue
Baton Rouge, Louisiana 70820

Subject: Environmental assessment of proposed INS wells in the Smith/La Gloria canyon areas along the U.S./Mexico border, San Diego County, California.

Dear Ms. Roussel:

As you requested, I have made a thorough study of the hydrologic literature that included southeastern San Diego County, California, for the purpose of writing an environmental assessment for the areas of interest to the Immigration and Naturalization Service (INS). The literature search was done to estimate the environmental impact that two water wells, each producing about 50,000 gallons/year, would have on the general hydrology of the area. Geologic maps from the California Department of Conservation (Geological Survey), the San Diego County Water Authority, and several theses on hydrogeology written by students at San Diego State University have provided a good insight toward answering this question. Total recharge for the 2001 recharge season (late winter and spring) was estimated for the Campo Creek basin using stream-hydrograph separation and pro-rated for the Smith/La Gloria canyon watersheds on a unit-recharge basis (recharge/mile²) and compared to 30 years of past streamflow.

Purpose and Location of Investigation

The INS plans to have two wells installed along the U.S./Mexico border in Smith and La Gloria canyons, San Diego County, California. Smith and La Gloria canyons are located about 1.0 to 2.5 miles east of the town of Campo (Figure 1). The INS plans to have a well drilled near the national border in each canyon. Each well would be drilled in granite (crystalline rock), each well is expected to be pumped at the rate of 1.0 to 1.5 gal/min, and would be used to maintain a 10,000-gal holding tank needed to support the INS activities in each canyon (Figure 2).

Regional Hydrogeology

San Diego County lies within the Peninsular Range geomorphic province, the mountains of which are largely composed of granitic (crystalline) rocks of the Southern California Batholith, which was emplaced during the Cretaceous period of geologic time. Regional uplift resulted in the erosion of most of the overlying rocks and currently this batholith is exposed over most of southern San Diego County (Figure 1) from elevations of 500 ft to more than 6,000 ft (NGVD)(Pollock, 1991, p.53).

Groundwater movement is primarily through pore spaces developed by weathering and decomposition of the crystalline rocks and through granular alluvium, as well as through fractures in the bedrock. Regional groundwater movement in crystalline rock is preferentially along lineaments and associated fracture zones (Lower, 1977, p. 173).

Lineaments

Lineaments are linear topographic features that are geologically controlled and are most obvious from studies of high-altitude imagery that shows unusually straight valleys, river courses, and other topographic features. In San Diego County, according to Lower (1977, p. 11), lineaments formed because of zones of weakness in crystalline rocks as the rocks cooled and were uplifted as the Peninsular Ranges. Lineaments are topographic features created because of the weathering and erosion of this zone of weakness (frequent jointing and shear zones). The most common trends for lineaments are N 20°W and N 20°E, although north-south and east-west trends are also present. Minor faults in the Southern California Batholith may also have the same trends (Figures 1, 3).

Lineaments are hydrologically important because they provide major avenues for groundwater movement and storage in crystalline rock. Lineaments are often the upstream limit of etchbasins (shallow intermountain basins that contain valley fill) (Lower, 1977, p.39) and large etchbasins are often formed where lineaments cross from two different directions. Etchbasins are important because they store water from surface runoff and groundwater flow from connecting lineaments (Lower, 1977, p.44).

Smith and La Gloria canyons both fit the description of lineaments because they are reasonably straight and are oriented N 20°W in this area. Many of the faults in this area also have an approximately N 20°W trend (Figures 2,3), suggesting that Smith and La Gloria canyons may be fault controlled but may not be indicated as such because they have not been studied in detail. Campo Valley is probably a large etchbasin that is the beneficiary of surface and groundwater flow from Smith and La Gloria canyons, and other adjacent canyons.

Water Availability in Crystalline Rocks

There is considerable literature regarding water wells in crystalline rock. Domestic water supplies in many parts of the U.S., and in other countries, are dependent on such wells because there is no other groundwater source available. Crystalline rocks include all classes of igneous and metamorphic rocks, which include granitic rocks, schist, and gneiss. All of these types of rock, for all practical purposes, have essentially no primary permeability, i.e. the minerals that constitute crystalline rocks are essentially impermeable (pass an insignificant amount of water). However, there is secondary permeability (permeability created after the original rock was emplaced) created by fractures, joints, and shearing that can provide useful amounts of groundwater to wells.

Shallow fractures in crystalline rock are often created by stress relief due to unloading of overlying rocks because of erosion. Tectonically produced fractures adjacent to fault zones and areas of intense folding can occur at any depth (Nommensen, 1989, p.15). According to Nommensen (1989, p.14), the weathering of crystalline rock is primarily a near-surface phenomenon that is generally restricted to a zone within about 300 feet of the earth's surface.

Availability of Water from Crystalline Rocks in San Diego County

According to Nommensen, (1989, p.21), wells in the Southern California Batholith range from 95 to 1,950 feet in depth and have a median depth of about 410 feet and most have casing cemented to a depth of 50 feet or more. Well yields averaged as much as 39.5 gal/min (p.32).

Pollock (1991, p.54), investigated the relationship between well depth and well yield in the fractured crystalline rocks of San Diego County. His investigation was based on 2,618 wells completed in the Southern California Batholith in San Diego County. The well records are on file at the Department of Health Services. Of these records a subset of 146 wells was selected because the records included well location, total depth, total yield, static water level, and included the continuous monitoring of yield with depth.

Records for 91 "valley" wells were studied statistically and it was found that wells less than 100 ft deep had average yields ranging from 0 to about 1.5 gal/min/20-ft of saturated depth, wells 200 ft deep had average yields ranging from about 0.5 to nearly 2.0 gal/min/20-ft of saturated depth, wells to 300 ft deep had average yields ranging from 0.5 to nearly 2.5 gal/min/20-ft of saturated depth (Pollock, 1991, Fig.10, p.67). The average yield of all valley wells is about 1.0 gal/min/20-ft of saturated depth to a depth of about 600 ft. In other words, a 600-ft well with a static water level 100 ft below land surface therefore may yield about 25 gal/min. The average yield per 20-foot depth interval for wells on hillsides and hilltops ranges from 0 to 1.0 and 0 to 0.5 gal/min/20-ft of saturated depth, respectively. According to Pollack (1991, p.95), the relatively high yields in the valleys may be the result of (1) valleys tend to form along structurally weak zones that may contain fractured rocks, and (2) groundwater recharge from streams and the presence of residuum and alluvium probably increase yields in valleys. (3) Erosion in upland areas exposes relatively unweathered rock thus reducing the yield to wells on hillsides and hilltops, and (4) fractures on the hills and hillsides collect water that drains toward the valleys.

Static water levels in valley topography in San Diego County generally range from 0 to 50 ft below land surface (Pollock, 1991, p.66). According to Mower and Nace (1957), the presence of cottonwood trees indicates a water table about 4 to 5 feet below land surface, the presence of willow indicates a water table within about 2 feet of land surface.

Phreatic Water Consumption

According to Lower (1977, p.13), vegetation in San Diego County at the higher elevations generally consists of coniferous and mixed forest trees. Mature pine and oak trees in this class annually transpire up to 1.8 acre-feet of water per acre of trees (Todd, 1970). At lower elevations the vegetation consists of scrub oak and shrubs constituting chaparral and mixed

chaparral. According to Todd (1970) chaparral growths are reported to transpire up to 1.7 acre-feet of water per acre annually (p. 14). Flora around springs and along streams in canyon floors often consist of live oak, cottonwood, willow, alder, and maple, and these trees can transpire from 2.7 to 4.5 acre-ft of water per acre annually (p.16).

Groundwater Recharge

Groundwater recharge is the replenishment of the zone of saturation with water derived from sources above the earth's surface (Meinzer, 1942). It is the most important parameter of the groundwater system (Lower, 1977, p 53) because it is required to maintain the groundwater system. Recharge involves three steps (1) infiltration into the soil or other openings, (2) percolation downward through the unsaturated zone, and (3) recharge—the movement of some of the soil water to the saturated zone (water table) to become part of the groundwater system (Lower, 1977, p. 53). Recharge calculations by Lower (1977, p. 61) indicate that recharge near the village of Mount Laguna, 20 miles north of Campo, occurred primarily from February through April, during his studies from October 1973 to May 1976. Based on stream flow data during this period, bedrock recharge contributed 0.23 acre-ft/acre annually of groundwater to stream channels along lineaments in the Mount Laguna area. Based on spring discharge data during this period, annual recharge of 0.19 acre-foot/acre was related to crystalline rock and etchbasins (Lower, 1977, p.172). Decomposed roots and animal borings augment infiltration in etchbasins. When the rate of rainfall exceeds the infiltration rate surface runoff is created and this water is lost to the groundwater system. Snowfall accounted for 43% of the total annual precipitation at Mount Laguna and snow is very desirable from a recharge point of view because snow generally melts slowly continually wetting the soil thus providing continual infiltration. In the fractured crystalline rocks, groundwater percolates through open fractures to the zone of saturation. Chemical weathering of the bedrock also occurs, slowly enlarging the fractures. Percolation to the zone of saturation continues unless the water is intercepted by plants and is removed by evapotranspiration. Because plants are most active during the spring and summer most of the recharge occurs during the winter and early spring months.

Blain (1981, p.70) established eight rain gages at different elevations at Honey Springs Ranch (Figure 1), about 18 miles WNW of Campo, estimated the relationship between elevation and the amount of precipitation for an area ranging in elevation from 1,145 to 1,900 feet. A plot of average rainfall at the eight stations indicated a linear trend and suggested a 25% increase in rainfall for each 500-foot rise in elevation (Fig. 16, p.71). Blain (p.87, 90, 359) also concluded that the water table rose following wet periods not because of infiltration through the soil but by infiltration and drainage through highly permeable near-surface fractures in the exposed crystalline rock areas nearby. Smith and La Gloria canyons are incised about 1,000 ft into the Southern California Batholith.

Recharge in the Campo Creek Basin

The soils in the Campo Creek Basin are mostly decomposed crystalline rock and are therefore very granular and highly permeable--6.3 to 20 inches/hr on the hilltops and hillsides (Tollhouse soils) and greater than 20 inches/hr in the valley bottoms (Mottsville soil) (USDA, 1973, p.56, 58)—however, because of steep slopes runoff may also be very rapid. The

distribution of these soils are mapped as MvC (Mottsville) and ToG and ToE2 (Tollhouse) as shown in Figure 5. When such soils become saturated these highly permeable soils facilitate the movement of recharging rainwater to the water table and subsurface fractures.

It would be very useful to be able to calculate the volume of water in storage in the soils and fractures in the crystalline rock. A commonly used method of determining total recharge is by observing the water-table rise following a rain event (Lerner, 1997, p.142). Because of the lack of monitor wells and the irregularity of the volume in fractures and pore spaces calculating the volume of water represented by the water-table rise is uncertain in this area.

Another method of estimating the total recharge over a whole catchment area (river basin) is based on the analysis of river hydrographs (Lerner, 1997, p.143). The basic equation is:

$$\text{Recharge} = \text{baseflow} + \text{withdrawals (stresses)} + \text{rate of storage depletion}$$

Baseflow is streamflow maintained by natural groundwater discharge (springs and seepage from the surrounding aquifer). Baseflow is the flow after a storm surge has passed when streamflow is maintained by groundwater discharge from the soil and surrounding bedrock. Withdrawals and depletion of aquifer storage can be avoided here because the Bureau of Land Management restricts anthropogenic development in Smith and La Gloria canyons and recharge occurs primarily in the later winter and early spring when vegetative stress is minimal on the groundwater system (Lower, 1977). The method for estimating groundwater recharge from streamflow records has been thoroughly tested and described by Rutledge and Daniel (1994). The volume of recharge is calculated for each individual rainfall event. The basic equation is:

$$R = \frac{2(Q2 - Q1)(K)}{2.3026}$$

where:

R = total volume of recharge (in cfs, ft³/sec);

Q1 = groundwater discharge (cfs) at the critical time (days) as extrapolated from the streamflow recession preceding the peak;

Q2 = groundwater discharge (cfs) at critical time (days) as extrapolated from the streamflow recession following the peak; and

K = the time (days) required for groundwater discharge to decline through one log cycle and is determined by extending the trend line of the rate of recession across a log cycle.

The method also requires the calculation of the critical time period (T_c , days), which is:

$$T_c = 0.2144K$$

This graphical analysis is shown in Figure 6 for the gauging station Campo Creek near Campo for the period January through April 2001. The station is operated by the U.S. Geological Survey and these average daily discharge readings are available from their internet website (USGS, 2001). The results for two calculations are shown on Figure 6. There was one large event (3.4 cfs, 3/7/2001), and six small events (0.46, 0.32, 0.44, 0.65, 0.57, 0.58, on 1/11, 1/28, 2/13, 3/1, 4/12, and 4/21, respectively). The calculations indicate that during the large event about 11.67 cfs (7.54 Mgal) of recharge had entered the groundwater system. On each of the small events about 6.25 cfs (4.04 Mgal) of recharge had entered the groundwater system. A total of about 24 Mgal had entered the groundwater system during the six small events and the total recharge was therefore about 32 Mgal for the Campo Creek Basin during the late winter and spring of 2001.

According to the USGS, the gauging station near Campo monitors a drainage area of 85 square miles (mi^2) (Appendix A). A unit recharge area can therefore be calculated indicating 0.38 Mgal/ mi^2 . Smith and La Gloria canyons constitute about 4 mi^2 (Figure 7) of the 85 mi^2 in the Campo Creek basin. The available recharge to the well sites was therefore estimated to be about 1.5 Mgal during the late winter and spring of 2001. Although the amount of recharge varies from year to year it should be noted that rain events have been reasonably persistent since the late 1970s (Figure 8). Figure 8 shows that there was very little flow in Campo Creek from 1970 to 1977, but since then there have been rather regular rain events during the recharge season that have replenished the groundwater system from year to year. Figure 8 is based on average monthly discharge recorded at the Campo Creek near Campo gage (Appendix A) and monthly rainfall at Campo (from the Western Regional Climate Center, Appendix B).

Environmental Assessment

The studies in San Diego County mentioned above quantify at their location that there is significant recharge and groundwater contribution to springs, rivers, and crystalline rocks. When Campo Creek is at baseflow the flow represents the excess of groundwater after the deep groundwater system has been essentially filled. The two wells proposed for Smith and La Gloria Canyons would each supply the INS about 50,000 gal/yr, or 100,000gal/yr total. The recharge to the groundwater system in the canyons was about 1.5 Mgal during the recharge season of 2001 and there have been repeated significant rain events each year during the recharge season for the past 20 years (Figure 8). The amount of water that is to be pumped by these two INS wells is insignificant compared to the amount of water removed from the natural system by river and spring flow, and the thousands of acres of forest surrounding Smith and La Gloria canyons.

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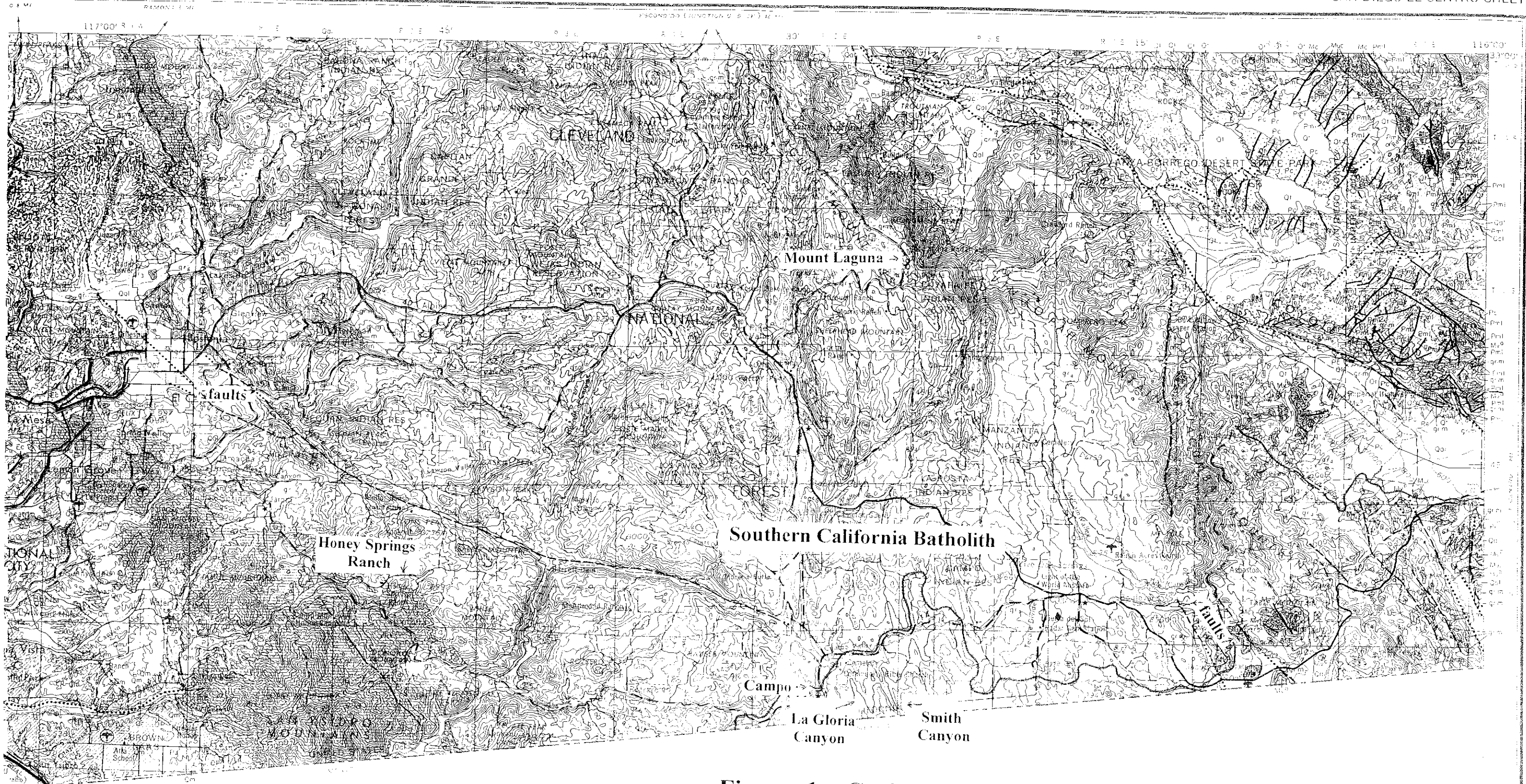


Figure 1. Geologic Map of California, San Diego-El Centro Sheet
[compiled by R.G. Strand, 1962]

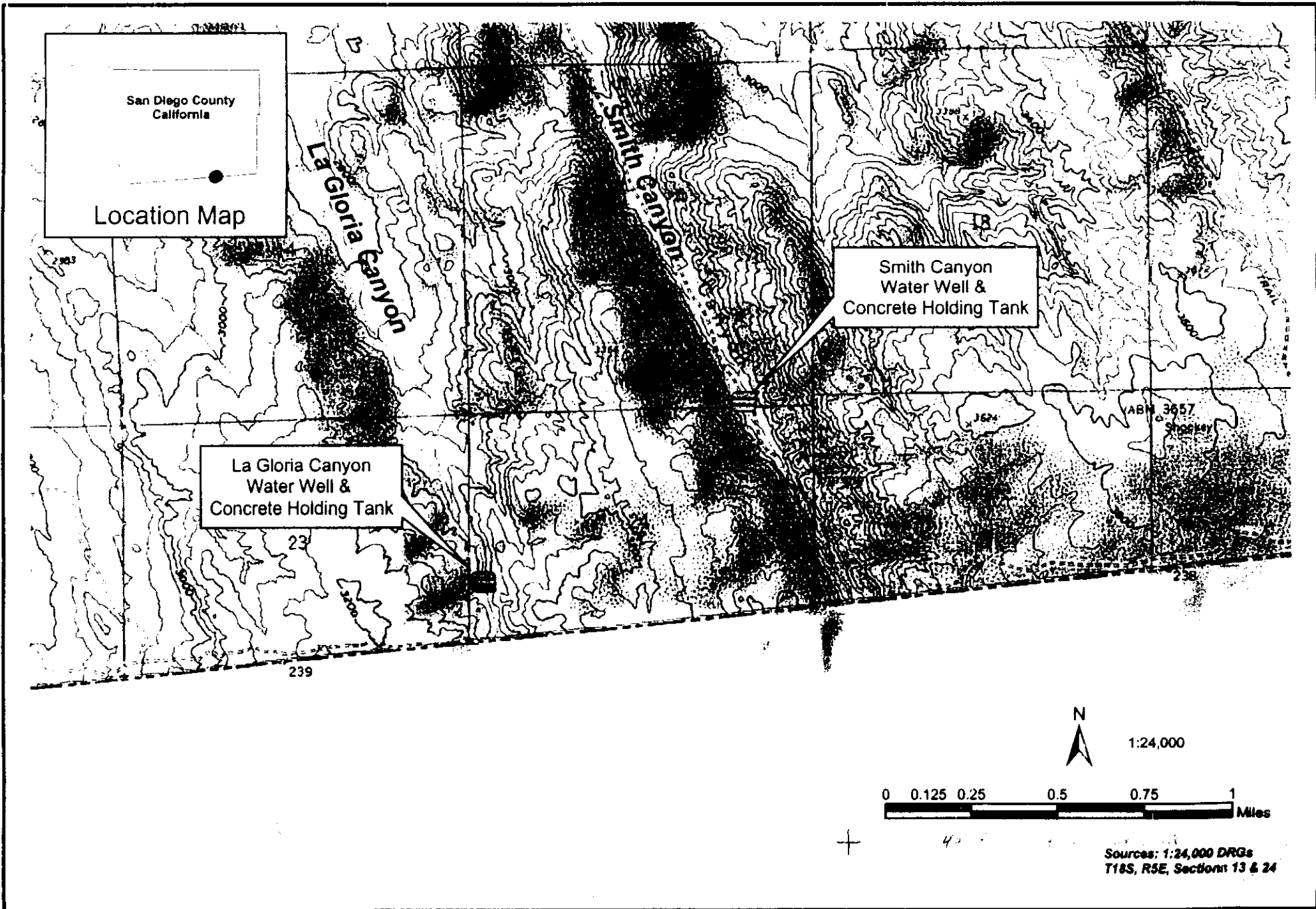


Figure 2 : Proposed Water Wells and Concrete Holding Tanks

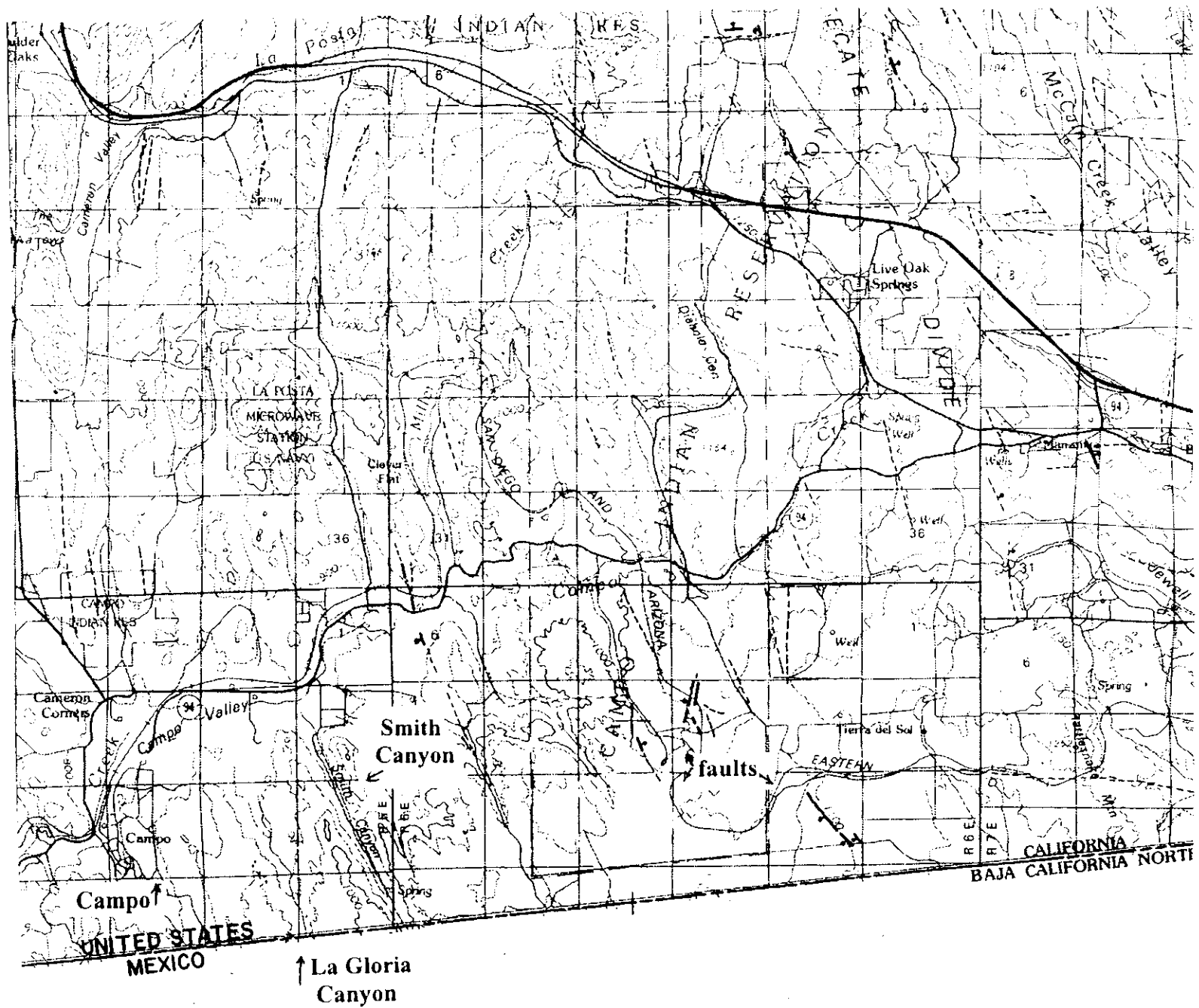
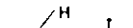

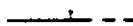
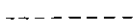
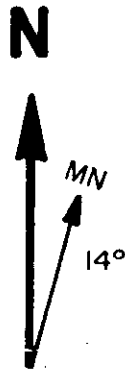


Figure 3. Map of Quaternary Faults and Lineaments in San Diego County [from DMG Open-File Report 88-6, by J.E. Kahle, 1985]

-EXPLANATION-

 	Holocene fault	Fault with most recent displacement in Holocene time (past 10,000 years). Trace marked by scarps or other physiographic features identified on aerial photographs and inspected in the field or compiled from published sources. Historic movement indicated by date adjacent to trace; may be due to movement on other near by faults. Bar and ball on downdropped side.
	Pleistocene fault	Fault with most recent displacement in Pleistocene time (past 2,000,000 years). Trace marked by eroded scarps, displaced older alluvium, or other physiographic features identified on aerial photographs. Most were inspected in the field or compiled from published sources. Most are late Pleistocene in age of most recent displacement, but some may be Holocene. Dashed line indicates inferred fault. Bar and ball on downdropped side.
	Lineament	Trace characterized by aligned vegetation and scarps which appear to displace sediments or surfaces of Quaternary age. Not field checked. May represent movement along joints or bedding planes. Only those which appear to have significant movement are shown.



SCALE 1:100,000

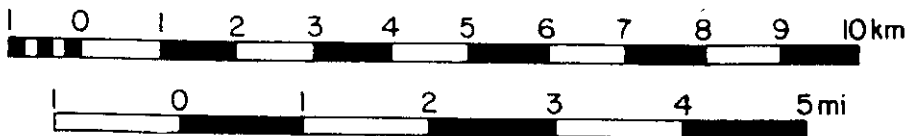


Figure 4. Explanation to Figure 3.



This map is one of a set of 76 compiled 1969-70 by the Soil Conservation Service.

FIGURE 5. Soil associations in the Campo area, California (USDA, 1973)

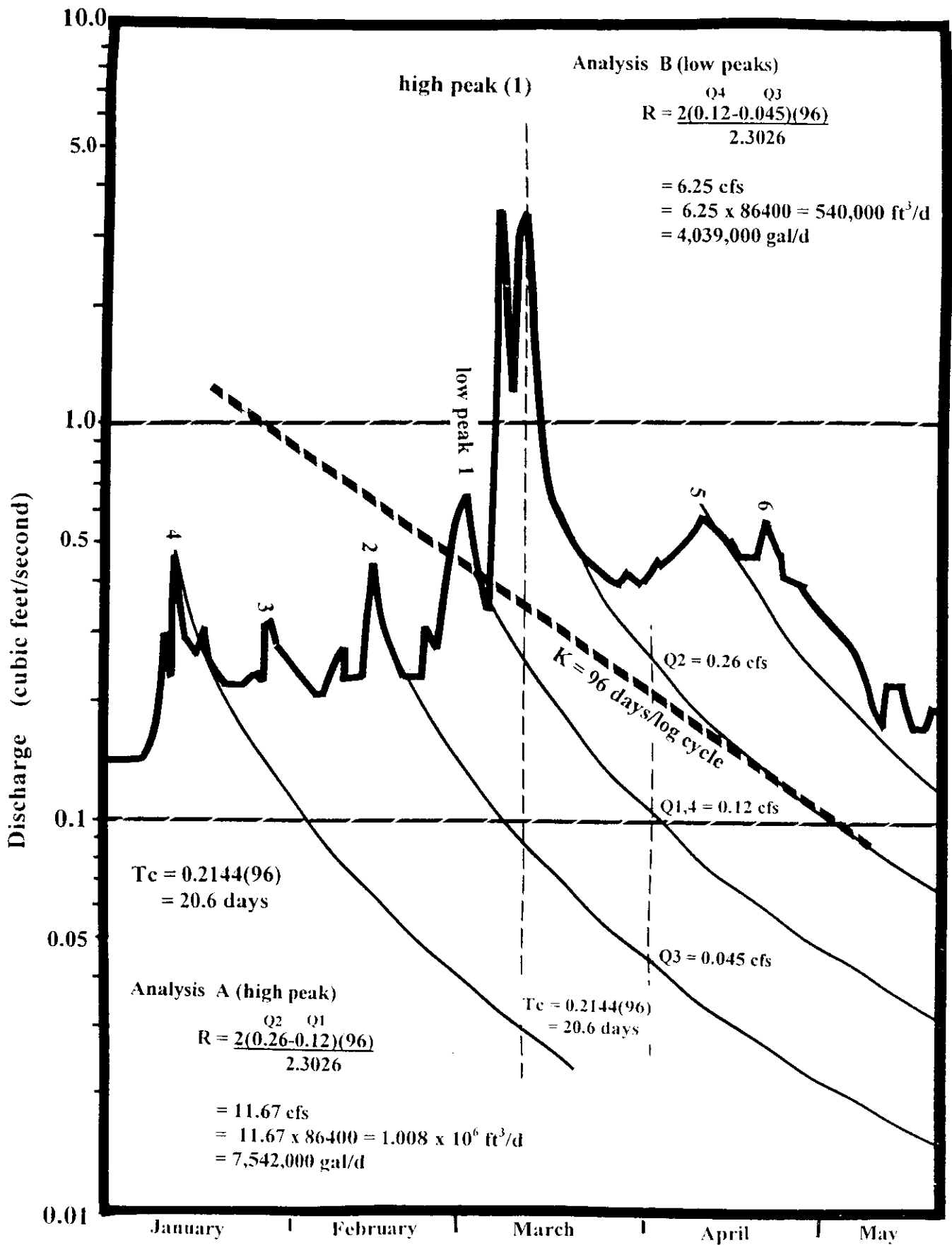


Figure 6. Graphical analyses of recharge in the Campo Creek basin during the late winter and spring of 2001, based on U.S.G.S. streamflow data.

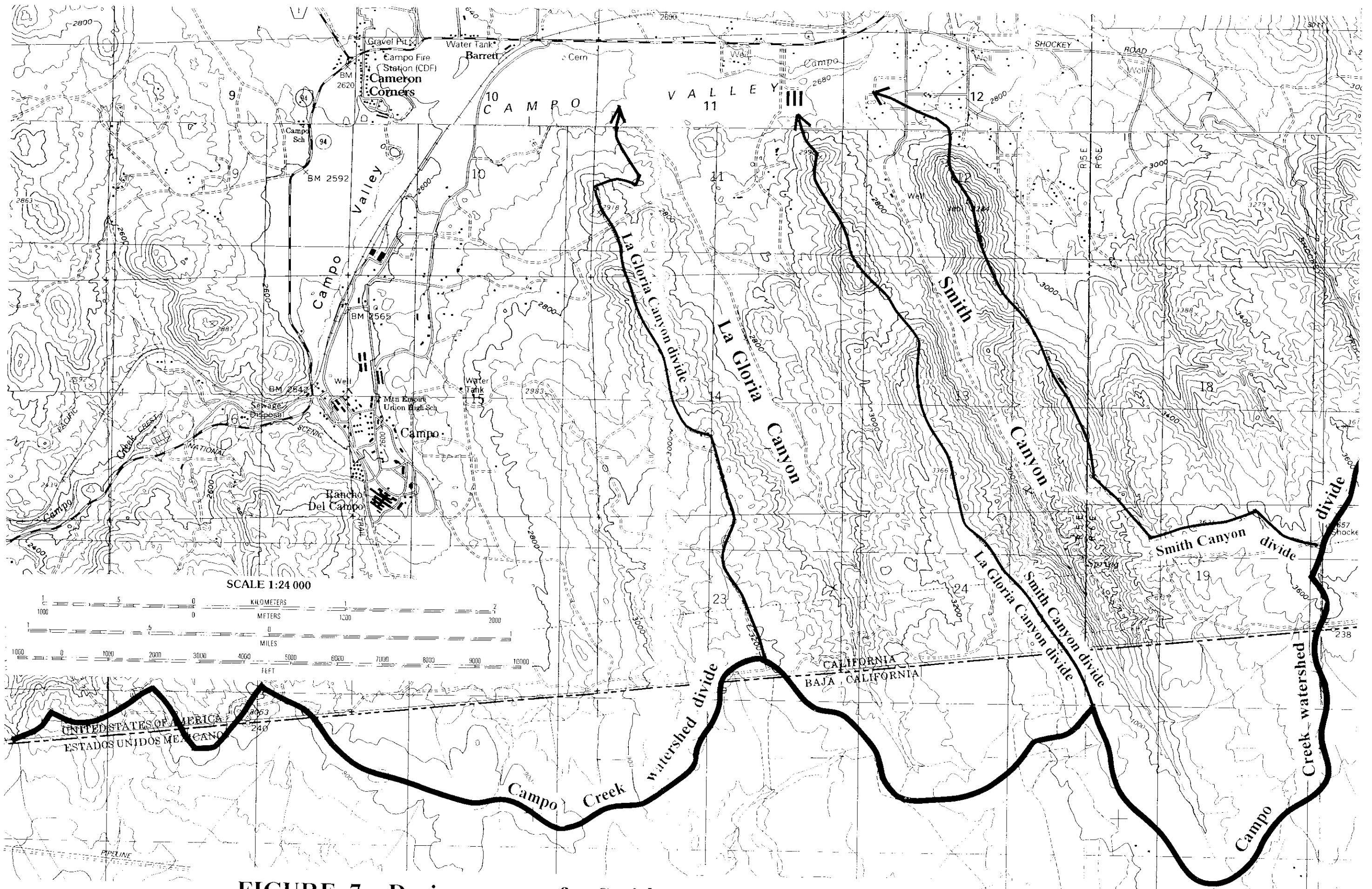


FIGURE 7. Drainage areas for Smith and La Gloria canyons.

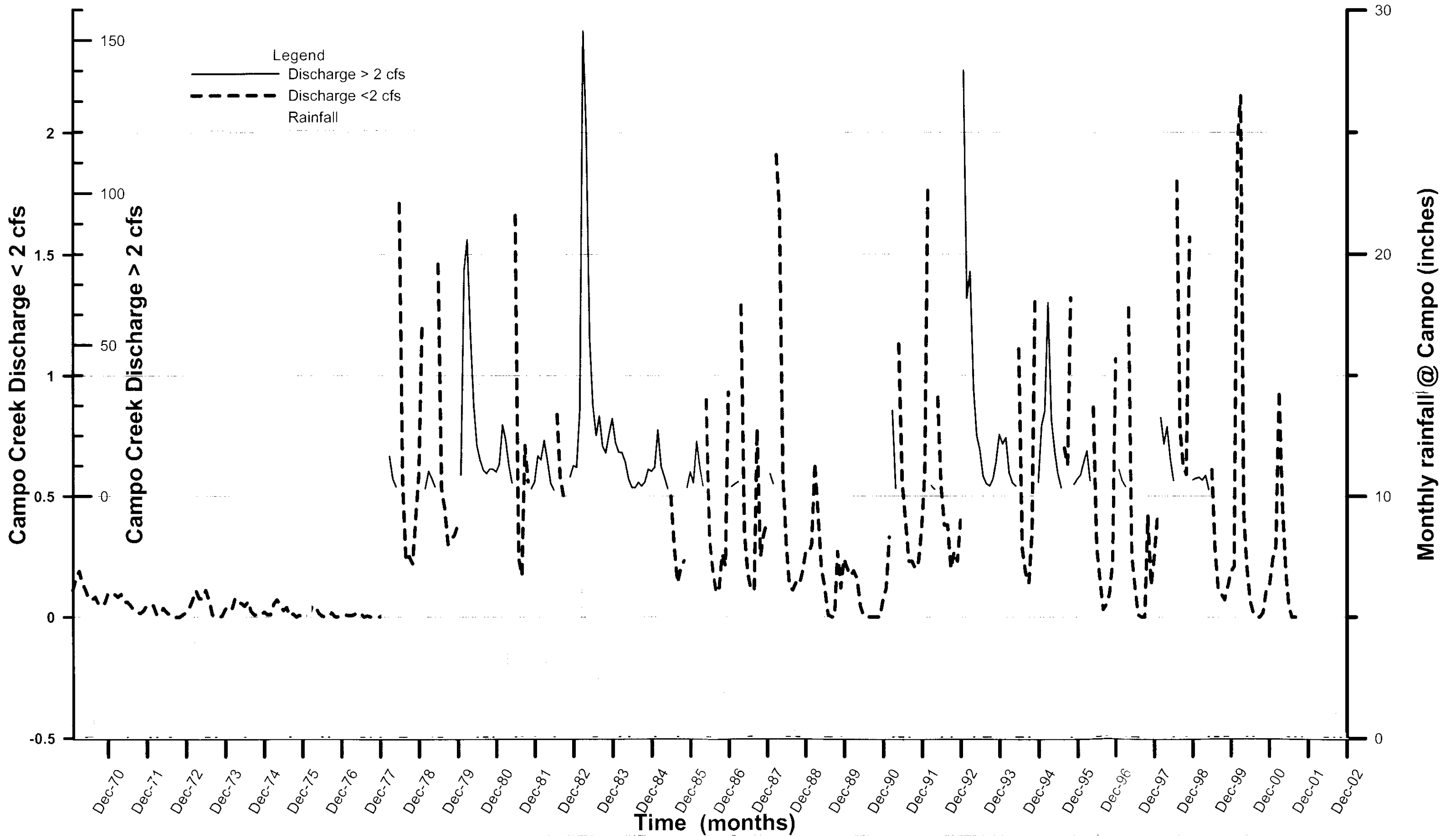


FIGURE 8. Rainfall and average monthly discharge hydrographs, Campo Creek nr. Campo, California

Appendix A. Monthly streamflow for the USGS gaging station
 Campo Creek near Campo, 1970 to 2001 used in Figure 8

Monthly Streamflow Statistics for the Nation

USGS 11012500 CAMPO C NR CAMPO CA

Available data for this site

San Diego County, California Hydrologic Unit Code 18070305 Latitude 32°35'28", Longitude 116°31'29" NAD27 Drainage area 85.0 square miles Gage datum 2,179.08 feet above sea level NGVD29	Output formats <input type="button" value="HTML table of all data"/> <input type="button" value="Tab-separated data"/> <input type="button" value="Reselect output format"/>
---	--

YEAR	Monthly mean streamflow, in ft ³ /s											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1936										.000	.10	.47
1937	1.24	31.2	19.5	14.3	6.35	2.26	.56	.21	.10	.16	.91	5.21
1938	4.37	11.3	38.4	10.6	7.22	2.56	.56	.19	.10	.12	.73	7.97
1939	10.8	19.1	12.5	7.85	3.30	.46	.20	.13	1.29	.87	1.61	2.62
1940	4.75	9.69	4.43	5.44	.90	.27	.068	.058	.090	.19	.24	8.95
1941	3.78	9.74	32.8	54.6	25.1	12.1	5.86	5.23	4.43	8.83	9.12	13.1
1942	14.7	12.4	12.4	9.15	5.42	1.91	.34	.074	.093	.24	1.22	3.01
1943	14.4	10.8	15.1	10.3	2.95	1.09	.31	.18	.16	.42	.70	3.24
1944	5.26	26.7	17.3	8.73	4.29	2.43	.58	.10	.097	.40	6.23	5.17
1945	6.77	7.36	17.1	7.24	2.36	.79	.22	.65	.27	.38	.68	9.50
1946	7.07	5.59	5.64	4.22	1.06	.070	.013	.000	.18	.084	.86	1.30
1947	1.29	1.54	.80	.24	.094	.030	.000	.000	.000	.000	.043	.17
1948	.14	.17	.17	.12	.058	.020	.000	.000	.000	.068	.000	.000
1949	.15	.73	.89	.42	.17	.027	.000	.000	.000	.000	.000	.003
1950	.14	.17	.12	.083	.035	.000	.000	.000	.000	.000	.000	.000
1951	.010	.018	.12	.12	.045	.000	.000	.000	.000	.000	.000	.000
1952	.48	.15	12.5	3.60	1.52	.63	.49	.052	.000	.042	.19	.25
1953	.23	.22	.67	.35	.14	.063	.000	.000	.000	.000	.000	.087
1954	.25	.17	.91	.24	.10	.003	.000	.000	.000	.000	.000	.094
1955	.20	.14	.11	.10	.097	.000	.35	.071	.000	.000	.000	.003
1956	.13	.097	.000	.077	.052	.000	.000	.000	.000	.000	.000	.000

1957	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
1958	.000	.000	.000	1.04	.039	.000	.000	.000	.000	.000	.000	.000
1959	.000	.046	.10	.053	.016	.000	.000	.000	.000	.000	.000	.000
1960	.000	.000	.000	.013	.029	.000	.000	.000	.000	.000	.000	.000
1961	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
1962	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
1963	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
1964	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.003
1965	.000	.004	.003	.010	.000	.000	.000	.000	.000	.000	.013	.006
1966	.003	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.003
1967	.000	.000	.068	.087	.077	.000	.000	.000	.000	.000	.000	.000
1968	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
1969	.006	.32	.92	.89	.72	.42	.20	.20	.20	.071	.084	.090
1970	.11	.16	.19	.14	.11	.077	.072	.083	.054	.046	.059	.098
1971	.088	.094	.083	.094	.062	.063	.047	.029	.020	.016	.027	.051
1972	.051	.047	.011	.012	.037	.020	.010	.001	.000	.000	.010	.018
1973	.039	.071	.11	.077	.075	.11	.071	.010	.000	.000	.004	.032
1974	.042	.031	.077	.058	.057	.045	.065	.023	.009	.010	.007	.021
1975	.010	.010	.054	.071	.046	.027	.039	.003	.013	.000	.007	.000
1976	.000	.010	.044	.045	.015	.004	.000	.000	.017	.001	.001	.001
1977	.010	.006	.005	.010	.020	.014	.000	.004	.000	.000	.000	.001
1978	.011	.040	13.1	5.52	3.10	1.71	.56	.23	.25	.22	.40	.59
1979	1.21	2.49	8.25	5.87	3.19	1.46	.53	.45	.30	.32	.34	.38
1980	7.01	74.5	84.6	53.6	30.5	16.8	11.8	8.60	7.40	8.97	8.87	7.97
1981	10.4	23.6	18.6	10.1	4.38	1.66	.24	.17	.71	.56	2.43	4.68
1982	13.2	12.0	18.4	11.9	4.11	2.04	.84	.57	.50	.51	6.32	10.0
1983	9.49	28.5	153	121	52.2	30.4	20.1	26.5	16.5	14.3	20.7	25.7
1984	17.7	14.5	14.4	11.2	5.69	2.82	2.79	4.50	3.30	4.63	8.81	8.16
1985	9.45	21.8	9.70	6.32	2.49	.50	.29	.14	.20	.23	2.79	7.97
1986	4.25	18.1	9.45	3.38	.90	.32	.19	.10	.12	.26	.21	.93
1987	3.06	3.89	4.56	1.29	.35	.18	.11	.11	.078	.25	.34	.39
1988	7.27	4.08	1.91	1.68	.60	.31	.13	.11	.14	.13	.18	.26
1989	.26	.30	.64	.43	.20	.12	.009	.000	.000	.027	.12	.24
1990	.20	.17	.19	.16	.046	.007	.000	.000	.000	.000	.000	.069
1991	.12	.33	28.3	2.53	1.13	.56	.40	.23	.23	.20	.23	.37
1992	.59	1.77	3.37	2.21	.91	.55	.38	.38	.20	.27	.23	.40
1993	140	65.3	74.1	35.7	19.9	15.2	6.54	4.00	3.30	5.54	11.4	20.3
1994	17.2	19.3	7.73	4.33	3.37	1.11	.28	.18	.14	.35	1.31	4.48

1995	23.3	28.2	63.8	25.5	15.0	7.45	2.73	.70	.63	1.32	3.85	5.63
1996	6.98	11.3	14.9	5.11	.87	.29	.15	.030	.050	.095	.22	1.07
1997	8.79	5.10	3.12	1.28	.25	.12	.009	.000	.000	.042	.13	.25
1998	.42	25.9	17.2	22.9	12.3	5.14	1.80	.78	.63	.59	1.57	5.33
1999	5.83	6.13	5.22	6.78	2.20	.61	.27	.11	.094	.072	.13	.19
2000	.21	1.96	2.15	.43	.20	.066	.017	.000	.000	.018	.11	.13
2001	.24	.29	.94	.48	.20	.047	.000	.000	.000			
Mean of monthly streamflows	5.60	7.96	11.6	7.39	3.49	1.77	.93	.85	.64	.78	1.44	2.57

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**Appendix B. Monthly rainfall data for Campo, California,
for 1970 to 2001 used in Figure 8
(provided by the Western Regional Climate Center)**

1971 - 2000

- Daily Temp. & Precip.
 - Daily Tabular data (~23 KB)
 - Monthly Tabular data (~1 KB)
 - NCDC 1971-2000 Normals (~3 KB)
-

1961 - 1990

- Daily Temp. & Precip.
 - Daily Tabular data (~23 KB)
 - Monthly Tabular data (~1 KB)
 - NCDC 1961-1990 Normals (~3 KB)
-

Period of Record

- Station Metadata
- Station Metadata Graphics

General Climate Summary Tables

- Temperature
- Precipitation
- Heating Degree Days
- Cooling Degree Days
- Growing Degree Days

Temperature

- Daily Extremes and Averages
- Spring 'Freeze' Probabilities
- Fall 'Freeze' Probabilities
- 'Freeze Free' Probabilities
- Monthly Temperature Listings
 - Average
 - Average Maximum
 - Average Minimum

Precipitation

- Monthly Average
- Daily Extreme and Average
- Daily Average
- Precipitation Probability by Duration.
- Precipitation Probability by Quantity.
- Monthly Precipitation Listings
 - Monthly Totals

Snowfall

- [Daily Extreme and Average](#)
- [Daily Average](#)
- [Monthly Snowfall Listings](#)
[Monthly Totals](#)

Snowdepth

- [Daily Extreme and Average](#)
- [Daily Average](#)

Heating Degree Days

- [Daily Average](#)

Cooling Degree Days

- [Daily Average](#)

Period of Record Data Tables

- [Daily Summary Stats \(~55 KB\)](#)
 - [Monthly Tabular data \(~2 KB\)](#)
-

*Western Regional Climate Center,
wrcc@dri.edu*

CAMPO, CALIFORNIA

Monthly Total Precipitation (inches)

(041424)

File last updated on Nov 21, 2002

*** Note *** Provisional Data *** After Year/Month 200208

a = 1 day missing, b = 2 days missing, c = 3 days, ..etc..,

z = 26 or more days missing, A = Accumulations present

Long-term means based on columns; thus, the monthly row may not
sum (or average) to the long-term annual value.

MAXIMUM ALLOWABLE NUMBER OF MISSING DAYS : 5

Individual Months not used for annual or monthly statistics if more than 5 days are missing.

Individual Years not used for annual statistics if any month in that year has more than 5 days missing.

YEAR (S)	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
1948	0.00z	0.00z	0.00z	0.00z	0.00z	0.00z	0.00	0.00	0.22	1.10	0.00	2.56	3.88
1949	4.33	2.24	1.39	0.11	0.41	0.00	0.00	0.00	0.00	0.77	1.09	2.42	12.76
1950	2.74	1.19	1.68	0.48	0.01	0.00	0.10	0.00	0.22	0.00a	0.41	0.34	7.17
1951	4.00	1.39	1.12	3.57	0.27	0.00	0.44	1.34	0.01	1.09	0.82	7.19	21.24
1952	5.05	0.95	8.40	1.62	0.00	0.00	1.24	0.00	0.00	0.00	2.85	3.13	23.24
1953	1.04	1.05	2.28	1.24	0.49	0.01	0.04	0.01	0.00	0.00	1.14	0.18	7.48
1954	4.89	2.49	6.45	0.16	0.18	0.05	1.42	0.03	0.13	0.00	0.68	0.75	17.23
1955	3.85	1.23	0.68	0.52	1.95	0.00	0.82	1.90	0.00	0.00	1.14	1.77	13.86
1956	1.70	1.75	0.00	2.36	0.45	0.00	0.65	0.00	0.00	0.07	0.00	0.40	7.38
1957	7.05	0.78	1.57	1.09	2.60	0.28	0.01	0.65	0.44	2.17	0.84	1.34	18.82
1958	0.00z	0.00z	0.00z	0.00z	0.00z	0.00z	0.00z	0.00z	0.00z	0.00z	0.00z	0.00z	0.00
1959	1.12	5.61	0.00	0.17	0.14	0.00	0.03	0.16	0.34	0.50	0.13	2.93	11.13
1960	2.97	4.10	0.45	1.95	0.49	0.00	0.17	0.03	1.59	0.16	1.67	0.07	13.65
1961	1.09	0.16	2.28	0.00	0.02	0.00	0.00	0.62	0.00	0.37	0.77	2.08	7.39
1962	3.61	4.53	2.12	0.00	0.90	0.11	0.00	0.00	0.00	0.07	0.00	0.65	11.99
1963	0.18g	3.03	1.72	1.86	0.00	0.13	0.00	0.63	2.45	1.35	1.77	0.31	13.25
1964	2.12	1.34	3.22	0.95	0.67	0.00	0.00	0.03	0.07	0.39	1.88	1.83	12.50
1965	0.80	0.00z	1.20	6.03	0.05	0.00	0.36	0.13	0.00z	0.00	9.03	4.31	21.91
1966	1.35	1.40	1.16	0.05	0.07	0.22	0.39	0.19	0.20	0.46	0.83	0.00z	6.32
1967	1.42	0.00	1.03	3.54	0.48	0.06	0.34	0.49	0.82	0.00	3.65	4.23	16.06
1968	0.58	0.73	2.19	0.85	0.28	0.03	1.88	0.06	0.00	0.05	0.72	1.66	9.03
1969	8.30	5.67	1.96	0.10	0.43	0.12	0.01	0.00	0.20	0.02	1.85	0.26	18.92
1970	0.85	0.96	3.95	1.18	0.00	0.03	0.03	2.66	0.08	0.12	1.28	2.66	13.80
1971	1.12	1.22	0.40	1.46	0.67	0.00	0.07	1.00	0.25	1.18	0.05	3.60	11.02
1972	0.00	0.18	0.00	0.24	0.14	0.31	0.00	0.04	0.14	1.87	2.60	2.55	8.07
1973	1.70	3.13	5.24	0.29	0.09	0.00	0.00	0.09	0.00	0.05	1.69	0.11	12.39
1974	4.29	0.07	1.24	0.24	0.16	0.00	1.28	0.13	0.31	2.32	0.39	1.24	11.67
1975	0.40	1.02	3.40	1.58	0.11	0.12	0.09	0.00	0.18	0.07	2.15	0.63	9.75
1976	0.07	5.47	1.81	1.85	0.06	0.00	0.61	0.00	2.85	0.24	1.02	0.76	14.74

1977	3.10	0.35	0.85	0.19	1.15	0.00	0.00	1.18	0.00	0.88	0.25	0.00z	7.95
1978	7.79	5.38	5.45	1.48	0.53	0.00	0.00	0.01	0.16	0.06	3.05	4.45	28.36
1979	3.99	1.95	4.88	0.03	0.19	0.00	0.00	0.16	0.04	0.82	0.26	0.69	13.01
1980	11.82	8.82	3.72	1.87	0.80	0.00	0.55	0.00	0.00	0.28	0.00	0.54	28.40
1981	0.91	2.64	4.22	0.80	0.10	0.00	0.05	0.03	0.31	0.19	1.35	0.03	10.63
1982	5.14	2.15	4.30	0.82	0.12	0.00	0.33	0.56	0.37	0.13	4.42	3.44	21.78
1983	2.23	4.82	9.92	2.23	0.19	0.00	0.01	4.05	0.68	1.16	2.45	3.20c	30.94
1984	0.12	0.00	0.04	0.24	0.00	0.55	1.51	2.29	0.67	0.18	1.43	4.25	11.28
1985	0.00z	1.59	1.46	0.27	0.04	0.09	1.74	0.00	0.33	0.69	4.53	1.76	12.50
1986	0.75	3.53	3.47	0.28	0.01	0.00	0.35	0.06	1.32	2.12	0.57	0.72	13.18
1987	1.66	2.55	2.58	0.31	0.08	0.01	0.00	0.65	0.48	3.13	2.48	1.82	15.75
1988	3.49	1.94	0.72	2.48	0.36	0.00	0.02	1.65	0.00	0.00	1.08	2.12	13.86
1989	1.05	1.18	1.65	0.21	0.13	0.00	0.00	0.00	0.17	0.36	0.03	0.29	5.07
1990	3.06	1.78	0.70	0.99	0.23	0.22	0.11	0.18	0.62	0.04	0.56	1.30	9.79
1991	1.35	2.23	0.00z	0.05	0.00	0.00z	0.62	0.00	0.35	0.58	0.30	2.83	8.31
1992	3.24a	5.05	4.94	0.68	0.23	0.00	0.75	2.05	0.00	0.24	0.06	4.04	21.28
1993	18.61	6.51	1.53	0.00	0.12	0.16a	0.00	0.00	0.00	0.30	1.49	1.16	29.88
1994	1.70	4.14	3.14	1.35	0.00	0.00	0.00	1.22	0.00	0.19	0.68	0.97	13.39
1995	10.12	3.28	6.63	1.26	1.10	0.48	0.06	0.64	0.28	0.00	0.08	0.57	24.50
1996	1.54	3.20	2.76	0.53	0.07	0.00	0.00	0.07	0.03	1.56	0.92	1.98	12.66
1997	4.33	1.53	0.02	0.22	0.00	0.00z	0.00z	0.07	1.93	0.16	1.75	4.21	14.22
1998	1.60	10.37	4.40	2.35d	1.17	0.02	0.10	0.20	0.20	0.03	1.17	1.42	23.03
1999	1.66	0.83	0.62	3.31	0.00	0.46	0.00z	0.00	0.14	0.00	0.00	0.21	7.23
2000	0.75	4.20	1.47	0.46	0.00	0.21	0.00	0.13	0.30	0.65	0.39	0.04	8.60
2001	2.92	4.12	1.76	1.45	0.03	0.00	0.12	0.00	0.24	0.00	1.11	1.02	12.77
2002	0.40	0.12	1.12	0.39	0.00	0.00	0.19	0.00	1.06a	0.00c	0.26j	0.00z	3.28

Period of Record Statistics

MEAN	3.13	2.61	2.49	1.09	0.34	0.07	0.32	0.47	0.38	0.52	1.34	1.82	14.99
S.D.	3.37	2.24	2.18	1.17	0.50	0.13	0.49	0.82	0.61	0.72	1.54	1.55	6.57
SKEW	2.49	1.32	1.36	1.86	2.63	2.16	1.78	2.38	2.54	1.77	2.75	1.06	0.89
MAX	18.61	10.37	9.92	6.03	2.60	0.55	1.88	4.05	2.85	3.13	9.03	7.19	30.94
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	5.07
NO YRS	51	52	52	53	53	51	52	54	53	54	53	51	44

APPENDIX F
Threatened and Endangered Species List

Scientific Name	Common Name	Lead	Status	R.P.	CH	LA	O	SB	Riv	SD	Imp	Fed R
PLANTS												
<i>Acanthomintha ilicifolia</i>	San Diego thornmint	CFWO	T							X		63:549
<i>Allium munzii</i>	Munz's onion	CFWO	E		D-05				X			63:549
<i>Ambrosia pumila</i>	San Diego ambrosia	CFWO	E						X	X		64:725
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	Del Mar manzanita	CFWO	E							X		61:523
<i>Arenaria paludicola</i>	marsh sandwort	VFO	E	F 98		X		X				58:413
<i>Arenaria ursina</i>	Bear Valley sandwort	CFWO	T					X				63:490
<i>Astragalus albens</i>	Cushenbury milk-vetch	CFWO	E	D2	D-02			X				59:436
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	VFO	E	F 99		X	X					62:417
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milk-vetch	CFWO	E		P-04				X			63:535
<i>Astragalus magdalenae</i> var. <i>peirsonii</i>	Peirson's milk-vetch	CFWO	T		D-04					X	X	63:535
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura marsh milk-vetch	VFO	E		D-04	X	X					66:279
<i>Astragalus tener</i> var. <i>titi</i>	coastal dunes milk-vetch	VFO	E	D		X				X		63:431
<i>Astragalus tricarinatus</i>	triple-ribbed milk-vetch	CFWO	E					X	X			63:535
<i>Atriplex coronata</i> var. <i>notatior</i>	San Jacinto Valley crownscale	CFWO	E		P-04				X			63:549
<i>Baccharis vanessae</i>	Encinitas baccharis	CFWO	T							X		61:523
<i>Berberis nevinii</i>	Nevin's barberry	CFWO	E			X		X	X	X		63:549
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	CFWO	T		P-04	X	X	X	X	X		63:549
<i>Castilleja cinerea</i>	ash-gray Indian paintbrush	CFWO	T					X				63:490
<i>Castilleja grisea</i>	San Clemente Island Indian paintbrush	CFWO	E	F 84		X						42:406
<i>Ceanothus ophiochilus</i>	Vail Lake ceanothus	CFWO	T						X			63:549
<i>Cercocarpus traskiae</i>	Catalina Island mountain-mahogany	CFWO	E			X						62:426
<i>Chorizanthe orcuttiana</i>	Orcutt's spineflower	CFWO	E							X		61:523
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	VFO	C			X	X	X				64:575
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	salt marsh bird's beak	CFWO	E	F 85		X	X			X		43:448
<i>Deinandra (Hemizonia) conjugens</i>	Otay tarplant	CFWO	T	D 03	D-02					X		63:549
<i>Delphinium variegatum</i> ssp. <i>kinkiense</i>	San Clemente Island larkspur	CFWO	E	F 84		X						42:406
<i>Dodecahema leptoceras (Centrostegia l.)</i>	slender-horned spineflower	CFWO	E	D		X		X	X			52:362
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	Santa Monica Mountains dudleya	VFO	T	F 99		X	X					62:417
<i>Dudleya stolonifera</i>	Laguna Beach live-forever	CFWO	T				X					63:549
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woolly-star	CFWO	E	D			X	X	X			52:362
<i>Erigeron parishii</i>	Parish's daisy	CFWO	T	D2	D-02			X	X			59:436

<i>Eriogonum kennedyi</i> var. <i>austromontanum</i>	southern mountain wild buckwheat	CFWO	T					X			63:490
<i>Eriogonum ovalifolium</i> var. <i>vineum</i>	Cushenbury buckwheat	CFWO	E	D2	D-02			X			59:436
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button celery	CFWO	E	F 98					X	X	58:413
<i>Fremontodendron mexicanum</i>	Mexican flannelbush	CFWO	E							X	63:549
<i>Hazardia orcuttii</i>	Orcutt's hazardia	CFWO	C							X	69:248
<i>Helianthemum greenii</i>	Island rush-rose	VFO	T	F 00			X				62:409
<i>Lesquerella kingii</i> ssp. <i>bernardina</i>	San Bernardino Mountains bladderpod	CFWO	E	D2	D-02			X			59:436
<i>Lithophragma maximum</i>	San Clemente Island woodland star	CFWO	E	F 84			X				62:426
<i>Lotus dendroideus</i> var. <i>traskiae</i>	San Clemente Island lotus	CFWO	E	F 84			X				42:406
<i>Malacothamnus clementinus</i>	San Clemente Island bush mallow	CFWO	E	F 84			X				42:406
<i>Monardella linoides</i> ssp. <i>viminea</i>	willowy monardella	CFWO	E							X	63:549
<i>Navarretia fossalis</i>	spreading navarretia	CFWO	T	F 98	P-04		X		X	X	63:549
<i>Orcuttia californica</i>	California Orcutt grass	CFWO	E	F 98			X		X	X	58:413
<i>Oxytheca parishii</i> var. <i>goodmaniana</i>	Cushenbury oxytheca	CFWO	E	D2	D-02			X			59:436
<i>Pentachaeta lyonii</i>	Lyon's pentachaeta	VFO	E	F 99			X				62:417
<i>Phacelia stellaris</i>	Brand's phacelia	CFWO	C				X		X	X	69:248
<i>Poa atropurpurea</i>	San Bernardino bluegrass	CFWO	E					X		X	63:490
<i>Pogogyne abramsii</i>	San Diego mesa mint	CFWO	E	F 98						X	43:448
<i>Pogogyne nudiuscula</i>	Otay mesa mint	CFWO	E	F 98						X	58:413
<i>Rorippa gambellii</i>	Gambel's watercress	VFO	E	F 98			X	X	X	X	58:413
<i>Sibara filifolia</i>	Santa Cruz Island rock-cress	CFWO	E				X				62:426
<i>Sidalcea hickmanii</i> ssp. <i>parishii</i>	Parish's checkerbloom	VFO	C					X			
<i>Sidalcea pedata</i>	pedate checker-mallow	CFWO	E	F 98				X			49:344
<i>Taraxacum californicum</i>	California taraxacum	CFWO	E					X			63:490
<i>Thelypodium stenopetalum</i>	slender-petaled mustard	CFWO	E	F 98				X			49:344
<i>Trichostema austromontanum compactum</i>	Hidden Lake bluecurls	CFWO	T						X		63:490
<i>Verbesina dissita</i>	big-leaved crown beard	CFWO	T					X			61:523

INVERTEBRATES

<i>Branchinecta lynchii</i>	vernal pool fairy shrimp	SAC	T		D-03				X		59:481
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	CFWO	E	F 98	RP		X			X	62:492
<i>Euphilotes battoides allyni</i>	El Segundo blue butterfly	CFWO	E	F 98			X				41:220
<i>Euphydryas editha quino</i>	Quino checkerspot butterfly	CFWO	E	F 03	D-02		X	X	X	X	62:231
<i>Glaucopsyche lygdamus palosverdensis</i>	Palos Verdes blue butterfly	CFWO	E	F 84	D		X				45:449

<i>Pyrgus ruralis lagunae</i>	Laguna Mountains skipper	CFWO	E							X		62:231
<i>Rhaphiomidas terminatus abdominalis</i>	Delhi Sands flower-loving fly	CFWO	E	F 97				X	X			58:498
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	CFWO	E	F 98	D-05	X	X		X	X		58:413

FISH

<i>Catostomus santaanae</i>	Santa Ana sucker	CFWO	T		D-05	X	X	X	X			65:196
<i>Cyprinodon macularius</i>	desert pupfish	R02	E	F 93	D				X	X	X	51:108
<i>Eucyclogobius newberryi</i>	tidewater goby	VFO	E	D 04	D		X			X		59:549
<i>Gasterosteus aculeatus williamsoni</i>	unarmored threespine stickleback	VFO	E	F 85		X		X		X		35:160
<i>Gila bicolor mohavensis</i>	Mohave tui chub	VFO	E	F 84				X				35:160
<i>Gila elegans</i>	bonytail chub	R06	E	F 90	D			X	X		X	45:277
<i>Oncorhynchus mykiss</i>	southern steelhead	R09	E			X	X			X		62:439
<i>Ptychocheilus lucius</i>	Colorado squawfish	R06	E	F 91				X	X		X	50:301
<i>Xyrauchen texanus</i>	razorback sucker	R06	E		D			X	X		X	56:549

AMPHIBIANS

<i>Batrachoseps aridus</i>	desert slender salamander	CFWO	E	F 82					X			38:146
<i>Bufo californicus</i>	arroyo toad	VFO	E	F 99	D-05	X	X	X	X	X		59:648
<i>Rana aurora draytoni</i>	California red-legged frog	SAC	T	F 02	RP-04	X	X	X	X	X		61:258
<i>Rana muscosa</i>	mountain yellow-legged frog	CFWO	E		P-05	X		X	X			64:717

REPTILES

<i>Gopherus agassizii</i>	desert tortoise	VFO	T	F 94	D			X	X		X	55:121
<i>Uma inornata</i>	Coachella Valley fringe-toed lizard	CFWO	T	F 85	D				X			45:638
<i>Xantusia riversiana</i>	island night lizard	CFWO	T	F 84		X						42:406

BIRDS

<i>Amphispiza belli clementeae</i>	San Clemente sage sparrow	CFWO	T	F 84		X						42:406
<i>Brachyramphus marmoratus</i>	marbled murrelet	POR	T	F 97	D	X						57:453
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	SAC	T	D 01	D-05	X	X			X		58:128
<i>Charadrius montanus</i>	mountain plover	R02	W*			X	X	X	X	X	X	64:758
<i>Coccyzus americanus</i>	yellow-billed cuckoo	SAC	C			X	X	X	X	X	X	66:386
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	R02	E	D	RP-04	X	X	X	X	X	X	60:107
<i>Gymnogyps californianus</i>	California condor	VFO	E	F 96		X		X				61:540

<i>Haliaeetus leucocephalus</i>	bald eagle	R03	T	F 86		X	X	X	X	X	X	60:360
<i>Lanius ludovicianus mearnsi</i>	San Clemente loggerhead shrike	CFWO	E	F 84		X						42:406
<i>Pelecanus occidentalis</i>	brown pelican	VFO	E	F 83		X	X	X	X	X	X	50:494
<i>Phoebastria albatrus</i>	short-tailed albatross	JFO	E			X	X			X		65:466
<i>Polioptila californica californica</i>	coastal California gnatcatcher	CFWO	T*		RP	X	X	X	X	X	X	58:167
<i>Rallus longirostris levipes</i>	light-footed clapper rail	CFWO	E	F 85		X	X			X		35:160
<i>Rallus longirostris yumanensis</i>	Yuma clapper rail	R02	E						X		X	32:400
<i>Sterna antillarum browni</i>	California least tern	CFWO	E	F 85		X	X		X	X	X	35:845
<i>Vireo bellii pusillus</i>	least Bell's vireo	CFWO	E	D 98	D	X	X	X	X	X	X	51:164

MAMMALS

<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	CFWO	E		D-02	X		X	X			63:510
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	CFWO	E	D 97				X	X	X		53:384
<i>Enhydra lutris nereis</i>	southern sea otter	VFO	T/X*	D 00		X	X			X		52:297
<i>Ovis canadensis</i>	peninsular bighorn sheep	CFWO	E	F 00	D-01				X	X	X	63:131
<i>Panthera onca</i>	jaguar	R02	E						X		X	62:391
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	CFWO	E	F 98		X	X			X		59:497
<i>Spermophilus tereticaudus chlorus</i>	Palm Springs ground squirrel	CFWO	C						X			64:575
<i>Urocyon littoralis catalinae</i>	Santa Catalina Island Fox	CFWO	E			X						69:103

E: Listed as a federally endangered species

T: Listed as a federally threatened species

XN: Experimental population; * southern sea otter first listed as threatened Jan. 14, 1977 42:2968

PE: Proposed as federally endangered

PT: Proposed as federally threatened

C: Federal candidate species

R.P.: Recovery Plan, F= Final, D= Draft, those lacking date are in progress

CH: Critical Habitat **P**-Proposed; **D**-Designated

R: Remanded

RV: Remanded and CH designation vacated; RVp = partially vacated

RP: CH Remanded and now repropoed

T*: Proposed DPS

W* = was proposed as threatened but withdrawn 2003

Note: Santa Catalina Isl. and San Clemente Isl. Are in L.A. County

BLM Sensitive Species Known or Suspected to Occur within the Palm Springs/South
Coast Office Area of Responsibility

Common Name	Scientific Name
San Diego ambrosia	<i>Ambrosia pumila</i>
Otay manzanita	<i>Arctostaphylos otayensis</i>
Deane's milk-vetch	<i>Astragalus deani</i>
Jacumba milk-vetch	<i>Astragalus douglasii</i> var. <i>perstrictus</i>
San Diego rattleweed	<i>Astragalus oocarpus</i>
Orcutt's brodiaea	<i>Brodiaea orcuttii</i>
Lakeside ceanothus	<i>Ceanothus cyaneus</i>
Flat-seed spurge	<i>Chamaesyce platysperma</i>
Tecate cypress	<i>Cupressus forbesii</i>
Tecate tarplant	<i>Deinandra floribunda</i>
Many-stemmed dudleya	<i>Dudleya multicaulis</i>
California bedstraw	<i>Galium californicum</i> ssp. <i>primum</i>
San Gabriel bedstraw	<i>Galium grande</i>
Orcutt's hazardia	<i>Hazardia orcuttii</i>
Gander's pitcher-sage	<i>Lepechinia ganderi</i>
Borrego Valley pepper-grass	<i>Lepidium flavum</i> var. <i>felipense</i>
Little San Bernadino Mountains linanthus	<i>Linanthus maculatus</i>
Orcutt's linanthus	<i>Linanthus orcuttii</i>
Mountain Spring bush lupine	<i>Lupinus excubitus</i> var. <i>medius</i>
Robison monardella	<i>Monardella robisonii</i>
San Diego goldenstar	<i>Muilla clevelandii</i>
Munz cholla	<i>Opuntia munzii</i>
San Diego current	<i>Ribes canthariforme</i>
Parry's tetracoccus	<i>Tetracoccus dioicus</i>
White-eared pocket mouse	<i>Perognathus alticola</i>
Palm Springs little pocket mouse	<i>Perognathus longimembris bangsi</i>
Desert bighorn sheep	<i>Ovis canandensis nelsoni</i>
California leaf-nosed bat	<i>Macrotus californicus</i>
Spotted bat	<i>Euderma maculatum</i>
Western mastiff bat	<i>Eumops perotis californicus</i>
Townsend's western big-eared bat	<i>Plecotus townsendii</i>
Pallid bat	<i>Antrozous pallidus</i>
Fringed myotis	<i>Myotis tghaysanodes</i>
Small-footed myotis	<i>Myotis ciliolabrum</i>
Long-eared myotis	<i>Myotis evotis</i>
Cave myotis	<i>Myotis velifer</i>
Yuma myotis	<i>Myotis yumanensis</i>
Burrowing owl	<i>Athene cunicularia</i>
Tricolored blackbird	<i>Agelaius tricolor</i>
Gray vireo	<i>Vireo vicinior</i>
Bendire's thrasher	<i>Toxostoma bendirei</i>
California horned lizard	<i>Phrynosoma coronatum frontale</i>
Flat-tailed horned lizard	<i>Phrynosoma macalli</i>
Colorado Desert fringe-toed lizard	<i>Uma notata notata</i>
Coronado skink	<i>Eumeces skiltonianus interparietalis</i>

Two-striped garter snake	<i>Thamnophis hammondi</i>
Southwestern pond turtle	<i>Emys marmorata pallida</i>
San Sebastian leopard frog	<i>Rana yavapaiensis</i>
Western spadefoot toad	<i>Scaphiopus hammondi</i>
Thorne's hairstreak butterfly	<i>Callophrys thornei</i>