3.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

3.1 PRELIMINARY IMPACT SCOPING

This section of the EA describes the natural and human environment that exists within the project corridor and region of influence (ROI) and the potential impacts of the No Action and the two action alternatives outlined in Section 2.0 of this document. The ROI for this project is San Diego County. Only those parameters that have the potential to be affected by the Proposed Action Alternative are described, as per CEQ guidance (40 CFR 1501.7 [3]). Some topics are limited in scope due to the lack of direct effect from the proposed project on the resource, or because that particular resource is not located within the project corridor. Therefore, resources such as utilities, communications, climate, and wild and scenic rivers are not addressed for the following reasons:

- Utilities: No utilities (*e.g.*, sewer, transmission lines) would be affected by the proposed action. Negligible amounts of energy (fuel) would be required to construct, install, and maintain the infrastructure proposed for this project.
- Communications: The proposed action would not affect communications systems in the area.
- Climate: The proposed action would not affect climate; extreme local weather conditions could affect the schedule of the construction activities, but any delays to the schedule would not result in synergistic or indirect effects to other resources.
- Wild and Scenic Rivers: The proposed action would not affect any designated Wild and Scenic Rivers because no rivers designated as such are located within, or near the project corridor.
- Roadways and Traffic: No high traffic roadways would be impacted as the access roads and project areas are located in remote, undisturbed areas. Traffic will not be impacted from construction equipment traveling to and from the various work sites.

Impacts (consequence or effect) can be either beneficial or adverse, and can be either directly related to the action or indirectly caused by the action. Direct impacts are those effects that are caused by the action and occur at the same time and place (40 CFR

1508.8[a]). Indirect impacts are those effects that are caused by the action and are later in time or further removed in distance, but are still reasonably foreseeable (40 CFR 1508.8[b]). As discussed in this section, the No Action, Proposed Action, and Secure Fence Act alternatives may create temporary (lasting the duration of the project), short term (up to 3 years), long term (3 to 10 years following construction), or permanent impacts or effects. Significant impacts will receive the greatest attention in the decision making process. Whether an impact is significant depends on the context in which the impact occurs and the intensity of the impact.

Impacts can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. Significant impacts are those effects that would result in substantial changes to the environment (40 CFR 1508.27) and should receive the greatest attention in the decision-making process. Insignificant impacts are those that would result in minimal changes to the environment. The following discussions describe and, where possible, quantify the potential effects of each alternative on the resources within or near the project corridor. All impacts described below are considered to be adverse unless stated otherwise. In addition, impacts are also addressed compared to significance criteria relative to CEQA, as mentioned previously. Under NEPA, significance is used to determine whether an Environmental Impact Statement or other level of NEPA documentation is warranted. Some impacts deemed to be significant under CEQA might not be of sufficient magnitude to be considered significant under NEPA.

The anticipated direct, permanent and temporary impacts from the Proposed Action Alternative total approximately 78 and 45 acres, respectively. The impacts are based on calculations using design concepts and baseline engineering drawings, as depicted in Appendix A. All temporarily impacted areas would be rehabilitated upon completion of the construction activities (see Section 5.0). The proposed project would be constructed by private contractors; the anticipated completion date is December of 2008. Some military units could be used to assist in road construction. Furthermore, it is assumed water for construction would be obtained from existing water wells or

previously analyzed wells described in the DHS 2003 EA. It is further assumed that for primary pedestrian fence and road construction approximately 1-acre foot per mile would be needed for concrete and dust suppression, while for road widening approximately ½-acre foot per mile would be used for dust suppression.

Conversion of PVBs to primary pedestrian fence in the Willows and O'Neil Valley areas would not require any additional clearing or grubbing activities and, thus, quantifications of impacted acres do not include these components. Conversion to a primary pedestrian fence, however, could have impacts to wildlife, and these potential effects are discussed in the appropriate sections below.

Portable lights could be placed within the construction footprint but would be removed upon cessation of the construction activities. It is possible that a 24-hour work schedule could be activated; however, this would only occur in order to maintain the work schedule due to weather or other unforeseen situations. It is anticipated that the temporary lights would not operate any longer that 4 weeks in one location, no more than 0.5-mile of lights would be in operation at any one time, and no more than 10 lights would be in operation at one time, at each project site. Additionally, no lights would be placed in a manner to illuminate riparian areas and no nighttime work would occur in the 7 Gates/Railroad project site.

The amount of land impacted by the Secure Fence Act Alternative is based on a footprint of 130 feet X 10 miles for a total of 157 acres. This footprint may not be totally accurate as design concepts may dictate a much larger footprint. Additionally, if the Secure Fence Act Alternative is ultimately selected, some impacts may be potentially significant and subsequent site-specific surveys and NEPA documentation will be needed to accurately analyze these potential impacts. Throughout this section of the EA, the Secure Fence Act Alternative is analyzed using professional opinion and best data available.

3.2 LAND USE

3.2.1 Affected Environment

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 proposed project areas is predominately undeveloped. Land use is indicative of land ownership. Ownership of land in the project corridor is divided between private ownership, and Federal lands. BLM is the majority landowner for the project corridor, including the 60-foot Roosevelt Reservation. This land is used for recreation and grazing rights. The BLM issued their South Coast Resource Management Plan (RMP) in 1994. This plan 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 the BLM to maximize values and the multiple use 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 of both flora and fauna within BLM lands. A Memorandum of Understanding (MOU) between DHS and Department of the Interior was signed in 2006, which acknowledged the authority of USBP to utilize the Roosevelt Reservation for law enforcement purposes. A copy of the MOU is contained in Appendix C. The private lands are typically developed as single-residence ranch land or remain undeveloped and held for occasional use (*i.e.*, recreation) or investment purposes.

3.2.2 Environmental Consequences

The CEQA significance threshold established for land use is:

- The action is inconsistent with adopted land use plans or would substantially affect those resources required for, supporting, or benefiting current use.

3.2.2.1 No Action Alternative

Under the No Action Alternative, no road or fence construction would occur within the project corridor. Therefore, land use would not change (*i.e.*, no direct impacts).

However, indirect impacts would be expected as IA traffic and subsequent USBP pursuits continue and possibly increase.

3.2.2.2 Proposed Action Alternative

With the implementation of the Proposed Action Alternative, land use within the Roosevelt Reservation would remain as a Federal law enforcement zone. The Proposed Action Alternative would conform to the BLM South Coast Resource Management Plan and would not impact BLM's guidance for lands under BLM jurisdiction (Hill 2007). Privately owned land and land owned by BLM is currently open, undeveloped areas. These sites would be permanently converted to areas set aside for law enforcement purposes. However, open space is common within this area and would not pose a significant change to the land use regionally. The staging areas, which are needed to store and stockpile materials and equipment, would temporarily impact approximately 45 acres. These areas would be rehabilitated upon completion of the construction activities and the current land use would return; therefore, impacts associated with the staging areas are considered short-term and insignificant.

Approximately 27 acres of privately-owned land would be impacted by this alternative. This private land would change from private land to lands used for USBP activities. Negotiations are on-going with private land owners, and they would be compensated at fair market value for any lands acquired by the USBP for the Proposed Action Alternative.

3.2.2.3 Secure Fence Act Alignment Alternative

Under the Secure Fence Act Alignment Alternative, a larger portion of land that is currently open space would be dedicated to law enforcement with the implementation of an enforcement zone from the border for approximately 130 feet to the north. However, open space is common within this area and would not pose a significant change to the land use regionally, especially since the majority of the affected land would be located adjacent to the border. Compensation for private land owners would be administered the same as it is described for the Proposed Action Alternative. The impacts as a result

of this alternative would be minor to moderate, depending upon the final design or construction footprint.

3.3 GEOLOGY AND SOILS

3.3.1 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; thus, this information is incorporated herein by reference. The entire project corridor is located within the Peninsular Range Geomorphic Province, which is mostly comprised 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 igneous 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).

Additionally, the project corridor consists of soils in the Tollhouse, La Posta, Rock land, Calpine, Carrizo, 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 (U.S. Department of Agriculture [USDA] 1973). The Las 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. Rock land 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.

3.3.2 Environmental Consequences

The CEQA significance thresholds for geology and soils are:

- The action exposes people or structures to substantial adverse effects, including the risk of injury or death;
- The action entirely removes a geologic resource; thus removing the potential for scientific investigation of that geologic resource;
- The action results in substantial soil erosion or loss of topsoil; and
- Infrastructure is located on inappropriate soil types creating substantial risks to life or property.

3.3.2.1 No Action Alternative

Under the No Action Alternative, soils and geology in the project area would remain in the existing condition as no road or fence construction would occur at or within the project corridor. Therefore, no direct impacts, either beneficial or adverse, to soils or geology would result from the implementation of the No Action Alternative. However, indirect impacts could occur throughout the project area from continuous IA traffic and consequent USBP enforcement actions

3.3.2.2 Proposed Action Alternative

Minor surface impacts to geologic formations would be expected due to road and primary pedestrian fence construction activities. Although geologic formations would be adversely impacted, these impacts would be minimal and localized. No dangerous or unstable conditions would be created within any geologic unit as a result of the Proposed Action Alternative. Additionally, the Proposed Action Alternative would 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 would be removed from future scientific study. Therefore, the Proposed Action Alternative would not result in a significant adverse impact to any geologic unit or local and regional geologic formations.

With the implementation of the Proposed Action Alternative, there would be approximately 78 acres of direct permanent impacts to soils. These include: 28 acres of

Tollhouse association soils, 25 acres of La Posta association soils, 8 acres of Rock land association soils, 4 acres of the Calpine soils, 3 acres of Carrizo soils, 5 acres of Kitchen Creek soils, and 5 acres of Mottsville association soils. These soils are common locally and regionally. Therefore, no significant impacts are expected.

Short-term impacts, such as increased runoff, to soils can be expected from the construction of roads; however, these impacts would be alleviated once construction is finished. Long-term effects to soils would be compaction from vehicles on new roads. Pre- and post-construction best management practices (BMPs) would be developed and implemented to reduce or eliminate erosion and downstream sedimentation. Compaction techniques and erosion control measures such as waterbars, gabions, straw bales, and the use of rip-rap or sediment traps would be some of the BMPs expected to be implemented.

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

3.3.2.3 Secure Fence Act Alignment Alternative

Under the Secure Fence Act Alignment Alternative, approximately 157 acres would be impacted to create the 130-foot enforcement zone. The 130-foot enforcement zone would be maintained clear of vegetation, thereby increasing the potential for soil to be impacted by wind and stormwater erosion. Additional post-construction BMPs would need to be implemented to reduce the potential for soil erosion. The same soil associations would be impacted as those presented for the Proposed Action Alternative. Although this alternative would create greater impacts to soils, these impacts would be considered minimal to moderate due to the impacted soils abundance locally and regionally.

3.4 HYDROLOGY AND GROUNDWATER

3.4.1 Affected Environment

Groundwater of the region was discussed in detail in the original EA (DHS 2003) and is incorporated herein by reference. The project 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 groundwater stored moves through the area through cracks and fractures (Nyman 2002). Groundwater in this system is replenished through rain and snow events. Groundwater for this project would be obtained from existing wells or wells that were previously planned for an analyzed in the DHS 2003 EA.

3.4.2 Environmental Consequences

The CEQA significance threshold for groundwater resources is:

- The action substantially depletes groundwater supplies, or interferes substantially with groundwater recharge such that there would be a net deficit in aquifer volume, or a lowering of the local groundwater table.

3.4.2.1 No Action Alternative

Upon implementation of the No Action Alternative no direct or indirect impacts to groundwater would be expected as no construction would occur.

3.4.2.2 Proposed Action Alternative

Water would be required for the 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 would be hauled into the project corridor from existing wells or wells that were previously analyzed in the DHS 2003 EA. The total amount of water that would be required to facilitate construction of the Proposed Action Alternative would be approximately 15 acre-feet. This 15 acre-feet could be consumed during the construction activities, which would be completed by December 2008. A hydrology

report conducted for the DHS 2003 EA is included in Appendix D, which provides specific details on the region's groundwater resources. Although groundwater would be used from within the project corridor, the area is adequately recharged via rains and snow-melt each year. Therefore, no significant impacts to groundwater or hydrology, locally or regionally, would occur upon implementation of this alternative.

3.4.2.3 Secure Fence Act Alignment Alternative

This alternative would require greater quantities of groundwater to be used versus the Proposed Action Alternative; however, the impacts would still be considered insignificant. An estimate of water needed to facilitate the construction of this alternative is approximately 30 acre-feet. The removal of 30 acre-feet within the basin would not significantly impact water resources locally or in the region due to the high recharge capability of the area (see Appendix D).

3.5 SURFACE WATERS AND WATERS OF THE U.S.

3.5.1 Affected Environment

Section 305(b) of the CWA requires each state to provide a list, known as the 303(d) List, which identifies those streams or lakes that do not meet one or more surface water quality standards. These waters are known as "impaired waters." The CWA requires California Environmental Protection Agency to develop Total Maximum Daily Loads (TMDLs) for impaired waters. The statute addresses how the department identifies impaired waters, develops TMDLs, and prepares implementation plans to achieve the needed pollution reductions in the watershed so that the impaired stream will meet applicable standards (U.S. Environmental Protection Agency [EPA] 1999). The list of water quality limited segments in the Tijuana River Watershed and their pollutants of impairment are provided in Table 3-1. No TMDLs have been reported by the EPA to California since October 1995 (EPA 2007a).

Table 3-1. 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 designation of beneficial uses for waters of the State of California is mandated by the Porter-Cologne Water Quality Control Act. Water quality for designated beneficial uses are protected by the state and should work in tandem with sections 303 and 305 of the CWA. 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.

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 (*eg.*, 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 a 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).

Section 404 of the CWA authorizes the Secretary of the Army, acting through USACE, to issue permits for the discharge of dredged or fill material into Waters of the U.S. (WUS), including wetlands. 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. Although no wetlands exist within the project corridor, six unvegetated tributary waters do occur that would be considered other WUS and are subject to regulation under Section 404 of the CWA. The location of these WUS are illustrated in Figure 3-1.

3.5.2 Environmental Consequences

The CEQA significance thresholds for water resources are:

- The action substantially increases the impairment of existing impaired waters or creates impairment of water bodies;
- The action substantially alters existing drainage patterns of the site or area, resulting in substantial erosion; and
- The action results in a permanent loss of a wetland or wetland function that can not be compensated.

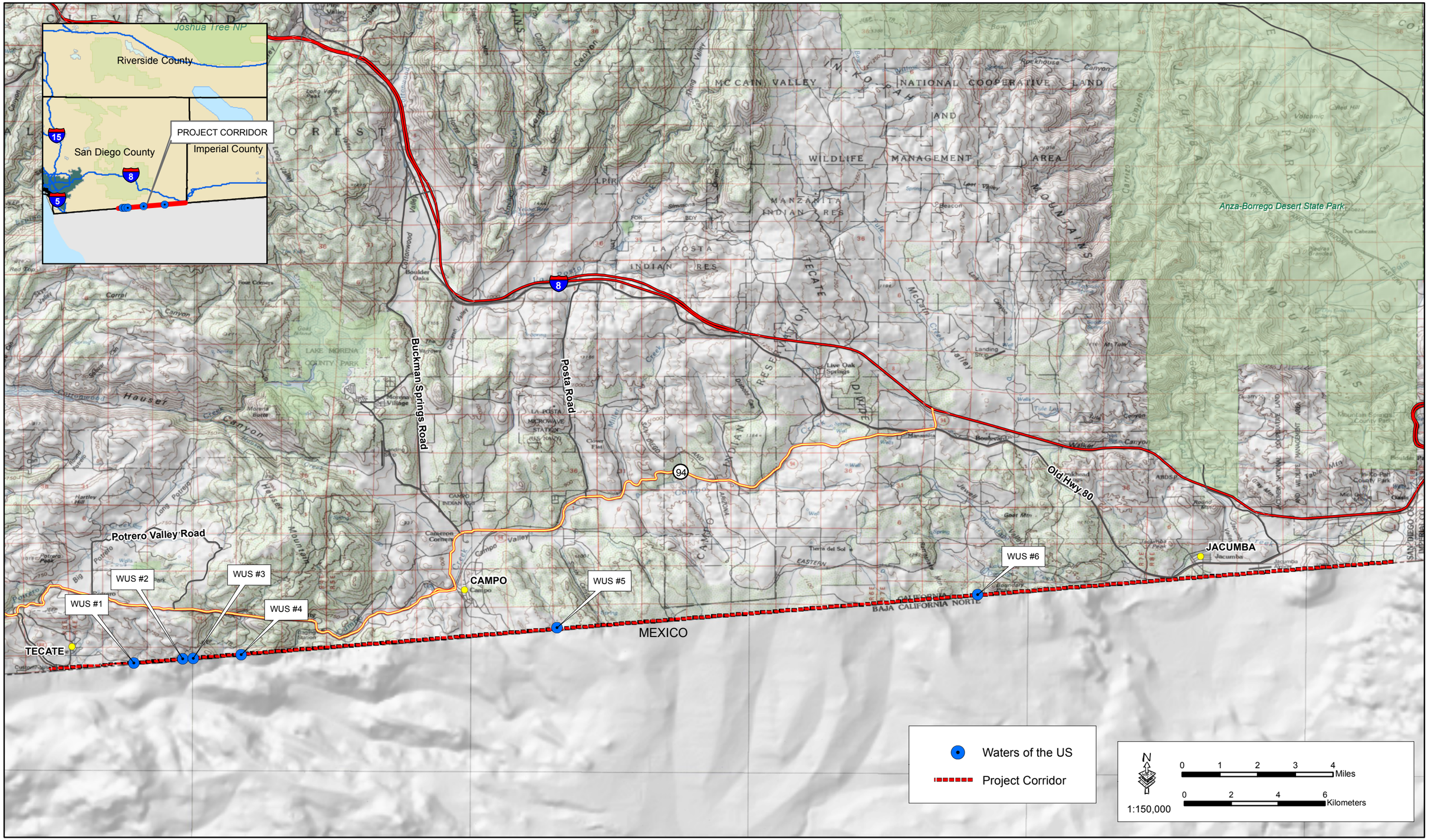

Figure 3-1: Waters of the US

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3.5.2.1 No Action Alternative

Under this alternative, no construction would occur; therefore, no direct impacts would be expected. Indirect impacts could occur as IAs continue to illegally cross the border resulting in subsequent USBP pursuits. These potential impacts could occur in the form of erosion and sedimentation of stream banks as a result of the IA traffic and pursuits.

3.5.2.2 Proposed Action Alternative

The Proposed Action Alternative would not result in a permanent impact to any perennial or intermittent streams, as none are present within the project corridor. As mentioned above, there are six potential jurisdictional ephemeral WUS identified during field surveys within the project corridor. These WUS would 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 impact to each WUS is presented in Table 3-2. As can be seen from the table, each of the crossings would be within the impact threshold (0.5 acre) for authorization under Section 404 Nationwide Permit (NWP) 14. Since the project sites are not connected and each has independent utility, each crossing would be considered a single and complete project. Still, the total impact of all six crossings would not exceed 0.5 acre. Once the final designs are completed, authorization under NWP 14 or 18 would be obtained from the USACE Los Angeles District Regulatory Division prior to construction in these drainages. In addition, a Section 401 Water Quality Certification would be obtained from the San Diego Regional Water Quality Control Board.

Table 3-2. Impacts to Potential Waters of the U.S.

Project 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 would not be changed due to implementation of the Proposed Action Alternative. In addition, rip-rap, rock, or other energy dissipating materials would be placed downstream of the proposed drainage structures to alleviate flow velocity, long term erosion, and downstream sedimentation.

Construction sites greater than 1 acre require a Storm Water Pollution Prevention Plan (SWPPP) as part of the NPDES permit process, which would be obtained prior to construction. During construction activities, water quality within ephemeral drains would be protected through the implementation of BMPs (*e.g.,* silt fences) as specified in the SWPPP. General BMPs routinely employed as part of CBP construction projects are described in Section 5.0. Additionally, although the exact design of the primary pedestrian fence is unknown at this time, the primary pedestrian fence would be designed and constructed in the washes that would ensure proper conveyance of floodwaters is achieved and that floodwaters are not backed up on either side of the border.

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

Indirect adverse impacts as a result of the Proposed Action Alternative could occur in ephemeral drains, during seasonal rain events, and would include stream channel sedimentation, stream bank erosion, and possible release of POLs into stream channels. These impacts could occur during the construction of stream crossings within the project corridor. However, equipment required for the construction activities would not be staged or maintained in or near any surface water resources to prevent surface water contamination from accidental POL spills that could occur.

The Proposed Action Alternative would also be expected to result in an indirect beneficial impact to WUS by reducing erosion and sedimentation associated with degraded road segments and off-road travel associated with vehicles deviating from road surface to avoid degraded road segments.

The Proposed Action Alternative would not result in severe erosion or sedimentation, nor would it substantially alter existing drainage patterns, or result in a violation of any Federal or state water quality standards. Through compliance with Sections 404 and 401 regulations and mitigation measures outlined in Section 5.0, the Proposed Action Alternative would not have a significant adverse impact on WUS or water quality. Therefore, no significant adverse impacts to surface water resources as a result of this alternative are expected.

3.5.2.3 Secure Fence Act Alignment Alternative

This alternative would result in greater impacts than the Proposed Action Alternative and would require either individual or pre-construction notification permits from the USACE Los Angeles District prior to construction within or near jurisdictional WUS. The impacts to surface waters associated with this alternative would be similar as those identified for the Proposed Action Alternative, except the construction footprint would be more than twice as large for the Secure Fence Act Alternative. Consequently, the anticipated amount of the impact to WUS would be doubled, when compared to the Proposed Action Alternative. Impacts from the use of portable lights would be the same as those presented in the Proposed Action Alternative. The same SWPPP requirements and mitigation measures proposed for Proposed Action Alternative would apply to this alternative. Therefore, no significant impacts to surface waters or WUS would be expected if this alternative were implemented.

3.6 FLOODPLAINS

3.6.1 Affected Environment

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. EO 11988 (Floodplain Management) (43 FR 6030) was enacted on May 24, 1977 to "avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative. EO 11988 directs all Federal agencies to reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by floodplains…" (USFWS 2002). Additionally, where the only practicable alternative is to site in a floodplain, a specific step-by-step process must be followed to comply with EO 11988 outlined in the FEMA document *Further Advice on EO 11988 Floodplain Management*. As a planning tool, the NEPA process incorporates floodplain management through analysis and public coordination of the EA.

Federal Emergency Management Agency (FEMA) floodplain maps were reviewed to identify project locations that would occur within mapped floodplains (FEMA 2007 and San Diego County 2007). The only location within the project corridor that falls within the 100-year floodplain is Krutzch's Hill (FEMA Map 06073C2275F). As depicted on Figure 3-2, the extreme eastern end of the project (approximately 110 feet) would extend into the 100-year floodplain of an unnamed drainage. In addition, the proposed road widening east of Krutzch's Hill would also occur within the 100-year floodplain.

Figure 3-2: FEMA Floodpain

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3.6.2 Environmental Consequences

The CEQA significance thresholds established for flooplains are:

- Any action that places structures within a 100-year flood hazard area, which would impede or redirect flood flows, would be significant.

3.6.2.1 No Action Alternative

Under the No Action Alternative, no direct impacts to floodplain areas would occur since no construction would take place. However, indirect impacts to floodplains could occur due to continued degradation of surface water channels from IA traffic and subsequent USBP pursuits.

3.6.2.2 Proposed Action Alternative

Although a portion of the proposed construction activities at Krutzch's Hill would fall within the 100-year floodplain, the primary pedestrian fence construction would be replacement of existing primary pedestrian fence and the road improvements would occur along existing roads. Therefore, no additional impediments to stream flow or increases in stormwater runoff would occur that could cause flood elevations or flood flow velocities to increase. Border infrastructure, by definition, must be on the border; therefore, no other practicable alternative location is available. Consequently, the proposed action would be in compliance with EO 11988. Indirect beneficial impacts from reducing erosion and sedimentation associated with degraded road segments would also be expected. No significant impacts would occur to floodplains as a result of implementing the Proposed Action Alternative.

3.6.2.3 Secure Fence Act Alternative

The impacts to floodplains associated with this alternative would be greater than those identified for the Proposed Action Alternative due to the larger construction footprint. However, through properly designed erosion and sediment controls and storm water management practices that would be implemented during construction activities, compliance with EO 11988 would still be expected. Additionally, as mentioned in Section 3.6.2.2 no other practical location than on the border is available for the

construction of border infrastructure. The same impacts as mentioned for the Proposed Action Alternative related to the use of portable lights would be expected as result of implementing this alternative. No significant impacts would be expected if this alternative were implemented.

3.7 VEGETATIVE HABITAT

3.7.1 Affected Environment

General information regarding vegetation within the project corridor and region was previously discussed in the DHS 2003 EA and is incorporated herein by reference. However, additional pedestrian surveys were conducted during October 2007 of each of the proposed project sites to identify specific community types, sensitive species, and habitat suitable to support sensitive species. Table 3-3 identifies the vegetation communities identified at each project site, although the vegetation at some sites observed during field surveys displayed a transition from one vegetation community to another. It should also be noted that these surveys were conducted immediately prior to the 2007 wildfires; much of the vegetation in the areas in and surrounding the proposed project sites have been destroyed by these fires.

Table 3-3. Vegetation Communities within the Project Area

Project Site	Vegetation Community
Krutzch's Hill	Disturbed
Cetis' Hill	Coastal Sage Scrub
East Brickyard to Gunsight	Coastal Sage Scrub
Horseshoe Canyon	Coastal Sage Scrub and Chamise Chaparral
East Bell Valley	Chamise Chaparral
Ag Loop	Chamise Chaparral
La Gloria Canyon	Mixed Chaparral and Coast Live Oak Woodland
West Smith Canyon	Mixed Chaparral
East Smith Canyon	Mixed Chaparral
Rattlesnake Ridge	Mixed Chaparral
West Boundary Peak	Chamise Chaparral
East Boundary Peak	Chamise Chaparral
7 Gates/Railroad	Disturbed
Willow Access Road	Mixed Chaparral

A description of the vegetation communities and specific plant species observed are described in the following paragraphs. 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 fasiculatum*), laurel sumac (*Rhus laurina*), and white sage (*Salvia apiana*) (Holland 1986). Plant species observed within the coastal sage scrub community included broom baccharis (*Baccharis sarothroides*), broom matchweed (*Gutierrezia californica*), peppergrass (*Lepidium* sp.), chalk-lettuce (*Dudleya pulverulenta*), caterpillar phacelia (*Phacelia cicutaria*), tocalote (*Centaurea melitensis*), and ripgut 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 are 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 included red shank (*Adenostoma sparsifolium*), holly-leaved cherry (*Prunus ilicifolia*), sugar bush (*Rhus ovata*), *Ceanothus* sp., Mexican manzanita (*Arctostaphylos pungens*), our Lord's candle (*Yucca whipplei*), yerba santa (*Eriodictyon crassifolium*), San Diego bushmallow (*Malocothamnus densiflorus*), Davidson's buckwheat (*Erigonum 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 to repeated fires, by which many species respond by stump sprouting (Holland 1986). Plant species observed during field

surveys within the mixed chaparral vegetation community included 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, *Ceanothus* sp., 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 included 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.

Disturbed vegetation communities occur along the existing border roads, including Krutzch's Hill, and along the 7 Gates/Railroad corridor. The communities along the border road occur as a very narrow strip. The vegetation along the railroad is very sparse and includes non-native, invasive species as well as some native species.

3.7.2 Environmental Consequences

The CEQA significance thresholds established for vegetation resources are:

- Any action that affects ecological processes, population size, population connectivity, migration, or individual fecundity to the extent that long-term viability of any species becomes threatened would be significant.

- Any action that results in the permanent loss or substantial degradation of sensitive or rare plant communities (*i.e.,* riparian habitats) would be significant.

3.7.2.1 No Action Alternative

Under the No Action Alternative, no road or primary pedestrian fence construction would occur at the project locations. Therefore, vegetation would not be directly impacted from construction; however, vegetation at the project sites and throughout the region would be indirectly impacted from continued IAs traffic which creates new trails through undisturbed areas. Increases in illegal foot and vehicle traffic would continue to result in damage to vegetation.

3.7.2.1 Proposed Action Alternative

With the implementation of the Proposed Action Alternative, there would be approximately 78 acres of vegetation permanently altered. Road widening would impact 8 acres of chamise chaparral, 16 acres of mixed chaparral, and 13 acres of disturbed vegetation. The new road construction would permanently impact 9 acres of mixed chaparral, 11 acres of chamise chaparral, 2 acres of mixed chaparral/coast oak woodlands, 6 acres of coastal sage scrub and 13 acres of disturbed vegetation. In addition, approximately 45 acres of temporary impacts would be expected due to staging areas. **Note: These areas have not been surveyed because of a lack of ROEs.** The staging areas would be rehabilitated upon completion of construction activities. These plant communities are both locally and regionally common. In addition, the permanent loss of 78 acres of vegetation would not adversely affect the population viability or fecundity of any floral or faunal species. Therefore, impacts are not expected to be significant.

The Proposed Action Alternative would also result in temporary indirect impacts to vegetation. Fugitive dust emissions resulting from construction would affect photosynthesis and respiration of plants within and adjacent to the project corridor. The magnitude of these effects would 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.

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

Beneficial indirect impacts, such as a reduction of native vegetation being damaged from illegal activities and consequent USBP enforcement activities, would occur as IAs and smuggling activities are reduced or potentially eliminated within the area. Conversely, areas outside of the project corridor could be indirectly impacted as IAs attempt to avoid detection and circumvent the proposed infrastructure. These impacts cannot be quantified at this time because IA patterns and migration routes are completely out of the USBP's control. However, the primary pedestrian fence would act as a force multiplier and allow USBP to deploy agents to areas without primary pedestrian fence; therefore minimizing potential adverse indirect impacts.

The Proposed Action Alternative is not expected to promote the establishment and spread of non-native and invasive species. Following construction, daily traffic and regular maintenance (twice a year) of the roads would impede the establishment of non-native and invasive species. Further, temporary impact areas would be rehabilitated by the USBP using native vegetation or the distribution of organic and geological materials in association with natural revegetation. Rehabilitation efforts of temporary impact areas would reduce the potential establishment of non-native and invasive species.

Through implementation of mitigation measures, such as those outlined in Section 5.0, the Proposed Action Alternative is not expected to promote the establishment of non-native and invasive plant species; therefore, this action would not have a significant impact on the spread of non-native and invasive species.

3.7.2.3 Secure Fence Act Alignment Alternative

Under the Secure Fence Act Alignment Alternative, approximately 157 acres of vegetation would be removed to accommodate the 130-foot enforcement zone required for the primary and secondary fences and associated patrol road. These vegetation communities are all common regionally but there would be a greater loss of vegetation due to the larger footprint from this alternative. All other impacts would be similar to those discussed for the Proposed Action Alternative. The potential impacts would be considered minimal to moderate.

3.8 WILDLIFE AND AQUATIC RESOURCES

3.8.1 Affected Environment

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 occur in spring and fall when neotropical migrants (*e.g.*, flycatchers and warblers) pass through on their way to either summer breeding or wintering grounds and during winter when summer resident birds (*i.e.*, robins, kinglets, and sparrows) from the north arrive to spend the winter. 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 during field visits conducted in October 2007 within the project corridor 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*).

3.8.2 Environmental Consequences

Significance thresholds established for wildlife resources are:

- Conflict with the provisions of am adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved Federal, state or local habitat conservation plan.
- Substantial interference with the movement of any native, resident, or migratory fish or wildlife species, or with established native resident, or migratory wildlife corridors, or impedance of the use of native wildlife nursery sites.

3.8.2.1 No Action Alternative

No impacts to fish and wildlife resources would occur as a result of the implementation of the No Action Alternative because no construction activities would occur. However, indirect adverse impacts to wildlife from continued illegal traffic degrading habitat would occur and could potentially increase.

3.8.2.2 Proposed Action Alternative

Approximately 78 acres of wildlife habitat would be permanently impacted from the Proposed Action Alternative. These impacts would be considered negligible as some of the project components occur in near and within previously disturbed areas (*e.g.,* road widening), the proposed infrastructure is proposed near existing infrastructure, and the

wildlife habitat is locally and regionally common. Temporary impacts to 45 acres of wildlife habitat would occur due to staging areas. The staging areas would be rehabilitated upon completion of the construction activities; therefore, any impacts as a result of the staging areas are not considered significant.

The Proposed Action Alternative would not have direct impacts to fish or other aquatic species, because the proposed construction activities would not take place in naturally flowing or standing water. Mitigation measures would be implemented for construction in or near washes as stated in Section 5.0 and follow the measures described in the project's SWPPP to reduce potential impacts to riparian areas from erosion or sedimentation.

Mobile animals (*e.g.,* birds) would 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 to wildlife species in the vicinity of the project corridor are expected. Although some animals may be lost, this alternative would 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 would be implemented to ensure that no "take" of migratory birds occurs if this alternative is implemented, in accordance with the Migratory Bird Treaty Act (MBTA).

Although the primary pedestrian fence could preclude transboundary migration patterns of animals, especially larger mammals (*e.g.,* mule deer), and thus fragmenting habitat within the project corridor, these impacts would 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 designs in the washes, which would be used to convey flood flows, would also allow the transboundary migration of reptiles, amphibians, and small mammals and, thus, reduce the fragmentation effects. Wildlife would also still be able to migrate across the U.S.-Mexico border either to the east or west of the project

components. In addition, the species located within the project corridor which could be affected by fragmentation are regionally common in both the U.S. and Mexico. Therefore, no significant adverse effects are anticipated to the region's wildlife population.

Additionally, short-term impacts to wildlife species (*e.g.,* mule deer, red-tailed hawk, desert cottontail, and California towhee) from increased noise during construction activities could occur. 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 would 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 would be conducted during daylight hours to the maximum extent practicable, short-term impacts of noise on wildlife species are expected to be insignificant.

Impacts to wildlife resulting from the operation of the portable lights could potentially occur. Some species, such as insectivorous bats, may benefit from the concentration of insects that would be attracted to the lights. However, the proposed portable lights would only illuminate a minimal amount of area (200 feet per light), would be fitted with backlighting shields, would not shine into riparian areas, and would be temporary. The adverse and beneficial effects of lighting on reptiles and amphibians are currently unknown (Rich and Longcore 2006). However, due to the temporary exposure to light as a result of the proposed project, circadian rhythms in mammals and birds would not be significantly altered. This artificial lighting may cause activity levels of in diurnal

animals to increase; however, any increase would not create significant impacts (Rich and Longcore 2006). It is anticipated that the temporary lights would not operate any longer that 4 weeks in one location, no more than 0.5-mile of lights would be in operation at any one time, and no more than 10 lights would be used at once at each project location. Wildlife would not be exposed to a nighttime lighting source once the project is complete. Therefore, no significant impacts to wildlife are expected as a result of the operation of portable lights.

The Proposed Action Alternative would not significantly impact wildlife resources because construction activities would not conflict with the provisions of conservation plans or interfere with the wildlife movements. The project sites are located within BLM lands or private lands and would not affect the BLM South Coast Resource Management Plan as mentioned in Section 3.2.2.2.

Indirect adverse impacts to wildlife habitat adjacent to the project corridor could occur as IAs attempt to circumvent the proposed infrastructure. It is possible for IAs to attempt illegal entry outside of the project corridor. However, the primary pedestrian fence would act as a force multiplier and allow USBP to deploy agents to areas without pedestrian barriers, minimizing potential adverse indirect impacts. Beneficial indirect impacts would be expected from the protection afforded to areas to the north of the project corridor due to the implementation of Proposed Action Alternative.

3.8.2.3 Secure Fence Act Alignment Alternative

Impacts would be similar to the Proposed Action Alternative, but the amount of wildlife habitat impacted would be greater. Anticipated stresses to wildlife (*e.g.,* mule deer, red-tailed hawk, desert cottontail, and California towhee) caused by construction activities (*e.g.,* noise) would be expected. The implementation of the Secure Fence Act Alignment Alternative would result in approximately 157 acres of wildlife habitat permanently altered. The implementation of the Secure Fence Act alignment would require a 130-foot wide corridor that would be devoid of vegetation to accommodate the primary and secondary fences and the patrol road between them. Vegetation within this

corridor would be permanently removed and maintained as such, for agent safety reasons and to reduce concealment opportunities, in the event the primary pedestrian fence is breached. All other impacts would be similar to those discussed for the Proposed Action Alternative. Minimal to moderate impacts would be expected.

3.9 THREATENED AND ENDANGERED SPECIES

3.9.1 Affected Environment

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 discussed in the DHS 2003 EA; thus, this information is incorporated herein by reference. A full list of Federally and state threatened and endangered species occurring within San Diego County can be found in Appendix E.

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 (*Polioptila californica californica*), Quino checkerspot butterfly (*Euphydryas editha quino*), arroyo toad (*Bufo microscaphus californicus*), Otay tarplant (*Hemizonia conjugens*), willowy monardella (*Monardella linoides* ssp. *viminea*), Encinitas baccharis (*Baccharis vanessae*), and San Diego thornmint (*Acanthomintha ilicifolia*).

Biological surveys were completed for each portion of the proposed project 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 most recent surveys were not conducted during the proper season or in accordance with USFWS protocol. Thus, only habitat assessments could be made to determine the presence of suitable habitat.

There is little potential for the least Bell's vireo or the arroyo toad to occur on or near the project sites due to the lack of suitable habitat. Boundary Creek, near the Willows

project site, has had historic records of arroyo toads further north (upstream). However, suitable habitat for the coastal California gnatcatcher was observed at 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 great 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.

There is potential for the Quino checkerspot butterfly to occur throughout the project corridor. In addition, the 7 Gates/Railroad, Willow Access, and Willows primary pedestrian fence conversion project sites, are located within designated critical habitat for the Quino checkerspot butterfly. However, the primary host plant for the butterfly, *Plantego erecta*, was not observed at any of the project sites during October 2007 field visits. Vegetation within the 60-foot Roosevelt Reservation at the Willows Fence conversion site has been removed by past construction projects and on-going public and USBP vehicle traffic. Consequently, no primary constituent elements for the Quino checkerspot butterfly occurs within this specific project reach.

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 biological surveys.

The Wildlife and Habitat Data Analysis Branch of the California Department of Fish and Game (CDFG) Department maintains lists of Wildlife of Special Concern. This list includes species whose occurrence in California is or may be in jeopardy, or with known or perceived threats or population declines. The California Natural Diversity Database (CNDDB) is a statewide inventory of the locations and condition of the state's rare species and natural communities. These species are not necessarily the same as those protected by the Federal government under the ESA.

The CDFG currently list 99 species that are considered endangered, threatened, or species of concern within San Diego County (CNDDB 2007). Only species that are

designated state endangered or threatened have state laws protecting them. The CNDDB indicated no known locations of Federally listed species within 1 mile of the project sites (CNDDB 2007); however, numerous state listed species have been reported near the project corridor, as shown in Figure 3-3 and 3-4.

The BLM Manual 6840 provides policy and guidance, consistent with appropriate laws, 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 ESA; those listed by a state in a category such as threatened or endangered implying potential endangerment or extinction; and those designated by each 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 on the list provided in Appendix E.

3.9.2 Environmental Consequences

The threshold of significance established for this analysis for threatened and endangered species is:

- The action has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a sensitive or special-status (*i.e.*, threatened or endangered) in local or regional plans, policies or regulations by the USFWS and CDFG which cannot be mitigated.

3.9.2.1 No Action Alternative

The No Action Alternative would not directly impact any protected species as no construction activities would occur. However, indirect adverse impacts to protected species, such as habitat degradation as a result of continued illegal traffic, would occur and could potentially increase.

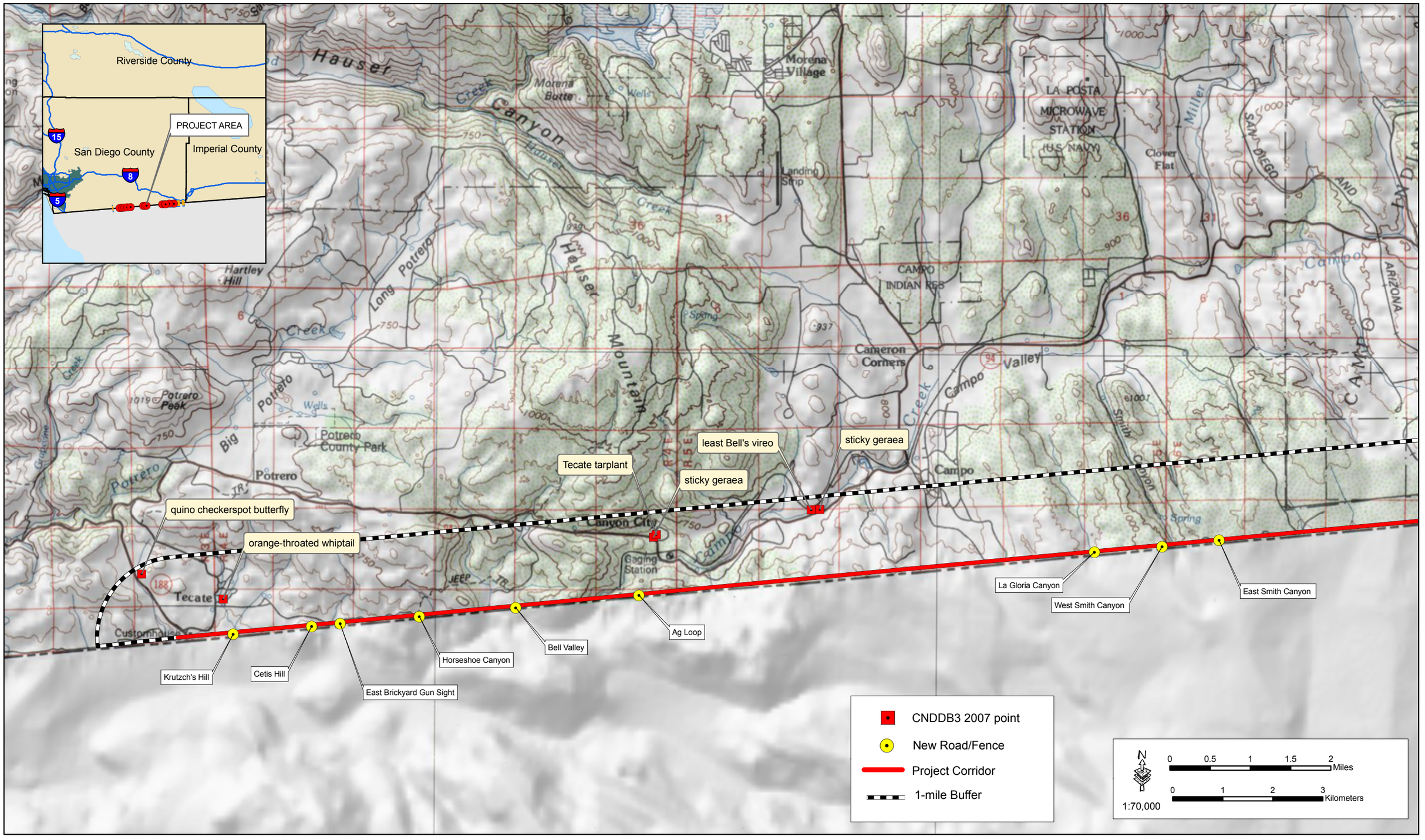

Figure 3-3 Proposed Action & CNDDB Map 1

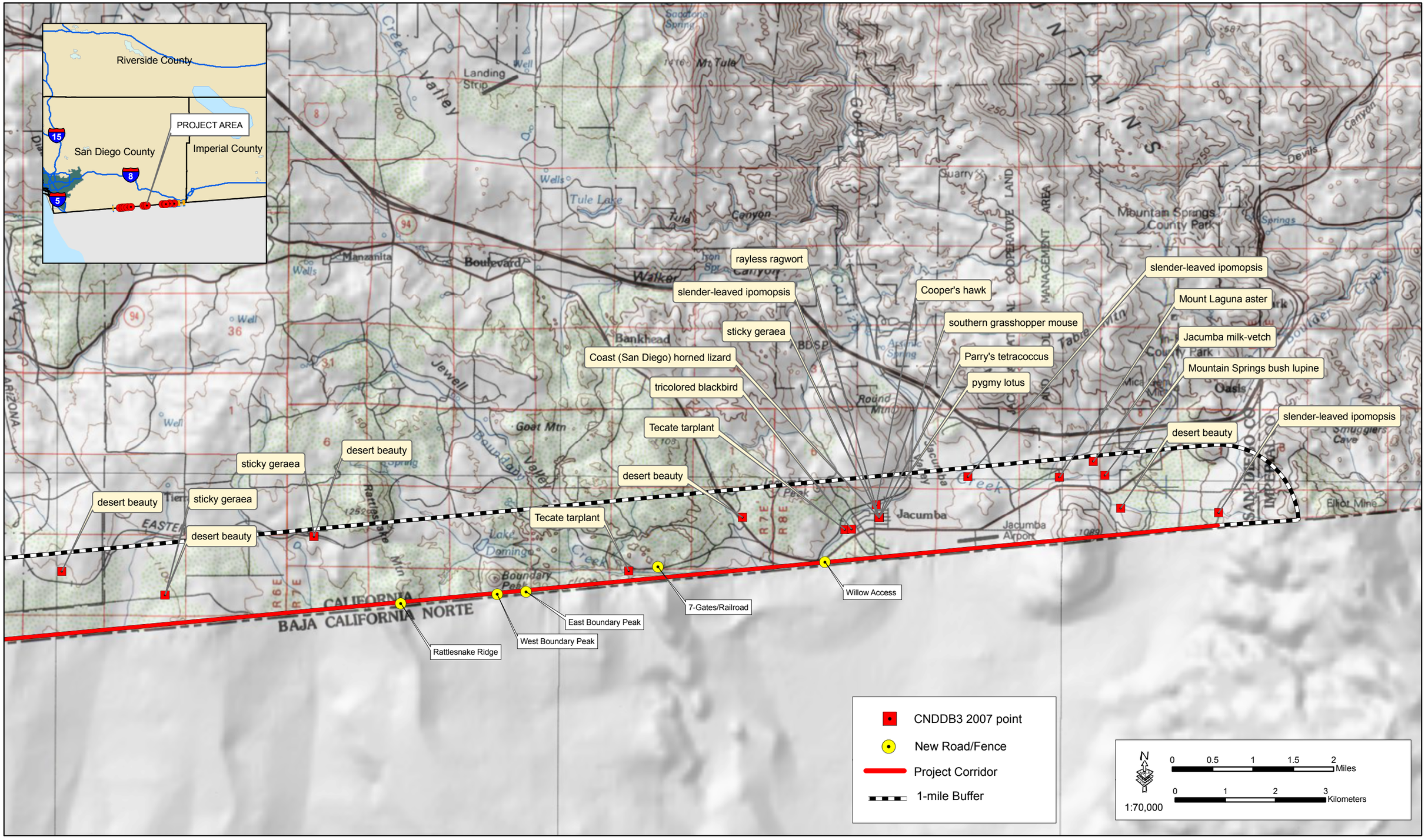

Figure 3-4: Proposed Action & CNDDB Map 2

3.9.2.2 Proposed Action Alternative

The Proposed Action Alternative has the potential to adversely affect the coastal California gnatcatcher and the Quino checkerspot butterfly. Although suitable habitat exists throughout the project corridor for the butterfly, only three of the project sites, Horseshoe Canyon, East Brickyard to Gunsight, and Cetis' Hill supported coastal sage scrub vegetation that is utilized by the coastal California gnatcatcher. East Brickyard to Gunsight and Cetis' Hill are highly disturbed due to wildfires that had occurred prior to the biological surveys, and are in proximity to developed areas along the border. Therefore, the habitat that currently exists at these sites is considered low quality.

Conversely, based upon current design concepts, 5 acres of mixed coastal sage scrub and chamise chaparral habitat would be impacted at the Horseshoe Canyon project site. 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.

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

Potential habitat for the least Bell's vireo and the southwestern willow flycatcher is located along Boundary Creek, south of the 7 Gate/Railroad project site. Noise created during construction activities at this project site could have an impact on either species, if they are indeed present. However, due to the temporary nature of the construction combined with the fact that the railroad is currently active, USBP has determined that

the Proposed Action Alternative may affect but is not likely to adversely either the least Bell's vireo or the southwestern willow flycatcher.

As mentioned above, suitable habitat for the Quino checkerspot butterfly exists throughout the project corridor. However, during recent biological surveys the primary host plant, *Plantago erecta*, was not observed. Regardless, the loss of potential habitat for the butterfly is likely to create adverse impacts to the butterfly. Formal consultation with the USFWS has been initiated to address adverse impacts to both species.

No effects to any other Federally protected species are expected as the project sites either lacks 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 not anticipated to occur to any state listed species. The Tecate cypress is located within the footprint of the Willows Access Road and would be permanently impacted. Up to eight specimens of Tecate cypress would be impacted by the construction of the Willows Access road, depending upon the final road design and alignment. This loss, however, would not be considered a long-term, significant impact to this species' population. The design of the road would be developed to avoid these specimens to the maximum extent practicable.

Indirect adverse impacts to potentially suitable habitat for protected species along the southwest border could occur due to IAs shifting their activities in order to avoid apprehension. It is impossible, however, for USBP to determine how much of the illegal traffic currently entering the project corridor would shift either to the east, west, or be eliminated completely. The implementation of the Proposed Action Alternative would reduce or eliminate illegal traffic north of the primary pedestrian fence within the project corridor, protecting habitat that could otherwise be disturbed and permanently degraded. Further, because the primary pedestrian fence would act as a force multiplier, USBP would be able to deploy agents to those areas without primary

pedestrian fence, thereby minimizing any potential indirect impacts to protected species habitat.

Construction activities would impact 0.2 acre at the Willow Access Road and 11 acres at the 7 Gates/Railroad Road, which is located within Quino checkerspot butterfly critical habitat. Although 7 Gates/Railroad is located within critical habitat, the area is currently disturbed due to the existing railroad right-of-way and previous road construction. Therefore, it is the USBP's determination that there would be adverse modification to only 0.2 acre of Quino checkerspot butterfly critical habitat located at the Willow Access Road. Formal consultation with USFWS would be conducted to create mitigation measures to reduce adverse affects to the butterfly and to offset the modification of 0.2 acre of critical habitat.

Since implementation of the Proposed Action Alternative would result in significant impacts to threaten or endangered species, from a CEQA standpoint, mitigation would be required to reduce these impacts to less than significant. Impacts to individual specimens or suitable habitat that could potentially support protected species would be offset by mitigation measures that are currently being negotiated with the USFWS.

3.9.2.3 Secure Fence Act Alternative

The Secure Fence Act Alignment Alternative would have greater impacts to the coastal California gnatcatcher and Quino checkerspot butterfly due to the larger construction footprint and enforcement zone required under this alternative. The impacts associated with this alternative could potentially be significant and additional surveys and subsequent NEPA documentation would be required to properly analyze the significance of the potential impacts.

3.10 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

3.10.1 Affected Environment

Cultural, historical, and archaeological resources were previously discussed in the DHS 2003 EA and therefore are 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 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 of that parallels the WPLT has been classified by Moratto as a "Paleo-Coastal Tradition," which is seen as including 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 frequent 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 ranchero system. Mexico held this area of California until the end of the Mexican-American War with the signing of the Treaty of Guadalupe-Hidalgo in 1848 and ceded California 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 within the 7 Gates/Railroad project area. The last passenger train operated in 1951; however, the railroad is still used today for hauling freight.

3.10.1.1 Previous Archaeological Investigations

A site record search was conducted by the South Coastal Information Center (SCIC) at San Diego State University 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 database 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 twentieth-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 consisted of a prehistoric lithic scatter of three to four flakes, the other consisted of a single bedrock milling feature with one grinding surface and no associated artifacts or subsurface midden. The records search also indicated that 31

previously conducted archaeological investigations have occurred within 1 mile of the proposed project area. Three of these projects appear to overlap the current project area.

3.10.1.2 Current Archaeological Investigation

A Class III cultural resources survey was conducted within the APE of the proposed project. The cultural resources survey identified two prehistoric cultural resources and two historic cultural resources. The first 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 meters north/south. No artifacts, other features, or evidence of subsurface cultural deposits were found associated with these features. This site is not considered eligible for either the State or National Registers of Historic Places (NRHP). The second prehistoric cultural resource recorded consisted of a single retouched flake. No other artifacts or features were found associated with this isolate. The isolate is not eligible for either the State or NRHP lists.

The two historic cultural resources identified were International Boundary Monuments No. 243 and No. 235. Both of these historic objects are considered eligible for the NRHP and are, therefore, considered significant cultural resources. 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 Chihuaha 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.

3.10.2 Environmental Consequences

The CEQA significance thresholds established for cultural resources are:

- Any action that would alter characteristics that qualify a historic property for the NRHP or diminish the historic property's integrity.
- Any action that would disturb any human remains, including those interred outside of formal cemeteries.

3.10.2.1 No Action Alternative

No direct impacts to cultural resources are expected, as no construction activities would occur. However, indirect adverse impacts to cultural resources as a result of continued IA traffic disturbing cultural resources north of the project corridor could occur, and could potentially increase.

3.10.2.2 Proposed Action Alternative

The two prehistoric cultural resources identified are not considered to be eligible for listing on the NRHP and are, therefore, not considered significant cultural resources. Two historic objects, International Boundary Monument numbers 243 and 235, are located within the project corridor and could be potentially affected by the Proposed Action Alternative. The historic objects are considered eligible for listing on the NRHP and are considered significant cultural resources. Mitigation measures to avoid adverse impacts to these cultural resources are outlined in Section 5.0 of this document. These measures, as well as other potential mitigation measures developed through consultation with the California SHPO and BLM would assure that no adverse impacts would occur to these cultural resources. Additionally, all Federally recognized tribes with affiliation to the project corridor have been coordinated with regarding the proposed project. To date, no comments have been received from any tribes.

As a result, the Proposed Action Alternative would not result in significant impacts on cultural resources provided mitigation measures, which would be identified through the Section 106 process, are properly implemented.

3.10.2.3 Secure Fence Act Alternative

This alternative has the potential for significant impacts to cultural, historic, or archaeological resources and would need additional surveys and analysis if this alternative were ultimately selected. Section 106 compliance would need to be reinitiated as well.

3.11 AIR QUALITY

3.11.1 Affected Environment

Information regarding air quality within the project corridor was discussed and described in the DHS 2003 EA and is incorporated by reference herein. In California, attainment is classified for both National Ambient Air Quality Standards (NAAQS) established by the EPA and the California Ambient Air Quality Standards. In addition to being classified as "non-attainment," the degrees of non-attainment are divided into categories indicating the severity. Degrees of non-attainment include marginal, moderate, serious, severe, or extreme.

The NAAQS are included in Table 3-4. Areas that do not meet these standards are called non-attainment areas; areas that meet both primary and secondary standards are known as attainment areas. The California Applicant's Attorneys Association of 1990 established new deadlines for the achievement of NAAQS, depending on the severity of non-attainment. San Diego County is classified as a moderate non-attainment area for carbon monoxide (CO) and the 8-hour ozone (O_3) (EPA 2007b). 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 O_3. CO in San Diego County is a result of combustion by-products produced by cars, trucks, and industrial operations utilizing petroleum for energy needs.

Table 3-4. National Ambient Air Quality Standards

POLLUTANT	STANDARD VALUE*	STANDARD TYPE
CO		
8-hour average	9 ppm (10mg/m^3)	P
1-hour average	35 ppm (40mg/m^3)	P
Nitrogen Dioxide		
Annual arithmetic mean	0.053 ppm (100μ/m^3)	P and S
O_3		
1-hour average	0.12 ppm (235μg/m^3)	P and S
8-hour average	0.08 ppm (157μg/m^3)	P and S
Lead		
Quarterly average	1.5 μg/m^3	P and S
Particulate<10 micrometers (PM-10)		
Annual arithmetic mean	50 μg/m^3	P and S
24-hour average	150 μg/m^3	P and S
Particulate<2.5 micrometers (PM-2.5)		
Annual arithmetic mean	15 μg/m^3	P and S
24-hour Average	65 μg/m^3	P and S
Sulfur Dioxide (SO_2)		
Annual arithmetic mean	0.03 ppm (80μg/m^3)	P
24-hour average	0.14 ppm (365μg/m^3)	P
3-hour average	0.50 ppm (1300μg/m^3)	S

Source: EPA 2006
Legend: P = Primary S = Secondary
ppm = parts per million mg/m^3 = milligrams per cubic meter
μg/m^3 = micrograms per cubic meter
*Parenthetical value is an approximate equivalent concentration.

According to 40 CFR 51.853(b), Federal actions require a Conformity Determination for each pollutant where the total of direct and indirect emissions in a non-attainment or maintenance area caused by a Federal action would equal or exceed any of the rates in paragraphs 40 CFR 51.853(b)(1) or (2). If emissions from a Federal action do not exceed *de minimis* thresholds, and if the Federal action is not considered a regionally significant action, it is exempt from further conformity analysis. Although San Diego County is in non-attainment for CO and 8-hour O_3, the project area is located outside of the City of San Diego and within remote locations that have great wind dispersal patterns.

3.11.2 Environmental Consequences

The CEQA significance thresholds established for air quality are:

- Any action that conflicts with or obstructs implementation of the applicable air quality plan.
- Any action that violates any air quality standard or contributes substantially to an existing or projected air quality violation.
- Any action that exposes sensitive receptors to substantial pollutant concentrations.

3.11.2.1 No Action Alternative

No impacts to air quality are expected as no construction activities would occur. However, indirect adverse impacts to air quality from IA traffic and subsequent USBP enforcement activities would occur, and could potentially increase.

3.11.2.2 Proposed Action Alternative

A minimal short-term increase in local air pollution would be expected from primary pedestrian fence and road construction. Temporary increases in air pollution would be from the use of construction equipment, portable lights, and fugitive dust. Due to the short duration of the individual projects, any increases or impacts on ambient air quality during construction activities are expected to be short-term and can be reduced further through the use of standard dust control techniques, including roadway watering and chemical dust suppressants, such as PennzSuppress® or an equivalent product. During the construction of the proposed project, proper and routine maintenance of all vehicles and other construction equipment would be implemented to ensure that emissions are within the design standards of all construction equipment. Air emissions from the Proposed Action Alternative would be temporary and would not significantly impair air quality in the region.

Calculations were performed to estimate the total air emissions from the construction activities. Calculations were made for standard construction equipment such as bulldozers, generators, excavators, pole trucks, front end loaders, back hoes, cranes, and dump trucks using emission factors from EPA approved emission model NOROAD

6.2. See Appendix F for air quality calculations. 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. The assumptions, emission factors, and resulting calculations are presented in Appendix F.

Fugitive dust calculations were made for soil disturbance while installing primary pedestrian fence, constructing new roads and grading and constructing the re-alignment of the all weather patrol road. A significant amount of dust can arise from the mechanical disturbance of surface soils. Dust generated from these open sources is termed "fugitive" because it is not discharged to the atmosphere in a confined flow stream. Fugitive dust emissions were calculated using emission factors from Mid-Atlantic Regional Air Management Association (2006).

Impacts from combustible air emissions from Office of Border Patrol traffic are expected to be the same before and after the proposed construction activities. Construction workers will temporarily increase the combustible emissions in the air shed during their commute to and from the project area. Their emissions were calculated in the air emission analysis (Appendix F) and are included in the totals in Table 3-5.

Table 3-5. Total Air Emissions (tons/year) from Construction Activities vs. de minimis Levels

Pollutant	Total (tons/year)	*de minimis* Thresholds (tons/year)
Carbon Monoxide	42.45	100
Volatile Organic Compounds	9.61	100
Nitrogen Oxides	77.39	100
PM-10	22.70	NA
PM-2.5	9.72	NA
Sulfur Dioxide	9.31	100

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

The total air quality emissions, as presented in Appendix F, were calculated to determine the applicability of the General Conformity Rule. A summary of the total emissions are presented in Table 3-5. As can be seen from this table, the proposed construction activities do not exceed *de minimis* thresholds and, thus, do not require a

Conformity Determination. As there are no violations of air quality standards and no conflicts with the state implementation plan, there would be no significant impacts to air quality from the implementation of the Proposed Action Alternative.

Dust and small rock fragments would be emitted into the air during blasting detonation; however, this would be expected to immediately settle and fall to the ground causing no significant or long-term negative impacts to air quality. CO would be the most important factor on air quality in the area. This gas would be produced during detonation, depending on the type and amount of explosives used for the activities (MEMCL 1999). Transporting winds would facilitate dispersion and alleviate high concentrations of CO in the project area. Furthermore, the blasting contractor would be required to use BMPs to ensure minimal fugitive dust and other emission impacts from the blasting. No long-term impacts are expected if this alternative is chosen.

Diesel generators would be used to power the portable lights. These generators would cause low amounts of air emissions. These amounts would be below the *de minimis* threshold (*i.e.*, 100 tons per year) and, thus, would not violate National or state standards. If a 24-hour work schedule is needed then the portable lights would operate throughout the night. However, these portable lights would be temporary and as construction activities are completed within a particular area the lights would be relocated to the new area. Furthermore, a 24-hour schedule would only occur if unforeseen circumstances occur or additional work crews become available. Regardless, the impacts from the operation of the lights would be temporary as the lights would be eliminated from the project area upon cessation of the project. Thus, no significant impacts to air quality in the region would occur as a result of operating portable lights.

Indirect impacts to air quality due to the shifting of illegal traffic in order to avoid the proposed infrastructure is possible; however, it is unknown where IAs would choose to breach the U.S.-Mexico border. Therefore, it is impossible for the USBP to determine

how much of the illegal traffic currently entering the project corridor would shift either to the west or be eliminated completely.

The Proposed Action Alternative would not conflict with any air quality plans, violate air quality standards, or expose sensitive receptors to pollutants. Therefore, no significant impacts are expected.

3.11.2.3 Secure Fence Act Alternative

This alternative would have similar impacts to those discussed as the Proposed Action Alternative. However, these impacts would be greater due to the increased size of the project footprint. If this alternative were ultimately selected, moderate to major amounts of blasting would potentially have to occur in order to construct the enforcement zone. As with the Proposed Action Alternative, the blasting contractor would be mandated to use BMPs to ensure minimal impact to air quality from blasting. No long-term impacts or significant impacts would be expected if this alternative is chosen. The Secure Fence Act Alternative air quality emissions were calculated in Appendix F and a summary of the calculations are presented in Table 3-6.

Table 3-6. Total Air Emissions (tons/year) from Construction Activities vs. de minimis Levels

Pollutant	Total (tons/year)	*de minimis* Thresholds (tons/year)
Carbon Monoxide	49.68	100
Volatile Organic Compounds	10.66	100
Nitrogen Oxides	90.52	100
Particulate Matter <10 microns	31.39	NA
Particulate Matter <2.5 microns	12.14	NA
Sulfur Dioxide	11.61	100

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

3.12 NOISE

3.12.1 Affected Environment

Noise is generally described as unwanted sound, which can be based either on 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 and has been adopted by most Federal agencies (EPA 1972; FICON 1992).

Several examples of noise pressure levels in decibel – A weighted scale (dBA) are listed in Table 3-7. A DNL of 65 dBA is the level 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 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 3-7. 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	

Some noise levels are continuous sounds (*i.e.,* 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.

3.12.2 Environmental Consequences

The CEQA significance thresholds established for noise are:

- Any action that would result in a substantial permanent increase in ambient noise levels in the project vicinity above existing levels without the project.
- Any action that would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels without the project.

3.12.2.1 No Action Alternative

No noise impacts would occur as a result of the No Action Alternative because construction activities would not occur. However, indirect temporary, increases in noise levels from illegal traffic and consequent USBP enforcement activities would be expected to continue and possibly increase in frequency of occurrences.

3.12.2.2 Proposed Action Alternative

Noise levels created by the transport of construction vehicles, construction equipment, and construction activities would vary depending on several factors, such as climatic conditions, season, and the condition of the equipment. All construction and transport activities would occur during daylight hours. Noise levels would decrease to an inaudible level as the distance between the construction activities and potential noise receptors increases. Table 3-8 describes noise emission levels for construction equipment which range from 73 dBA to 82 dBA (Federal Highway Administration [FHWA] 2007).

Table 3-8. 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

Two residences are located near the 7 Gates/Railroad area that are considered sensitive noise receptors. Within the remainder of the project corridor, no sensitive noise receptors exist. Construction activities would create temporary and minor increases in ambient noise levels. Blasting contractors would be mandated to establish BMPs that would ensure that any blasting activities would have minimal noise impacts locally and regionally. Nighttime construction would be restricted along the 7 Gates/Railroad project site to avoid disturbances to the local residents.

Assuming the worst case scenario of 82 dBA for a bull dozer, as would be the case during the road construction along the project corridor, all areas within 350 feet of the project corridor would have noise levels exceeding 65 dBA. Construction noise levels would 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 the time of year. Noise impacts would detract from the undeveloped characteristics of the project corridor. However, this level of noise is expected to be minimal as it would be localized and be expected to return to pre-project conditions at the completion of construction. Therefore, noise impacts would be temporary and no significant impacts to ambient noise levels would occur.

3.12.2.3 Secure Fence Act Alternative

This alternative would have greater impacts to ambient noise levels in the project corridor due to the increased footprint, construction activities, and amount of

disturbance. This alternative would require more blasting and clearing than the Proposed Action Alternative; however, the impacts associated with this alternative would similar to the Proposed Action Alternative. Noise levels and impacts along the 7 Gates/Railroad project site would be the same as that described for the Proposed Action Alternative, since no primary pedestrian fence would be installed in this area. The impacts would be considered minimal to moderate and would be short-term. Ambient noise levels would return to pre-construction levels upon completion of the project. No significant impacts to noise levels regionally would be expected if this alternative were chosen.

3.13 AESTHETIC AND VISUAL RESOURCES

3.13.1 Affected Environment

Visual and aesthetic resources were discussed in the DHS 2003 EA and are incorporated by reference herein. 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 or group of individuals' judgment as to whether or not an object is pleasing, and/or would 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 manmade features in the project area that create any different visual landscapes than those described above.

3.13.2 Environmental Consequences

The CEQA significance threshold for aesthetics is:

- The action substantially and permanently degrades the existing visual character or quality of the region.

3.13.2.1 No Action Alternative

No impacts to aesthetics would occur upon implementation of the No Action Alternative as no construction activities would occur. However, indirect adverse impacts to aesthetics as a result of IAs trampling vegetation and leaving trash and debris would continue and possibly increase.

3.13.2.2 Proposed Action Alternative

The construction of primary pedestrian fence and road would create adverse impacts to aesthetics of the project corridor. However, the proposed TI projects are extending existing road and fences, which has 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. A short-term, minimal impact to aesthetics would occur during construction by the presence of construction equipment and use of portable lighting. The Proposed Action would not substantially or permanently degrade the existing visual character of the region; thus, there would be no long term significant adverse impacts.

Indirect adverse impacts related to the possibility of IAs circumventing the proposed primary pedestrian fence would be similar to those mentioned previously. Beneficial indirect impacts would be expected as the primary pedestrian fence would substantially reduce or eliminate IA traffic and associated trash and illegal trails in the project corridor.

3.13.2.3 Secure Fence Act Alternative

This alternative would have minimal to moderate impacts on aesthetics and visual resources as all areas within the project corridor would consist of an enforcement zone 130-feet wide with a double fence. However, as stated above, the project corridor is interlaced with existing infrastructure, illegal trails, and debris left by IAs. Although there would be minimal to moderate impacts upon implementation of this alternative, because of the existing infrastructure, debris, and illegal trails, these impacts would not be considered significant.

3.14 HAZARDOUS MATERIALS

3.14.1 Affected Environment

EPA's mission is to protect humans and the environment and work to develop and enforce regulations that implement environmental laws enacted by Congress (from such legislation as the Resource Conservation and Recovery Act of 1976 and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980). The 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 proposed project corridor (EPA 2007c, 2007d). 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.

3.14.2 Environmental Consequences

The CEQA significance thresholds for hazardous materials are:

- Any action that creates a hazard to the public or the environment through routine transport, use, or disposal of hazardous materials.
- Any site location which is included on a list of hazardous materials sites and as a result would create a significant hazard to the public or the environment.
- Any action that would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

3.14.2.1 No Action Alternative

No impacts regarding hazardous or solid waste are expected, as no construction activities would occur.

3.14.2.2 Proposed Action Alternative

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

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

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

3.14.2.3 Secure Fence Act Alternative

The same impacts that are discussed for the Proposed Action Alternative would be expected for this alternative. No significant impacts would occur.

3.15 SOCIOECONOMICS

3.15.1 Affected Environment

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 for San Diego County was 308,791 in 2004. This represented 10.9 percent of the population of the county, which is both lower than the percentage of the state 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 both the 2004 median household income for 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, as compared to the state homeownership rate of 56.9 percent (U.S. Census Bureau 2005b).

3.15.2 Environmental Consequences

The CEQA significance thresholds for socioeconomics are:

- The action causes a substantial permanent population increase or reduction in local income.
- The action causes the vacancy rate for temporary housing to fall, requiring relocation of existing people, construction of replacement housing elsewhere, or destruction of housing or businesses.
- The action increases the short or long-term demand for public services in excess of existing and projected capacities.

3.15.2.1 No Action Alternative

No impacts to the region's socioeconomic resources would occur under the No Action Alternative, as no construction activities would take place. However, the current level of illegal traffic would continue at its current rate and possibly increase. As a result, illegal traffic and the crimes and social costs associated with it would also be expected to continue or increase; thus, long-term, adverse socioeconomic impacts across the region would be incurred.

3.15.2.2 Proposed Action Alternative

Direct beneficial impacts from the Proposed Action Alternative include minor and temporary increases in sales volume, material purchases, and sales taxes. Additionally, implementation of the Proposed Action Alternative would reduce the amount of illegal traffic in the region, which, in turn, would 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 would have an indirect beneficial long-term impact to the local economy.

Indirect adverse impacts could occur to areas outside of the project corridor if illegal pedestrian traffic shifts to other areas of the U.S.-Mexico border. However, it is impossible to determine what those impacts would be, if any, as the direction or lack there of is solely at the discretion of the IAs. As mentioned previously, the primary pedestrian fence would allow the USBP to deploy agents to those areas lacking infrastructure to minimize impacts from any potential shift in IA traffic.

The Proposed Action Alternative would not affect the region's population or housing markets and would not require an increase demand on public services that exceed current capacity. Therefore, no significant impacts would occur.

3.15.2.3 Secure Fence Act Alternative

This alternative would have similar impacts to the Proposed Action Alternative but, the beneficial impacts would be slightly greater due to the additional amount of construction materials and equipment that would be required. The Secure Fence Act Alternative would require more materials, construction crews, and equipment; therefore, the local and regional economy would benefit more than the Proposed Action Alternative. Indirect societal cost benefits would be similar as those discussed in Section 3.15.2. No significant impacts are expected.

3.16 ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

3.16.1 Affected Environment

EO 12898 was signed in February 1994. This order was intended to direct Federal agencies "…to make achieving environmental justice part of its mission by identifying and addressing… disproportionately high and adverse human health or environmental

effects of its programs, policies, and activities on minority populations and low-income populations in the U.S.…" To comply with the EO, minority and poverty status in the vicinity of the project were examined to determine if any minority and/or low-income communities would incur a disproportionate amount of significant impacts from implementation of the either of the action alternatives. San Diego County has a low proportion of their population claiming to be of Hispanic or Latino origin. Furthermore, San Diego County is above both the National and state median household income and has a smaller percentage of the population living in poverty relative to both the state and the Nation. Two ranch houses exist near the project corridor at the 7 Gates/Railroad project site. These houses are located outside of the project footprint but close enough to be impacted. The only other developed area (*i.e.,* residential/commercial) are located adjacent to the project corridor in Tecate, Mexico.

EO 13045 requires each Federal agency "to identify and assess environmental health risks and safety risks that may disproportionately affect children", and "ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks". This EO was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. In San Diego County, 111,422 individuals, or 36 percent of the population below poverty level, are children under the age of 18 (U.S. Census Bureau 2004). The percentage of children under 18 below the poverty level for the State of California is 38.6 percent. The potential for impacts to the health and safety of children is greater where projects are located near residential areas. Although the project corridor is located in remote areas, two residences do exist near one of proposed project site (7 Gates/Railroad).

3.16.2 Environmental Consequences

The CEQA significance threshold for environmental justice is:

- The action results in any racial, ethnic, or socioeconomic group bearing a disproportionate share of significant adverse project effects.

3.16.2.1 No Action Alternative

No direct impacts would be expected as no construction would occur.

3.16.2.2 Proposed Action Alternative

Impacts regarding EO 13045 and EO 12898 from the implementation of the Proposed Action Alternative would be similar to those previously discussed in the DHS 2003 EA and are incorporated herein by reference (DHS 2003). Given the remote location of the proposed project sites, there is no potential for disproportionately significant, adverse impacts to minority populations or low income families. As mentioned before, two residences are located near the 7 Gates/Railroad project site. These residences would experience adverse impacts from construction noise and potentially fugitive dust; however, implementation of mitigation measures would reduce potential impacts to less than significant. In addition, once the construction activities are complete near the residences, no further impacts would occur. The proposed infrastructure would reduce illegal traffic north of the project corridor, making it safer for everyone regardless of race, nationality, age, or income level. No residences or commercial entities would be displaced and no significant impacts have been identified during the preparation of this EA. With the exception of the 7 Gates/Railroad project site, all construction would occur away from residences where the safety of children could become an issue. On-site construction managers and safety officers would implement appropriate measures (*e.g.*, fencing, signage, monitoring) to ensure the safety of all personnel, including children. Should a child enter the construction zone, the on-site safety office would immediately cease all construction. Therefore, the Proposed Action Alternative would not result in a disproportionate amount of impacts to minority or low-income families, nor increase health and safety risks to children.

3.16.2.3 Secure Fence Act Alternative

The same impacts associated with the Proposed Action Alternative would be expected if this alternative were chosen. No significant impacts would occur.

3.17 SUSTAINABILITY AND GREENING

3.17.1 Affected Environment

In accordance with EO 13423- Strengthening Federal Environmental, Energy, and Transportation Management, USBP would strengthen their environmental, energy, and transportation activities in support of their mission in an environmentally, economically, and fiscally sound, continuously improving, sustainable manner. In doing so, CBP/USBP would incorporate sustainability and greening practices in daily operations through cost-effective waste reduction, recycling of reusable materials and purchase of items produced using recovered materials.

3.17.2 Environmental Consequences

The CEQA significance threshold for sustainability and greening is:

- The action results in an agency not continuously improving their environmental, transportation, or energy-related activities in support of their mission in an environmentally, economically and fiscally sound, integrated, efficient, and sustainable manner.

3.17.2.1 No Action Alternative

The No Action Alternative would not result in any direct or indirect impacts, as no construction activities would take place.

3.17.2.2 Proposed Action Alternative

Under the Proposed Action Alternative, USBP would continue to use salvaged or recycled materials to the extent practicable and to improve its environmental, transportation, and energy-related activities in support of their missions through sustainability and greening practices to the greatest extent practicable. No significant impacts are expected to occur as a result of the Proposed Action Alternative.

3.17.2.3 Secure Fence Act Alternative

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

3.18 HUMAN HEALTH AND SAFETY

3.18.1 Affected Environment

There is little potential for anyone other than USBP agents or private contractors to be at risk from a human health and safety aspect. Two houses are located outside of the project corridor but near the 7 Gates/Railroad project site. The remainder of the project sites are located in remote and uninhabited areas.

3.18.2 Environmental Consequences

The CEQA significance threshold human health and safety is:

- The action would create a health or potential health hazard; or
- The action would expose people to existing sources of potential health hazards.

3.18.2.1 No Action Alternative

Under the No Action Alternative no construction would occur; therefore, there would be no impacts either beneficial or adverse to human health and safety issues.

3.18.2.2 Proposed Action Alternative

If implemented, this alternative has the potential to create human health hazards. However, through BMPs developed for general construction practices (see Section 5.1) and because the residences in question are located outside of the project footprint no significant, long-term, adverse impacts are expected. Furthermore, strict compliance with all Occupational Safety and Health Administration (OSHA) regulations would be achieved to minimize the potential for accidents to occur to USBP agents, private contractors, or other individuals who might occur near the project site(s).

3.18.2.3 Secure Fence Act Alternative

This alternative would have similar impacts as the Proposed Action Alternative. However, construction accidents would have a greater chance of occurring due to the increased construction footprint and duration. Still, provided OSHA standards are adhered to, no significant or long-term impacts would be expected.

3.19 GROWTH INDUCING EFFECTS

The project area is very remote. The land surrounding the project area is private- and Federal government-owned, and there are no known private or public developments planned for the area. Development on BLM property is not possible in the reasonably foreseeable future. The area surrounding the Rattlesnake Ridge project site was recently (2007) purchased by a private development corporation; however, no plans for development have been disclosed at the time of printing this EA. Neither of the alternatives discussed within this EA would act as a hindrance to nor induce growth.

3.20 LOCAL AND SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM ENVIRONMENTAL PRODUCTIVITY

Benefits derived from the control of IAs into the U.S. and the adverse impacts associated with the construction activities necessary to accomplish this control represent trade-offs between the local, short-term use and the long-term stability and productivity of society's environment. The Proposed Action would reduce the flow of illegal drugs and entrants to the U.S., and consequently, reduce the social costs associated with managing these issues. Short-term, local adverse direct effects resulting from wildlife habitat disturbances would be off-set by long-term regional benefits, including:

- protection of the BLM rangelands from illegal foot traffic,
- reduction of accidental fires caused by IAs,
- lower costs to the U.S. for health and emergency services,
- lower insurance rates for homeowners and businesses north of the border,
- reduction in crime near the border, and
- reduction in illegal poaching.

The proposed action would permanently impact approximately 78 acres. Even though most of the project region has been previously disturbed by road construction, public off-road recreational vehicles, private developments, IA traffic and USBP enforcement actions, the project area is so remote that the disturbance is not expected to inhibit

wildlife from using the area as suitable habitat. The long-term productivity of these lands would be not change over the life of the proposed project. USBP would make every attempt practicable to avoid disturbances to valuable wildlife habitat (*e.g.*, by using previously disturbed sites for staging areas). Compensation for these losses, if statutorily required, would be coordinated through the appropriate state and Federal resource agencies.

3.21 IREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The proposed action would require the irretrievable commitment of fuel, labor, construction material, and monetary resources.