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STAFF REPORT AND RECOMMENDATION

ON CONSISTENCY DETERMINATION

Consistency Determination No.	**CD-063-03**
Staff:	MPD-SF
File Date:	7/23/2003
60th Day:	9/21/2003
75th Day:	10/6/2003
Extended to:	10/10/03
Commission Meeting:	10/8/2003

FEDERAL AGENCY: **U.S. Immigration and Naturalization Service**

PROJECT LOCATION: U.S./Mexican Border, Areas V and VI (i.e., between the International Wastewater Treatment Plant east of Smuggler's Gulch and the Pacific Ocean), City of San Diego (Exhibit 1)

PROJECT DESCRIPTION: Construction of approximately 3.5 miles of secondary and tertiary fencing (parallel to the existing Border Fence), with associated patrol and maintenance roads, lights, sensors, cameras, and related infrastructure (Exhibits 1-4)

EXECUTIVE SUMMARY

The U.S. Immigration and Naturalization Service (INS) (now part of the Department of Homeland Security) has submitted a consistency determination for secondary and tertiary fencing and additional infrastructure improvements at the U.S./Mexican Border. The proposal is based on the INS mandate contained in sections 102(a) to (c) of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA; Pub. L. 104-208; 8 USC § 1103nt), which directs the Attorney General of the U.S. to: "...provide for the construction

along the 14 miles of the international land border of the U.S., starting at the Pacific Ocean and extending eastward, of second and third fences, in addition to the existing reinforced fence, and for roads between the fences." The IIRIRA also directs the Attorney General to incorporate into the above-described project "... such safety features as are necessary to ensure the well-being of border patrol agents deployed within or in near proximity to the system." The IIRIRA also provides for: (1) an annual increase in the number of border patrol agents (and support personnel) over a 5-year period; and (2) deployment of border patrol agents in proportion to the level of illegal entry occurring (and expected) in any particular area.

The INS has already built secondary and tertiary fencing, roads, and other improvements in 9 miles of the 14 mile stretch of the U.S. border to which the IIRIRA refers, portions of which are in the coastal zone and received previous Commission authorization. These already-constructed segments were in relatively level terrain and did not raise major resource protection issues. The three remaining areas (Areas I, V, and VI) were the subject of more detailed planning (and an EIS) due to the significant resource protection issues. The subject consistency determination addresses the segments within the coastal zone (Areas V and VI), where the proposed border fencing, roads, and infrastructure would result in significant adverse effects to: (1) reduced acreage for lands set aside for protection within the Multiple Species Conservation Program (MSCP); (2) the Tijuana River National Estuarine Research Reserve (TRNERR); (3) State and County of San Diego natural park lands and open space; (4) state- and federally-listed threatened and endangered species; (5) valuable wetland (including vernal pools and riparian woodlands) and upland habitat (including maritime succulent scrub, coastal sage scrub, southern maritime chaparral and native grasslands); (6) public access and recreation (primarily at Border Field State Park); and (7) scenic public views and landforms, cultural resources, and water quality.

The proposal threatens to weaken the overall credibility and effectiveness of the entire multi-species habitat conservation program, as these lands were carefully and scientifically evaluated to provide regional ecological benefits to meet regional preservation goals and to mitigate the cumulative impacts of other development in the region.

Given the serious erosion hazards characteristic of the soils in this region, particularly the erosion potential arising from the proposed cutting and filling of 5.5 million cu. yds. in Smuggler's Gulch (including a 2.1 million cu. yd. fill slope and roadbed), the project poses significant threats to the nationally significant Tijuana National Estuarine Research Reserve, which contains habitats that are highly sensitive to sedimentation. The project includes preliminary commitments for erosion controls, but while it "considered" a sedimentation basin to protect the estuary, the INS maintains that such a basin would be unnecessary because it assumes the project will not increase sedimentation, but in fact will reduce it by 27%. The California Department of Parks and Recreation has commissioned a study that casts serious doubt over the INS' assumptions and supports the contrary conclusion that the project will increase sedimentation and adversely affect the estuary.

The project raises fundamental policy conflicts in that it is not an allowable use under three Coastal Act policies: (1) Section 30240, which limits uses within environmentally sensitive habitat areas to "... only uses dependent on environmentally sensitive habitat area resources;" (2) Section 30233, which limits allowable uses for wetland fill to eight allowable uses (typically water-dependent and habitat restoration activities, and none of which apply to this project); and (3) Section 30236, which limits activities that channelize or substantially alter rivers and streams to three allowable uses (necessary water supply projects, flood control projects, and habitat improvements). The project is also inconsistent with a number of other specific requirements of Sections 30240, 30231, 30233, 30210-30212, 30240(b), 30251, and 30253, including the requirement of several Coastal Act policies (such as Section 30233) for adoption of less environmentally damaging feasible project alternatives.

The INS considered three primary alternatives: the No Project Alternative, a more damaging "Tactically Optimum" Alternative, and the proposed "Multi-tiered Fence" Alternative. The INS rejected several other alternatives "...because they did not satisfy operational needs, could not provide long-term or sustained control of the border, would expand or maintain the existing enforcement footprint, would create a greater direct or indirect impact, and/or did not comply with the spirit and intent of IIRIRA." These eliminated alternatives included: (1) fortification of primary fence; (2) fence only (with no patrol road); (3) a bridge alternative and two switchback alternatives at Smuggler's Gulch; (4) secondary fence only (no tertiary fence); (5) third fence alternative alignments; and (6) alignments around and over Bunker Hill. The Commission disagrees that the provisions of IIRIRA justify or dictate rejection of several less environmentally damaging feasible and practicable alternatives, including the two switchback alternatives at Smuggler's Gulch, the fence around Monument Mesa, the capping of Lichty Mesa, and a narrowed project corridor east of Smuggler's Gulch.

The INS contends in its consistency determination that its proposal is consistent with the Coastal Act, but at the same time it acknowledges in its consistency determination that "In order to comply with this statute [IIRIRA], some impacts to coastal resources are unavoidable." In making this statement, the INS appears to be arguing that while full consistency may be unachievable, its proposal meets the CZMA requirement that it be "consistent to the maximum extent practicable," because existing federal law (i.e., IIRIRA), in mandating the fence improvements, provides for a lesser standard[1] to the degree that adverse environmental consequences stemming from whatever improvements are needed in order to comply with IIRIRA are inevitable. For example, the INS asserts that the proposed approach constitutes the least environmentally damaging design that could be implemented "... without jeopardizing the effectiveness of the infrastructure components or hindering the operations of the USBP." In other words, the INS believes it could not make further environmental concessions and still comply with IIRIRA. However, Congress did not specify a particular design, and the INS has failed to present a convincing argument that the less environmentally damaging project

[1] Regulations implementing the CZMA define "consistent to the maximum extent practicable" to mean "fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the Federal agency." [15 CFR Section 930.32]

alternatives that it has rejected will in fact prevent compliance with the IIRIRA. In the absence of such a showing, the INS cannot demonstrate that its project is consistent "to the maximum extent practicable" with the policies of the California Coastal Management Program (CCMP).[1]

For the reasons explained in detail in this staff report, the Commission does not believe that the INS has made the required showing. The current INS proposal does not strike a reasonable balance between border patrol and resource protection needs, and feasible alternatives are available that would significantly lessen adverse impacts to coastal zone resources and still enable the INS to meet its border patrol needs. The project is not fully consistent or consistent to the maximum extent practicable with Sections 30240(a), 30231, 30233, 30210-30212, 30240(b), 30251, and 30253 of the Coastal Act. In addition, even if such inconsistency were not readily apparent, in many issue areas, details and mitigation and monitoring plans are incomplete. These gaps in necessary information in and of themselves preclude the Commission from finding this project to be consistent with Sections 30240(a), 30231, 30233, 30210-30212, 30240(b), 30251, 30253, and 30244 of the Coastal Act.

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[1]Even the INS accepts that, due to environmental consequences at Border Field State Park, the beach area, and in Goat Canyon, IIRIRA does not require continuous triple fencing and roads for the entire 14 mile length of the border fence project. The INS has determined it can meet its mission needs with only the primary fencing across the beach and across Goat Canyon. If the IIRIRA dictated continuous roads and fencing (which it does not), the INS could not make these concessions.

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Exhibits 1-29 (Attached)

Note: To view color graphics for these exhibits electronically, you may view them at the Coastal Commission's web site at http://www.coastal.ca.gov/mtgcurr.html (scroll down to Wednesday, item 8a and click on link). In addition, Exhibits 1-10, 16-21, 24-25, and 27-28 are taken from the project FEIS, which can be viewed at the U.S. Army Corps of Engineers web site for the FEIS at: http://ins.swf.usace.army.mil/Pages/PublicReviewView.cfm?PRID=34

Exhibit 1 - Project Areas I-VI, and coastal zone boundary at border
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Exhibit 29 – Coastal Conservancy Letter
Exhibit 30 – CNPS letter

Attachments (under separate cover)

1. INS Consistency Determination
2. U.S. Fish and Wildlife Service Biological Opinion

I. STAFF SUMMARY AND RECOMMENDATION:

A. Project Description. The INS has submitted a consistency determination for the completion of portions of a Border Infrastructure System. The entire system starts at the Pacific Ocean side of the U.S. Mexican Border in San Diego and extends approximately 14 miles inland, to a point east of Tin Can Hill, near the foothills of the San Ysidro Mountains. The INS has divided the project into six areas, three of which have already been authorized, and a fourth of which is well outside the coastal zone. Approximately nine miles in Areas II, III, and IV of the infrastructure system (Exhibit 1) have been completed or are currently under construction. These activities were undertaken as pilot projects for the infrastructure system and were addressed in previous NEPA documents (and in consistency and negative determinations CD-111-92, ND 118-96, ND 41-93, ND 99-92, ND-036-01 and ND-039-03). The INS' current proposal is for completion of the infrastructure system in Areas I, V and VI. However area I is several miles outside the coastal zone, and the Commission staff has determined that those improvements would not affect the coastal zone. Accordingly, the INS' current consistency determination is for the improvements proposed in Areas V and VI, from a location one half mile west of I-5 (and just west of the International Wastewater Treatment Plant) to the Pacific Ocean (Exhibits 1-3).

With the exception of an approximately 100 ft. gap in the fence at Yogurt Canyon (in Border Field State Park), the U.S./Mexican border is currently secured through a primary fence. The proposed project would consist of a secondary fence, a patrol road between the primary and proposed secondary fences, a tertiary fence, a maintenance road between the proposed secondary and tertiary fences, lights, and "Integrated Surveillance and Intelligence System" (ISIS) components (e.g., lights, sensors, cameras). The width of the corridor between the primary and secondary fences in relatively level areas would typically be 130 feet, and an additional 20 to 24 feet between the secondary and tertiary fences (Exhibit 4). These distances would vary in areas of hilly terrain, where the tertiary fence would probably be installed at the northern edge of the cut/fill slope. In Smuggler's Gulch, the INS proposes an extensive 2.1 million cu. yds. buttress fill (and a total of 5.5 million cu. yds. counting both cutting and filling), with a maximum fill height of 175 ft. above existing grade, a north to south width of 800-900 ft., and a canyon width of approximately ½ mile (east to west)(Exhibits 7 and 23). The materials obtained from the cut areas would be used as fill in the lower elevations, principally Smuggler's Gulch, and to provide an entrance and exit ramp onto Lichty Mesa, which would be partially capped (Exhibit 25). The FEIS states these cut-and-fill activities are needed to provide a road surface that does not exceed a 10 percent grade and to avoid the need to purchase construction materials, thus minimizing construction costs. The INS elaborates:

The design for this alignment was revised during the preparation of the Final EIS in an attempt to reduce the construction footprint and consequent environmental effects within the canyon bottom. The revisions also incorporated an extension of the road and fence platform across Goat Canyon on the western end of Area V. The revised alignment was maintained as close to the border and as straight as possible, while avoiding the USIBWC sewage collection system. The design requires construction of an earthen embankment across Smuggler's Gulch with the fill material being excavated from the two adjacent mesas (cut-and-fill). The vertical grades to transition from the mesa would be kept to a maximum of 10 percent. The road/fence platform geometry would require about 5.5 million cubic yards of earthwork and about 92 acres for construction. The original design required about 85 acres. The new road/fence platform geometry results in a fill height of 175 ft (as opposed to 165 ft in the original preliminary design) at the base of Smuggler's Gulch. The additional height (and consequent earthwork) was designed to avoid a cut into the top of the mesa east of Smuggler's Gulch where sensitive plant species occur. However, a larger and deeper cut into Spooner's Mesa was required to compensate for the additional fill material. The fill will be engineered at a slope of 1.5H:1V. The average depth of the cuts in the two adjacent mesas would be 60 to 70 ft and will also be 1.5H:1V slopes. An existing slip has been identified on the east face of the canyon wall, which will require over excavation and an engineered backfill. The fill proposed in Smugglers Gulch will act as a buttress to this existing slip.

Access to the base of the canyon and USIBWC's facilities will be maintained by providing a 25-ft-wide access road that switchbacks down the north and south fill slopes of the road/fence platform embankment in the canyon. Parallel ditches with embankment curbs, downdrains, stilling basins and/or water bars will be installed along these roads to control surface run off and consequent erosion and sedimentation. Inclusion of these roads and erosion control measures increased the width of the footprint to about 800 ft in Smuggler's Gulch. This western end of this alignment was also revised since the Draft EIS to extend across Goat Canyon and terminate as a cul-de-sac at the base of Bunker Hill. The original design described in the draft EIS had the Border Infrastructure System parallel Goat Canyon along the east bank for about 800 ft. This design required substantial cut-and-fill activities along the east bank. The new design presented herein slightly reduces the footprint and brings the secondary fence closer to the existing primary fence. An existing box culvert in Goat Canyon will be replaced to allow for an increase in the existing roadway width. Concrete retaining walls will be required along on both sides of the new box culverts to support the additional fill and to reduce the footprint within the Goat Canyon stream bottom. A 3-dimensional topographical depiction of the embankment and mesa tops, upon completion of the Border Infrastructure System, is presented in Figure 2-9[Exhibit 7]. Photographs providing a conceptual depiction of the embankment are presented in Figure 2-10 [Exhibit 24].

The project also includes:

> *Fencing Materials. The secondary fence will consist of vertical secura metal mesh panels attached to 16-foot poles. [Secura mesh is a 16-gauge, expanded metal that provides visibility through the fence (except at oblique angles), yet is small enough to prohibit saws, files and other types of cutting equipment from being inserted into the holes.] The poles would be anchored to a 12-inch wide by 4-foot deep concrete footing. Additional 6-foot panels would be secured to the top panels. The tertiary fence would typically be a 5- to 8-foot high chain link fence.*
>
> *Roads. Patrol roads would consist of a compacted sub-base and 12 inches of Class II material saturated with PennzSupress™ or equivalent product. The patrol road would be 24 feet wide with 12-foot shoulders. The maintenance roads would be constructed by grading the soil surface (i.e., no all weather surface would be placed on the maintenance road). This road would be expected to be 12 to 18 feet wide.*
>
> *Lighting. Lights would be placed on poles approximately 50 feet high placed at 200 to 300 feet apart. The lighting design was developed to ensure that no more than 0.1 foot candles of illumination would be experienced at the northern toe of the construction footprint. Therefore, ambient light conditions north of the Border Infrastructure System would not be substantially increased.*

The project also includes approximately 13 to 17 remote video surveillance (RVS) systems proposed for installation within Areas IV, V, VI.

The U.S. Army Corps of Engineers (Fort Worth District) is in charge of the planning and design, land acquisition, and construction management. The California National Guard is the construction agent. The Border Patrol will maintain the system (including erosion controls, drainage structures, and revegetation efforts). Project cost is approximately $58 million. The INS estimates the construction period to be five to seven years (these cost and time estimates include Area 1, outside the coastal zone). Construction would be limited to daylight hours, and the INS "presently envisions" construction to be limited to week days, and, at Border Field State Park, "restricted on holidays and weekends" (except for emergency situations).

B. Project Need. The INS summarizes the project need as follows:

> *Furthermore, there is a need to halt the continual influx of illegal aliens and smugglers into the San Diego area by creating a permanent deterrence through a certainty of detection and apprehension. The objective of the proposed action is to provide for integration of infrastructure and technology into the current strategy for border control. The proposed action would develop a safe and effective enforcement zone near the border that would eliminate illegal foot and vehicle traffic within the 14-mile corridor and thus maximize the proactive, deterrent enforcement capability of the United States Border Patrol (USBP), while gaining the necessary and desired permanent status of*

deterrence. The current road conditions and operational constraints increase risks to the health and safety of USBP agents. Agents and their vehicles are routinely subjected to rocks and other objects being thrown at them. Windshield replacement costs for the three border stations (Imperial Beach, Brown Field and Chula Vista) have routinely exceeded several thousands of dollars each year, due to rocks and other objects thrown from the Mexican side of the border. Furthermore, steep, unimproved roads have resulted in numerous injuries and even fatalities. During the last two years alone, three San Diego Sector agents and one maintenance worker have lost their lives in vehicle accidents caused by unsafe road conditions, including the Smuggler's Gulch area.

Another need is to reduce the current enforcement footprint that will ensure a more efficient and effective control of the border region. Historically, the USBP San Diego Sector, was required to expand their apprehension and enforcement actions up to five miles north of the border. These actions necessitated incursions into residential areas, commercial and industrial developments, parks and open areas, with potential effects on soils, vegetation, cultural resources, and other sensitive resources. The Border Infrastructure System, once complete, would significantly reduce the enforcement actions north of the system and the concomitant effects to the human and natural environments. The purpose, therefore, of the Border Infrastructure System is to lessen the overall impact of the enforcement footprint, maximize the deterrent enforcement profile, and safeguard local neighborhoods, businesses, and environmental resources.

The Congressional authorization for these improvements is contained in the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA; Pub. L. 104-208; 8 USC § 1103nt)), specifically Section 102, which provides:

SEC. 102. IMPROVEMENT OF BARRIERS AT BORDER.

(a) IN GENERAL- The Attorney General, in consultation with the Commissioner of Immigration and Naturalization, shall take such actions as may be necessary to install additional physical barriers and roads (including the removal of obstacles to detection of illegal entrants) in the vicinity of the United States border to deter illegal crossings in areas of high illegal entry into the United States.

(b) CONSTRUCTION OF FENCING AND ROAD IMPROVEMENTS IN THE BORDER AREA NEAR SAN DIEGO, CALIFORNIA-

(1) IN GENERAL- In carrying out subsection (a), the Attorney General shall provide for the construction along the 14 miles of the international land border of the United States, starting at the Pacific Ocean and extending eastward, of second and third fences, in addition to the existing reinforced fence, and for roads between the fences.

(2) PROMPT ACQUISITION OF NECESSARY EASEMENTS- The Attorney General, acting under the authority conferred in section 103(b) of the Immigration and Nationality Act (as inserted by subsection (d)), shall promptly acquire such easements as may be necessary to carry out this subsection and shall commence construction of fences immediately following such acquisition (or conclusion of portions thereof).

(3) SAFETY FEATURES- The Attorney General, while constructing the additional fencing under this subsection, shall incorporate such safety features into the design of the fence system as are necessary to ensure the well-being of border patrol agents deployed within or in near proximity to the system.

(4) AUTHORIZATION OF APPROPRIATIONS- There are authorized to be appropriated to carry out this subsection not to exceed $12,000,000. Amounts appropriated under this paragraph are authorized to remain available until expended.

(c) WAIVER- The provisions of the Endangered Species Act of 1973 and the National Environmental Policy Act of 1969 are waived to the extent the Attorney General determines necessary to ensure expeditious construction of the barriers and roads under this section.

[Staff Note: No waiver provision pursuant to (Section 102(c) above) has been implemented to date. The INS has published a Final EIS pursuant to NEPA and received a non-jeopardy Biological Opinion from the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act.]

C. <u>History of Border Patrol Efforts in San Diego</u>. The following FEIS excerpts provide relevant history on border enforcement efforts:

The INS has reported that the U.S./Mexico border is breached more than any other international border in the world. It is a large, diverse and difficult boundary to effectively enforce without the use of a complex infrastructure (i.e., fences, lights, roads, and cameras). In spite of stepped-up enforcement efforts, national statistics show a dramatic rise in the number of apprehensions made throughout the southwest border: from 979,101 in 1992 to nearly 1.6 million in 1999 (USBP 2000). The INS estimates that there are currently seven to nine million illegal aliens in the United States, although some studies have indicated that this figure is probably closer to 10 million. Since the terrorist attacks of September 11, 2001, even greater importance has been placed on securing the Nation's borders.

Until the early 1990s, there was limited awareness of the southwest border issues and little national attention was given to illegal trans-boundary activity. As a result, the USBP's growth was nominal, funding for enforcement efforts fell short, and the USBP was forced to function under severe constraints. Recent events related to illegal immigration and narcotics smuggling have increased the Nation's awareness and

generated substantial interest in controlling the southwest border. National concern has led to increased funding and staffing and has created new opportunities in the development of proactive border control strategies, as demonstrated in patrol and enforcement operations throughout the southwest border area (e.g., Operations Gatekeeper, Hold-the-Line, Safeguard, and Rio Grande).

... Initial efforts to augment operations with such infrastructure yielded promising results, effectively hindering illegal border traffic. In 1993, the installation of the primary border fence along a 14-mile stretch of border separating Tijuana, Baja California, Mexico from San Diego, California, significantly assisted the USBP's efforts in deterring smuggling attempts via drive-throughs using automobiles and motorcycles. ...

After construction of the primary fence was completed, the frequency per month of drive-through attempts dropped into the single digit range and for extended time periods, the USBP experienced no drive-through attempts. The reduction in drive-through attempts was the direct result of combining the deterrence factor of the primary fence and Operation Gatekeeper: a manpower intensive initiative meant to restore the sovereignty of the San Diego Sector's border region. It is important to note that using the fence in this manner not only substantially reduced the drive-through problem; it also reduced the enforcement footprint previously necessary to arrest violators.

While the success of Operation Gatekeeper is indisputable, its geographic footprint within the 14-mile border segment was quite large. ... As undocumented aliens (UDAs) and smugglers breached the primary fence and attempted to allude[sic] detection and apprehension, USBP agents were forced to chase the illegal entrants into environmentally sensitive areas such as the Tijuana estuary, East Otay Mesa, Spring Canyon, and into residential areas of Imperial Beach, Brown Field and Chula Vista .... This large enforcement footprint not only created greater impacts on the environment, but it also continues to negatively affect the efficiency of operations by requiring an inordinate number of agents to secure the border. ...

Although Operation Gatekeeper was very successful, it was extremely labor intensive and costly. It highlighted the deterrence capability of combining infrastructure and operation strategies. Congress recognized this proactive enforcement strategy when it enacted the 1996 Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA). Title 1, Subtitle A, Section 102 of the Act states that the Attorney General, in consultation with the Commissioner of INS, "...shall take such actions as may be necessary to install additional physical barriers and roads in the vicinity of the U.S. border to deter illegal crossings in areas of high illegal entry into the U.S." (Section 102(b)).

In response to this Congressional mandate and to the need to further control the border region, the San Diego Sector began plans to implement an enforcement zone that

included a multi-tiered fence, patrol road, maintenance road, and various technologies such as lighting, sensors, and remote video surveillance (RVS) systems. Because of a lack of funding and the fact that the enforcement zone was the first of its kind, the initial segments of the 14-mile system were implemented as pilot projects. [See discussion of improvements in Areas II-IV, page 6.]

Initial success has already been realized in these general areas. ...

Today the USBP reports that staffing is now more balanced with the requirements of current levels of border activity. This has resulted in a reduced enforcement footprint, increased security for the industrial park, and other developed areas in Areas II, III, and IV, and a safe working environment for its employees. ...[T]total crime[has] dropped by about 45 percent. Violent crimes, in particular murder, rape, and robbery, have been eliminated. However, if illegal border activity rates rise in the future, staffing will again be inadequate. Figure 1-5 [Exhibit 6] illustrates not only the reduction in assaults on USBP agents within the San Diego Sector since the implementation of the Border Infrastructure System project, but also that assaults are still a problem. In fact, since 2001 USBP agents from Imperial Beach Station, where the Border Infrastructure System has not been completed, have experienced a 17 percent increase in assaults. Without completion of the Border Infrastructure System, these assaults will continue and perhaps increase.

The INS also believes enhanced border protection will benefit environmental values. The FEIS states:

Unless properly designed infrastructure "systems" provide rigid boundaries, deterrence-based operations will undoubtedly have a larger than necessary footprint because they will continue to rely on personnel deployments that saturate environments with various patrol resources (including ATV's, horse patrols, 4x4 vehicles, helicopters, infrared scope trucks, and foot patrols) whenever those locations are targeted by smugglers.

For example, the enforcement footprint for the area extending from the Pacific Ocean to about two miles east of the San Ysidro POE has historically encompassed a corridor that is about six miles wide (or about 30 square miles). Figure 1-6 [Exhibit 5] illustrates the primary entry routes in this area and the required enforcement zone. Apprehensions in this area in the mid-1990s represented nearly 30 percent of total arrests nationwide. Illegal entries have been estimated to average as high as 1,750 per night. The Imperial Beach Station estimates that they were successful in apprehending only one out of every three to seven illegal aliens or smugglers due to the terrain, major transportation routes, and concealment opportunities favoring their escape.

Driven by the high illegal traffic, the USBP had to maintain a road network that provided quick access to traditional illegal entry corridors. Many of the roads began as trails worn by illegal entrants and soon the network required to apprehend the illegal aliens developed into a series of hundreds of miles of unimproved roads. Trails and roads, however, are not the only impact illicit-trafficking has had on the local environment. Illegal entrants have destroyed habitat by cutting vegetation for shelter and fire, by causing accidental wildfires, by increasing erosion through repeated use of trails, and by discarding trash upon entry to the United States. ...

The creation of a primary enforcement zone composed of a dedicated system of infrastructure (multi-tiered fencing, lighting, cameras, and an all-weather road) that closely, but at a safe distance, parallels the border, reduces the geographic footprint of the operation and the environmental impact.

... Improving the border barrier infrastructure, both preceding and following the 1994 onset of Operation Gatekeeper, contributed to a marked decline in serious crimes along the border. The construction of primary fencing from 1991 through 1993 paralleled a 23 percent reduction in border crimes. ...

The completion of the Border Infrastructure System Project in the unfinished areas is required to reverse an increase in San Diego Border Corridor Crimes, recorded in these areas in the years 2001 and 2002. In the first six months of FY 2003 the San Diego Sector experienced a 20 percent increase in the number of illegal aliens apprehended. An ongoing survey of aliens apprehended by the USBP illustrates that nearly 18 percent of all aliens apprehended have serious/felony criminal records. Completion of the Border Infrastructure System is necessary to reverse these trends.

The life threatening work environment of USBP agents and border barrier maintenance personnel will vastly improve upon completion of this project. Treacherous roads that are now being used will be replaced. Three USBP agents and one road maintenance worker have lost their lives while performing their duties on these roads. Assaults on USBP agents have steadily declined commensurate with the amount of secondary fencing constructed in the beginning phases. Assaults on USBP agents have steadily declined from a high of 287 in FY 1996 to 117 in FY 2002. Through the first six months of FY 2003, 54 assaults have occurred. However, assaults on USBP agents have increased in those areas where the Border Infrastructure System is not in place (Imperial Beach and Brown Field Stations). Completion of the Border Infrastructure System is necessary to save lives and ensure a safer work environment for all who work on the border.

D. <u>Status of Local Coastal Program</u>. The standard of review for federal consistency determinations is the policies of Chapter 3 of the Coastal Act, and not the Local Coastal Program (LCP) of the affected area. If the Commission certified the LCP and incorporated it into the California Coastal Management Program (CCMP), the LCP can provide guidance in

applying Chapter 3 policies in light of local circumstances. If the Commission has not incorporated the LCP into the CCMP, it cannot guide the Commission's decision, but it can provide background information. The City of San Diego's LCP has been certified by the Commission and incorporated into the CCMP.

E. Federal Agency's Consistency Determination. The Immigration and Naturalization Service has determined the project to be consistent to the maximum extent practicable with the California Coastal Management Program.

F. Staff Recommendation: The staff recommends that the Commission adopt the following motion:

MOTION: I move that the Commission **concur** with consistency determination CD-063-03 that the project described therein is consistent to the maximum extent practicable with the enforceable policies of the California Coastal Management Program (CCMP).

STAFF RECOMMENDATION:

Staff recommends a **NO** vote on the motion. Failure of this motion will result in an objection to the determination and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

RESOLUTION TO OBJECT TO CONSISTENCY DETERMINATION:

The Commission hereby **objects** to the consistency determination made by the INS for the proposed project, finding that: (1) the project is not consistent with the California Coastal Management Program; (2) the project is not consistent to the maximum extent practicable with the California Coastal Management Program; and (3) the consistency determination for the proposed project does not supply sufficient information to determine the project's consistency with the California Coastal Management Program.

II. Applicable Legal Authorities. Section 307 of the Coastal Zone Management Act (CZMA) provides in part:

> *(c)(1)(A) Each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs.*

A. Procedure if the Commission finds that the proposed activity is inconsistent with the CCMP.

Section 930.43(a) of the federal consistency regulations (15 CFR § 930.43(a)) requires that, if the Commission's objection is based on a finding that the proposed activity is inconsistent with the CCMP, the Commission must identify measures, if they exist, that would bring the project into conformance with the CCMP. That section states that:

> *(a) In the event the State agency objects to the Federal agency's consistency determination, the State agency shall accompany its response to the Federal agency with its reasons for the objection and supporting information. The State agency response shall describe: (1) How the proposed activity will be inconsistent with specific enforceable policies of the management program; and (2) The specific enforceable policies (including citations).(3) The State agency should also describe alternative measures (if they exist) which, if adopted by the Federal agency, would allow the activity to proceed in a manner consistent to the maximum extent practicable with the enforceable policies of the management program. Failure to describe alternatives does not affect the validity of the State agency's objection.*

As described in Sections A-G of this report below, the proposed project is not consistent to the maximum extent practicable with the CCMP. Pursuant to the requirements of Section 930.43 of the federal regulations implementing the CZMA, the Commission is responsible for identifying measures, if they exist, that would bring the project into compliance with the CCMP to the maximum extent practicable. Assuming the informational deficiencies identified in the following procedural discussion in Section II. B below (and elaborated on in Sections III. A-H of this report) can be resolved, the Commission believes that it would be possible to bring this project into compliance with the CCMP to the maximum extent practicable if the INS implements the following measures:

1. **Eliminate Smuggler's Gulch fill.** Replace the proposed Smuggler's Gulch cuts and fills with designs based on either of the switchback alternatives considered but rejected in the FEIS, or improve (i.e., resurface) the existing roads down the canyon slopes. For any of these alternatives, include secondary (and if necessary, tertiary) fencing north of the roads and/or along the northern toes of the canyon landforms and across the valley where the canyon walls flatten out.

2. **Sediment Basin in Smuggler's Gulch.** Add a sediment basin in Smuggler's Gulch to protect the Tijuana Estuary from construction and ongoing project-induced erosion from cut and fill slopes in this canyon. Add non-fill features at the canyon bottom as necessary (such as fences, lights, cameras, and sensors) to effectively secure the border.

3. **Eliminate Monument Mesa Fencing**. Remove the proposed fencing surrounding Monument Mesa in Border Field State Park.

4. **Narrow corridor in Baja California birdbush habitat**. Narrow the project footprint in the area containing the Baja California birdbush (on the mesa east of Smuggler's Gulch), to minimize take of this species to the maximum degree possible.

5. **Eliminate Lichty Mesa Capping**. Replace the proposed capping of Lichty Mesa with use of the existing disturbed roads on and accessing this mesa, combined with secondary fencing placed along the northern edge of the existing disturbed road surface.

6. **Increased Mitigation Ratios**. For habitat types in the coastal zone, increase the habitat mitigation ratios to 4:1 for coastal salt marsh (including disturbed coastal salt marsh), to 3:1 for disturbed maritime succulent scrub, to 3:1 for Southern Maritime Chaparral, and to 3:1 for disturbed coastal sage scrub.

7. **Baja California birdbush salvage plan**. Modify the Baja California birdbush salvage plan to replant individuals outside of new fill slopes and instead replant them in adjacent or nearby undisturbed areas on the mesa, and clarify that the plan will assure use of equipment capable of transporting entire root structures of the plants.

B. Necessary Information. Section 930.43(b) of the federal consistency regulations (15 CFR Section 930.43(b)) requires that, if the Commission's objection is based on a lack of information, the Commission must identify the information necessary for it to assess the project's consistency with the CCMP. That section states:

> *If the State agency's objection is based upon a finding that the Federal agency has failed to supply sufficient information, the State agency's response must describe the nature of the information requested and the necessity of having such information to determine the consistency of the Federal agency activity with the enforceable policies of the management program.*

As described fully in Section A-H of this report below, the Commission has found this consistency determination to lack the information that the Commission has requested the INS to provide to enable the Commission to determine whether the proposed project is consistent to the maximum extent practicable with Sections 30240(a), 30231, 30233(a), 30236, 30210-30212, 30240(b), 30251, 30253, and 30244 and of the Coastal Act. In order to determine the project's consistency with the CCMP, the Commission has requested the INS to provide it with the following necessary information:

1. **Mitigation and monitoring plans**. The detailed mitigation and monitoring plans for habitat restoration for threatened, endangered and other rare species, revegetation of disturbed, cut, and fill slopes, and for abandoned road restoration efforts, and for wetland restoration to offset wetland fill from the project. Plans should include baseline surveys to enable accurate pre- and post-project conditions, tables clearly depicting extents and locations of impact areas and mitigation areas, sufficient to show which

impact is being mitigated where, more thorough monitoring (and for at least 5 years after the mitigation has been completed), and providing adequate success criteria.

2. **Water quality plans**. The detailed water quality plans, including erosion and sedimentation controls, Best Management Practices, and Stormwater Pollution Prevention Plan (SWPPP), including reflecting in them the measures recommended by the Commission's water quality staff (and agreed to conceptually by INS).

3. **Geologic appendices/reports**. Appendices and attachments to the geologic reports (Kleinfelder 1999 and Kleinfelder 2000) contained in FEIS (in Appendix G), and, if not contained in the appendices and attachments to the 1999 and 2000 Kleinfelder reports: (a) direct shear or triaxial shear tests supporting the choice of shear strength parameters used in the slope stability analyses discussed in those reports; and (b) analyses that indicate that the proposed 1.5:1 slope in Smugglers Gulch meets industry standard-of-practice guidelines for surficial slope stability (factor of safety of 1.5 using the method of infinite slopes).

4. **Aesthetic plans**. Final plans for any aesthetically treated fencing in Border Field State Park.

5. **Archaeological measures**. Final mitigation measures worked out in consultation with the State Historic Preservation Officer (SHPO) through the INS' Memorandum of Agreement with SHPO for cultural resource impacts.

This information is needed to determine the project's consistency with the applicable policies are discussed in Sections A-H below. Specifically, the information is needed to fully analyze the project under the environmentally sensitive habitat (Section 30230), wetland fill (Section 30233(a)), stream alteration (Section 30236), public access and recreation (Section 30210-30212 and 30240(b)), water quality (30231), public views (30251), geologic hazard (30253), and archaeological resources (30244) policies of the Coastal Act.

C. Practicability. The federal consistency regulations implementing the CZMA include the following provision:

Section 930.32 Consistent to the maximum extent practicable.

(a)(1) The term "consistent to the maximum extent practicable" means fully consistent with the enforceable policies of management programs unless full consistency is prohibited by existing law applicable to the Federal agency.

The INS contends that the proposed activity is consistent with the Coastal Act. However, the INS follows this assertion with the statement in its consistency determination that "*In order to comply with this statute, some impacts to coastal resources are unavoidable.*" The INS also states in the FEIS (p. 1-17) that: " *The statutory language of Subsection 102(b) directs*

construction in the coastal zone and makes no exception for wetlands or other sensitive environments."

In making these statements, the INS appears to be arguing that either the project is fully consistent, or if not, the proposal meets the CZMA requirement that it be consistent to the maximum extent practicable because, in directing the INS to construct the fence, road, and other improvements, existing federal law (i.e., IIRIRA) provides for a lesser standard to the degree that adverse environmental consequences stem from whatever improvements are needed in order to comply with IIRIRA.

Assuming, for the sake of argument, that this represents the INS' line of reasoning, the question at hand becomes not whether the project is fully consistent (which, based on the analysis below in Sections A-G of this report, it is clearly not), but rather whether the Congressional requirements contained in IIRIRA compel the alternative the INS has selected and the level of resource impacts associated with the current proposal. In numerous instances throughout its EIS and consistency determination, the INS defends its proposal as achieving the minimum resource impact necessary to comply with the requirements of IIRIRA. The primary fallacy of this argument is that it is fairly clear that Congress did not insist on a particular design, location, fence height, and other project specifics, but rather left those details for the INS to work out through its compliance with the applicable environmental review processes (e.g., CZMA, Endangered Species Act, NEPA, etc.). The INS has failed to present a convincing argument that the less environmentally damaging project alternatives that it has rejected will in fact prevent compliance with the IIRIRA. In the absence of such a showing, the INS cannot demonstrate that its project is consistent "to the maximum extent practicable" with the policies of the California Coastal Management Program (CCMP).[2]

The primary "requirements" that the IIRIRA specifies are broadly worded and direct the INS to:

> *...provide for the construction along the 14 miles of the international land border of the U.S., starting at the Pacific Ocean and extending eastward, of second and third fences, in addition to the existing reinforced fence, and for roads between the fences, [and that the proposed project] ...shall incorporate such safety features into the design of the fence system as are necessary to ensure the well-being of border patrol agents deployed within or in near proximity to the system.* [Emphasis added]

The Commission's findings (primarily in Sections III. A-F below) will elaborate on the reasons why the Commission believes that in several project segments, feasible and practicable less environmentally damaging alternatives are available which would meet the broad provisions of IIRIRA and result in significantly fewer adverse effects on coastal resources. The Commission further finds that the INS' assertions to the contrary are unsupportable, undocumented, and

[2] The fact that the INS has determined it can meet its mission needs with only the primary fencing across the beach and across Goat Canyon is clear evidence that the IIRIRA did not mandate (and Congress did not intend) 14 continuous miles of border fencing and roads. If IIRIRA dictated fully continuous roads and fencing, the INS could not have made these concessions.

unconvincing, to the extent that, under any of these Commission-preferred alternatives, the INS maintains that it could not effectively patrol the area with available personnel. These alternatives include replacing of the massive Smuggler's Gulch cuts and fills with either of the switchback alternatives considered but rejected in the FEIS (or, simply improving the existing canyon side roads), use of a sediment basin in lieu of the fill at the bottom of Smuggler's Gulch (combined with other non-fill improvements), removal of the proposed walls surrounding Monument Mesa in Border Field State Park, elimination of capping of Lichty Mesa, and narrowing the project in Baja California birdbush habitat east of Smuggler's Gulch. The INS rejects these alternatives summarily, but with little documentation to explain why they would present border enforcement problems. Given the significant resource damage from the INS' preferred alternatives in these project sections, it is incumbent that the INS seriously consider these far less environmentally damaging alternatives.

In conclusion, the INS has at least inferentially raised the issue of practicability as defined in the CZMA regulations as possibly a lesser standard than full consistency based on the requirements of other federal law (IIRIRA). However, the Commission does not believe that Congress intended, or that the IIRIRA dictates, foreclosure of alternatives for the road and fence design that would substantially alleviate the significant adverse effects that the project as proposed by the INS will have on the surrounding natural environment. Less damaging feasible alternatives are available which would meet the letter and spirit of IIRIRA, as well as conform more closely with the policies of the California Coastal Management Program (CCMP).

D. <u>Federal Agency Response to Commission Objection</u>. Section C(a)(i) of Chapter 11 of the CCMP requires federal agencies to inform the Commission of their response to a Commission objection. This section provides:

> *If the Coastal Commission finds that the Federal activity or development project ... is not consistent with the management program, and the federal agency disagrees and decides to go forward with the action, it will be expected to (a) advise the Coastal Commission in writing that the action is consistent, to the maximum extent practicable, with the coastal management program, and (b) set forth in detail the reasons for its decision. In the event the Coastal Commission seriously disagrees with the Federal agency's consistency determination, it may request that the Secretary of Commerce seek to mediate the serious disagreement as provided by Section 307(h) of the CZMA, or it may seek judicial review of the dispute.*

The federal consistency regulations reflect a similar obligation; 15 CFR §930.43 provides:

> ***State agency objection.*** ...
>
> *(d) In the event of an objection, Federal and State agencies should use the remaining portion of the 90-day notice period (see §930.36(b)) to attempt to resolve their differences. If resolution has not been reached at the end of the 90-day period, Federal agencies should consider using the dispute resolution mechanisms of this part*

and postponing final federal action until the problems have been resolved. At the end of the 90-day period the Federal agency shall not proceed with the activity over a State agency's objection unless: (1) the Federal agency has concluded that under the "consistent to the maximum extent practicable" standard described in section 930.32 consistency with the enforceable policies of the management program is prohibited by existing law applicable to the Federal agency and the Federal agency has clearly described, in writing, to the State agency the legal impediments to full consistency (See §§930.32(a) and 930.39(a)), or (2) the Federal agency has concluded that its proposed action is fully consistent with the enforceable policies of the management program, though the State agency objects.

(e) If a Federal agency decides to proceed with a Federal agency activity that is objected to by a State agency, or to follow an alternative suggested by the State agency, the Federal agency shall notify the State agency of its decision to proceed before the project commences.

III. Findings and Declarations:

The Commission finds and declares as follows:

A. Wetlands.

1. **Coastal Act Policies.** Section 30233 of the Coastal Act provides:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(l) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged, depths in existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In wetland areas only, entrance channels for new or expanded boating facilities ...

(4) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(5) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(6) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(7) Restoration purposes.

(8) Nature study, aquaculture, or similar resource dependent activities.

Section 30121 of the Coastal Act defines a wetland as follows:

> *"Wetland" means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.*

In addition, Section 13577(b)(1) of the Commission's Administrative Regulations (Title 14, Division 5.5) provides:

> *Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats.*

2. <u>Wetland Delineations</u>. The INS performed wetland delineations, which were included in the FEIS and which identified ten wetland areas within the project corridor in Areas V and VI, primarily consisting of wetlands in stream corridors (such as Smuggler's Gulch, Goat Canyon, and Yogurt Canyon) and coastal salt marsh in Border Field State Park. The Commission staff advised the INS in its DEIS comments that Coastal Act-defined wetlands may be more expansive than Army Corps-defined wetlands. The FEIS states:

> *Therefore, a wetland delineation was conducted within the project corridor in Areas I, V, and VI as part of this EIS. Wetland areas were delineated based on topographic position and did not necessarily follow the three-parameter approach dictated by the USACE. This approach would most closely follow the methods used by the California Coastal Commission, which require only one parameter (i.e., hydrology, hydric soils, or hydrophytic vegetation) to be present. Therefore, the wetland acreages presented in this document for Areas I, V, and VI are liberal in regards to USACE jurisdictional wetlands.*

The INS also states, in the Response to Comments:

> *INS representatives met with the representatives from USFWS, EPA, NRCS, USACE, CDFG, and CCC in the field to discuss delineations of wetlands. The group agreed that the wetlands in these areas were all topographically driven and thus were easily defined by the toe of the slopes and/or stream channels. INS conducted delineations, as described by 1987 Corps of Engineers Manual, so that the wetland forms can be used to document these areas during the Section 404 permit process. If anything, INS feels that the acreage of wetlands are over estimated and/or over valued. [Responses CCC-35.]*

Starting with 13 potential wetlands (10 within the coastal zone), the INS determined that 5 of these within the coastal zone qualified as wetlands. Of these 5, only one would not involve wetland fill, as it is located within Goat Canyon, which is no longer being filled and fenced based on the revised proposal. The FEIS describes these as follows:

Wetland 1 at Yogurt Canyon is a combination of southern willow scrub community (dominant vegetation includes arroyo willow (*Salix lasiolepis*), coastal salt grass (*Distichlis spicata*), yerba mansa (*Anemopsis californica*), broad-leaved cattail (*Typha latifolia*), and common celery (*Apium graveolens*), and coastal salt marsh (dominant vegetation includes woody glasswort (*Salicornia virginica*), alkali heath (*Frankenia salina*), coastal salt-grass (*Distichlis spicata*), common celery, and Parish's glasswort (*Salicornia subterminalis*). Wetland 2 is in Goat Canyon and would not be filled. Wetland 3 is mulefat scrub community adjacent to the channel in Smuggler's Gulch. Wetland 4 is a southern willow scrub community located immediately north of W3 in Smuggler's Gulch. Wetland 5 is a riparian area associated with an unnamed Water of the U.S. (characterized by a southern willow scrub community).

3. <u>Three-part Test</u>. Because the project entails permanent fill in wetlands as defined under the Coastal Act, it triggers the 3-part test under Section 30233(a) for projects involving wetland fill: (a) the allowable use test; (b) the alternatives test; and (c) the mitigation test.

(a) <u>Allowable Use Test</u>. Under the first of these tests, a project must qualify as one of the eight stated uses allowed under Section 30233(a). The project qualifies as none of these uses and is inconsistent with the allowable use test. The Commission has considered minor expansions of existing roads in limited situations to qualify as "incidental public service purposes," and thus allowable under Section 30233(a)(5), but only where no other alternative exists and the expansion is necessary to maintain existing traffic capacity.

The Court of Appeal has recognized this definition of incidental public service as a permissible interpretation of the Coastal Act. In the case of *Bolsa Chica Land Trust et al., v. The Superior Court of San Diego County* (1999) 71 Cal.App.4th 493, 517, the court found that:

> *... we accept Commission's interpretation of sections 30233 and 30240... In particular we note that under Commission's interpretation, incidental public services are limited to temporary disruptions and do not usually include permanent roadway expansions.*

> *Roadway expansions are permitted only when no other alternative exists and the expansion is necessary to maintain existing traffic capacity.*

Thus, fill for the expansion of existing roadways may be considered to be an "incidental public service purpose" only if: (1) the expansion is limited; and (2) the expansion is necessary to maintain existing traffic capacity. The proposed involves new roads (and fences) along differing alignments than the existing dirt border patrol roads that crisscross the border area. While the Commission has generally considered the above limited situation applicable to an activity maintaining an existing road along its same alignment, the proposed project is not along the same alignment and could not be considered a limited expansion of an existing road. (The issue of traffic capacity is irrelevant as this is not a public road.) In addition, the project does not qualify as an allowable use as "restoration," despite INS contentions that habitat to the north of the border fence system may benefit to some degree through reductions in border crossings and border enforcement efforts. These claims are undocumented and speculative, whereas the project's adverse effects on wetland, threatened and endangered, and other sensitive wildlife habitats are direct and significantly adverse. Filling a stream and canyon at Smuggler's Gulch with 2.1 million cubic yards of material (and a total of 5.5 million cu. yds. of grading, counting cuts and fills) can not rationally be considered "restoration." The Commission therefore concludes that the project does not constitute an allowable use under any of the eight uses enumerated in Section 30233(a).

(b) <u>Alternatives</u>. In the FEIS the INS analyzed three primary alternatives, with subcomponents separated by area within the two "build" alternatives. These three primary alternatives are the "No Project" alternative, the "Tactically Optimum Alternative," and the proposed "Multi-tiered Fence Alternative" (i.e., the Preferred Alternative).

The FEIS' stated that any alternative to be considered must meet the following selection criteria:

Alternative Selection Criteria

- Enforcement zone of 130 feet
- Secondary fence must be designed to impede illegal traffic
- Road platform should be less than 20% grade
- Fences should have minimal angles
- Alternative should reduce the current overall enforcement footprint
- Alignment/design should impact the minimal amount of land
- Provide safe operation 24 hours/day, 7 days/week
- Convey absolute certainty of apprehension
- Reduce risks to USBP agents
- Must comply with IIRIRA
- Maximize flexibility

The INS rejected the "No Project" alternative (i.e., reliance on the existing primary fencing) as not meeting project objectives. The "Tactically Optimum Alternative" would maximize border defense effectiveness and essentially ignore environmental concerns, but would have had a wider (200-250 ft.) project footprint and included maximizing cuts and fills and a fence across Monument Mesa. The INS therefore rejected this alternative as more environmentally damaging. For the proposed alternative (i.e., the Multi-tiered Fence Alternative), the INS states it constitutes "... the least environmentally damaging design (i.e., alignment, construction method, road or fence type) that could be implemented without jeopardizing the effectiveness of the infrastructure components or hindering the operations of the USBP." This alternative involves a minimum width between the primary and secondary fence of 130 ft. (with greater width in steep terrain), a third fence generally 20 to 24 ft. from the second fence (but, in areas where large cut and fill activities, to be located at the northern edge of the cut/fill impact area). The segment where the proposed alternative deviates most extensively is in Smuggler's Gulch (Area V), where the INS proposes to fill the entire width of the canyon. The canyon is 2,460 ft. wide and 310 ft. deep. The INS considered several alternate designs for this segment, including two switchback road alignments considered but eliminated from further evaluation for the reasons discussed on pages 26-28.

The Commission disagrees with the INS' rationale for the elimination of several of these alternatives and finds that feasible less environmentally damaging alternatives are available, feasible, and practicable. Either of the switchback alternatives the INS has rejected would be far less environmentally damaging than the proposed 2.1 million cu. yds. fill of Smuggler's Gulch, would avoid wetland fill in this canyon, and would reduce significant threats of downstream sedimentation into the Tijuana River National Estuary. The estuary is heavily threatened by sedimentation, and the INS' claims that the project would reduce sedimentation are unsupportable because they do not consider realistic revegetation rates and do not consider cut slope sediment inputs, as discussed in the analysis on pages 44-47. As will be discussed in that section, the project is highly likely to increase sedimentation and adversely affect the estuary, even with erosion controls, and alternatives avoiding filling Smuggler's Gulch would avoid or significantly lessen this impact.

Nevertheless, based on the selection criteria noted above, the INS only considered the above 3 primary alternatives (No Project, Tactically Optimum, and Multi-tiered fence) as warranting detailed analysis in the FEIS. The FEIS rejected several other alternatives as "... failing to meet the project's operational imperatives and/or compliance with IIRIRA." These rejected alternatives include:

> ***Primary Fence Only*** *One project alternative that was evaluated was to substantially improve (or fortify) the primary fence in lieu of additional fences in Areas I, V, and VI. In essence, this would be very similar to the No Action Alternative. In concept, this approach would minimize the project's direct footprint and impacts. After much consideration, however, the USBP has concluded that a project configuration lacking the secondary and tertiary fences cannot be made to function effectively.*

... Since this alternative would not create an effective enforcement zone, reduce the enforcement footprint, convey absolute detection and apprehension, allow flexibility in agent deployment, nor comply with IIRIRA, it was eliminated from further consideration.

Primary Fence in Area VI
An alternate design suggested by the USFWS and CDPR that was considered in Area VI was a single fence alignment from Bunker Hill to the Pacific Ocean. ... This alternative was eliminated from further consideration because of the increased impacts to the coastal marsh, the potential effects to the effectiveness of the overall Border Infrastructure System, and the fact that this alternative alignment would not satisfy the spirit and intent of IIRIRA.

Fence Only
Many of the perceived impacts of the Border Infrastructure System, as envisioned, stem from the need to provide an all-weather patrol road in association with the secondary and tertiary fences. In areas of rough terrain, the patrol road requires considerably more earthwork than would a simple fence foundation. As a result, the USBP has evaluated the alternative to forego the road component in some project areas. ... [A] fence without an all-weather patrol road cannot be maintained or defended. Any such barrier would become a de facto primary fence located inside U.S. territory. Therefore, construction of the fence platform without a patrol road cannot meet project objectives. In fact, this approach simply shifts the current enforcement posture further north into the United States without significantly improving border security or reducing illegal traffic. As a result, alternative designs or alignments that include a multi-tiered fence without an adjacent patrol road have been eliminated from further consideration.

Secondary Fence Only
Alternative The Secondary Fence Only Alternative would consist of the same designs and alignment as the proposed action, except that it would not incorporate the tertiary fence. ... [I]t would not be in strict compliance with IIRIRA. There would not be significant differences in the types and magnitude of impacts associated with this alternative and Proposed Action Alternative. Thus, it was eliminated from further consideration during the preparation of the Final EIS.

Bridge Alternatives

The INS noted that numerous commenters encouraged consideration of a bridge-type configuration, especially for Smuggler's Gulch. The INS provided a design for such a bridge (Exhibit 8), but maintains that "...there would be no pragmatic purpose to such an endeavor" and that:

The fundamental flaw to a bridge configuration from an operational perspective is the lack of a secondary barrier. Illegal aliens and smugglers would be able to drive/walk/ride under the bridge. ... A conceptual plan for a bridge spanning Smuggler's Gulch was formulated in order to identify order of magnitude costs and environmental impacts for comparison with those of other alternative designs. ... Th[e] platform geometry is shown in Figure 2-13 [Exhibit 8], and results in minimum bridge height of 165 ft over the base of Smuggler's Gulch and over 1,950,000 cubic yards of earthwork.

The disturbance footprint for this bridge design would be about 83 acres. The disturbance associated with the bridge-only alternative is comparable to the disturbance for proposed embankment alternatives.

The cost of the bridge-only option for Smuggler's Gulch was estimated to be $27.6 million or $16.3 million if constructed by a general contractor or military units, respectively. This is roughly twice the cost of any of the embankment alternatives. In summary, the bridge alternative for Smugglers Gulch does not meet the project's minimum operational requirements, has no obvious environmental advantage, and was projected to have the highest cost of any approach contemplated for Smuggler's Gulch. Based on this analysis, the bridge-only alternative was not considered further, in Smuggler's Gulch nor in any other location along the proposed project footprint. Bridges would not provide a barrier to illegal entrants and therefore would not fully comply with IIRIRA.

Switchbacks

Two alternative designs, primarily considered in Smuggler's Gulch, involving patrol road switchbacks were considered but eliminated from further evaluation. Switchback roads could be constructed in lieu of the earthen embankment. The current road system in Smuggler's Gulch is a switchback system; however, these roads are extremely steep; are experiencing severe erosion; are very dangerous, particularly after rains; and require an extended time to traverse from top to bottom. Therefore, the designs that were evaluated required major upgrades and new construction.

The FEIS presents two switchback designs: (1) a series of realigned switchbacks down the sides of Smuggler's Gulch (Exhibit 9); and (2) a single switchback at Smuggler's Gulch (Exhibit 10). The INS rejects the first "multiple switchback" design as:

...extremely poor from a functionality standpoint due to the poor sight alignments associated with the switchbacks, the increased response time, additional maintenance required for roads, ... increased risks to vehicle and driver safety [; and decreased] ... clear line of sight, thus increasing risks to USBP agents by providing concealment opportunities to UDAs [undocumented aliens] who breach the primary fence.

The INS notes that three agents have lost their lives in driving accidents on these roads, and it also maintains that the disturbance footprint from this alternative would be "... extensive, most of which would occur on the slope faces where the most sensitive environmental habitats in this portion of the project area are located." The INS states that this alternative would involve "about 1,319,644 cubic yards of earthwork, [and] a disturbance footprint of approximately 83 acres and a cost of $28.6 million."

The second switchback design would eliminate the multiple switchback problems and some of the operational and environmental problems associated with it (e.g., dangerous curves, large fills, habitat destruction, and line of sight issues). However it could enlarge the overall border enforcement footprint and a move to a more northerly location the second and third fences. The INS rejects the first "multiple switchback" design for the reasons described in the FEIS as follows:

> *A second design considered the use of a single switchback at Smuggler's Gulch, which attempted to mitigate the operational objections to the multiple switchback design by reducing the number of "turnbacks." The horizontal and vertical alignments for this alternate uses a single switchback with a 10 percent maximum grade to reach the base of Smuggler's Gulch from the east and west sides. This design resulted in a relatively small amount of embankment fill in the base of the canyon. However, the design required the patrol road to extend about 1,200 ft north of the border and the enforcement footprint would occupy all of Smuggler's Gulch (Figure 2-16 [Exhibit 10]). The road/fence platform geometry resulted in 1,319,644 cubic yards of earthwork and a disturbance footprint of 143 acres. The costs to construct this alternative would be about $13 million if a general contractor performed the work and about $3.2 million if military units constructed it.*
>
> *This approach was marginally better than the multiple switchback design but still creates a number of operational concerns. This design would also increase the response time and maintenance requirements. The expanded footprint would require more agents to be stationed in or near Smuggler's Gulch.*
>
> *This alternative actually involves more earthwork and environmental disturbance than does the multiple switchback alternative. Additional real estate costs and impacts to private properties would also be incurred. Due to the lack of operational advantages and similar or increased effects to the natural and human environment, both switchback designs were eliminated from further consideration.*

One of the important issues raised by this project is the need to understand why the INS makes the distinctions it does between Smuggler's Gulch and Goat Canyon, the first of which the INS believes must be partially filled, and the second of which it does not propose to fill or add secondary fencing. The FEIS elaborates on why it believes it can patrol the Goat Canyon area (where it is not proposing roads and fencing, other than paving an existing dirt road), but no other area, such as Smuggler's Gulch), with primary fencing only, as follows:

> *A 3-dimensional topographic depiction of the eastern slope of Bunker Hill, as compared to the eastern slope of Smuggler's Gulch, is shown in Figure 2-18 [Exhibit 24] to illustrate the differences in the presence of arroyos/washes and thus opportunities to avoid detection and apprehension. The terrain also allows USBP agents to observe activities on the north, east, and west side slopes from one observation point on top of Bunker Hill, a capability that is not available at any other location along the 14-mile corridor. The vegetation composition and density at Bunker Hill and Smuggler's Gulch are also quite different. Vegetation on the slopes of Smuggler's Gulch consists of dense strands of large shrubs scattered along the numerous arroyos and washes. Conversely, the vegetation on Bunker Hill is comprised mostly of grassland with scattered sage shrubs (see Photograph 2-2 [Exhibit 24]).*
>
> *The implementation of the sedimentation basins in Goat Canyon proposed by NOAA and Southwest Wetlands Interpretive Association (SWIA) would require a large area (22 acres) to be disturbed and maintained regularly, thus virtually eliminating vegetation and concealment opportunities and removing other enforcement obstacles (NOAA 2002). This expansive open area would effectively serve as an enforcement zone and physical deterrence. This combination of steep terrain with few and shallow arroyos/washes, low density vegetation, and presence of open, disturbed areas immediately north of the primary fence occurs only in this section of 14-mile project corridor. Therefore, the INS/USBP believed this section, and only this section, could be eliminated and still allow the USBP to effectively enforce the area.*

Thus, the INS asserts it would not be able to effectively enforce the Smuggler's Gulch area under either of the switchback alternatives, due to poor lines of sight, higher vegetation than in Goat Canyon (where it is willing to forego the fence), and the sedimentation basin proposed and approved for Goat Canyon, which would itself help block immigration. None of these arguments is compelling. The lines of sight from the high points above the canyon walls and the existing patrol roads down either side of the canyon, combined with the difficulty of escape due to the steep canyon walls, make the existing condition at Smuggler's Gulch as it is currently configured an ideal topography and situation for viewing and apprehending undocumented immigrants. The vegetation height difference between Goat Canyon and Smuggler's Gulch is not a meaningful concern for detection, as the extent of vegetation in the canyon large enough to provide cover for persons attempting to elude capture in Smuggler's Gulch is quite small when compared with the large bare and unvegetated terrain persons must pass through to avoid detection. The hairpin turns in the existing dirt roads along the canyon walls could be paved and otherwise improved with safety features. Moreover, the improved switchback alternatives looked at (but rejected) would only improve the effectiveness of apprehension and of safety for border agents driving the tight turns. Furthermore, like at Goat Canyon where the INS claims a sediment basin itself helps block immigration and eliminate the need for secondary and tertiary fencing and roads, a sediment basin at the bottom of Smuggler's Gulch, *as an alternative to* the large fill for the proposed road, would similarly provide deterrence (and it could be fenced, lit, and otherwise designed to further bolster deterrence efforts).

The Commission finds the INS' assertions undocumented and unconvincing that it could not effectively patrol the area with fairly minimal personnel under either of the switchback alternatives. The Commission also finds that the adverse effects of a larger enforcement footprint (such as under the single switchback alternative) pales in comparison to the proposal to fill the entire width of the canyon. The Commission concludes that the project is not the least environmentally damaging feasible or practicable alternative and that the project is therefore inconsistent with the alternatives test of Section 30233(a).

(c) Mitigation. The INS does propose wetland mitigation efforts to offset filled wetlands. The FEIS calculates the project would result in fill of 4.3 acres of wetlands in Area V (mostly in Smuggler's Gulch, but with several ephemeral washes on Spooner's Mesa and the mesa east of Smuggler's Gulch), and 2.7 acres of wetlands in Area VI (coastal salt marsh, 2.4 acres of which the INS considers to be "disturbed and of very low value"). The INS' consistency determination states:

> *The impacts of the proposed activities on water resources are covered in detail in Section 4.3.9 in the 2003 FEIS. In summary, effects to surface water quality would be considered minimal and temporary. Implementation of the structure would impact 10 acres of waters of the U.S., including wetlands, under the preferred alignments (SG-1 and BHPO-4) within Areas V and VI, respectively. A total of 2.35 acres of disturbed and native coastal salt marsh would be impacted. Of this, 76% is considered highly degraded and of low quality and value.*

To mitigate these impacts, the FEIS states that mitigation ratios would be 2:1 for southern willow scrub impacts, 3:1 for mulefat scrub and coastal salt marsh, 1.5:1 for disturbed coastal salt marsh, 0.5:1 for tamarisk scrub, and 1:1 for waters of the U.S. Both the FEIS and the U.S. Fish and Wildlife Service Biological Opinion indicate that the wetland mitigation details will be developed through the U.S. Army Corps of Engineers Section 404 permit process (i.e., they have not yet been finalized).

Based on typically-required Commission wetland mitigation, these ratios are inadequate, as the Commission normally requires a 4:1 ratio, regardless of the level of disturbance of the existing wetland. Many Commission-issued coastal development permits[3] have required a mitigation ratio of four to one to compensate for wetland acreage and functional capacity lost during the re-establishment and maturation of the mitigation area. In some cases, larger mitigation ratios have been required to ensure that at least some compensation occurs in the event the mitigation project is only partially successful. Enhancement of degraded habitat may be included as a component of a mitigation plan if the total package results in an acceptable mitigation ratio. Thus, the proposed mitigation ratios are inadequate and the project does not meet the mitigation test of Section 30233(a).

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[3] For specific examples see coastal development permit numbers 5-90-913, 5-92-408, 5-93-276, 6-86-2, 6-87-611, 6-87-667, 6-88-277, 6-88-388, 6-89-195, 6-90-219, 6-90-77.

In addition, the INS has not included any wetland mitigation location maps, planting plans, definition of success criteria, or monitoring plans. The Commission normally expects to be able to review these items prior to voting on a consistency determination. The Commission is therefore unable to find that it has sufficient information to determine whether the project satisfies the mitigation test of Section 30233(a).[4]

4. Conclusion. In conclusion, based on the above discussions, the Commission finds the project is not consistent to the maximum extent practicable with the allowable use, alternatives, and mitigation tests of Section 30233(a) of the Coastal Act, an enforceable policy of the CCMP, and, further that based on the lack of detailed mitigation and monitoring plans it has insufficient information to determine consistency with the mitigation test of Section 30233(a). Furthermore, for the reasons indicated above there are feasible, less environmentally damaging alternative project designs that would, if adopted by the INS, be more consistent with the Coastal Act. Therefore, the Commission finds the project is not consistent to the maximum practicable with the enforceable policies of the CCMP.

B. Environmentally Sensitive Habitat.

1. Coastal Act Policies. Section 30240 of the Coastal Act provides:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

In addition, Section 30107.5 defines "Environmentally sensitive area" as follows:

"Environmentally sensitive area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

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[4] Aside from proposed mitigation, the INS also claims in the FEIS that the project would benefit wetlands (and other sensitive habitat) through the increased deterrence and/or elimination of illegal foot and border patrol vehicle traffic from areas north of the tertiary fence, which could theoretically revegetate naturally and "regain the functional value as a coastal marsh, possibly up to 27 acres. The Commission: (1) notes that it is far from clear that these areas will revegetate naturally; (2) notes that without active efforts, revegetation is far more likely to occur by invasive rather than indigenous species; (3) notes that the INS has not provided plans for active abandoned road revegetation efforts; and (4) questions why the INS should receive "credit" for roads it has created in the first place.

2. **Project Impacts.** Environmentally sensitive habitat areas in the coastal zone that the project would adversely affect, either directly or indirectly, include:

(a) losses of and takes of federally- and state-listed threatened and endangered species, including the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher *(Empidonax trailii extimus)* and the coastal California gnatcatcher (*Polioptila californica californica)*, the first two of which reside in of southern willow scrub and mulefat scrub habitat in Smuggler's Gulch and the third residing in coastal sage scrub, maritime succulent scrub, and southern maritime chaparral habitats;[5]

(b) adverse effects on environmentally sensitive habitat areas that do not contain federally listed species, including: (i) habitat for the Baja California birdbush *(Ornithostaphylos oppositifolia)*, for which the only occurrence in the U.S. is on the mesa east of Smuggler's Gulch, and (ii) an extremely rare maritime succulent scrub vegetation community on Lichty Mesa);

(c) potential offsite effects on western snowy plover habitat along the beach area;

(d) coastal salt marsh and other wetland impacts, which are discussed in the preceding section of this report;

(e) offsite sedimentation issues Tijuana River National Estuary, including adverse effects to federally listed species including the salt marsh bird's-beak (*Cordylanthus maritimus Nutt. ssp. Maritimus)* and the light-footed clapper rail (*Rallus longirostris levipes*), which is addressed in the water quality section (Sections III. D) of this report.

The project would also result in a net loss of 163 acres of lands set aside for the County-wide interagency Multiple Species Conservation Plan (MSCP) habitat preservation program, 104 acres of which would be within the coastal zone.

The FEIS elaborates that the Proposed Action would result in impacts to 92 acres of various habitat types in Area V and 33 acres in Area VI, refined in consultation with the Fish and Wildlife Service and broken down as shown in Table 1 (Exhibit 11 to this report) of the Biological Opinion. For the coastal zone (Areas V and VI), the table documents:

	Size of Impact	
Habitat Type	Area V	Area VI
Coastal Sage Scrub (CSS)	16.4 acres	2.0 acres
Disturbed Coastal Sage Scrub (DCSS)	2.5 acres	0.6 acres
Native Grassland (NG)	0 acres	0 acres
Southern Willow Scrub (SWS)	0.67 acres	1.9 acres

[5] Note: Quino checkerspot butterfly *(Euphydryas editha quino)* habitat impacts would occur only outside the coastal zone, in Area 1, and will therefore not be addressed in this report.

Chaparral (Chap)	9.2 acres	0 acres
Mulefat Scrub (MFS)	2.2 acres	2.0 acres
Coastal Salt Marsh (CSM)	0 acres	1.0 acres
Disturbed Coastal Salt Marsh (DCSM)	0 acres	0.5 acres
Maritime Succulent Scrub (MSS)	3.7 acres	9.4 acres
Disturbed Maritime Suc. Scrub (DMSS)	0.1 acres	0.7 acres
Non-Native Woodland (NNW)	0.3 acres	0.5 acres
Ruderal (RUD)	12.2 acres	0 acres
Disturbed	42.4 acres	13.6 acres
Unvegetated Waters of the U.S. (WUS)	3.0 acres	0.1 acres

In terms of actual 'take' of federally listed species, the BO states that the project would result in:

1. take (in the form of harassment) of one pair of least bell's vireo and one pair of southwestern willow flycatcher, as a result of removal of 2.57 acres of southern willow scrub and 4.2 acres of mulefat scrub;
2. take (in the form of harassment) of one pair of California gnatcatchers and one individual gnatcatcher, as a result of removal of 26.3 acres of coastal sage scrub, 9.3 acres of disturbed coastal sage scrub, and 9.2 acres of southern maritime chaparral; and
3. take of Quino checkerspot butterfly (outside the coastal zone) that is difficult to quantify.

3. <u>Mitigation</u>. The INS' consistency determination states that:

(1) the project would benefit ESHA habitat through its abandonment of up to approximately 100 miles of existing patrol roads;

(2) adverse effects on habitat occupied by the Federally endangered least Bell's vireo and coastal California gnatcatcher would be mitigated within portions of the Tijuana River Valley Regional Park (in areas identified in the Framework Management Plan for the Regional Park as potential sites for future restoration and coordinated with the County of San Diego Planning Department);

(3) impacts to other sensitive species and habitats (e.g., Baja California birdbush and maritime succulent scrub) would be mitigated through restoration actions and/or land acquisition/transfer; and

(4) the INS is not bound by the terms of the MSCP, but that it nevertheless commits "... to transferring or preserving lands acquired as part of the Border Infrastructure System, as partial or full compensation required under the ESA or CWA. Transfer or preservation of these areas could benefit the MSCP."

The consistency determination notes that many of these issues are addressed in the U.S. Fish and Wildlife Service's Biological Opinion (contained in Appendix H of the FEIS, and mailed as an attachment to the Commissioners). The BO defines the types of mitigation/conservation measures to be employed. In addition, a conceptual mitigation plan is presented in Appendix G of the project FEIS. The BO primarily addresses project impacts on federally listed least Bell's vireo, coastal California gnatcatcher, Quino checkerspot butterfly, southwestern willow flycatcher habitat, and designated critical habitat for the gnatcatcher, Quino and vireo. The opinion concludes the project would include measures enabling it to avoid effects to the California least tern and western snowy plover, it assumes that wetland impacts will be addressed through the Corps of Engineers Section 404 permit, and that through Regional Water Quality Control Board review of the INS' erosion controls and Stormwater Pollution Prevention Plan (SWPPP), the project would avoid effects from runoff on listed species in the Tijuana River National Estuary, including salt marsh bird's-beak, light-footed clapper rail.

As negotiated with the INS, the BO contains various mitigation ratios (BO Table 2, Exhibit 11), depending on habitat type, from 1:1 for disturbed and unvegetated areas, to 2:1 for southern mixed chaparral and disturbed maritime succulent scrub, and 3:1 for the rarer or higher quality habitat types. The total acreage affected for all project types is 96.3 (both in and out of the coastal zone), with a proposed replacement acreage of 231.6 (Exhibit 11). Table 3 of the BO (Exhibit 12) lists the mitigation strategies, indicating that coastal sage scrub and chaparral habitat will be mitigated in Spring Canyon (north of Area III, outside the coastal zone (Exhibit 19)), riparian habitat will be restored adjacent to the Tijuana River (location to be formalized with FWS (Exhibit 20)), maritime succulent scrub will be preserved on Lichty Mesa and restored on Spooner's Mesa (Exhibit 21), and wetlands/coastal salt marsh impacts will be mitigated through the Corps of Engineers Section 404 permit. The project would avoid impacts to snowy plovers, which nest at the beach at Border Field State Park, "due to INS electing to tie the Border Infrastructure System into the existing primary fence on the western slope of Monument Mesa."

Regarding state-listed species, the FEIS states that up to 4,004 individual specimens of seven different state-listed species would be adversely affected in Smuggler's Gulch, Area V, and that the San Diego sunflower and barrel cactus would be the species most affected. In Area VI, the least Bell's vireo occupies small patches of coastal sage scrub and maritime succulent scrub on the western slope of Bunker Hill.

The FEIS proposes two primary methods of offsetting impacts to protected species and wetlands: (a) land transfer/preservation and (b) restoration of disturbed lands. The FEIS notes:

> *It should be emphasized again that INS is not statutorily required to compensate for upland habitats that are not occupied by Federally protected species or encompassed by designated critical habitat. Thus, the mitigation ratios presented previously in Table 5-2 are considered to be liberal, even though they might be below what is recommended in the MSCP or by the County of San Diego for commercial and private development.*

(a) Preservation. The primary land transfer/preservation efforts would consist of transferring 145 acres of INS-owned land near Spring Canyon (in Area III, which is outside the coastal zone)(Exhibit 19) to resource agencies (and possible inclusion in the MSCP). These lands contain a large vernal pool complex as well as habitat that could be managed for gnatcatcher and Quino checkerspot butterfly habitat. A total of 110 acres of this land consists of disturbed and undisturbed coastal sage scrub and native grassland communities, and disturbed/barren lands, that would be counted as mitigation or compensation. The remaining 35 acres, which includes vernal pool complexes and riparian scrub communities, would not contribute to the compensation totals, since these communities are integrally connected to other mitigation programs. Of the 110 acres, 37 acres are disturbed and denuded areas that would have to be restored to coastal sage scrub prior to transfer or conservation of the lands. The INS also expects that the entire parcel of private land on Lichty Mesa (Area VI), which would have to be purchased in full in order to construct the Border Infrastructure System, but only 5 acres of which are needed for the project, would enable it to transfer the remaining 9.6 acres for additional compensation. These lands contain maritime succulent scrub (4 acres) and disturbed and undisturbed coastal salt marsh (5.6 acres) communities.

(b) Restoration. Restoration efforts would consist of abandoning, and possibly re-vegetating, approximately 42 miles of roads in the Spring Canyon Area (Area III, again, outside the coastal zone), and 43 miles of roads in Areas I, IV and VI. Revegetation would be contingent on receiving landowner permission. Up to about 145 acres of bare ground could be converted to coastal sage scrub and grassland habitat, which would eliminate much of the habitat fragmentation that has resulted from these roads. More roads could be abandoned/re-vegetated in the future as operational needs are reassessed (again, contingent on receiving landowner permission). About 16 miles (24 acres) of roads are on public lands and the INS states it is "... confident that these roads could be restored to coastal sage scrub and maritime succulent scrub upon completion of the Border Infrastructure System." The roads which would be abandoned are presented in Figures 5-2 through 5-4 (Exhibit 18). The INS also proposes:

- restoring additional lands on Spooner's Mesa to maritime succulent scrub and maritime chaparral;
- restoring an 18-acre site parallel to and south of the Tijuana River to compensate for the losses of mulefat scrub and southern willow scrub communities;
- coordinating with the Bureau of Land Management to conduct a noxious weed eradication program along patrol roads within the Otay Wilderness Area and surrounding BLM lands; and
- revegetating the slopes on the north side of the Border Infrastructure System with native species.

Additional avoidance and mitigation commitments include:

- conducting pre-construction surveys for migratory birds;
- salvaging and relocating affected specimens of Baja California birdbush to areas north of the project area and/or to the INS mitigation site;
- limiting lighting to special lamps producing a maximum of 0.1 foot candles of light at the northern toe of the maintenance road which the INS maintains is similar to a bright moonlight condition; and
- noise abatement (either through avoidance during sensitive periods) or noise barriers.

In addition to these measures, the INS relies on the Fish and Wildlife Service BO, which provides additional details about project impacts, mitigation and monitoring measures, and additionally recommended (but not required) conservation measures.

The 33 required conservation measures under the BO expand on the INS' commitments listed above; these measures are attached as Exhibit 13. The BO further requires "Reasonable and Prudent Measures" and "Terms and Conditions" requiring the establishment of baseline conditions, and detailing management, monitoring, and reporting requirements (which are shown in Exhibit 14). The BO also provides for reinitiation of consultation in the event a greater level of adverse effects to listed species occurs, as well a list of "conservation recommendations," which are not binding on INS (Exhibit 15). Concerning these conservation recommendations, the INS states:

> *A decision regarding the implementation of one or more of the Conservation Recommendations contained in the Biological Opinion (1-6-03-F-1089.22) has not been made by the proponent agency to date. It is not likely that such a decision will be made in the near future due to the state of flux in the new Department of Homeland Security.*

4. <u>Commission Analysis – Allowable Use</u>. Despite the above commitments, the project is located within a number of environmentally sensitive habitat areas (based on the Coastal Act definition - Section 30107.5, page 30) in the coastal zone, including: (1) southern willow scrub, mulefat scrub, coastal sage scrub, maritime succulent scrub, and southern maritime chaparral, in which federally- and state-listed threatened and endangered species have been identified, including the least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher *(Empidonax trailii extimus)* and the coastal California gnatcatcher (*Polioptila californica californica)*; (2) wetlands in various locations (see page 22), including coastal salt marsh habitat in Border Fields State Park; (3) habitat for the Baja California birdbush *(Ornithostaphylos oppositifolia)*, for which the only occurrence in the U.S. is on the mesa east of Smuggler's Gulch; and (4) an extremely rare maritime succulent scrub vegetation community

on Lichty Mesa. Section 30240 only allows "uses dependent on the resources" to be sited within environmentally sensitive habitat areas, and the Commission finds the project is not a use dependent on these resources.

Even considering those habitats that contain federally listed species and for which conceptual mitigation measures are included in the Fish and Wildlife Service's BO, the Commission finds the project is not an allowable use under Section 30240(a). Moreover, the mitigation and monitoring plans prepared to date are incomplete and the Commission does not have enough information to determine these species would be protected from significant disruption as also required under Section 30240(a). In addition, the BO does not protect environmentally sensitive habitat areas that do not contain federally listed species.

For example, the INS notes that its project would affect 46% (47 out of 103) of the entire U.S. population of the Baja California birdbush species, located on the unnamed mesa east of Smuggler's Gulch. While additional populations occur in Mexico, the California Native Plant Society (Inventory of Rare and Endangered Vascular Plants of California) considers this species endangered throughout its range (not just in the U.S.) To attempt to offset this impact, the INS has included a conceptual salvage and transplant plan which is incomplete, and, moreover, has an unlikely and, at best, unknown chance of success. San Diego County notes:

> *Translocation of the Baja California birdbush is an unproven action. Transplantation actions for members of the Ericacaeae are notorious for failure due to the sensitivity of the roots and associated soil mycorrhyza. The Biological Opinion states that this transplantation is not a statutory requirement but it also states that not performing the transplantation could lead to the possible listing of this species in the future. This population that is going to be significantly reduced by this project is the only population of this species in the United States. The project itself when considering the unproven and unlikely success of transplantation will in fact bring the species to near extinction in the United States.*

Given this concern, the Commission finds that the proposed road and fences resulting in take of 46% of this species (in the U.S.) constitutes development within an environmentally sensitive habitat area that is inconsistent with Section 30240 of the Coastal Act because it is not a use dependent upon the resources of the environmentally sensitive habitat area, and it would not would protect the resources from significant disruption of its habitat values.

Concerning additional environmentally sensitive habitat areas that do not include federally listed species, a sensitive and unique vegetation community occurs on Lichty Mesa which is one of the few (if not the only) undisturbed coastal mesas in San Diego containing rare vegetation communities that could not be replicated further inland at Spring Canyon (the site of the bulk of the proposed restoration efforts). The Commission finds that the INS' proposal to cap the mesa with the proposed road and fence improvements would result in extensive landform alteration and vegetation destruction on this mesa. This too would constitute development within an environmentally sensitive habitat area that is inconsistent with Section

30240 of the Coastal Act because it is not a use dependent upon the resources of the environmentally sensitive habitat area, and because it not would protect these rare and valuable habitat resources from significant disruption of their habitat values.

Finally, concerning environmentally sensitive habitat areas downstream of the project (including coastal salt marsh and habitat for federally listed species in the Tijuana Estuary), for the reasons discussed in the water quality section of this report, the Commission finds that increased sedimentation and erosion is likely and that the project would be inconsistent with the requirement of Section 30240(a) and (b) that "environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values," and for "development in areas adjacent to environmentally sensitive habitat areas, ..." the development "...shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat areas."

5. **Commission Analysis – Alternatives.** The Commission further finds that less damaging feasible and practicable alternatives exist which would reduce adverse effects on these environmentally sensitive habitat areas. As discussed on pages 23-29 in the previous (Wetlands) section of this report, any of several alternatives which would eliminate the need to fill Smuggler's Gulch would not only address wetland concerns, but other environmentally sensitive habitat concerns as well (e.g., least Bell's vireo and, southwestern willow flycatcher, as well as downstream wetland and Tijuana Estuary habitats). Adding a sediment basin in Smuggler's Gulch would also help protect the Tijuana Estuary from construction and ongoing project-induced erosion from cut and fill slopes in this canyon, some of which would occur even if the proposed canyon fill is eliminated, due to earthwork on the canyon side slopes. Narrowing the project footprint on the mesa east of Smuggler's Gulch (in the area containing the Baja California birdbush habitat), to would lessen adverse effects on this species. An alternative for Lichty Mesa consisting of replacing the proposed capping of Lichty Mesa with use of the existing disturbed roads on and accessing this mesa (which could be combined with relocating the secondary fencing to the northern edge of the existing disturbed road surface) would seriously reduce if not eliminate adverse effect to this vegetation community.

6. **Commission Analysis – Mitigation.** In terms of the adequacy of the mitigation ratios worked out with the U.S. Fish and Wildlife Service (Exhibit 11), the ratios in several instances are less than typically required by the Commission through coastal development permit, Local Coastal Program, and federal consistency reviews. For habitat types in the coastal zone, the Commission believes for the ratios to be adequate the INS needs to increase the habitat mitigation ratio to 4:1 for coastal salt marsh (including disturbed coastal salt marsh), to 3:1 for disturbed maritime succulent scrub, to 3:1 for Southern Maritime Chaparral, and to 3:1 for disturbed coastal sage scrub. Concerning the Baja California birdbush salvage plan, aside from narrowing the project footprint in this area as discussed in the previous paragraph, the INS needs to clarify a discrepancy between the body of the FEIS, which proposes salvage and relocation to areas north of the project area (and/or to the INS mitigation site), and the Appendix G Draft Baja California Birdbush Salvage Plan statement that "the salvaged plants will be utilized in comprehensive revegetation efforts on the *new fill area*." [emphasis added]

The latter statement should be retracted and relocation should occur in adjacent or nearby undisturbed areas at similar elevations and in similar soils on the mesa top. The plan should also be clarified to require that equipment used will be capable of transporting entire root structures of the plants. Finally, for all the habitat restoration plans, the Commission also needs to review final mitigation and monitoring plans for habitat restoration for threatened and endangered and other sensitive species, revegetation of disturbed, cut, and fill slopes, and any abandoned road restoration efforts for which the INS seeks habitat mitigation credit. The Commission finds that the plans prepared to date are incomplete, lack accurate determination of baseline (pre-project) conditions, tables clearly depicting extents and locations of impact areas and mitigation areas, thorough monitoring efforts (e.g., for at least 5 years after the mitigation has been implemented), and adequate definitions of success criteria.

7. **Commission Analysis - MSCP Lands.** Concerning the elimination of 88 acres of MSCP lands in Area V, and 16 acres in Area VI, the Commission notes that the MSCP is one of two subregional plans in San Diego County and was prepared to implement the state-wide Natural Communities Conservation Program (NCCP). The NCCP was developed to streamline the permitting process and to facilitate a regional approach to habitat conservation. The MSCP includes central and southern San Diego County while the Multiple Habitat Conservation Program (MHCP) includes portions of northern San Diego County. Each subregional plan includes a proposed habitat preserve. Within the MSCP, a biological preserve, known as the Multiple Habitat Planning Area (MHPA), has been established by the City of San Diego in cooperation with the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

The FEIS states:

> *The INS/USBP did not participate in the development of this valuable program and thus was not a signatory partner. Although the INS/USBP have made every attempt to reduce the effects on MSCP lands, while satisfying the stated purpose and need as well as IIRIRA. There is no statutory requirement for the INS to comply with the mitigation conditions specified in the MSCP. Consequently, there is a potential that INS's lack of participation in the MSCP could affect or influence other Federal, state, and local agencies' future participation as well. INS has stated its intentions, however, to preserve or transfer approximately 145 acres in the Spring Canyon area to a conservation agency upon completion of the Border Infrastructure System as partial mitigation for protected species. These lands are included in the MSCP and could be used as such by the receiving agency.*

The primary concern over this commitment is that the lands proposed for "mitigation" are already enrolled in the MSCP program, such that the INS is not adding to the program. The INS' contention that it was not a signatory to the program and is therefore statutorily exempt from its requirements undermines the integrity of the entire program. The Commission is concerned over the effects of these losses on the integrity of the program and believes INS should avoid diminishing the habitat acreage and values of lands enrolled in the program.

The Commission *urges, in the strongest terms possible*, that the INS replace the at least the 104 acres of MSCP lands (88 acres in Area V, and 16 acres in Area VI) being lost to the program in the coastal zone, if not the entire acreage (i.e., 163.6 acres) by purchasing and dedicating to an appropriate public agency equivalent acreage and quality of lands not now enrolled in the program (replacement lands may be either inside or outside the coastal zone), to be added to the lands protected under the MSCP program such that there is no net loss to the program. The Commission notes that the Fish and Wildlife Service has made a similar recommendation in its BO (p. 58)(and Exhibit 15), when it noted:

> *Loss of MHPA land is of particular concern since it was the conservation and management of these lands that justified the coverage of the gnatcatcher, vireo and flycatcher, as well as the other 82 species included on the covered species list. The INS proposes to offset impacts from the BIS project by restoring habitat on approximately 145 acres of land in Spring Canyon. In addition, the BA (INS 2002c) states that INS is considering closure and restoration of approximately 200 miles of roads throughout the project area. The proposed restoration my offset some of this loss, by increasing the biological value of MHPA preserve lands. However, much of this area lies wholly within the MHPA, therefore it would not fully offset the loss of 163.6 acres of the MHPA preserve. In addition, INS has not fully determined how it will implement these conceptual proposals, therefore we can not determine the overall effects of the project on MSCP. The service will continue to work with the INS to increase the acreage of lands in the MHPA.*

8. <u>Commission Conclusion</u>. Based on the above discussions, information, consultation results, conceptual plans, and commitments, the Commission concludes that the project is inconsistent with Section 30240 because: (1) it is not a use which is dependent upon the resources of the environmentally sensitive habitat areas in which it is proposed; (2) it is would not protect environmentally sensitive habitat areas against significant disruption of habitat values; (3) it is located not only in but adjacent to environmentally sensitive habitat areas but has not been sited and designed to prevent impacts which would significantly degrade those areas, and would not be compatible with the continuance of those habitat areas; (4) it provides for inadequate mitigation ratios for several habitat types (particularly disturbed habitat areas, southern maritime chaparral, and coastal salt marsh); (5) it does not provide mitigation for environmentally sensitive habitat impacts that do not contain federally listed species (including the Baja California birdbush and extremely rare maritime succulent scrub vegetation communities on Lichty Mesa); and (6) as will be discussed in the wetland (alternatives) section above and the water quality section below, it is likely to increase erosion and sedimentation, potentially threatening listed species in the Tijuana River National Estuary. The Commission further concludes that due to the draft, conceptual, and incomplete nature of the mitigation and monitoring plans for habitat restoration, the Commission lack sufficient information to determine at this time whether any of the proposed mitigation plans would mitigate habitat impacts.

Finally, for purposes of discussion (for example, if the INS were to assert that while full consistency with Section 30240 is not achievable, the project is still consistent to the maximum extent practicable with Section 30240), and as discussed above (page 37) and in the preceding section of this report (in the wetlands/alternatives discussion), the Commission finds that feasible and practicable less environmentally damaging alternatives are available (in particular for Smuggler's Gulch, Lichty Mesa, Border Field State Park, and the unnamed mesa east of Smuggler's Gulch) that would more closely enable a determination that the proposal could protect the environmentally sensitive habitat area resources to the maximum extent practicable from significant disruption of its habitat values.

C. **Water Quality.** Section 30231 of the Coastal Act provides:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The Tijuana River National Estuarine Research Reserve (TRNERR) encompasses approximately 2,531 acres of tidally flushed wetlands, riparian and upland habitats extending north from the international border to Imperial Beach Boulevard and the Naval Air Station. It is bounded on the west by the Pacific Ocean shoreline and Seacoast Drive and on the far east by Saturn Boulevard. Established in 1982 by the National Oceanographic and Atmospheric Administration (NOAA), the Research Reserve consists of the Tijuana Slough National Wildlife Refuge, Border Field State Park, Navy lands, San Diego County property and San Diego City property. The Reserve is managed cooperatively by the U.S. Fish and Wildlife Service and California State Parks (DPR).

National estuarine research reserves are areas set aside for long-term research, education and interpretation. The TRNERR is one of 25 estuarine reserves in the country devoted to education and research and is one of the two intact estuaries in southern California. The estuary provides productive marsh habitat for invertebrates, fish and birds, plants. Several endangered and threatened plant and animal species are sheltered within the Reserve, including the light-footed clapper rail, California least tern, and salt marsh bird's beak. The Tijuana River National Estuarine Research Reserve (TNERR) Management Plan (1999) governs planned activities and development within the estuary boundaries to ensure its preservation as a research and interpretive resource. One of the most serious concerns for the TNERR, a unique and internationally known estuary with outstanding habitat values, is the continual threats from sewage and sedimentation from upstream lands and waters. Major public efforts and many millions of public dollars of expenditures have been spent on sewage treatment and sediment removal within and upstream of the estuary. The predominant effects have originated in Mexico, which comprises about 70% of the 1,731 sq. mi. watershed of the Tijuana River, but

significant inputs also occur from agricultural practices and Border Patrol efforts in the U.S. Major improvement efforts have included construction of the International Wastewater Treatment Plant (IWTP) located east of Smuggler's Gulch, construction of an ocean outfall offshore of Imperial Beach, and the proposed construction of the Goat Canyon Sediment Basin.

The FEIS notes that the project would directly and indirectly impact soils, including direct alteration of 33 acres in Area VI and 93 acres in Area V. The FEIS also notes the potential for increased soil erosion during construction due to an increase in surface runoff, and that several soil associations are present that require special engineering designs and construction methods; the FEIS states: "According to the USDA (1973), all the soils located within Area V are considered to have high erosion rates, fair to poor suitability for road fill activities, and have severe engineering limitations for road location (except for the Carlsbad soil)." The INS believes it can engineer around these constraints, and that revegetation and erosion controls would minimize adverse effects, stating:

> *The FEIS states that runoff would be captured by storm drainage, thus minimizing the potential for soil erosion. In addition, compaction techniques and erosion control measures such as jute fiber, stilling basins, waterbars, gravel bags, gabions, straw bales, and re-seeding would be implemented to alleviate these situations, as described in Section 2. A SWPPP would be required since the area of impact would be greater than one acre. ...*
>
> *Construction methods that would be implemented to ensure slope stability and erosion control would include, but are not limited to, over excavation and backfill, compaction using thinner layers (lifts), revetments, and terraces.*

The INS' consistency determination states:

> *There is a potential for increased soil erosion during construction due to an increase in surface runoff; however, runoff would be captured by storm drainage minimizing the potential for soil erosion. As mentioned above, completion of the Border Infrastructure System would reduce the annual sediment loads being generated within the project corridor by 27%. In addition, compaction techniques and erosion control measures such as waterbars, gabions, straw bales and reseeding would be implemented to alleviate these situations during the construction period. These areas should be converted back to their natural condition upon completion of the project to help reduce the potential of soil erosion. A Stormwater Pollution Prevention Plan (SWPPP) would be required since the area of impact would be greater than one acre.*

The INS elaborates with the following commitments in the FEIS:

> *BMPs, that would be implemented during the construction phase include, but are not limited to the following measures:*

1. The limits of fill-and-cut slopes shall be field surveyed and staked prior to construction.
2. Separate and stockpile topsoil for re-application.
3. Schedule major construction during the dry season when erosion potential is low.
4. Minimize the size of exposed area and the length of time of exposure through construction phasing, seeding and mulching.
5. Roughen finished slope surfaces to aid infiltration and thus reduce erosion. Methods to roughen include texturing with heavy equipment such as sheepfoot roller, and ripping and tilling perpendicular to the slope with ripper bars.
6. Trap sediment before it leaves the construction site by using silt fences, straw bales and temporary stilling basins.

The final engineering designs and SWPPP will identify specific measures/designs to be constructed that will provide permanent control of erosion and sedimentation to assure that the proposed action does not add to the existing problem of sedimentation in the Tijuana estuary or degrade downstream water quality. Permanent erosion control features that will be incorporated to the design will include, but are not limited to:

1. Apply jute fabric bonded fiber matrix, or other types of slope stabilization materials,
on slope to hold soil, reduce impact of raindrops on soil material, hold seeds in place
for germination and maintain soil moisture. The preferred cover shall be natural product, such as jute, so that it will degrade into the soil matrix.
2. Apply stockpiled native topsoil to finished slopes.
3. Seed the slopes with native vegetation before rainfall season.
4. Construct terraces or benches on steep and long slopes. Provide swale within the benches and line with riprap to slow water velocity and create energy dissipation.
These swales should be directed to downdrains or rock-lined spillways to convey the storm water down slope in a safe and controlled manner to prevent slope erosion by concentrated flows.
5. Collect and direct runoff from top of slopes away from slope surfaces by using embankment curbs, spillways and downdrains. Provide energy dissipaters at the outlet of downdrains and spillways.
6. Provide sedimentation basins at toe of slopes to intercept and trap sediment before it leaves the project footprint. Maintenance of the sedimentation basin shall be the responsibility of the USBP and shall be accomplished on an as-needed basis, but not less than annually, to ensure that the basin will function properly.

> *Revegetation efforts would be needed to ensure long-term recovery of the area and to prevent significant soil erosion problems. The use of native seeds and plants to assist in the conservation and enhancement of protected species would be considered, as required by Section 7(a)(1) of the ESA. Borrow materials, if required, would be obtained from established borrow pits or from approved on-site sources within the project footprint.*

The Commission staff has provided the INS with a number of construction and post-construction water quality features it believes are necessary (Exhibit 26), and the INS has responded that it does expect to include these in its Storm Water Pollution Prevention Plan (SWPPP) and site-specific Water Quality Control Plans (WQCPs). The Commission appreciates this response but nevertheless has several water quality concerns over the INS' proposal. The first is that the water quality plans have not been finalized and are incomplete. The second is that the Commission has serious questions over the INS' optimism in its ability to revegetate steep slopes in areas with serious erosion problems and extremely difficult revegetation conditions. The third, which in part is a combination of the first two, is that the INS appears to have seriously underestimated the potential for downstream sedimentation impacts. These three concerns will be addressed in more detail in the following paragraphs.

While the INS has agreed in concept to include measures recommended by the Commission staff, without specific details the Commission is unable to evaluate their effectiveness. For example, to assess the likelihood of impact of the project even with BMP's recommended by the Commission staff, the Commission needs to be able to review construction-phase measures such a: (1) nutrient management measures; (2) grading schedules; (3) identified structural BMPs clearly labeled on project plans; and (4) a narrative description for all proposed BMPs. For post-construction measures, the Commission needs to be able to review: (1) clearly described (and labeled on the project plans) BMPs to treat or infiltrate runoff from impervious surfaces (i.e., patrol and maintenance roads) and to discharge the runoff in a manner that avoids erosion, gullying on or downslope of the subject site, discharge of pollutants (e.g., oil, heavy metals, toxics) to surface waters or drainage courses; (2) impervious surface runoff conveyance and treatment measures and demonstrated calculations (including meeting a guideline that they treat or infiltrate the amount of stormwater runoff produced by all storms up to and including the 85th percentile, 24-hour storm event for volume-based BMPs, and/or the 85th percentile, 1-hour storm event, with an appropriate safety factor (i.e., 2 or greater), for flow-based BMPs); (3) clearly described (and labeled project plans) BMPs to prevent and control erosion and sedimentation from the surface of embankment and cut slopes; (4) short- and long-term revegetation (with native plants) and monitoring plans; and (5) a long-term plan and schedule for the monitoring and maintenance of all structural stormwater BMPs. Without these details, the Commission lacks sufficient information to determine the project's consistency with Section 30231 of the Coastal Act.

In addition, the Commission staff has contacted habitat restoration specialists who have experience working in this region and who confirm comments made by numerous agencies on the DEIS that revegetation in these types of soils is extremely complex and would take a

minimum of 3 years to achieve, even if all possible efforts are undertaken successfully. More importantly, the INS' assertion that the massive Smuggler's Gulch fill will improve rather than hinder sedimentation concerns is based on questionable assumptions, as described in the September 9, 2003, preliminary memo from Phil Williams and Associates (PWA) to the California Department of Parks and Recreation (Exhibit 22), which states:

> ***4. Sediment yield from the project footprint***
> ***[INS FEIS] Report findings***
> *The report used the MUSLE to account for sediment yield from the project footprint (presumed to be the earthen embankment) under the 100-yr event. This led to an estimate of 3391 tons for existing conditions and 2424 tons for the proposed project conditions. The decrease was due to the assumption that erosion control measures on the embankment would be more effective under the project conditions, compared with current (bare ground) conditions (i.e. lower C factor and higher P factor in the MUSLE model).*
>
> ***Comments***
> *It is very hard to understand exactly how the analysis was carried out from the results presented in Appendix I; a schematic map of the selected areas would clarify matters considerably. It appears as though the pre-project conditions assessment was based on the existing topography while the post-project condition is based only on the embankment. It appears as though the postproject assessment did not look at cut slopes above the embankment, which could be a significant source of erosion. There was also no assessment of dirt roads associated with the project, which could be a significant source of erosion and sediment. In selecting C values (crop factors) the analysis made the assumption that existing vegetation cover was 25%, and that future cover would be 0% but with the addition of erosion control measures that cover the ground surface with geotextile. The analysis is very sensitive to these assumptions. Based on photos in the EIS it appears that 25% cover is an underestimate of current conditions. There is thus the potential that the existing conditions assessment is overestimating sediment yield, making the post-project conditions look relatively more advantageous. Using the assumptions as they stand produces an estimated reduction in sediment yield of 40% under the project. Assuming the current vegetation has a 50% canopy cover results in almost no change under pre and post project conditions (1% reduction in erosion). Using a canopy cover of 75% for current conditions results in a 34% increase in sediment yield under the project (from 1,599 tons to 2,424). This would suggest an increase in sediment yield of 825 tons under the 100-year event. Assuming the same percentage change for average conditions (a valid assumption since the C factor is a straightforward multiplier in the MUSLE equation) the current average annual sediment yield would be 1,094 under the 25% cover assumed by the Baker report, 790 tons assuming 50% vegetation cover, and 516 tons with 75% cover. Post project yield would be 796 tons using the Baker report assumptions. Thus the project could potentially yield an additional 280 tons of sediment per year, ignoring the cut slope sediment yield and the potential for gully erosion (see below).*

An additional concern is that the MUSLE only considers rill and inter-rill erosion; it ignores gully erosion. If gullies were to develop on either the embankment or the cut slope above it this could lead to a significant increase in sediment yield beyond that calculated by this analysis. Changing the assumption of greater erosion control due to slope terracing (the P factor) does not significantly affect the resulting estimate; the predicted sediment yield rises to from 2,424 to 2,694 tons under the 100-yr event if we assume the slope terracing is not effective.

In summary it seems possible that the current conditions estimate of sediment yield is an overestimation, while the post project conditions assessment may be an underestimation.

This memo further states:

...[T]the amount of sediment generated by the project, and its proximity to the estuary is a potential cause for concern. There is also a cumulative effects issue; work by PWA and others has shown that the Tijuana Estuary is currently suffering from excessive sediment deliver rates from Smuggler's Gulch and Goat Canyon. If this project generates additional sediment loading, as seems possible, the cumulative impact will be made worse.

Regarding proposed erosion controls, the memo states:

EROSION CONTROL PROVISION

The Baker report contains provision for erosion control in two areas; source control on the earthen embankment and protection from accelerated channel flow from the 650 ft culvert. Permanent erosion control on the project will include a biodegradable geotextile, application of native vegetation seeds, terraces or benches on long slopes and sedimentation basins. Without more detailed plans and specifications, and information on monitoring and maintenance, it is difficult to comment on the effectiveness of these measures for sediment control. We anticipate that there may be problems achieving vegetation establishment on the embankments due to the relatively harsh growing environment and soils, and that rill and gully development may be a problem. A particular problem is that if the geotextile biodegrades before vegetation becomes established, erosion potential on the embankment will almost double. Using the Baker report MUSLE model and a modified C value of 0.45 (no canopy cover, no geotextile) causes the average annual project sediment yield to rise from 796 tons per year to 1,493 tons. With regards to the energy dissipator at the downstream end of the culvert, there is a discrepancy between the velocity figure stated in the report (23 fps) and that used in the calculations for rip rap to protect the outfall (11.7 fps). Using the HEC-11 rip rap sizing equation the figure of 11.7 fps does give a mean diameter value of 0.88 ft, rounded up to 1 ft for safety. However, if the value used in the report is taken

as correct, the required rock diameter rises to almost 7 ft. Likewise the length of channel armoring required is adequate assuming the appendix figures are used, but too small if the report figures are correct.

One potential area of concern is that the cut slope areas above the embankment may increase runoff source areas and create the potential for gully development.

The memo concludes:

It is hard to assess the MUSLE soil erosion modeling based on the data presented. The predicted sediment yield from the embankment appears to be reasonable assuming that the erosion control measures are successful. The effect of erosion on the cut slopes appears not to have been modeled; if this is so it is a serious omission that needs to be rectified. The choice of canopy cover values under existing conditions seems low, and may have led to an overestimation of sediment yield under current conditions, and a corresponding underestimation of project impacts. The analysis shows that if erosion control measures on the embankment are not successful sediment yield from the project could almost double, generating an additional 700 tons of sediment per year. Combining these issues it seems quite possible that the project will increase sediment yield by several hundred tons per year.

The general conclusion of the report is that the project will have a small but positive effect on sediment yield to the Tijuana Estuary. This is questionable given the discussion above. The impact of the project on sediment yield in percentage terms is likely to be low given the magnitude of sediment yields from the rest of the watershed, but the absolute amounts of sediment could potentially be quite high, and would be located close to the estuary with a high chance of delivery. Sediment delivery to the estuary is presently well above natural levels, and is adversely affecting estuary wetlands. Hence, it is recommended that increased sediment yield should be avoided.

In addition, the Department of Parks and Recreation points out (email communication, Sept. 11, 2003):

... the assertation that INS makes in the EIS that there will be a positive difference (i.e. a net decrease in sediment produced after as compared to before the project) is based on an assumption that currently the undisturbed slopes in this area have cover values of about 25%. In comparison the slopes disturbed by the project will have an initial cover value of 0%. Accordingly, the soil erosion control techniques employed need only to account for about 26% of the gross sediment produced in order to produce a net benefit. However, the assumption of 25% cover value is apparently based on dry season estimates. Because we have a Mediterranean climate (little or no rain in the summer) many of the native plants of this region are either wet season annuals or drought deciduous. This means that during the summer canopy cover values are very low. During the winter, when most rains fall and most erosion occurs, annuals grow and

drought deciduous plants add canopy. Cover values during a normal to wet winter can approach 100%. ... Thus the EIS over-estimates the amount of sediment produced by undisturbed slopes in the project area and so creates the appearance that the project will reduce the amount of sediment produced.

Another factor not considered in the analysis (or by PWA) is that undisturbed slopes in the project area are typically deflation surfaces. Deflation surfaces are soil surfaces that have been exposed to the erosive forces of wind and rain for long periods of time. During that time the smaller more easily transported soil particles have been removed by the forces of wind and water, leaving the larger less mobile rocks and cobbles armouring the soil surface against future erosion. When these deflation surfaces are disturbed the unarmoured soil beneath is exposed. Erosion and sedimentation rates increase until a new deflation surface is formed.

The hydro analysis in the EIS ignores both of these factors and thus falsely creates the impression that the project will actually decrease sedimentation in the Tijuana River Estuary.

The Commission agrees with these concerns raised by the Department of Parks and Recreation and its consultant's preliminary report, and finds that the INS has not established that the project would reduce rather than increase sedimentation. Neither the revegetation plans nor the water quality measures have been finalized, and the Commission lack sufficient information to determine whether the project would contribute significantly to erosion and adverse water quality effects, particularly downstream of the proposed fills in the Tijuana River Estuary.[6]

Based on the information it does have, given the national (and international) importance of this estuary, and the serious threats from sedimentation, and the consequences should INS' assumptions turn out to be overly optimistic as discussed in the Department of Parks and Recreation's communications and its consultant's report, the Commission finds the project would likely significantly adversely affect downstream water quality, would not control runoff, would interfere with surface water flow, would not maintain natural vegetation buffer areas that protect riparian habitats, and would not minimize alteration of natural streams. The Commission therefore finds the project inconsistent with most of the provisions of Section 30231 of the Coastal Act, and that the lack of final water quality/SWPPP plans means the Commission lacks sufficient information to determine the project's consistency with this

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[6] The Commission also notes that a review of Regional Water Quality Control Board (RWQCB) violation files provides evidence either of the Border Patrol's lack of diligence, or at a minimum evinces the difficulty in protecting disturbed slopes in constructing border fence improvements). For example, RWQCB Notice of Violation No. R9-2002-0404 was issued on December 11, 2002, to the Border Patrol after an RWQCB inspection in the already-constructed segment from the San Ysidro Border Crossing to Johnny Wolf Creek (Areas II and III, outside the coastal zone). The RWQCB staff asserted that the terms of the SWPPP were not being adequately implemented and that erosion controls and Best Management Practices were not being adequately maintained (or in some instances not present).

section. Moreover, feasible and practicable less environmentally damaging alternatives are available which would avoid or reduce water quality effects, including, as discussed on pages 23-29 and 37, removal of the large fill in Smuggler's Gulch and implementing either of the two switchback road alignments considered but eliminated by INS from consideration, and incorporating a sediment basin into the deterrence features (such as additional fences, cameras, and lights) at the bottom of Smuggler's Gulch.

D. <u>Stream Alteration</u>. Section 30236 of the Coastal Act provides:

> *Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (l) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.*

Smuggler's Gulch is the largest stream channel within the project corridor, with a width varying from 65 ft. to over 131 ft. It contains a number of sensitive wildlife habitats, including wetlands and riparian habitat. Like all the watercourses along the project corridor, Smuggler's Gulch is ephemeral, flowing predominantly during the rainy season, although it conveys wastewater flows from Mexico, which during low flow periods are captured and collected for treatment at the nearby International Wastewater Treatment Plant (IWTP) located east of Smuggler's Gulch.

The INS proposes to fill the canyon at Smuggler's Gulch across its entire width, with a box culvert structure conveying stream flows underneath the fill and road structure. This fill and culvert would result in the channelization and substantial alteration of approximately 900 linear feet of the stream that flows north from Mexico through the canyon and ultimately into the Tijuana Estuary. Section 30236 only allows stream channelization for water supply, flood control, or where habitat improvement is the primary purpose. The project does not qualify as any of these limited uses, and the Commission finds the project is inherently inconsistent with Section 30236.

The Commission further finds that the project has not incorporated best mitigation measures feasible, such that even if it were an allowable use it would not meet the requirements of Section 30236. As discussed in the wetlands, environmentally sensitive habitat and water quality sections (Sections III. A-C) of this report, at a bare minimum best mitigation measures feasible would need to include a sediment basin to capture sediment running off the steep slopes of the proposed fills. The INS states that alterations of streams (and other coastal waters) have been minimized to the maximum extent practicable, while satisfying the stated purpose and need and complying with IIRIRA, and that, as discussed in the water quality section below, the potential effects to surface water and water quality associated with erosion and sedimentation during construction activities and/or accidental spills would be addressed through the Best

Management Practices (BMP) required for compliance with the Stormwater Pollution Prevention Plan (SWPPP). For the reasons discussed on pages 44-47, the Commission both disagrees and finds these measures incomplete.

More importantly, as discussed on pages 23-29 and 37 the Commission believes implementation of alternatives consisting of patrol roads down the slopes of Smuggler's Gulch and the complete avoidance of fill across the canyon are feasible, implementable, and practicable, and would meet the border patrol and deterrence needs as outlined in IIRIRA.

The Commission concludes that the project: (1) is not an allowable use for stream alteration; (2) does not incorporate best mitigation measures feasible; and (3) that alterations of streams (and other coastal waters) can be avoided though the adoption and implementation of feasible alternative project designs. Thus the proposed project is not consistent to the maximum extent practicable with Section 30236 of the Coastal Act. Further, based on the lack of erosion control plans, that the Commission has insufficient information to determine whether the project is consistent with Section 30236.

E. <u>Public Access and Recreation</u>. Sections 30210-30212 of the Coastal Act provide for the maximization of public access and recreation opportunities, taking into account public safety, military security, and, fragile coastal resource protection needs. Section 30240(b) of the Coastal Act provides that development:

> *... in areas adjacent to and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those ... recreation areas.*

Most of the lands along the U.S. side of the border in Areas V and VI are in public ownership, either as public parks or habitat reserves. In Area VI, the 418 acre Border Field State Park, which includes Monument Mesa, the site of the Mexican American Friendship Park and the Border Monument (now embedded in the existing primary Border Fence) surrounds private inholdings at Lichty Mesa and constitutes the majority of Area VI. The western half of Area V is within the County owned Tijuana River Valley Regional Park, planned and managed for park (e.g., open space, recreation, and habitat preservation) uses. To the north of these lands is the TNERR, a 2,531 acre wildlife reserve co-managed by the California Department of Parks and Recreation (DPR) and the U.S. Fish and Wildlife Service, and which provides valuable nature study and educational recreation opportunities. Collectively, these lands represent regionally important recreational opportunities with great potential for increased value and use to the region. The Department of Parks and Recreation notes that public park acquisitions in this area have totaled $25 million, with another $20 million spent for habitat restoration on these lands.

The FEIS characterizes recreation in the project area as including:

> *... horseback riding, hiking, biking, bird watching, picnicking, motorcycle riding, and sightseeing. Recreational use of the project area occurs in park/recreation areas as well*

as undeveloped areas. There are two recreational areas in the project area, Border Field State Park and Tijuana Valley Regional Park. The latter is managed by the County of San Diego.

Border Field State Park is operated by the state of California and stretches from the Pacific Ocean east to the eastern side of Goat Canyon. The park contains a limited amount of developed park facilities and is primarily used for day activities such as picnicking, fishing, hiking, sightseeing, horseback riding, bird watching and educational opportunities. Friendship Circle and the 1852 International Border Monument mark where Mexico and the United States meet. This monument was the first international monument constructed and commemorated at the end of the American-Mexican War. The park, which was dedicated in 1974 by former First Lady Patricia Nixon, was intended to improve relations and social contacts between the United States and Mexico. As a result, the park is often used by people on both sides of the border to pass messages back and forth between the two countries through the existing fence. The majority of the parkland is undeveloped and is characterized by coastal sage scrub and lowland coastal marsh.

The FEIS provides additional details as follows:

The Tijuana River Valley Regional Park is a 2,300-acre park owned and operated by the County of San Diego, Department of Parks and Recreation. The park consists of developed sports facilities as well as an extensive system of trails. The park contains a diversity of habitats ranging from dense riparian forest to maritime scrub on the slopes of Spooner's Mesa. These habitats can be accessed through the extensive system of trails throughout this fertile river valley.

Approximately 372 acres of the park are also located within the TRNERR. Portions of Border Field State Park are located within Area V (Smuggler's Gulch) and additional acres are planned for acquisition by the park.

In addition, the Tijuana River Valley Equestrian Association (TRVEA) maintains a network of horse trails through the TRNERR and Border Field State Park. These trails have been approved by both entities. Roads are primarily used in the Smuggler's Gulch, while horseback trails have been established in the coastal areas.

In its consistency determination the INS maintains that the project would not cause a significant adverse impact to public access to the local beaches or associated recreational facilities because "Under the preferred alignment described in the FEIS, public access to the BFSP would be unrestricted during normal park hours." The consistency determination also states concerning public access:

INS has committed to designing and constructing an aesthetically pleasing gate and fence within the BFSP area that can serve both as an inviting entrance to the BFSP and also as the required enforcement zone. The gate would be locked except during normal

park hours. Copies of some of the designs that have been presented to the California State Parks are included in Appendix J of the 2003 FEIS.

Access to the Bunker Hill would be improved by paving the primary road to the top. Currently, access to the top of Bunker Hill is limited to 4-wheel drive vehicles due to the steepness and poor conditions of the extant road.

The area between the primary fence and the secondary fence would be restricted to public access, except at the BFSP, as described above. However, the public seldom uses this corridor. In addition, this use is similar to the secondary bollard fence system in Area IV, for which the California Coastal Commission has already granted Negative Determinations (ND-188-96 and ND-9-97).

Concerning recreation, the consistency determination states:

The BFSP's major recreational uses are as a picnic area and for sightseeing mainly to view San Diego Bay, the Tijuana River Estuary, and portions of Mexico along the coast. The area immediately north of the park is used for horseback riding and bird watching. The picnic area will be encompassed by the proposed action, but there will be unrestricted access to this area during normal park areas. Some extant roads that are used as horseback trails (0.6 miles in Smuggler's Gulch and 0.4 miles west of Bunker Hill) will be closed during the construction of the Border Infrastructure System. The USBP will work closely the BFSP and Tijuana Valley Equistrian Association to allow the use of the access road on the northern slope of the embankment at Smuggler' Gulch to access the mesas on either side of the gulch. The proposed action will indirectly benefit the unique and sensitive areas north of the proposed Border Infrastructure System by reducing or eliminating illegal traffic, brush clearing, fires, and by a reduction in the enforcement footprint of USBP.

Concerning mitigation measures, the FEIS states that construction activities in Border Field State Park would be restricted to non-holiday weekdays only to reduce/eliminate adverse noise effects on visitors, and that different designs of the fences and entrance to the Border Field State Park at Monument Mesa (FEIS Appendix J, Exhibit 27) are currently being coordinated with the California Department of Parks and Recreation and the California Resources Agency. The INS believes this coordination "... could provide a more aesthetically pleasing design and/or enhance the functionality of the park. These measures also include planting native shrubs (e.g., chamise or mulefat) north of the tertiary fence to conceal the border infrastructure system." The INS also states, in FEIS Volume II, Response to Comments, that "visitation rates are sparse..." at Border Field State Park, that the Department of Parks and Recreation has not responded to its concept design plan alternatives, and therefore that "... the INS cannot commit to any mitigation at this time." [Comment CCon-12 Response] The Department of Parks and Recreation states that it has not responded because it does not believe any fencing surrounding the park is appropriate (pers.communication, DPR).

The Commission finds that the project would adversely affect recreational resources in the coastal zone in a number of ways: (1) direct loss of lands currently available and used for a variety of recreational purposes (at least 150 ft. wide at Spooner's Mesa and from the west side of Goat Canyon to Monument Mesa); (2) introduction of imposing, psychologically intimidating and unaesthetic landforms, roads, and fences; (3) loss of cultural resources; (4) loss of wetlands and environmentally sensitive habitat; (5) downstream adverse effects on the estuarine habitat from sedimentation from the massive fills on steep slopes and in highly erodible soils.

Of particular concern is the fence proposed around the northern boundary of the day use area at Monument Mesa. Admittedly underutilized, in part due to the sediment-clogged access road to the park, this park nevertheless contains enormous potential for expanded recreational opportunities. The Commission appreciates that the INS has abandoned its initial proposal to run the fence and road through the middle of Monument Mesa, and across the beach to and into the surf zone. However, the fence with which the INS proposes to surround the base of the mesa (with an entrance at the access road to be open during daylight hours) would still result in a highly intimidating recreational experience and would undoubtedly reduce the public's willingness to visit this facility. The proposed "aesthetic" treatment sketched out in the FEIS (Appendix J (Exhibit 27)) would do little to ameliorate this significant adverse effect. The proposed fences, landform alteration and roads to the east of Monument Mesa would only compound this diminution of on the quality of the recreational experience at the park.

The INS maintains it cannot adequately protect the border with a single fence in this area, stating:

> *This alignment [i.e., a primary fence only] would require the fortification of the existing primary fence, including replacement of the chain link fence at Friendship Circle on Monument Mesa with a solid steel fence. Fewer direct impacts (approximately 11 total acres) would be incurred if this alignment were chosen, but the USBP would have to continue its enforcement actions within the estuary, Monument Mesa, and the coastal sage scrub communities on the surrounding hills. As indicated above, the USBP could not protect the south side of the fence from destructive forces and thus could not assure the overall integrity of the infrastructure system.*
>
> *Based on review of aerial photography and ground reconnaissance, there are literally hundreds of trails that have been established by illegal aliens through the marshes within the Tijuana River estuary.... Assuming each of these trails are two ft wide (many are up to four ft wide) and transect the entire estuary (approximately 2.25 miles), 50 such trails would impact about 27 acres. In addition, according to Navarro (2001), Mr. Brian Collins of the Tijuana National Estuary reported that "... illegal crossers trampled rare plants and nests of endangered birds on their furtive way north, sometimes even eating the birds' eggs for breakfast." Absent of the Border Infrastructure System, this impact would continue. Additionally, as illegal aliens and smugglers begin to breach the fortified primary fence, more traffic through these*

> *sensitive areas would occur, causing additional impacts to the coastal marshes. This alternative, therefore, would ultimately result in more indirect impacts to the Tijuana Estuary than the proposed action.*
>
> *This alternative was eliminated from further consideration because of the increased impacts to the coastal marsh, the potential effects to the effectiveness of the overall Border Infrastructure System, and the fact that this alternative alignment would not satisfy the spirit and intent of IIRIRA.*

The INS' rationale for its current proposal is far from compelling, and regardless of any aesthetic treatment, a fence around the mesa will adversely affect the quality of the recreational experience at this park. Moreover, given the topography, Monument Mesa is a relatively easy area to patrol and protect, because both the beach area and Yogurt Canyon are easily viewed and accessed by border agents. Effective border deterrence in these areas (including rebuilding the fence in the gap in Yogurt Canyon) would also eliminate the adverse effects on recreation and habitat the INS attributes to past environmental damage from illegal border crossings (and Border Patrol deterrence efforts). The facts remain that the INS' proposal is incomplete at best and that the project would clearly result in significant and unmitigable adverse impacts to public use and enjoyment of Border Field State Park. The INS has not documented or explained why, if the Operation Gatekeeper fortifications in the mid 1990s were added to the already built secondary and tertiary fencing in Areas II-IV, and the improvements in the current proposal for the remaining segments are implemented, it could not adequately protect the border without the proposed capping of Lichty Mesa and the fence surrounding Monument Mesa. Certainly if the beach itself can be effectively patrolled with only the primary fence in place, as the INS maintains, the same conditions enabling the INS to effectively enforce deterrence is present on the adjacent, relatively small mesa (which is where agents viewing the beach are likely to be stationed in any event). In addition, as noted above, the INS' proposal is incomplete (only preliminary sketch plans are provided) and the Commission thus does not have sufficient information to fully determine the full impact of the project on these recreational resources. The Commission does, however, have sufficient information to understand that the INS' intent to surround Monument Mesa with fencing, regardless of its aesthetic treatment, cannot be found consistent to the maximum extent practicable with the public access and recreational policies (Sections 30210-30212 and 30240(b)) of the Coastal Act.

One of the more succinct and prophetic comments made to the INS concerning its lack of vision and unwillingness to seriously consider the recreational values in the region has been the Coastal Conservancy staff's observation (Exhibit 29) that:

> *Strikingly absent from the assessment of environmental impact is a comprehensive assessment of the values that, in combination, make the international border at the Pacific Ocean a critical heritage site for the two nations, an area referred to by both Mexican and American border communities as "Friendship Park". ...*

> *Border Field State Park's two oceanfront mesas, Lichty Mesa and Monument Mesa, constitute a heritage and ecological site consisting of several interrelated parts, having historic, cultural ecological, geographical and scenic significance unparalleled on the U.S./Mexican border or the California Coast. An extensive array of public assets exist there including a 4000 year-old Kummehay cultural area, an extremely rare assemblage of coastal scrub plants, and the 150-year old international monument to the treaty commemorating an end of Mexican-American enmity. While ... [the proposed alignment] is laudable for maintaining American access to Friendship Circle and the American side of the ...monument ... the actual project impact to ... this critically important coastal site ... cannot be evaluated.*
>
> *Current trends indicate that San Diego/Tijuana will become one of the great North American centers of the 21st century, unique in its international geography and character and in its social and economic integration. The U.S. Border Infrastructure System is a highly visible and symbolic part of the fabric of the bi-national community. Where an act of the United States Congress established the necessity for the Border Infrastructure System, it is incumbent upon the agencies of the United States government to use measure and ingenuity to carry out the mandate in accord with all the laws of the United States and the State of California. Based on our review of the FEIS and its preferred project proposal, this challenging initiative has not been successfully met.*

The Commission agrees with these comments and concludes that the proposed project: (1) is inconsistent with the requirement of Section 30240 of the Coastal Act that new development be sited and designed to prevent impacts which would significantly degrade the park and recreation areas within and adjacent to it; (2) is inconsistent with the requirement of Section 30240 that new development be compatible with the continuance of existing recreation areas; (3) is inconsistent with the requirements of Sections 30210-30212 to maximize public access and recreation opportunities (even when taking into account public safety, military security, and fragile resource protection needs); and (4) lacks sufficient information to enable the Commission determine the project's effect on public access and recreation. The Commission further finds that feasible and practicable alternatives are available, including fortification of primary fencing at Border Field State Park (and adding deterrence infrastructure such as sensors, cameras, and lights), and replacing the capping of Lichty mesa with a less landform-altering and habitat-altering design (and which could include secondary fencing). These alternatives would enable the INS to both comply with IIRIRA and reduce significant adverse effects on these important public access and recreation opportunities. Therefore, the proposed project is not consistent to the maximum extent practicable with the access and recreation policies of the CCMP.

F. <u>Public Views</u>. Section 30251 of the Coastal Act provides:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

The FEIS notes that states most aesthetic resources within the project area are directly related to the natural communities of the area (including vegetation communities consisting of grasslands, chaparral, mulefat scrub, coastal sage scrub, salt marsh, maritime succulent scrub, and southern willow scrub), and that the important public view are those of the Tijuana River, Tijuana estuary, coastal dunes and beaches. The FEIS maintains that where disturbed and/or ruderal lands predominate, these "...would be considered to have low aesthetic value."

Describing project impacts, the FEIS states the acreage affected would be 95 in Area V and 32 in Area VI. Of this, the FEIS considers 45% of the Area V acreage to be "disturbed and is considered to be of low aesthetic value." In Area VI, the FEIS states:

> *Access would be allowed to Friendship Circle under the proposed alternative...), though impacts to the viewshed from the fence structure would still occur. Under all alignments of this alternative, there would be some indirect benefits to aesthetics in communities north of the project area resulting from the reduction of illegal traffic, brush clearing, fires, and littering caused by illegal aliens.*

The INS' consistency determination states:

> *The proposed project activities will be visually compatible with the character of the surrounding areas to the south, and, where feasible, will restore and enhance visual quality in visually degraded areas. Within the Tijuana estuary and especially near the BFSP, INS has proposed that native shrubs be planted along the northern boundary of the Border Infrastructure System to enhance the aesthetics of the system. Numerous conceptual designs for the Border Infrastructure System have been submitted to the California Resource Agency and California Department of Parks and Recreation for review. Copies of some of these plans are contained in Appendix J of the FEIS.*

The Commission believes that the area's scenic values are closely linked to the recreational values as discussed on Section E above of this report. The project is located in a highly scenic area and forms the southern backdrop for the scenic Tijuana River Valley, and its recreational opportunities all integrally involve scenic considerations.

The Commission finds that the proposed vast landform alteration and introduction of unnatural fills, roads, fences, lights, and other infrastructure, especially the 5.5 million cu. yd. cut and fill in Smuggler's Gulch, the fill atop Lichty Mesa, and the fence surrounding Border Field State Park, could not be construed as minimizing the alteration of natural land forms and would be visually incompatible with the character of surrounding areas.

In addition, the project is located within a scenic area designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation, and thus called out for special protection under Section 30251 of the Coastal Act. That plan, published in August 1971, depicts the (at that time) "Proposed Tijuana River State Park" as one of the "California Coastline Landscape Preservation Projects" and deserving special protection as a highly scenic area. A subsequent City of San Diego Tia Juana River Valley Plan (dated March 1977) depicts that proposed park as extending at least to the lower reaches of Smuggler's Gulch. As discussed on pages 49-54, taken as a whole, the proposed Border "improvements" would have serious adverse effects on the quality of the recreational experience, due to the massive landform alteration in Smuggler's Gulch and between Bunker Hill and Monument Mesa, combined with the walling off of the day use area at Monument Mesa and the capping at Lichty Mesa. The Commission finds that the project would result in significant adverse effects on public views in this scenic coastal area, would not minimize the alteration of natural landforms, would not be visually compatible with the scenic and recreationally important (and recreation that is dependent on visual quality) surrounding area, and is within a highly scenic area but is not subordinate to the character of its setting. The Commission further finds, similarly to its public access and recreation finding, that because only preliminary sketch plans are provided for Border Field State Park fencing, it has insufficient information to fully determine the project's impact on public views. The Commission therefore concludes that: (1) the project is inconsistent with Section 30251 of the Coastal Act; and (2) because there exists a feasible design alternative that would allow the project to be undertaken in a manner more fully consistent with Section 30251, the project is not consistent to the maximum extent practicable with this enforceable policy of the CCMP.

G. <u>Geologic Hazards</u>. Section 30253 of the Coastal Act provides that new development shall:

> *(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> *(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

Geologic hazard issues raised by the project in Areas V and VI include increasing flooding risks through the box/culvert/channelization of the creek through Smuggler's Gulch, major landform alteration in Smuggler's Gulch and at Lichty Mesa, placement of steep fills in areas of known

landslides in Smuggler's Gulch, placement of steep slopes in Smuggler's Gulch which could fail and require the need for further protective devices, and the potential for erosion from large cuts and fills in areas with steep slopes and highly erosive soils.

The INS prepared several geotechnical reports addressing geologic hazards as part of the FEIS (Appendix G). Addressing the potential for flooding, the INS initially proposed two 8 ft. by 8 ft. box culverts to accommodate flood flows through the 2,460-ft-wide by 310-ft-deep, steep walled canyon (Smuggler's Gulch). The INS estimates maximum flood flows to be up to approximately 1,450 cubic ft per second [cfs]), with the potential for large debris to present further concerns when designing a culvert that prevents human passage. Based on its most recent hydrological study (Baker 2003; FEIS App. G), the INS revised the proposal. To ensure flood conveyance with heavy debris loads, two 10-ft x 10-ft culverts are now proposed for this drainage structure (Baker 2003). The FEIS also states "A stilling basin and other energy dissipation measures will be included in the final design for the outfall of the culverts to ensure that downstream water quality and velocity are not changed." Designs for these features have not yet been provided.

Concerning landslide potential, the FEIS notes that slip planes are located in Smuggler's Gulch that will need to be taken into consideration during the preparation of the final engineering plans. However, the FEIS states that the proposed fill in Smuggler's Gulch " . . . should increase the stability of this landslide. . ." (citing Appendix G, Klienfelder (1999b)). The report geotechnical report further states "... that the risk of slope failure as a result of the presence of the slip surface is low." However, quantitative slope stability analyses in support of this assessment were not included in the FEIS or its appendices. Further, the 2000 Kleinfelder report, which was included in the FEIS, indicates that the cross section at station 15+50 has a static factor of safety of 1.3 and a pseudostatic factor of safety of 0.8 (assuming a seismic coefficient of 0.15g). These values are below the industry standard-of-practice of 1.5 and 1.1, respectively. In fact, the value of 0.8 for the pseudostatic case indicates that the slope is expected to fail during a major earthquake.

The FEIS also relies on the implementation of revegetation and surface drainage systems to reduce geologic risks. At Lichty Mesa, where embankments are also proposed, the FEIS states: [The proposed] alignment "... would generally follow existing roads and natural contours and thus would have insignificant effects on the area's geologic features." The FEIS also states that "... all cut-and-fill actions would have to be designed and planned in consideration of the highly erodible soils and the high potential for landslides in Southern California." FEIS mitigation measures for geologic hazards consist of the erosion controls, water quality measures, and revegetation efforts discussed in the water quality section of this report. The FEIS states:

> *There is also a potential for increased soil erosion during construction due to an increase in surface runoff; however, runoff would be captured by storm drainage, thus minimizing the potential for soil erosion. In addition, compaction techniques and erosion control measures such as jute fiber, stilling basins, waterbars, gravel bags,*

gabions, straw bales, and re-seeding would be implemented to alleviate these situations, as described in Section 2. A SWPPP would be required since the area of impact would be greater than one acre.

As mentioned previously in Section 4.2.2, several soil associations are present that require special engineering designs and construction methods to allow the soils to be used for road material. Construction methods that would be implemented to ensure slope stability and erosion control would include, but are not limited to, over excavation and backfill, compaction using thinner layers (lifts), revetments, and terraces.

The geologic reports in the FEIS do not contain the attachments and other documentation relied on to yield the author's conclusions. This information is necessary to review or confirm the report's conclusions. The Commission staff has requested this information but has not received it as of the date of the mailing of this staff report. Therefore, the Commission has inadequate information at this time to determine whether the project will affect landslide potential or geologic stability, and thus to make a determination as to the project's consistency with Section 30253.

With respect to increasing erosion, for the reasons discussed in the water quality section of this report, and noting the steep slopes (1.5:1) and extreme difficulty of revegetating the highly erosive soils in this area, for the reasons discussed on pages 44-47, the Commission finds that increased sedimentation and erosion is likely and that the project would be inconsistent with the requirement of Section 30253 that new development "neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area." To address this inconsistency the project needs to be modified to include removal of the fill slopes altogether in Smuggler's Gulch, and ideally to implement of a sediment basin to protect the Tijuana Estuarine National Estuarine Research Reserve from threats of erosion and sedimentation from upstream areas (as noted on page 48, this could be combined with fences and other deterrent features). The Commission also needs to review final plans for the project features that will limit increases in flood flow rates and stream velocity in order to have sufficient information to determine the project's consistency with Section 30253.

H. <u>Archaeological Resources</u>. Section 30244 of the Coastal Act provides that "Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required." The project area has a rich and archaeological history, noting evidence of hunting and gathering communities dating back at least 7,000 years. The INS' FEIS reports in detail on a 1998 records search and field surveys. For Areas V and VI, the INS' consistency determination summarizes the potential cultural values as follows:

Area V contains seven recorded cultural resource properties [FEIS Table 3-5, Exhibit 28], but three sites have disappeared and are thought to have been destroyed. The remaining four are ineligible for inclusion in the National Register of Historic Places

> *(NRHP); therefore, no historic properties would be affected in Area V by project activities.*
>
> *In Area VI, testing of the archaeological site CA-SDI-15,038 would be required to determine its NRHP eligibility status. Mitigation measures would be taken should the site prove to meet the eligibility criteria. Site CA-SDI-3627 is considered to be potentially eligible and site CA-SDI-4281 is considered eligible for the NRHP. These sites would require avoidance and/or other mitigation measures. Sites CA-SDI-222 would be avoided under the preferred alignment (BHPO-4).*

The FEIS provides greater detail on these two sites (as well as the remaining sites). The FEIS notes that Site CA-SDI-3627 "consists of the remains of three World War II fire control stations and associated structures, as well as a prehistoric lithic scatter" and the FEIS suggests:

> *Due to the historical significance of the World War II base-end stations, and the fact that only two other base-end stations are known to exist in San Diego (on Point Loma), it is recommended that the historic component of site CA-SDI-3627 be considered eligible for inclusion in the NRHP and that all base-end stations at the site be avoided, consequently mitigating the potential impacts to the historic component of the site. At some point, a more comprehensive documentation of the historic component at site CA-SDI-3627 should be completed, including both field and archival research.*

The FEIS describes Site CA-SDI-4281 as containing a "substantial" cultural deposit, with evidence of San Dieguito, La Jolla, and Late Prehistoric occupations, and eligible for inclusion in the NRHP. The FEIS notes:

> *Given the extent of the site and the depth of the deposit, it is likely that much of the site retains a considerable amount of integrity. In March of 2000, an on-site meeting was held with representatives from CDPR; California SHPO; USACE, Fort Worth District; Michael Baker Engineering; and an internationally noted site preservation specialist. The site was assessed as to the feasibility of capping the site to protect it from possible impacts from the proposed project (Thorne 2000).*

Analyzing project impacts, the FEIS states that the project would not affect any Area V cultural resources, and that in Area VI :

> *Options for road improvements going to the top of the hill would require avoidance and archaeological monitoring during construction. This alternative would require mitigation measures be undertaken at eligible and listed sites CASDI- 4281 and CA-SDI-222. Impacts to CA-SDI-222 under this alternative would be indirect. The capping-and-fill measures noted previously for Lichty Mesa (under BHPO-1) would be part of the mitigation of impacts to the site.*

Mitigation measures proposed are as follows:

Potential adverse impacts to historic properties have been mitigated through a policy of site avoidance and/or testing. Further testing of cultural resources that are deemed to be potentially eligible for NRHP-listing would be required prior to construction, consequently, implementation of the Border Infrastructure System would have no effect on historic properties. Mitigation measures that could be used for any sites discovered during construction activities, when approved by SHPO, include, but are not limited to, data recovery, burial (capping) of the site with gravel or other aggregates, and use of professional archeologists as monitors during the maintenance operations.

All construction activities shall be at least two feet away from the international boundary to avoid impacts to historical boundary monuments and other demarcations. Near each permanent boundary monument, strict construction precautions would be implemented to avoid potential damage to these items.

The State Historic Preservation Officer (SHPO) confirms that the INS is working cooperatively with it on an inter-agency Memorandum of Agreement (MOA) that will contain prescribed mitigation measures. However that agreement has not been completed or submitted as part of this consistency determination. Therefore the Commission lacks sufficient information at this time to determine whether reasonable SHPO-recommended mitigation measures will be included in the project, and thus, whether the project is consistent with the requirement of Section 30244 that mitigation be included for development that would adversely impact archaeological or paleontological resources.

I. <u>Related Commission Action</u>. Past Commission reviews of border fence improvements are as follows:

<u>Consistency Determinations</u>

1. CD-81-92, Corps of Engineers, repairs and improvements to primary border fence, between Goat Canyon and just east of the picnic tables in Border Field State Park and a 250 foot length west of the picnic tables and east of the beach
2. CD-83-92, Corps of Engineers, construction of a lighting system along the border fence. The purpose of this project is to reduce foot traffic across the border
3. CD-90-92, INS, primary fence across the beach
4. CD-111-92, Corps of Engineers and JTF-6 (Joint Task Force-Six) construction of primary fence Smuggler's Gulch and Goat Canyon

<u>Negative Determinations</u>

1. ND-20-92, Corps of Engineers, fence repairs
2. ND-99-92 Corps of Engineers, fence repairs
3. ND-41-93, Corps of Engineers, modify fence location, Goat Canyon
4. ND-118-96, INS, fence along U.S. and Mexican border, starting one mile east of treatment plant (Area IV improvements)

5. ND-9-97, INS, construct multi-tiered fence
6. ND-036-01 and ND-39-03, INS, repair portion of border fence at Yogurt Canyon
7. ND-109-01, INS, repair of beach fence

The INS states in its consistency determination that the proposal "... is similar to the construction of the Border Infrastructure System in Area IV, for which a Negative Determination was issued...". The Commission disagrees. The Commission has been quite clear that in authorizing past secondary fencing and patrol roads in area IV, and in authorizing past strengthening of primary fencing (see CD-111-92, ND 118-96, ND 41-93, ND 99-92, ND-036-01 and ND-039-03), the Commission supported and authorized primary fence fortification and roads where significant resource conflicts were not present, the Commission has remained concerned over the significant adverse effects posed by anticipated future submittals in areas where those conflicts were present. Those past situations were simply not comparable to the present proposal in terms of resource conflicts. For example, in ND-39-03, the Commission staff noted:

> *While we have a number of serious environmental concerns with the INS' proposed secondary fencing project throughout the coastal zone and at Border Field State Park, particularly in the Smuggler's Gulch to the Pacific Ocean segments, we support the INS' efforts to reestablish and maintain the existing primary fence, as we believe those efforts provide the most effective (and least environmentally damaging) method of illegal crossings deterrence. In that spirit we have repeatedly concurred with past INS and U.S. Army Corps of Engineers consistency and negative determinations for reinforcing the primary fence (CD-111-92, ND 118-96, ND 41-93, ND 99-92, and ND-036-01).*

IV. SUBSTANTIVE FILE DOCUMENTS:

1. Final EIS, "Proposed Completion of a 14-Mile Border Infrastructure System, San Diego County, California," U.S. Department of Homeland Security, Final Report, July 2003.

2. INS and U.S. Army Corps of Engineers consistency and negative determinations for reinforcing the primary fence (CD-81-92, CD-83-92, CD-90-92, CD-111-92, ND-20-92, ND-99-92, ND-41-93, ND-118-96, ND-9-97, ND-036-01, ND-109-01, and ND-039-03).

3. Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996.

4. Final EIS/EIR, Goat Canyon Enhancement Project, National Oceanic and Atmospheric Administration and California Department of Parks and Recreation, December 21, 2001.

5. Coastal Development Permit portions of the Goat Canyon Enhancement Project within Coastal Commission permit jurisdiction CDP-6-02-055.

6. The Ecology of Tijuana Estuary, A National Estuarine Research Reserve, Zedler, Nordby, and Kus, PERL, San Diego State University, 1992.

7. California Coastline Preservation and Recreation Plan, California Department of Parks and Recreation, August, 1971.

8. Tia Juana River Valley Plan, City of San Diego, March 1977.

9. Regional Water Quality Control Board (RWQCB) Notice of Violation No. R9-2002-0404, December 11, 2002.

10. Coastal Commission coastal development permit numbers 5-90-913, 5-92-408, 5-93-276, 6-86-2, 6-87-611, 6-87-667, 6-88-277, 6-88-388, 6-89-195, 6-90-219, 6-90-77.

V. Attachments (under separate cover- contact Coastal Commission staff or INS for copies).

1. INS' Consistency Determination

2. Endangered Species Consultation for the Proposed 14-Mile Border Infrastructure System, San Diego County, California (Biological Opinion No. 1-6-03-F-1089.22), U.S. Fish and Wildlife Service, July 12, 2003.

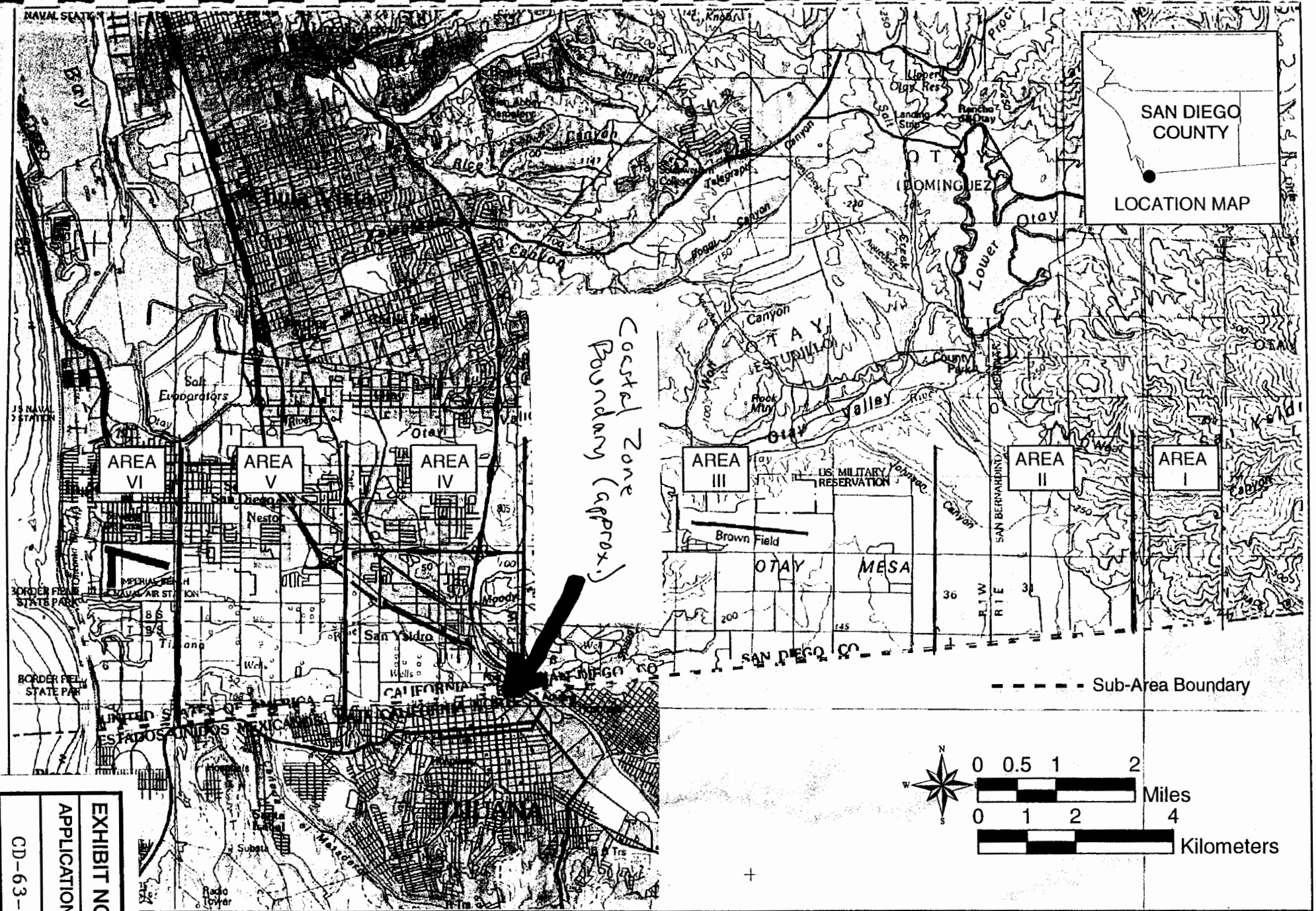

Figure 1-3. Six Sub-Areas of Project

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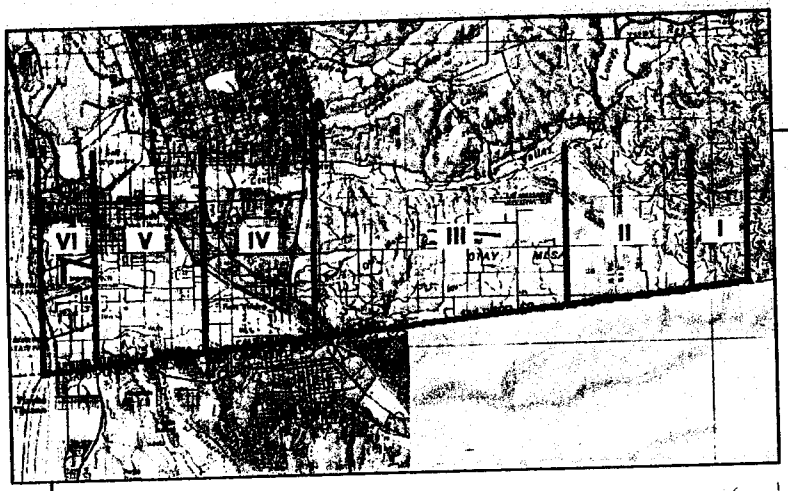
Date: July 2003

EXHIBIT NO. 1
APPLICATION NO.
CD-63-03
INS Six Sub-Areas



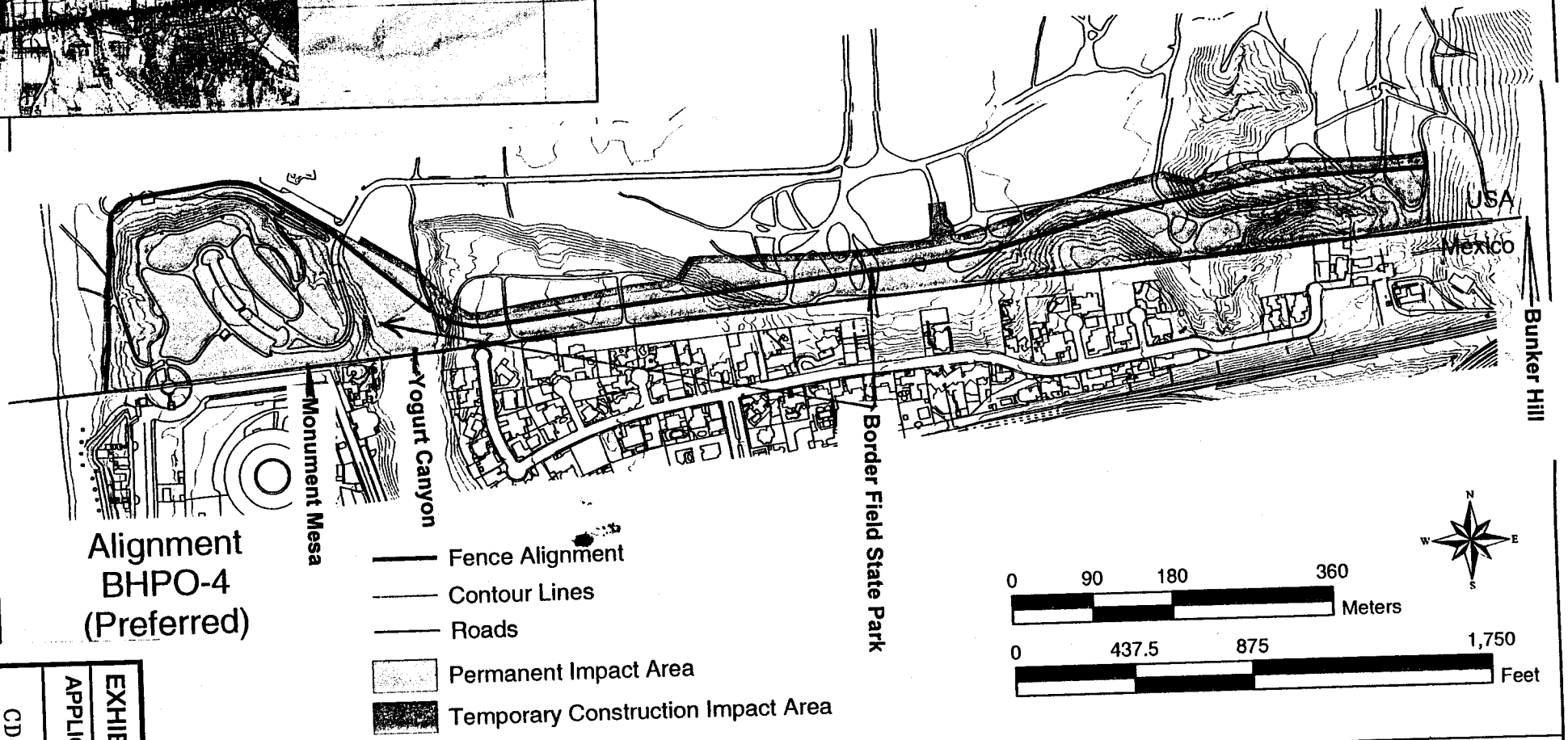
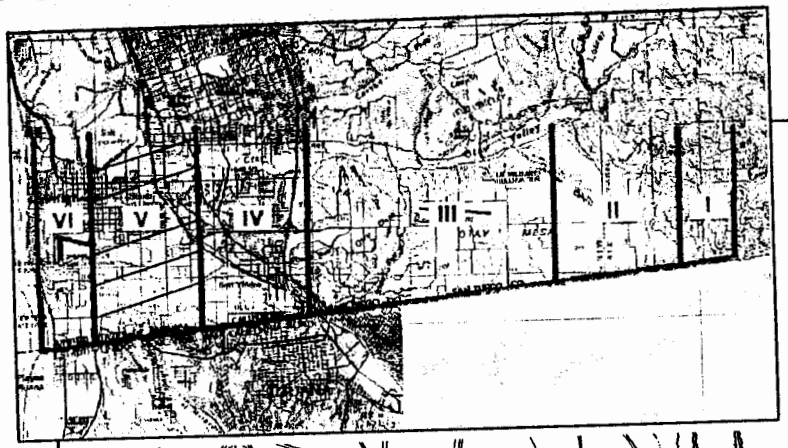


Figure 2-12. Area VI Alternate Alignment Footprints

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: July 2003

EXHIBIT NO. 2
APPLICATION NO.
CD-63-03
INS Area VI



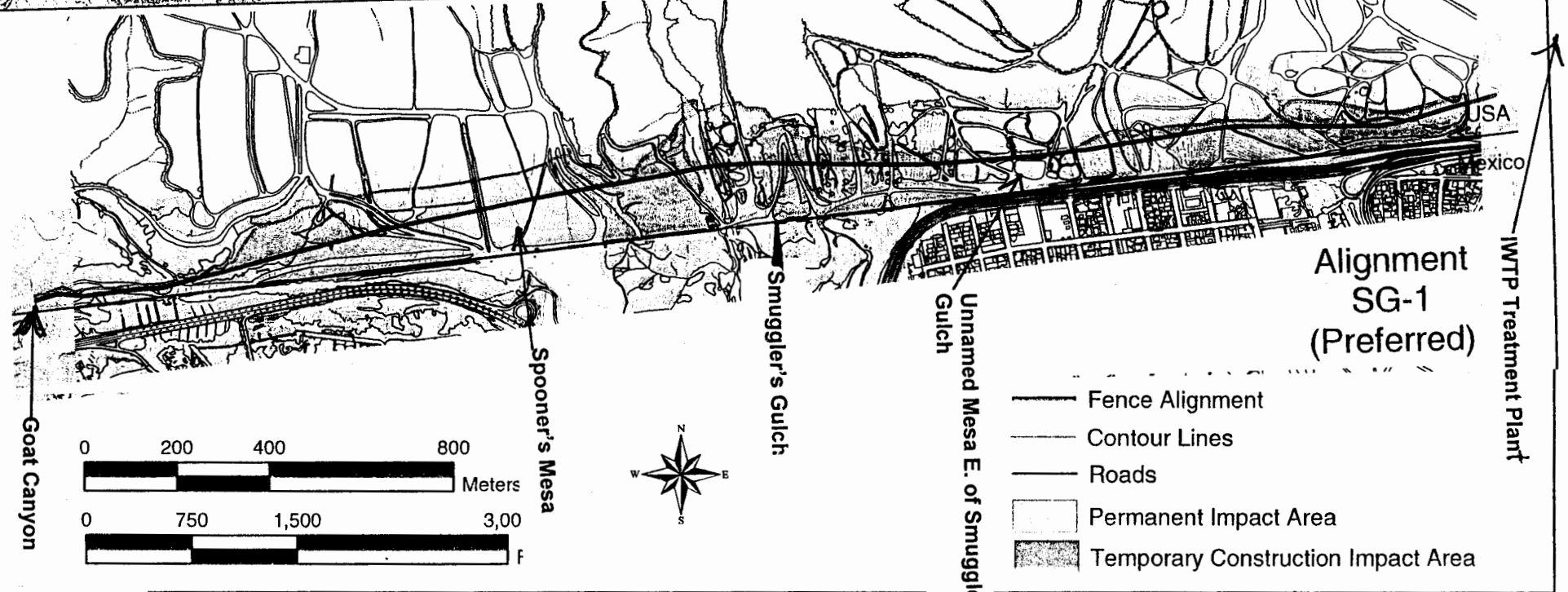


Figure 2-8. Area V Alternate Alignment Footpr

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: July 2003

EXHIBIT NO. 3
APPLICATION NO.
CD-63-03
INS-Area V

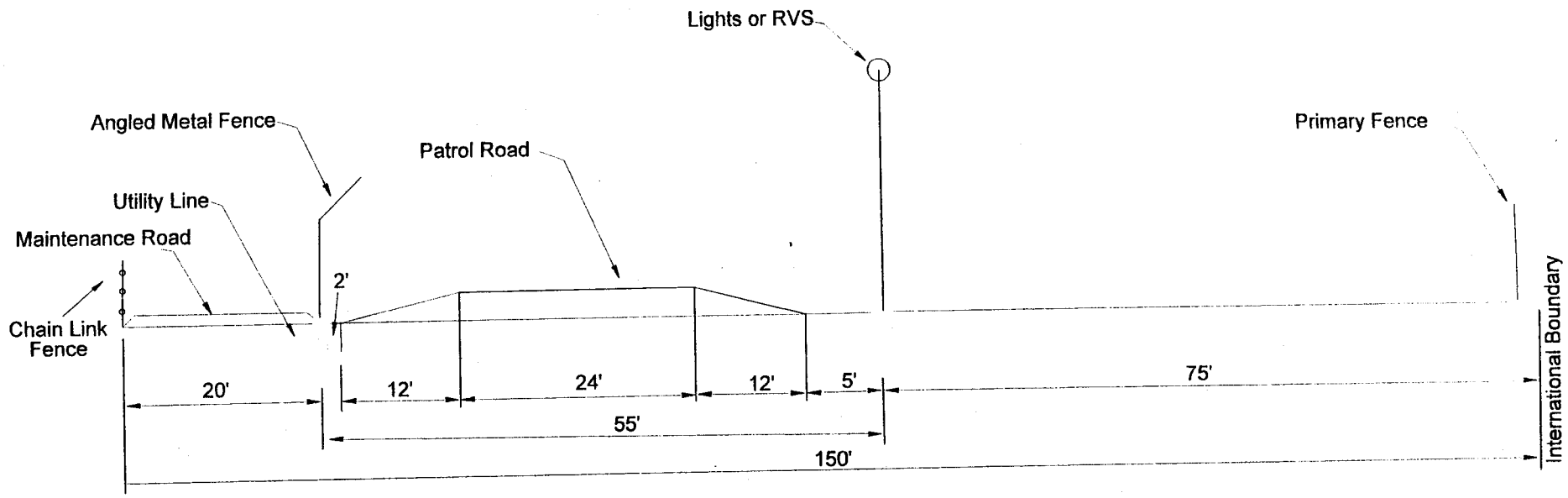


Figure 2-2. Typical Cross-section of Enforcement Platform

gsrc/ GULF SOUTH RESEARCH CORPORATION

DATE: May 2003

EXHIBIT NO. 4
APPLICATION NO.
CD-63-03
INS Cross Section

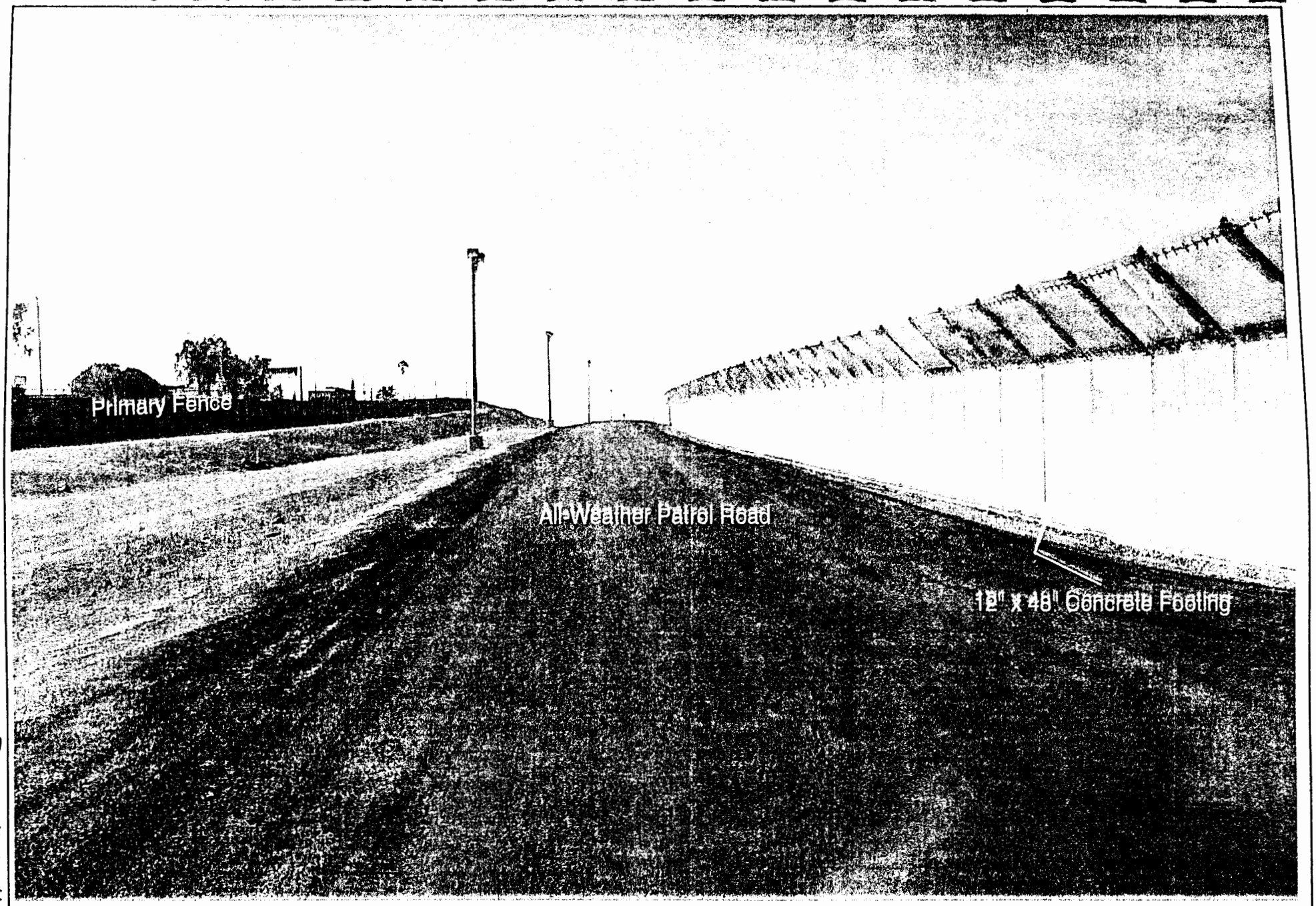


Figure 2-1. Photograph of Standard Design for Secondary Fence

Date: July 2003

EXHIBIT 4 (cont'd)

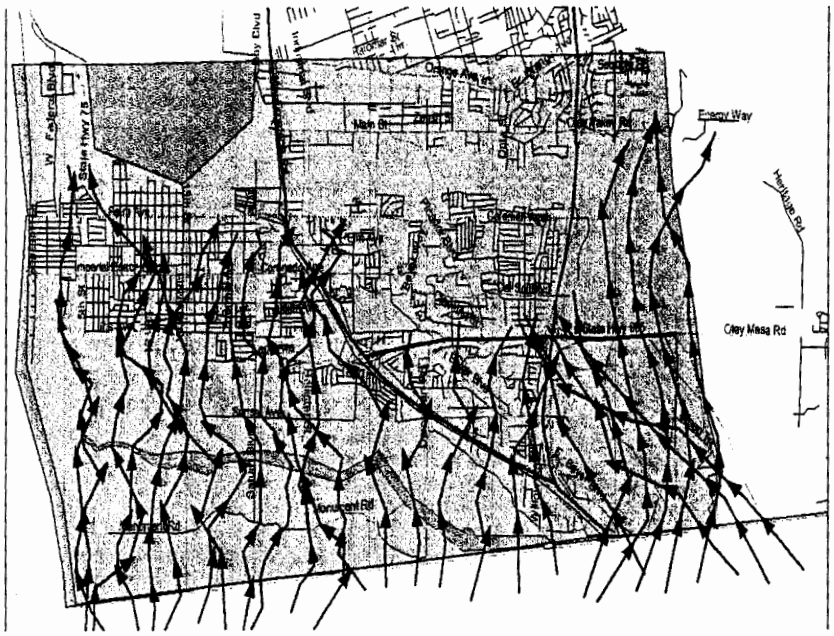


Figure 1-6. Primary Routes of Entry into U.S. and Current Enforcement Footprint

It is also significant to note that from 1989 to 1996 there was an average of 20 fires per year within the boundaries of the Tijuana Estuary, with the greatest number occurring between 1993 and 1995. This correlates directly to higher illegal traffic levels. Upon completion of the primary fence and implementation of Operation Gatekeeper, the frequency of fires also fell, as depicted in Figure 1-7.

The creation of a primary enforcement zone composed of a dedicated system of infrastructure (multi-tiered fencing, lighting, cameras, and an all-weather road) that closely, but at a safe distance, parallels the border, reduces the geographic footprint of the operation and the environmental impact. It further enhances control efforts and provides opportunities to balance the overall operation by mitigating intensive manpower requirements. It thereby increases flexibility in personnel deployment and maximizes the USBP's deterrent, proactive enforcement capability.

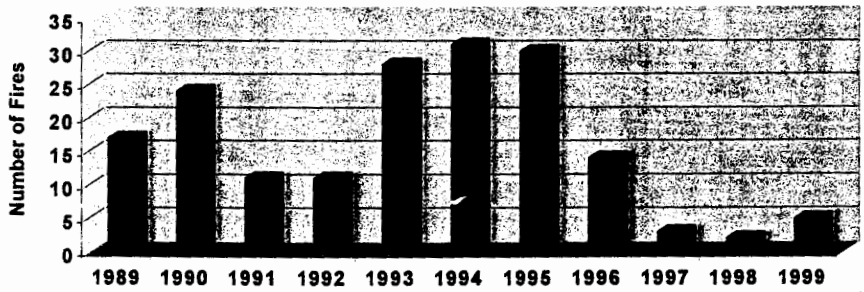
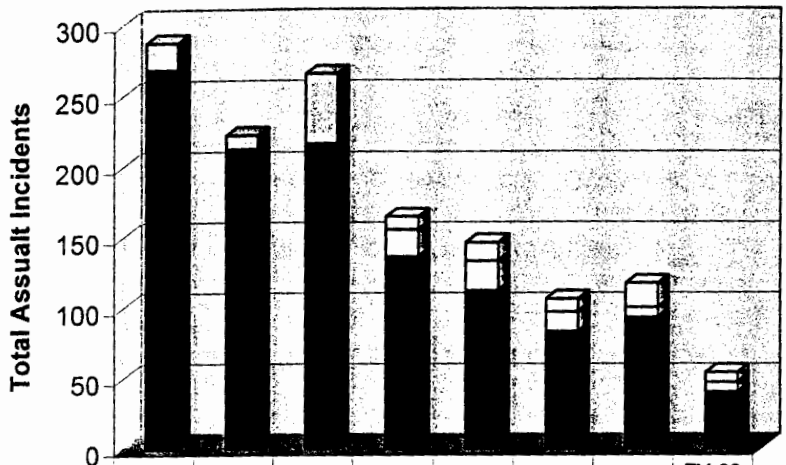


Figure 1-7. Fires within the Tijuana Estuary (1989-1999)

EXHIBIT NO. 5
APPLICATION NO.
CD-63-03
INS Routes of Entry

Figure 1-5.
San Diego Sector Assaults on Border Patrol Agents
FY-96 - FY-03



Year	FY-96	FY-97	FY-98	FY-99	FY-00	FY-01	FY-02	FY-03 (Oct-Feb)
□ Weapons				9	13	9	17	7
□ Physical				19	21	14	7	7
■ Vehicular				9	10	4	5	2
□ Unspecified	19	10	49					
■ Rockings	268	212	216	127	102	79	88	38

technology, and the removal of barriers and obstacles that could impede the successful operation of the system.

In addition to the requirement to comply with IIRIRA, the need for the proposed action, therefore, is to halt the continual influx of illegal aliens and smugglers into the San Diego area by effecting a permanent deterrence through a certainty of detection and apprehension. Another need is to reduce the current enforcement footprint that will ensure a more efficient and effective control of the border region. The purpose and objectives of the proposed action is to provide for integration of infrastructure and technology into the current strategy for border control. This will maximize the proactive, deterrent enforcement capability of the USBP while gaining the necessary and desired permanent status of deterrence. The following paragraphs provide further elaboration of the purpose and needs of the proposed action.

Localized efforts have had some success in deterring smugglers from utilizing traditional entry corridors. However, these efforts have the potential to degrade the general environment, because they depend largely upon a massive influx of personnel and equipment. This results in short term successes of the operation because barriers or deterrence factors are in place and the cover and conceal brush, houses, close transportation routes) that initially made the area

EXHIBIT NO. 6
APPLICATION NO.
CD-63-03
INS Assaults

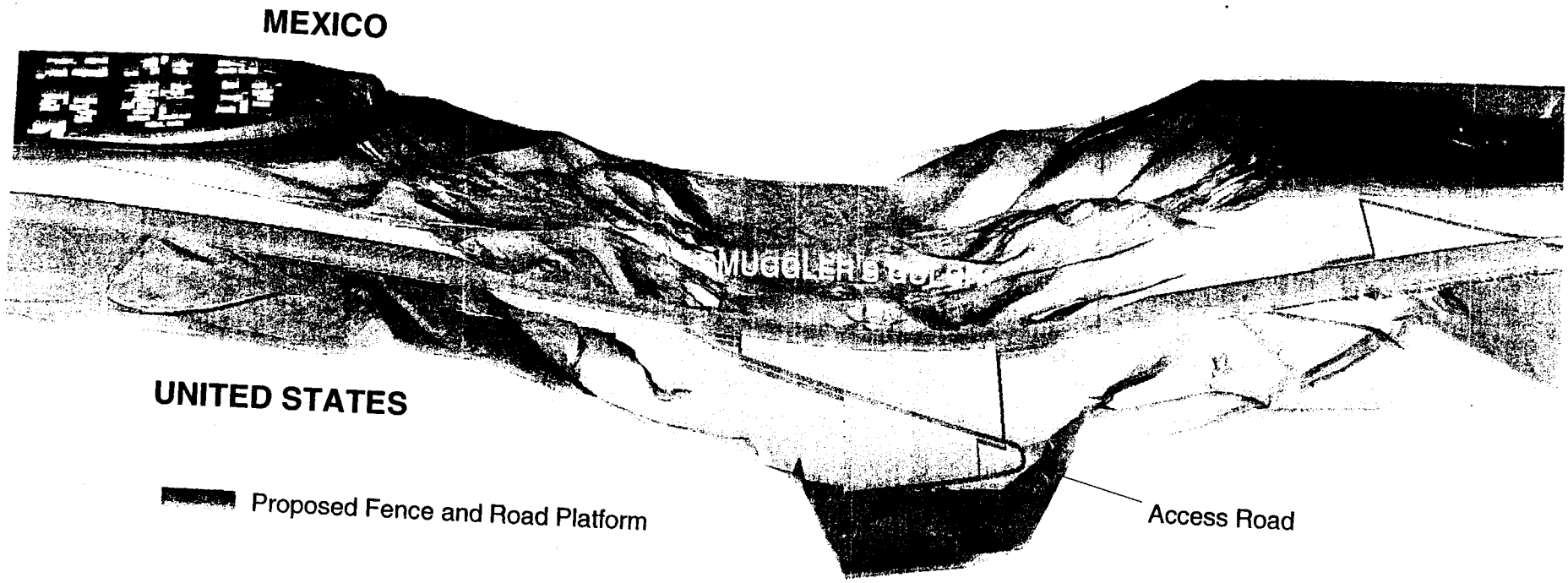


Figure 2-9. 3-Dimensional Topographic Depiction of Proposed Action at Smuggler's Gulch

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: May 2003

EXHIBIT NO. 7
APPLICATION NO.
CD-63-03
INS
Schematic - Smuggler's Gulch

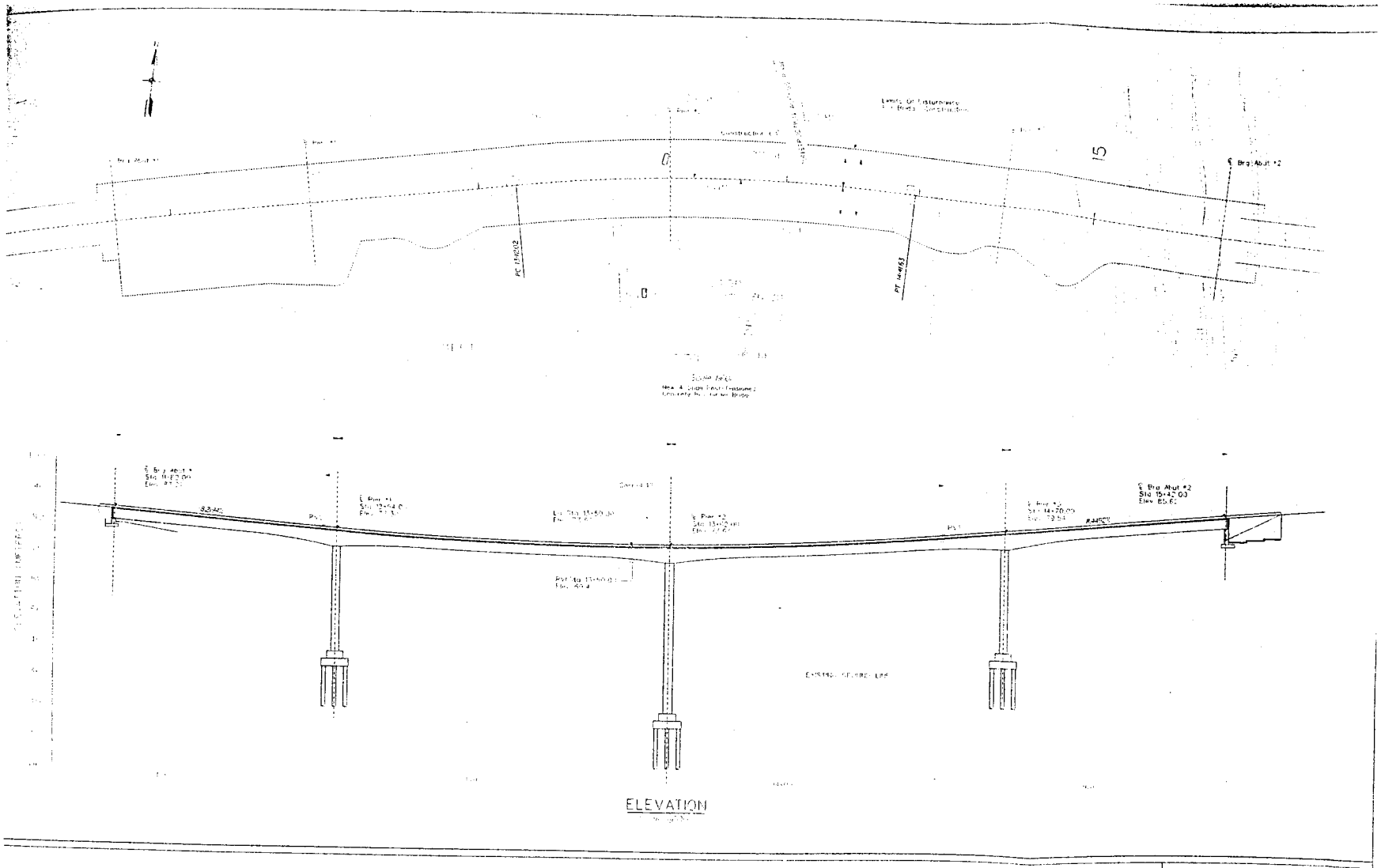
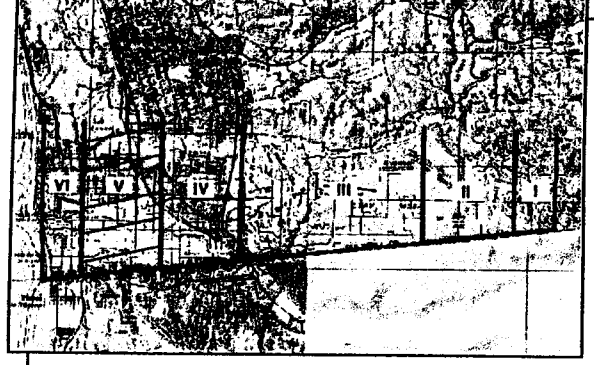


Figure 2-13. Smuggler's Gulch Bridge Alternative Design (adapted from M. Baker Jr. Engineers, 2001)

gsrc/ GULF SOUTH RESEARCH CORPORATION

DATE: May 2003

EXHIBIT NO. 8
APPLICATION NO.
CD-63-03
INS Bridge
Attachment.pdf



0 155 310 620 Meters

0 1,100 2,200 Feet

N W E S

Fence Alignment

Contour Lines

Roads

Permanent Impact Area

EXHIBIT NO. 9

APPLICATION NO.

CD-63-03

INS Multi-switchback Altern.

Figure 2-15. Area V - Smuggler's Gulch - Multi-Switchback Alternative

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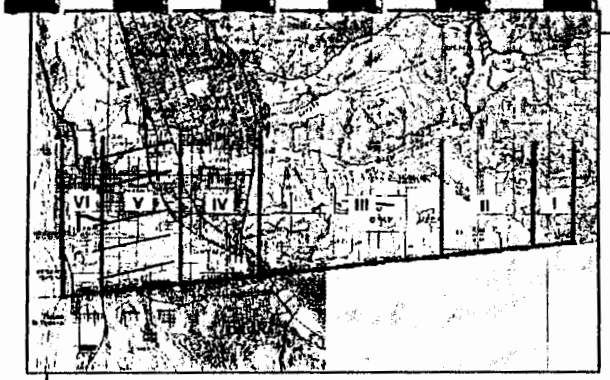
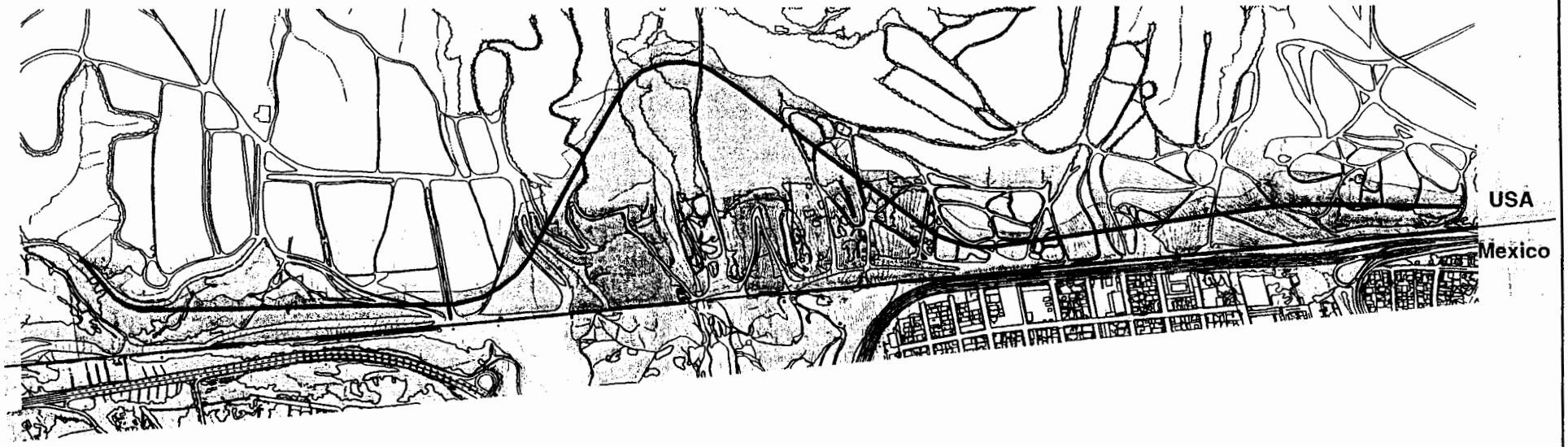
Date: July 2003





170 340 Meters

550 1,100 Feet

N W E S

Fence Alignment
Contour Lines
Roads
Permanent Impact Area

Figure 2-16. Area V - Smuggler's Gulch - Single Switchback Alternative

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Date: July 2003

EXHIBIT NO. 10
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INS
single switchback Alternative

Table 1. Total acres of habitat impacted by the proposed action, by Project area.

Habitat Type	Area I	Area II	Area V	Area VI	Total Acres
Coastal Sage Scrub	7.9		16.4	2.0	26.3
Disturbed Coastal Sage Scrub	6.2		2.5	0.6	9.3
Native Grassland	13.8	2.5			16.3
Southern Willow Scrub			0.67	1.9	2.57
Mulefat Scrub			2.2	2.0	4.2
Maritime Succulent Scrub			3.7	9.4	13.1
Disturbed Maritime Succulent Scrub			0.1	0.7	0.8
Coastal Salt Marsh				1.0	1.0
Disturbed Coastal Salt Marsh				0.5	0.5
Southern Mixed Chaparral			9.2		9.2
Ruderal			12.2		12.2
Non-Native Woodlands			0.3	0.5	0.8
Distrubed/Developed	9.2	2.4	42.4	13.6	67.6
Unvegetated Waters of the US	0.2		3.0	0.1	3.3
TOTAL	37.3	4.9	92.3	32.3	166.8

Table 2. Mitigation ratios and replacement amounts for the proposed action.

Habitat Type	Total Acres Impacted	Conservation Ratio	Proposed Replacement Acreage
Coastal Sage Scrub (CSS)	26.3	3:1	78.9
Disturbed CSS	9.3	1:1	9.3
Native Grassland	16.3	3:1	48.9
Southern willow scrub	2.57	3:1	7.71
Mulefat scrub	4.2	3:1	12.6
Unvegetated Waters of U.S.	3.3	1:1	3.3
Maritime succulent scrub (MSS)	13.1	3:1	39.3
Disturbed MSS	0.8	2:1	1.6
Southern Mixed Chaparral	9.2	2:1	18.4
Disturbed/barren soil in Critical Habitat	11.6	1:1	11.6
Total	96.3		231.6

EXHIBIT NO. 11
APPLICATION NO.
CD-63-03
B.O. INS Tables

Table 3. Conservation strategies for offsetting impacts to federally listed species and unoccupied wetlands from the BIS Project.

Resource	Impacts	Conservation Requirement	Proposed Conservation
Quino checkerspot/gnatcatcher Critical Habitat (Areas I and II)	7.9 acres CSS	23.7 acres @ 3:1	41.5 acres of CSS to be restored/ enhanced at Spring Canyon
	6.2 acres disturbed CSS	6.2 acres @ 1:1	
	11.6 acres Disturbed/Barren soil	11.6 acres @ 1:1	
	16.3 acres Native Grassland	48.9 acres @ 3:1	20 acres transferred to Spring Canyon and 28.9 acres of Quino habitat to be enhanced by noxious weed eradication program.
Vireo/flycatcher impacts (Areas I, V, and VI)	2.57 acres SWS	7.7 acres @ 3:1	23.6 acres restoration of riparian habitat on lands adjacent to Tijuana River floodplain. (Location to be formalized with Service)
	4.2 acres MFS	12.6 acres @ 3:1	
	3.3 acres unvegetated waters	3.3 acres @ 1:1	
Gnatcatcher habitat (Areas V and VI)	13.1 acres MSS	39.3 acres @ 3:1	4 acres MSS preserved on Lichty Mesa, 36.9 acres of MSS restored on Spooner's Mesa adjacent to existing native shrublands and a small acreage associated with riparian restoration.
	0.8 acres disturbed MSS	1.6 acres @ 2:1	
	9.2 acres chaparral	18.4 acres @ 2:1	18.4 acres of chaparral to be restored at Spring Canyon.
	18.4 acres CSS	55.2 acres @ 3:1	58.3 acres of CSS to be restored/ enhanced at Spring Canyon
	3.1 acres disturbed CSS	3.1 acres @ 1:1	
Unoccupied wetlands	1.0 acres coastal salt marsh		To be determined by Section 404 permit from the Corps.
	0.5 acres disturbed coastal salt marsh		

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BO. Conservation Strategies
INS(n2)(ie)

Where possible, the INS/USBP will offset habitat losses within or near the area where the impact will occur in a configuration that is biologically defensible (i.e. within or near the project footprint only when adjacent to large contiguous blocks of conserved lands such as the Multi-Habitat Planning Area). The Service and INS/USBP have previously agreed that the INS lands within the Spring Canyon/Arnie's Point area will be used to gain the fullest extent of mitigation credits as is practicable. Therefore, there will be some compensation that occurs in areas not included in the Spring Canyon area. Two primary conservation measures are proposed to reduce the impacts to the Federally protected species occupied and designated critical habitat: (1) Conservation or Transfer of Lands to a Resource Agency and (2) Restoration and Re-vegetation of Disturbed Habitats. Table 3 identifies acres of conservation stategies for offsetting impacts to federally listed species. Figures 3, 4, and 5 identify the potential location of the approximate 24 acres of roads on Federal lands that will be closed/restored by revegetation efforts. Road closures on private lands have not been identified at this time.

The project will impact 1.0 acre of coastal saltmarsh habitat and 0.5 acres of disturbed coastal saltmarsh habitat. Impacts will be offset according to conditions in a future Corps' 404 permit.

Previous biological opinions (1-6-01-F-1089.12 and 1-6-03-F-1089.17) included conservation measures to restore a vernal pool complex on the top of Arnie's Point. Each biological opinion had its own vernal pool restoration component, including the restoration/ enhancement of vernal pool habitat and associated watertsheds. The restoration component includes restoring approximately 1.4 acres of vernal pool surface area and two acres of native grasslands within and around the vernal pool preserve. The enhancement component includes dethatching 18 acres of exotic plant species in the preserve area.

Conservation Measures

The proposed action contains the following measures which will be implemented as part of the proposed project:

1. All beach and vegetated areas outside of the project footprint will be delineated by a qualified biologist as Environmentally Sensitive Areas (ESAs). All parties in conjunction with this operation will strictly avoid these areas. No construction activities, materials, or equipment will be permitted in the ESA. The boundaries of the ESA will be fenced with orange plastic snow fencing.

2. Construction work areas shall be delineated and marked clearly in the field prior to habitat clearing, and the marked boundaries maintained throughout the construction period.

3. An employee education program will be developed. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the proposed project. They will be advised of the potential impact to the listed species and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to human

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APPLICATION NO.
B.O. Conditions CD 62-03

activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area environs. Included in this program will be color photos of the listed species, which will be shown to the employees. Following the education program, the photos will be posted in the contractor and resident engineer office, where they will remain through the duration of the project. The USBP and designated biological monitor will be responsible for ensuring that employees are aware of the listed species.

4. The project proponent will designate a qualified biologist who will be responsible for overseeing compliance with protective measures for the listed species during construction activities within desingated areas. The designated biologist's qualifications shall be subject to the approval of the Service. The biologist shall immediately notify the project proponent's designated representative to halt all associated project activities which may be in violation of this biological opinion. In such an event, the project proponent will halt all construction activities and contact the Service within 24 hours.

5. The designated biologist will monitor construction activities within designated areas during critical times such as breeding seasons, vegetation removal, the installation of Best Management Practices (BMPs) and ESA fencing, and all avoidance and minimization measures are properly constructed and followed.

6. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities, will occur in designated upland areas. The designated upland areas will be located in such a manner as to prevent any runoff from entering waters of the United States, including wetlands.

7. Typical erosion control measures, BMPs, throughout the project area will be employed in accordance with the Project SWPPP and all conditions in the 401 Water Quality Certification requirements of the Regional Water Quality Control Board.

8. No invasive exotic plant species will be seeded or planted in landscaped areas adjacent to or near sensitive vegetation communities. In compliance with Executive Order 13112, impacted areas shall be revegetated with plant species native to local habitat types, and will avoid the use of species listed in Lists A & B of the California Exotic Pest Plant Council's list of Exotic Pest Plants of Greatest Ecological Concern in California as of October 1999 to the extent practicable. Areas hydroseeded for temporary erosion control measures will use native plant species when feasible.

9. No off-road vehicle activity will occur outside of the project footprint by the project proponent, project workers, and project contractors. The USBP will discourage offroad use by the public in areas adjacent to the BIS project. Normal USBP operations will continue to use designated unpaved roads north of the project footprint for the duration of project construction.

10. To reduce attraction of ravens and crows, all trash shall be placed in crow/raven-proof containers and promptly removed from the site.

11. No pets owned or under the care of the project proponent or any and all construction workers shall be permitted inside the project's construction boundaries, adjacent native habitats, or other associated work areas.

12. Any night lighting for the construction of the BIS Project will be selectively placed, shielded, and directed away from all native vegetative communities north of the project footprint and the beach. Proposed lighting in the area is not expected to have a significant impact on the gnatcatcher due to special bulb designs for the project. These lights have been designed to ensure no increase in ambient light conditions in areas north of the project footprint.

13. All areas temporarily impacted by project construction will be revegetated with native plant species following the Service approved restoration plan. All native seed and plant stock will be from seed and propagules collected within a five mile radius of the project area to the extent practicable. Seed sources outside of the 5 mile radius will be approved by the Service to determine whether the source is acceptable. All restored areas will have successfully estabished native plant communities within five years of implementing restoration.

14. All restoration activities will be conducted by restoration firms with at least five years experience conducting successful comprehensive ecological restoration in southern California of the habitat type to be restored/enhanced.

15. Restoration plans will be developed by a consulting firm with at least five years experience writing restoration plans for the habitat type to be restored/enhanced. All restoration plans and long-term managment plans will be approved by the Service prior to the commencement of construction.

16. The project proponent will establish an appropriate financial mechanism (determined using a program such as the Property Analysis Report (PAR) system) to fully implement all appropriate conservation measures.

17. The project proponent will ensure that long-term management of the conservation sites will occur. Within three months of the acquisition of the conservation parcels or easement, a draft management plan will be developed in coordination with the Service. The report should be finalized within six months and implemented immediately following final sign off of all restoration activities for each parcel. If the conservation sites are transferred to a third party for long-term managment, then an endowment with sufficient funds (determined using the PAR system) will be established subject to availability of funds, unless otherwise negotiated with the receiving party.

EXHIBIT B, p.3

The following measures will be implemented to avoid impacts to the least tern and snowy plover:

18. All construction activities on the beach will be timed to avoid the nesting season of the least tern (April 1 to September 15) and the snowy plover (March 1 to September 15).

19. The designated biologist will monitor the site throughout project construction on the beach to ensure that no snowy plover have moved into the project footprint. If snowy plovers are found within the project footprint, work will be temporarily halted until the snowy plovers move to a location away from the construction area.

20. For the snowy plover, a year round resident on the beach, a barrier fence will be installed along the northern boundary of the project footprint on the beach. The barrier fence should be a fine mesh material that will prevent snowy plovers from running into the active construction area.

The following measures will be implemented to avoid and minimize impacts to the vireo and potential impacts to the southwestern willow flycatcher, if the willow flycatcher establishes a territory in the area:

21. Construction of all project features, within proximity to riparian habitat, including clearing and grubbing will be timed to avoid the nesting season of the vireo (March 15 to September 15) and willow flycatcher (May 1 to September 15).

22. Since willow flycatchers and vireo are site tenaceous (they typically return to the same nesting territory each year), all areas where willow flycatchers and/or vireos territories are known to occur will have noise attenuation structures constructed prior to the breeding season to reduce noise levels to 60 d(B)A L_{eq} or to ambient noise levels if ambient noise levels exceed 60 d(B)A L_{eq}. Those construction activities that are creating the excess noise (greater than 60 d(B)A L_{eq} or greater than ambient noise levels) will cease operation until effective noise attenuation structures are in place.

23. To offset impacts to vireo and any potential future impacts to willow flycatcher, all southern willow scrub and mulefat scrub impacted by the project will be replaced at a 3:1 ratio. Replacement will occur through the excavation of upland habitat and restoration of riparian habitat within the Tijuana River floodplain on lands within close proximity to Smuggler's Gulch. The wetland restoration plan will be approved by the Service prior to the start of construction.

24. Restoration of habitat for vireos and willow flycatchers will consist of a multi-layered willow riparian scrub habitat with the canopy comprised of trees (e.g., black willow, red willow, arroyo willow, cottonwoods) and an understory consisting of shrubs (e.g., sandbar willow, mulefat).

25. All areas proposed for restoration will be cleared of exotic plant species and replaced with native species.

Exh. B, p. 4

The following measures will be implemented to avoid and minimize impacts to gnatcatchers:

26. Project impacts to maritime succulent scrub and southern mixed chaparral, which can potentially be used by gnatcatchers as nesting or foraging habitat, will be replaced at 3:1 and 2:1 ratio respectively.

27. In CSS and MSS vegetative communities, all clearing and grubbing activities will be timed to avoid the nesting season of the gnatcatcher (February 15 to September 1).

28. Since gnatcatchers are year-round residents and are site tenaceous (they typically utilize the same nesting territory each year), all areas where gnatcatcher territories are known to occur will have noise attenuation structures constructed prior to the breeding season to reduce noise levels to 60 d(B)A L_{eq} or to ambient noise levels if ambient noise levels exceed 60 d(B)A L_{eq}. Those construction activities that are creating the excess noise will cease operation until effective noise attenuation structures are in place.

29. To offset impacts to gnatcatchers, all MSS impacted by the project will be replaced at a 3:1 ratio and disturbed MSS will be replaced at 2:1. Replacement will occur by preserving and/or restoring lands on Lichty Mesa and Spooner's Mesa within the Tijuana River Valley on lands located in areas V and VI.

The following measures will be implemented to avoid and minimize impacts to Quino:

30. To offset impacts to Quino designated critical habitat impacted in project Areas I and II, the project proponent will implement a noxious weed eradication program, on 28.9 acres of lands located within designated critical habitat Unit 3, following the Service approved noxious weed eradication plan.

31. All patches of dwarf plantain (*Plantago erecta*), and/or other known host plants (*Plantago* spp.; plantain, *Castilleja exserta;* annual owl's clover, and *Cordylanthus rigidus*; thread-leaved birdsbeak) that occur immediately adjacent to the project footprint, will be clearly delineated by the designated biologist with exprerience identifying Quino habitat and familiar with the areas of know Quino activity near the construction corridor. The host plant areas will be delineated with orange snow fencing during construction activities.

32. To avoid harm to Quino larvae, all clearing and grubbing within 50 feet of host plant areas immediately adjacent to and within Project Area I will occur during the Quino flight season. The flight season is determined annually by Service staff and is posted on the Service website: http://carlsbad.fws.gov/Rules/QuinoDocuments/Quino_htms/Quino_protocol_monit.htm.

33. Service staff will be notified at least one week prior to the start of construction in Project area I. For those areas containing host plants within 50 feet of the construction corridor, monitoring of host plants will be conducted from January 1 to the beginning

Exh. 13, p. 5

of the adult flight season. If larvae are found to be active, construction activities will be revised such that no impact to the larval population would occur.

STATUS OF THE SPECIES/CRITICAL HABITAT

Least Bell's Vireo

Listing Status

The vireo was federally-listed as endangered on May 2, 1986 (*Federal Register* 51: 16474), and state listed as endangered in California on October 2, 1980. A draft recovery plan was prepared for this species in March 1998 (Service 1998).

Species Description

The vireo is a small migratory songbird. It is olive-gray above and pure white on its underparts with two dull white wing stripes and dull white to olive narrow margins on the outer border of its wings and tail. Males and females are identical in plumage. This vireo is easily distinguished by its song, a rapid bubbling series of rough notes, increasing in tempo and intensity toward a rapid climax. Phrases of the song are alternatively slurred upward and downward. Eggs are on average 17.5 millimeters (mm) (0.7 inches (in)) long, and dull white, often with fine brown, black, or reddish-brown dots concentrated on the larger end (Brown 1993).

The least Bell's vireo is in the family *Vireonidae*, and is one of four subspecies of Bell's vireo (*Vireo bellii*) that have been recognized. Although all subspecies are similar in behavior and life history, they are isolated from one another on both the breeding and wintering grounds (Hamilton 1962).

Distribution

The vireo formerly was found in valley bottom riparian habitats from Tehama County, California, southward locally to northwestern Baja California, Mexico, in the south, and as far east as Owens Valley, Death Valley, and along the Mojave River (Grinnell and Miller 1944). Except for a few outlying pairs, the subspecies is currently restricted to southern California south of the Tehachapi Mountains and northwestern Baja California (Garrett and Dunn 1981). Least Bell's vireo breeding pairs currently occur in Monterey, San Benito, Inyo, San Bernardino, Ventura, Los Angeles, Orange, Riverside, and San Diego Counties. The highest reported concentration is in San Diego County along the Santa Margarita River (Small 1994). According to Grinnell and Miller (1944) 1,200 meters (m) [4,000 feet (ft)] is the upper limit where the vireo occur in coastal southern California.

Habitat Affinities

The vireo primarily occupies riparian habitats that typically feature dense cover within 1 to 2 m (3 to 7 ft) of the ground and a dense, stratified canopy. It inhabits low, dense riparian growth along water or along dry parts of intermittent streams. The understory is typically dominated by

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Marron Valley area to recovery of Quino, any increased illegal immigrants traffic through this area is cause for concern.

Beneficial Effects

Completion of the BIS would reduce the direct impacts from illegal immigrants attempting to illegally cross the international border within 14 miles of the Pacific Ocean. Historic and current levels of foot traffic from people attempting to cross into the U.S. likely have affected listed species by trampling vegetation and Quino larvae, knocking listed songbirds out of their nests, and starting fires in highly flammable vegetative communities. In response to this foot traffic across the border, DHS uses teams in vehicles and on foot to pursue and apprehend perpetrators. This results in further degradation of native plant communities, by driving over native vegetation, creating new roads, shining lights into native habitat, and trampling vegetation during pursuit and capture activities. The installation of the BIS should reduce the need for numerous large teams patrolling the area north of the BIS, extensive lighting of native vegetative communities north of the BIS, and an overall reduction in use of patrol roads north of the BIS.

Another beneficial effect will be the abandonment and restoration of approximately 100 miles of select roads adjacent to the BIS project (INS 2002c). Taking select roads out of use and revegetating them with native plant species will reduce fragmentation and increase the size and quality of native plant communities. The INS has committed to abandoning the roads depicted on Figures 3, 4, and 5 upon completion of the BIS. The INS has also committed to restoring those abandoned roads that are located on public lands, which will provide about 24 acres of restored habitat. Restoration of the remaining abandoned roads would occur if permission from the landonwers can be obtained. In the event that future intelligence determines that one or more of the roads scheduled for abandonement would hinder or impede enforcement actions, an altenate road(s) of equal length would be abandoned. The INS will coordinate with the Service to identify the alternate road(s) and to schedule the closure. Furthermore, the INS will continue to evaluate the need for the patrol and access roads north of the BIS to determine if additional roads can be abandoned.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal Actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

In August 2002, the California State Parks released a Notice of Availability and Intent to Adopt an Initial Study/Mitigated Negative Declaration that identified the addition and rehabilitation of day-use facilities at Border Field State Park. The project includes the construction and landscaping improvements at the base of Monument Mesa, on Monument Mesa, Monument Road, and at the Tijuana Estuary Visitor Center. At Border Field State Par[illegible] Canyon Creek, California State Parks will construct a new entrance station [illegible] of Monument Road. The structure will be approximately 450 square feet. [illegible] Monument Mesa bluff two improvement projects are proposed that includ[illegible]

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B.O. INS Conclusions

public restroom facilities and repair of an existing parking lot. On Monument Mesa, California State Parks plans to add a group picnic facility with a ramada, plant native landscaping, and improve the drainage associated with runoff on the mesa top. No work has been proposed within areas having native habitat.

An ongoing problem in the Tijuana River watershed is the movement of sediment into the Tijuana estuary. Currently, large precipitation events move sediment from the upper subwatersheds in Mexico into the main stem of the Tijuana River and eventually into the Tijuana River estuary. This sediment load has been filling in estuarine wetlands at an accelerated rate. In addition, subwatersheds that feed directly to the estuary (e.g., Smuggler's Gulch and Goat Canyon) exacerbate this problem.

The project area will continue to be subjected to sewage spill events that occur in Mexico and flow across the border through Smuggler's Gulch and Goat Canyon. In addition, it is expected that unauthorized roads and trails will continue to be constructed in the southwestern portion of the Tijuana River Valley without the benefit of environmental review or associated offsetting restoration efforts for the habitat being impacted. This latter problem can only be addressed by increased law enforcement efforts along with systematic documentation of the habitat destruction and the identification of parties responsible for the impact.

Many actions that could reasonably be expected to occur within the vicinity of the proposed project will be subject to future section 7 consultations because of the numerous Federal agencies that have management or regulatory oversight in this area, including NOAA, Corps, IBWC, DHS, and INS.

CONCLUSION

After reviewing the current status of the species at issue, environmental baseline, effects of BIS, and cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the vireo, willow flycatcher, gnatcatcher, and Quino, and the project is not likely to adversely modify designated critical habitat for the gnatcatcher and Quino. We have reached these conclusions for the following reasons:

Vireo and Willow Flycatcher

- The proposed action would take one (1) pair of vireo and one (1) pair of willow flycatcher, a small proportion of the rangewide populations of these species.

- The permanent loss in Areas V and VI of 2.57 acres of southern willow scrub and 4.2 acres of mulefat scrub and 3.1 acres of waters of the U.S. is not large relative to the extent of habitat remaining over their ranges.

- The permanent and temporary impacts to southern willow scrub and mulefat scrub habitat within the Tijuana River Valley have been minimized through conservation measures incorporated into the project description that identified the replacement of these

vegetative types at a minimum of a 3:1 ratio with follow-up monitoring to ensure success of the restoration effort.

Gnatcatcher

- The proposed action would take two (2) pairs of and one (1) individual gnatcatcher(s), a small proportion of the rangewide populations of this species.

- The permanent loss of 26.3 acres of CSS, 9.3 acres of disturbed CSS, 13.1 acres of MSS, 0.8 acre of disturbed MSS, and 9.2 acres of SMC is not large relative to the amount of existing suitable habitat available in MSCP and the range of this species.

- The permanent and temporary impacts to CSS, MSS and SMC within the Tijuana River Valley have been minimized by the incorporation of conservation measures into the project description, including the restoration and enhancement of CSS, MSS and SMC.

Quino

- The proposed action would take all Quino larvae and eggs that occupy dot-seed plantain patches within constuction areas of the project footprint and two (2) adults flying along the access roads to and within the project footprint, a small proportion of the rangewide population of this species.

- The numbers of Quino that may be harmed by the loss of 42.2 acres of designated critical habitat that contain primary constituent elements is relatively small compared to the total population in critical habitat Unit 3.

- The permanent and temporary impacts of the proposed action to occupied critical habitat containing constituent elements have been minimized by the incorporation of conservation measures in the project description, including the restoration and enhancement of designated critical habitat for Quino.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as

part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by INS and/or agencies and individuals designated by INS, as the lead federal agency for the project. INS has ongoing responsibility to regulate the activity that is covered by this incidental take statement. If INS: (1) fails to assume and implement the terms and conditions or (2) fails to require its designated agency(ies) and individual(s) to adhere to the terms and conditions of this incidental take statement through enforceable terms incorporated into contracts, grants, and permits related to work activities associated with the project, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of the incidental take, INS or its designated agency(ies) or individual(s), must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

The Service will not refer the incidental take of any such migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions (including the amount and/or number) specified herein.

Amount or Extent of Take

The Service anticipates that approximately one (1) pair of vireo and one (1) pair of willow flycatcher could be harmed as a result of this proposed action. The take may be in the form of harm and harrassment as a result of the removal of 2.57 acres of southern willow scrub and 4.2 acres of mulefat scrub that otherwise could be utilized by both of these species as foraging habitat and/or nesting habitat.

The Service anticipates that approximately two (2) pairs and one (1) individual gnatcatchers could be harmed as a result of this proposed action. The take may be in the form of harm and harrassment as a result of the removal of 26.3 acres of CSS, 9.3 acres of disturbed CSS, 13.1 acres of MSS, 0.8 acres of disturbed MSS, and 9.2 acres of SMC that otherwise could be inhabited by the gnatcatcher.

The Service anticipates that incidental take of Quino checkerspot butterfly will be difficult to quantify due to the variability of population sizes from year to year, and the difficulty in detecting individuals during the different life stages (i.e. laval in-stars, pupae, adults). If more than two (2) adults flying along the access roads to and within the project footprint are killed or injured by vehicles, INS shall report and discuss the circumstances to determine the need for reinintiation of consultation.

If, during the course of the action, incidental take of numbers higher than stated above occurs to vireos, willow flycatchers, adult Quino, and/or gnatcatchers, INS, or its designated representative(s), shall immediately notify the Service in writing as required by 50 CFR § 402.14(i). If incidental take occurs, INS, or its designated representative(s), should cease the

activity resulting in the take and reinitiate consultation with the Service. INS should provide an explanation of the causes of the taking.

Reasonable and Prudent Measures

The following reasonable and prudent measures are necessary and appropriate to minimize take of the vireo, willow flycatcher, gnatcatcher, and Quino. These measures are based on the premise that take of these species will be avoided and minimized through the implementation of the thirty-four (34) Conservation Measures as described in the Project Description of this biological opinion.

1. INS shall submit to the Service, prior to the start of construction, pertinent information required to ensure that take of these species, is minimized.

2. INS shall monitor and adaptively manage USBP operations and maintenance in lands adjacent to the 14-mile BIS to ensure that take of these species is minimized.

3. INS shall offset unavoidable project impacts by implementing the restoration and long-term management of conservation lands.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the Act, INS, and its designated agency(ies) and contractor(s) (hereinafter INS) must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. INS shall implement Reasonable and Prudent Measure Number 1 through the following term and conditions:

   1.1 Ambient noise levels shall be determined prior to the start of construction.

   - All areas where vireos, gnatcatchers, and willow flycatchers may be present or have historically occured shall have ambient noise level contours along the BIS corridor determined prior to the start of construction. Noise level measurements shall be taken according to a Service-approved sampling design developed by a third party contractor with demonstrated experience conducting noise level monitoring.

   - The contractor shall prepare a report of the results of the noise level measurements to the Service for review prior to the start of any construction activities associated with Areas I, V, and VI of the BIS project. Based on the results of this report, the INS shall work with the Service to develop a plan for the design and location of all noise attenuation barriers.

Exh. 14, p. 5

1.2 The INS shall provide a map and schedule to the Service describing road closures and those roads to remain in use, along with recent aerial photographs and property ownership boundaries, for the presentation of this information.

1.3 The INS shall provide the Service with all engineering and design documents, including the SWPPP, for review and comment prior to the completion of the design process.

1.4 The INS shall submit in writing, the names, any permit numbers, resumes, and at least three references (of people who are famiar with the relevant qualifications of the proposed biologist) to the Service for review and approval of the designated biologist(s) who is responsible for overseeing compliance with protective measures for listed species during project-related activities.

2. INS shall implement Reasonable and Prudent Measure Number 2 through the following terms and condition:

2.1 The INS will monitor light levels immediatly north of the tertiary fence to ensure that light levels do not illuminate native vegetation. If lighting illuminates native vegetation north of the BIS, then INS will modify light fixtures, or design and install shields to deflect light away from the native vegetation being illuminated.

2.2 Since the effectiveness of the BIS may result in increased foot traffic of illegal immigrants into the mountains east of the BIS corridor, INS shall monitor and manage all new effects that the USBP may have on listed species and the native plant communities on which they depend. This information will be submitted to the Service as part of annual reporting requirements.

3. INS shall implement Reasonable and Prudent Measure Number 3 through the following terms and conditions:

3.1 Restoration/enhancement efforts shall be designed and implemented in a manner to ensure success.

- To establish suitable hydrological conditions necessary to create riparian habitat, the restoration site shall be excavated and graded down to the same elevation as adjacent riparian habitat. The Service, in cooperation with the Corps' Regulatory Branch, shall review and approve the final grading of the site prior to beginning the revegetation phase of the restoration plan.

- Seed mixes for all restoration efforts shall consist of clean seed of only plant species native to southwestern San Diego County. The project proponent shall not include plant species for seeding or planting that are on Lists A and B of the California Exotic Pest Council's list of Exotic Pest Plants of Greatest Ecological

Concern in California as of October 1999. If local seed is not available, the INS shall work with the Service to find an acceptable solution.

- For each of the five years of post-seeding/planting weed management, exotic annual plant species shall have no more than ten (10) percent cover for any given year. All biennial/perennial species shall be removed from the restoration/ enhancement sites.

3.2 The INS shall submit a plan for Service review and approval on the salvage and transplanting of the Baja California birdbush. INS shall coordinate with the Service in determining where and when the salvaged Baja California birdbush will be transplanted. This effort is being pursued by INS/USBP, even though it is not statutorily required, to avoid effets to this species that could lead to the possible listing of the species in the future.

3.3 Since Quino habitat includes bare ground, success criteria addressing exotic plant species on all restoration/enhancement sites within designated Quino critical habitat shall include:

- Total cover of annual exotic species for each of the five years of maintenance shall be less than five (5) percent. All biennial/perennial exotic species including but not limited to sweet fennel, starthistle, artichoke thistle, and pampas grass shall be removed from the restoration site until the success criteria in the restoration plan are met.

3.4 Since the plant communities at the border are unique, the INS shall hire a Service-approved restoration firm with a minimum of five-years demonstrated experience conducting successful comprehensive ecological restoration projects of CSS, MSS, SMC, riparian, and native grasslands in southern California.

3.5 The INS shall dedicate all restored/enhanced lands for permanent conservation through a mechanism to be approved by the Service. Prior to completing habitat restoration activities on the conservation lands, the INS shall submit a management and funding plan for review and approval by the Service.

Reporting Requirements

To demonstrate compliance with the foregoing Terms and Conditions, INS or its designated representative, shall submit an annual report, by November of each year, to the Service that describes and summarizes how the project is in compliance with the conservation measures, Reasonable and Prudent Measures, and the Terms and Conditions of this Opionion.

Disposition of Sick, Injured, or Dead Specimens

The Service's Division of Law Enforcement, San Diego, California (619) 557-5063 is to be notified within three working days should any vireo(s), willow flycatcher(s), or gnatcatcher(s) be found sick, injured, or dead in the project area. The Service's Carlsbad Fish and Wildlife Office should be notified concurrently at (760) 431-9440. Written notification to both offices must be made within five calendar days and include the collection date and time, location of the bird(s), and any other pertinent information. Care must be taken in handling sick or injured bird(s) to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. The remains of intact vireo(s), willow flycatcher(s), gnatcatcher(s), or Quino(s) shall be placed with: (1) educational or research institutions holding the appropriate State and Federal permits, or (2) the Service's Division of Law Enforcement, San Diego, California.

The Service retains the right to access and inspect the project site for compliance with the proposed project description and with the terms and conditions of this biological opinion. Because of the security surrounding the BIS, the Service will notify the Sector's Facilities Supervisor prior to entering INS/USBP lands. Any habitat destroyed outside the project footprint contemplated herein be reported immediately to the Service; reinitiation of consultation may be required. Compensation for such habitat loss will be requested at a minimum replacement ratio of 5:1.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by implementing conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on a listed species or critical habitat, to help implement recovery of a listed species, or develop information. The recommendations provided below relate only to the proposed action and do not necessarily represent complete fulfillment of the agency's 7(a)(1) responsibilities for these species relative to other agency actions.

1. INS, in conjunction with the proposed riparian restoration plan that will be implemented with the project, should construct and operate during the vireo nesting season, two brown-headed cowbird traps in the Tijuana River Valley within Border Field State Park.

2. INS should provide funding to restore additional coastal sage scrub, maritime succulent scrub, and southern mixed chaparral habitats within ruderal and disturbed lands adjacent to the BIS corridor to remedy past damage not rectified by the proposed action.

3. The proposed project would reduce the MHPA by 163.6 acres. To offset this loss, INS should purchase a commensurate amount of conservation lands adjacent to existing MHPA as part of the conservation strategy for offsetting project impacts. In selecting areas to be conserved, INS should target lands that are adjacent to but outside of the MHPA.

EXHIBIT NO. 15
CD-63-03
B.O. Conservation INS Recommendations

4. The INS/USBP should coordinate with the City of San Diego to implement an enforcement mechanism to eliminate off-highway vehicle use on lands within the MHPA.

5. The INS should participate in planning efforts to construct a sedimentation basin in Smuggler's Gulch.

6. The INS, in cooperation with the Environmental Protection Agency and the Corps' Regualtory Branch, should continue to analyze alternatives in Smuggler's Gulch that are less environmentally damaging than the proposed action.

7. The INS should incorporate into, and implement as part of, their restoration planning efforts methods for salvaging all sensitive plant species (Ogden 1999c), particularly Brand's phacelia (*Phacelia stellaris*), and reestablishing these species as part of MSS restoration efforts.

For the Service to be kept informed of actions that minimize and avoid adverse effects or benefit listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the Border Infrastructure System Project. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this biological opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this biological opinion; (4) a new species is listed or critical habitat designated that may be affected by the action; (5) if noise attentuation barriers do not reduce construction noise levels north of the project footprint to 60 d(B)A L_{eq} hourly or ambient levels; or (6) sediment leaves the project footprint resulting in non-compliance with Water Quality Standards as determined by the State Regional Water Quality Control Board. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation. If you have any questions or concerns about this biological opinion, please contact Martin Kenney or John DiGregoria of my staff at (760) 431-9440.

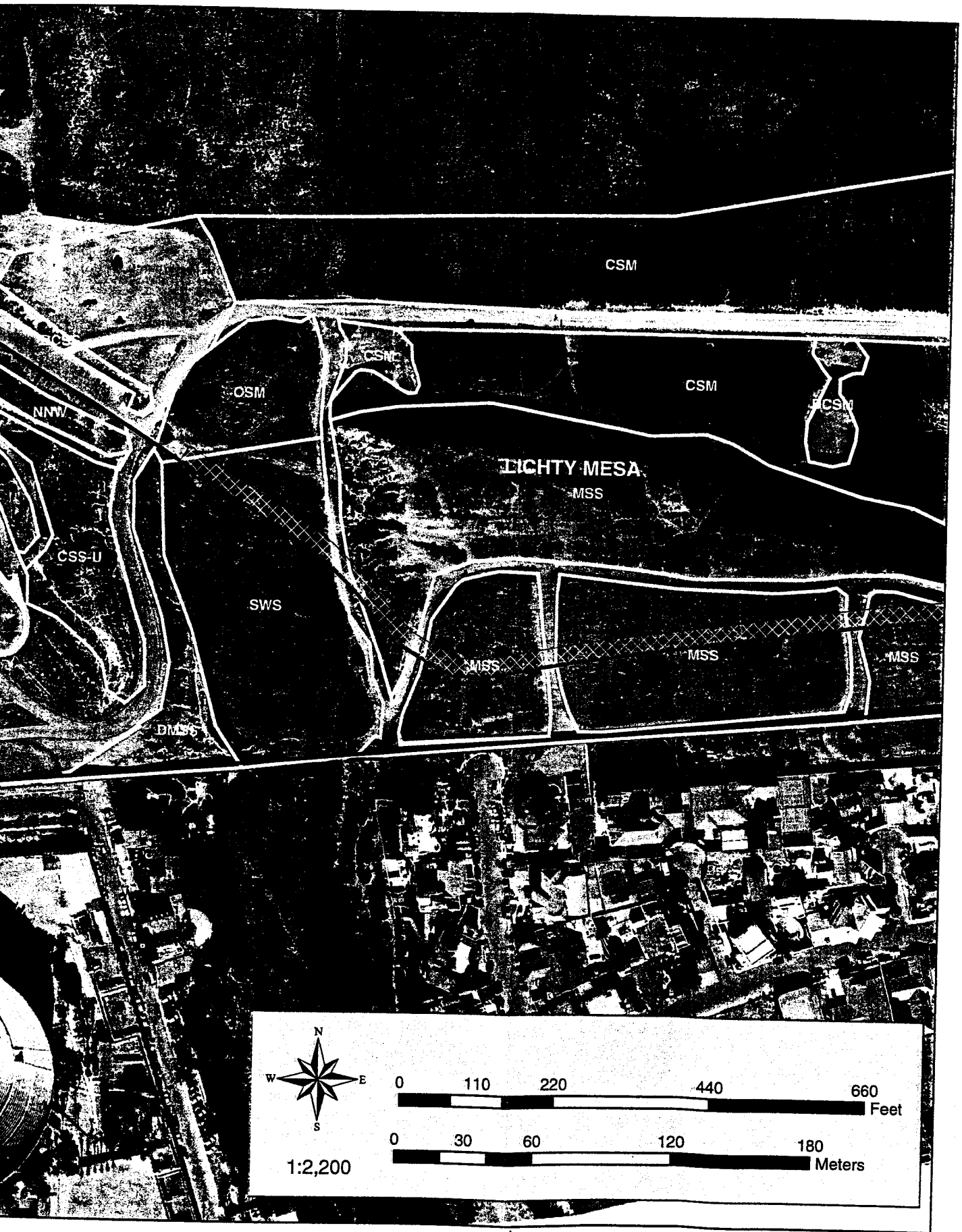
Sincerely,

Peter C. Sorensen
Acting Assistant Field Supervisor

Exh. 15, p. 2

EXHIBIT NO. 16
APPLICATION NO.
CD-63-03
Vegetation Types INS

Figure 3-3. Vegetation Communities in Area VI near Border Field State Park

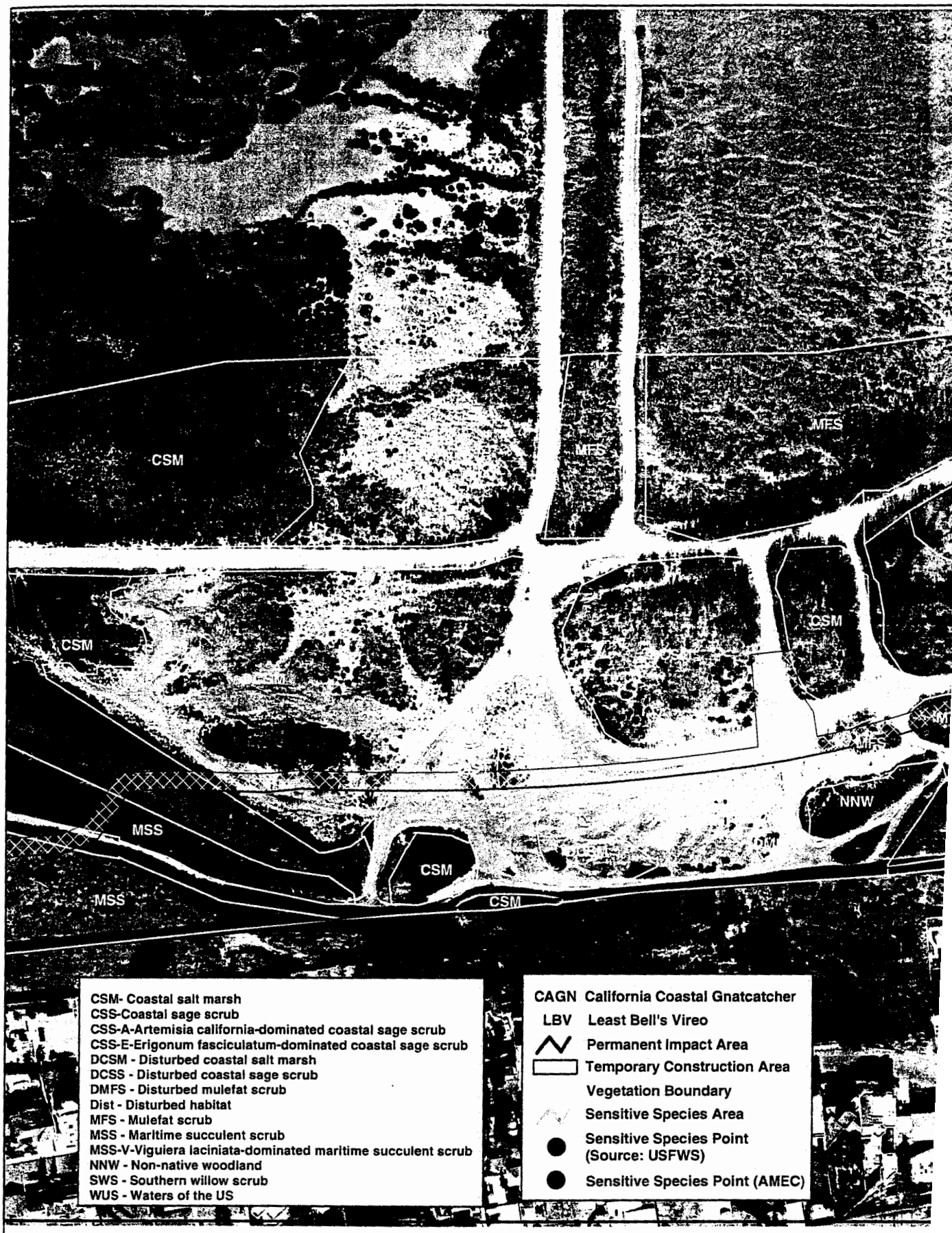


eld State Park

gsrc / GULF SOUTH RESEARCH CORPORATION

Exh 16, p.2

DATE: July 2002



Ex H 16, p. 3

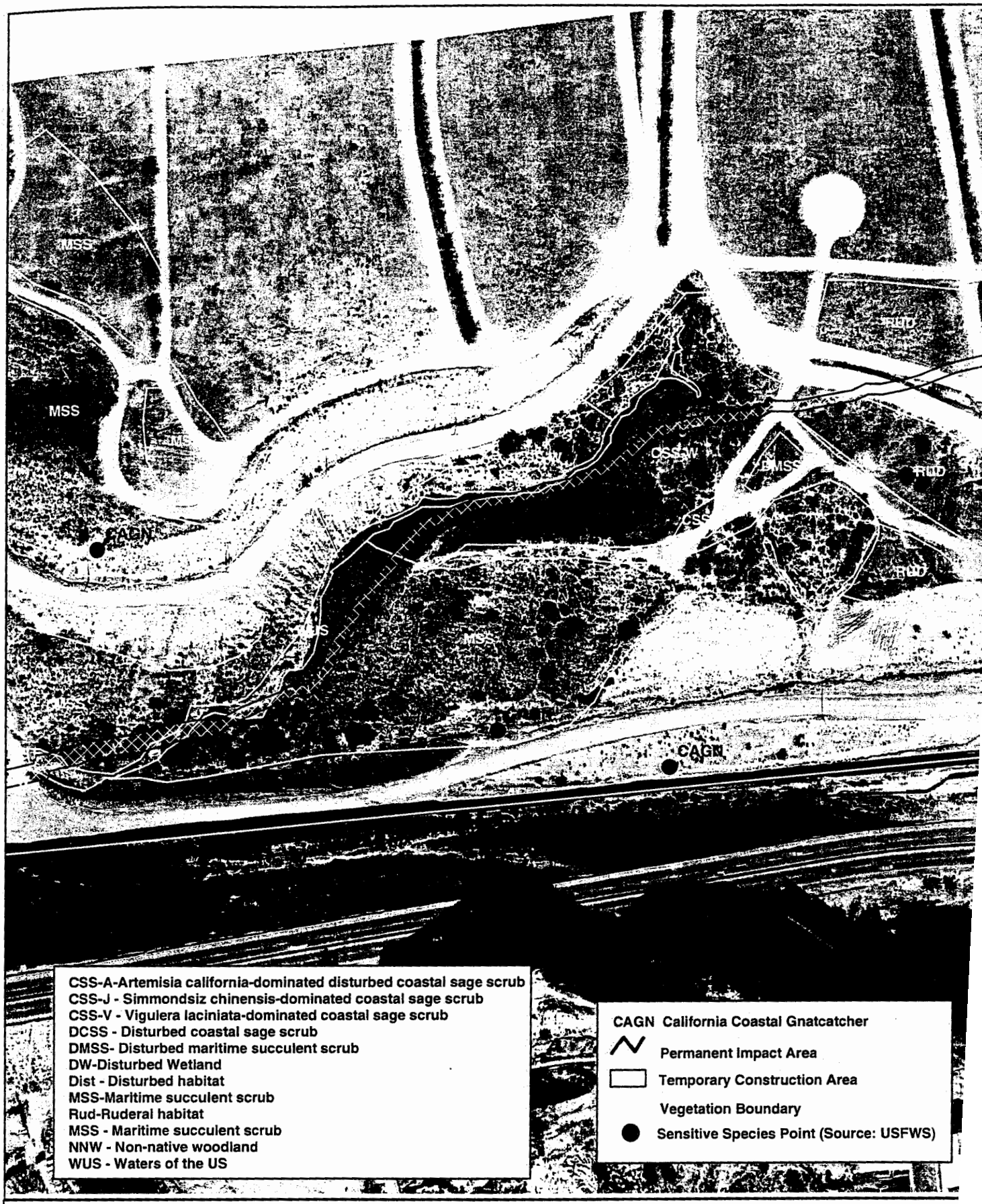
Figure 3-4. Vegetation Communities in Area VI b

unker Hill and Lichty Mesa

gsrc / GULF SOUTH RESEARCH CORPORATION

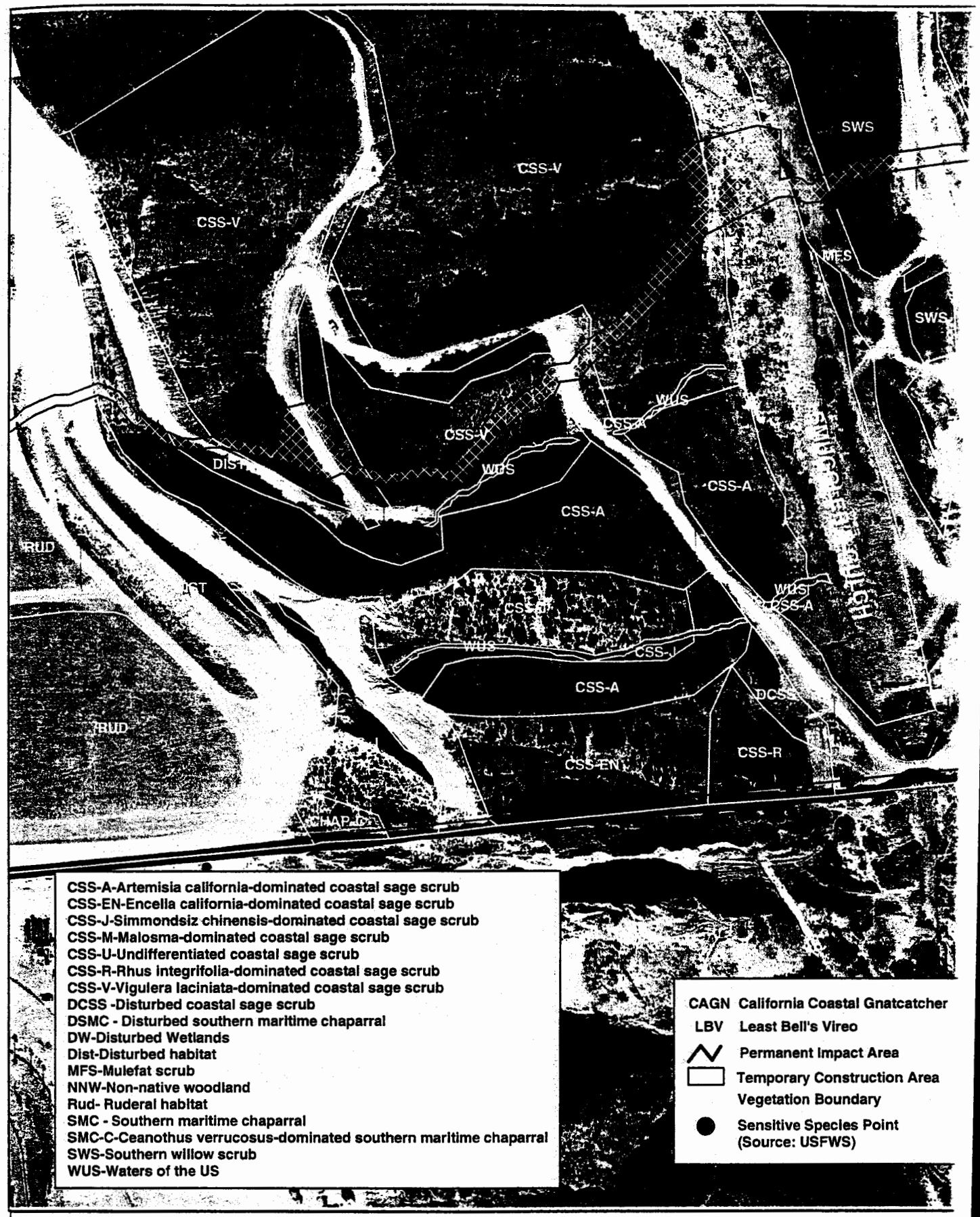
Exh 16, p. 4

DATE: July 2002



Exh. 16, p. 5

Figure 3-6. Vegetation Communities in Area V on Spo



Ex H 16, p. 6

Figure 3-7. Vegetation Communities in Area V at Sn

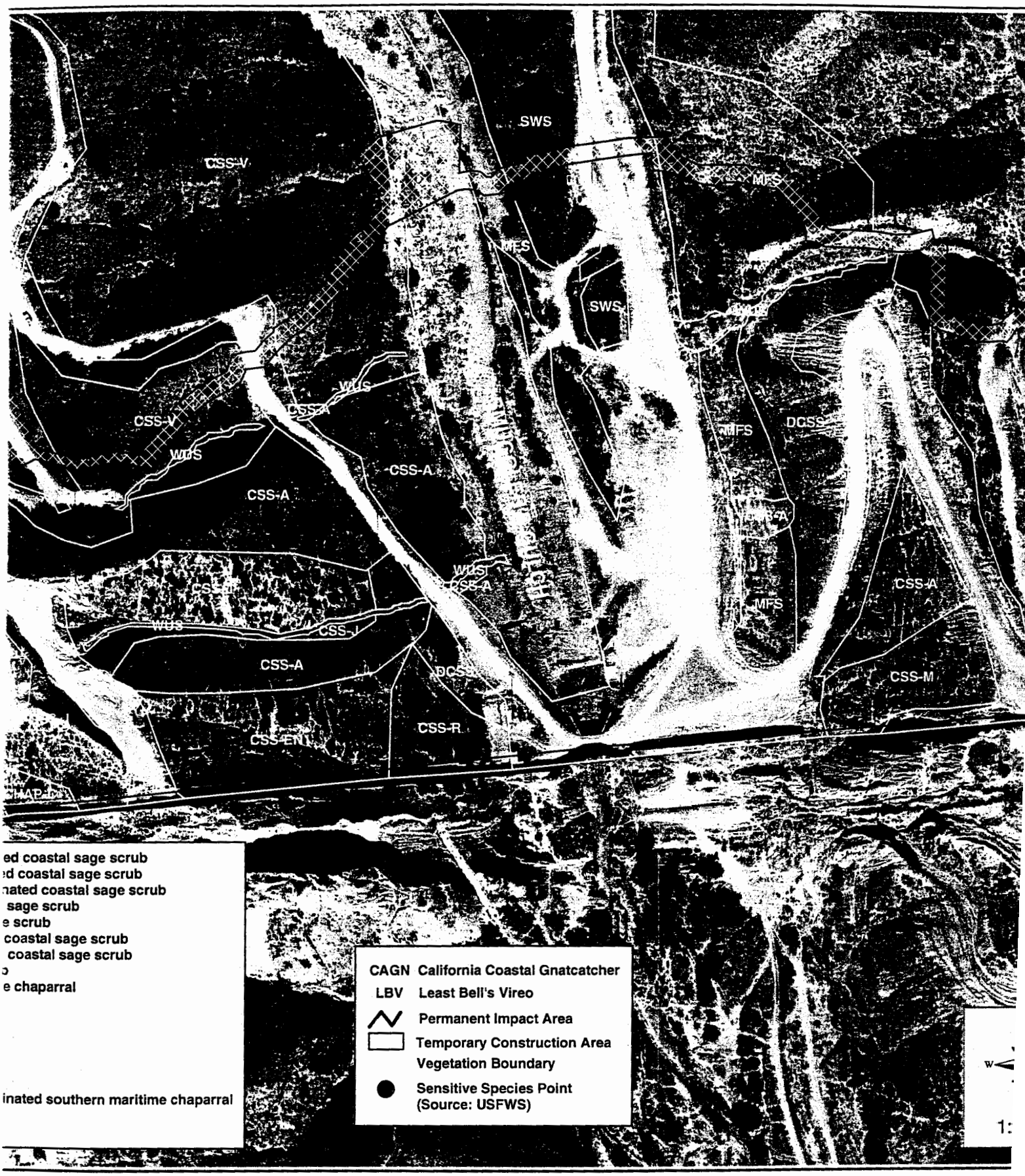
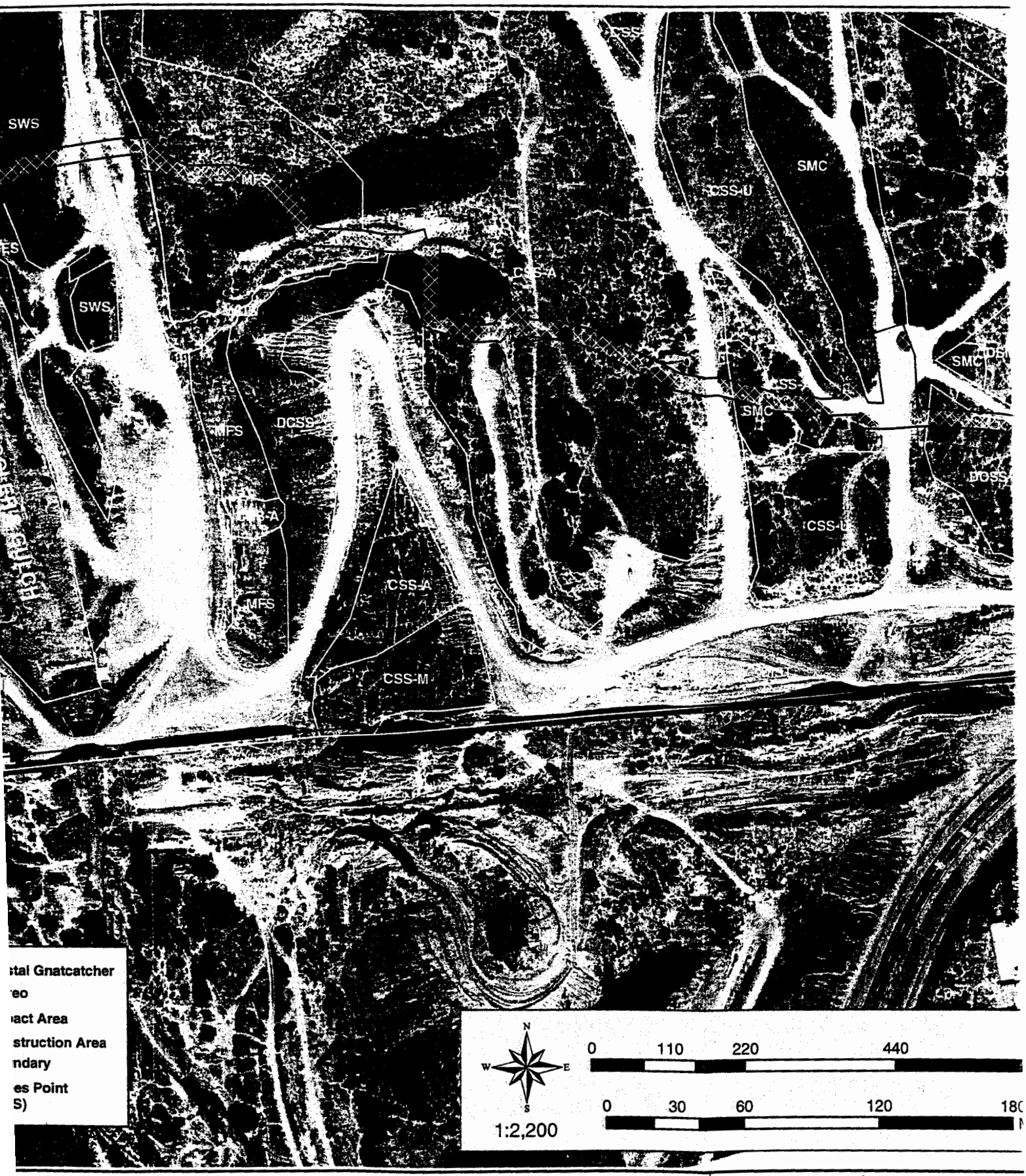


Figure 3-7. Vegetation Communities in Area V at Smuggler's Gulch

Exh. 16, p. 7



Ex H.16, p.8

Area V at Smuggler's Gulch

gsrc / GULF SOUTH RESEARCH CORPORATION

DATE: July 2003

Exh 16, p. 9

Figure 3-8. Vegetation Communities near the Easterr

End of Area V

gsrc GULF SOUTH RESEARCH CORPORATION

Ex H 16, p.10

DATE: July 2003

LEGEND

Multiple Species Conservation Program

Permanent Impact Area

Temporary Construction Area

0 0.125 0.25 0.5 0.75 1 Miles

NOTE: All Areas are within the Multiple Habitat Planning Area

Figure 3-2. MSCP Lands within the Project Footprint (Source: SanGIS)

gsrc / GULF SOUTH RESEARCH CORPORATION

DATE: July 2003

EXHIBIT NO. 17
APPLICATION NO.
CD-63-03
INS MSCP Lands

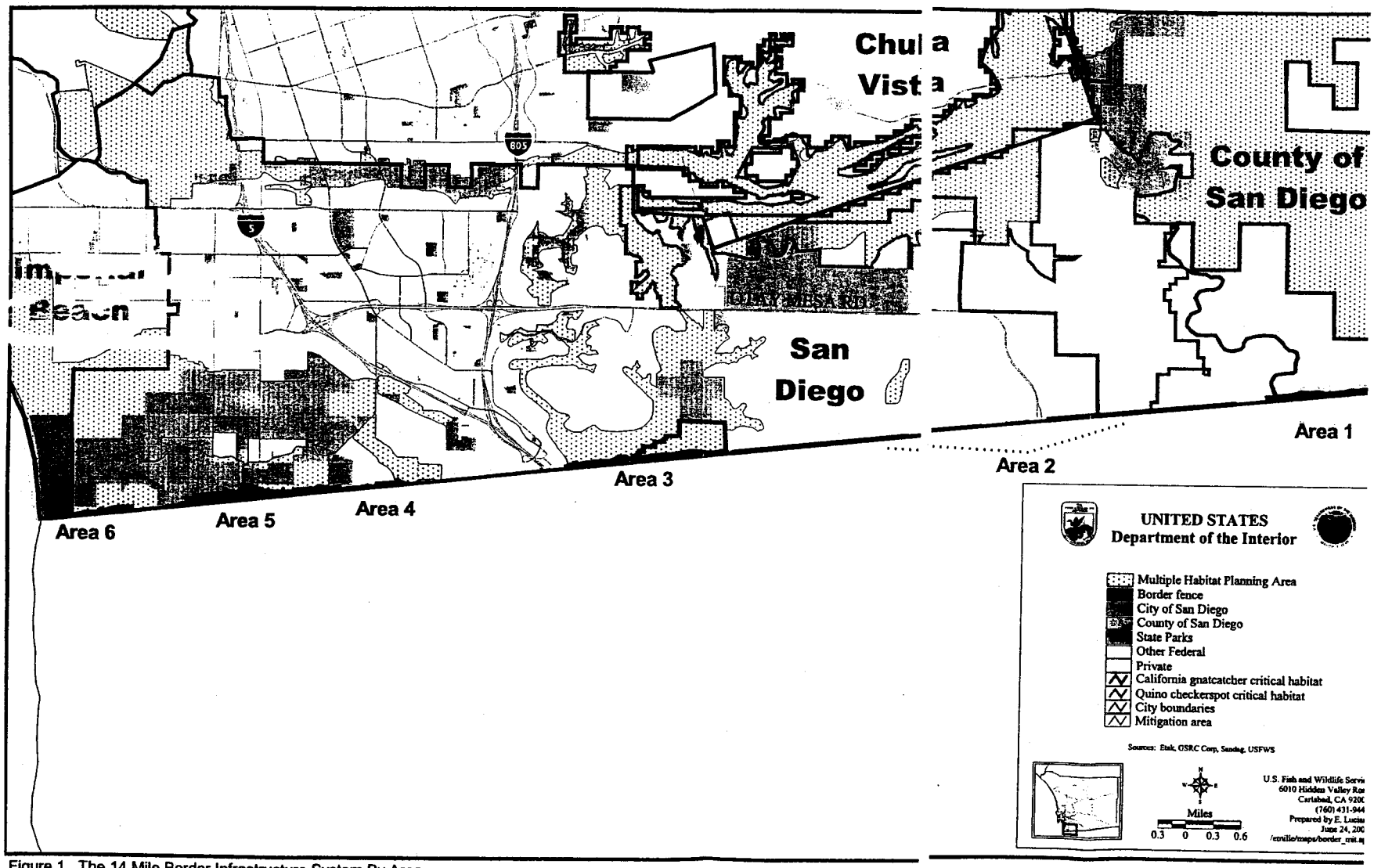
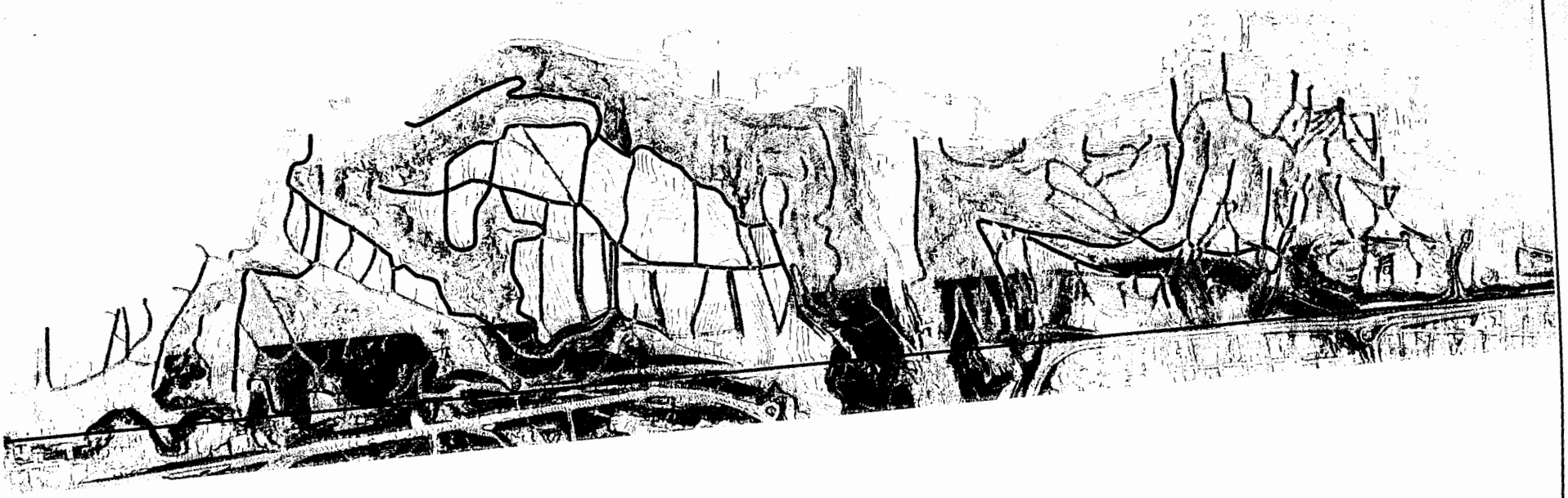


Figure 1. The 14 Mile Border Infrastructure System By Area

Ext. 17 p. 2



0 0.125 0.25 0.5 Miles

0 255 510 1,020 Meters

1:18,853

N W E S

Roads Border Patrol will continue to use
Roads Border Patrol would abandon
Contours
International Border

Figure 5-4: USBP Roads to be Abandoned in Areas V and VI

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: July 2003

EXHIBIT NO. 18
APPLICATION NO.
CD-63-03
Roads to be INS Abandoned

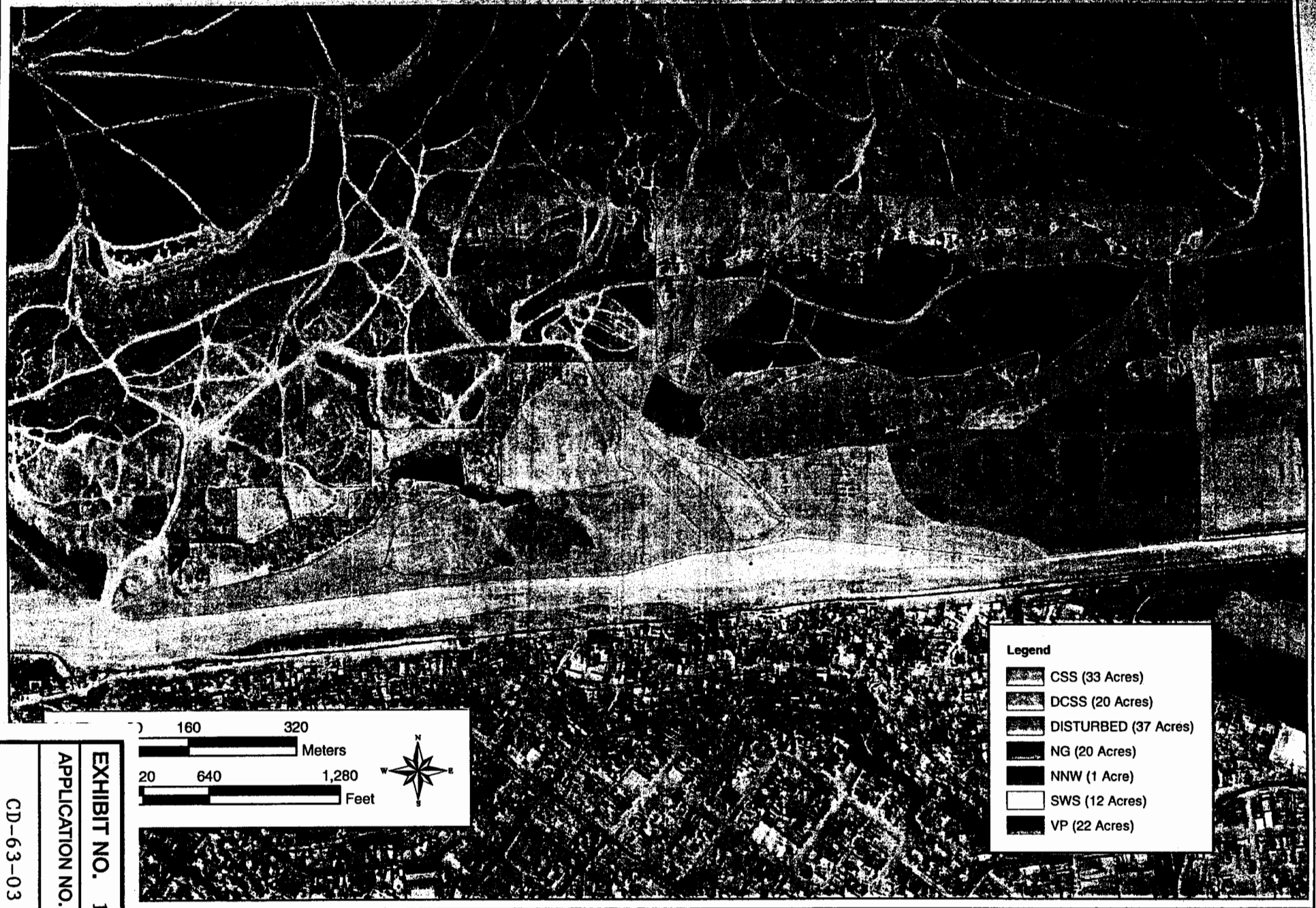


Figure 5-1: INS Spring Canyon Mitigation Site

gsrc/ GILES SMITH RESEARCH CORPORATION

Date: May 2003

EXHIBIT NO. 19
APPLICATION NO.
CD-63-03
Spring Canyon INS mitigation

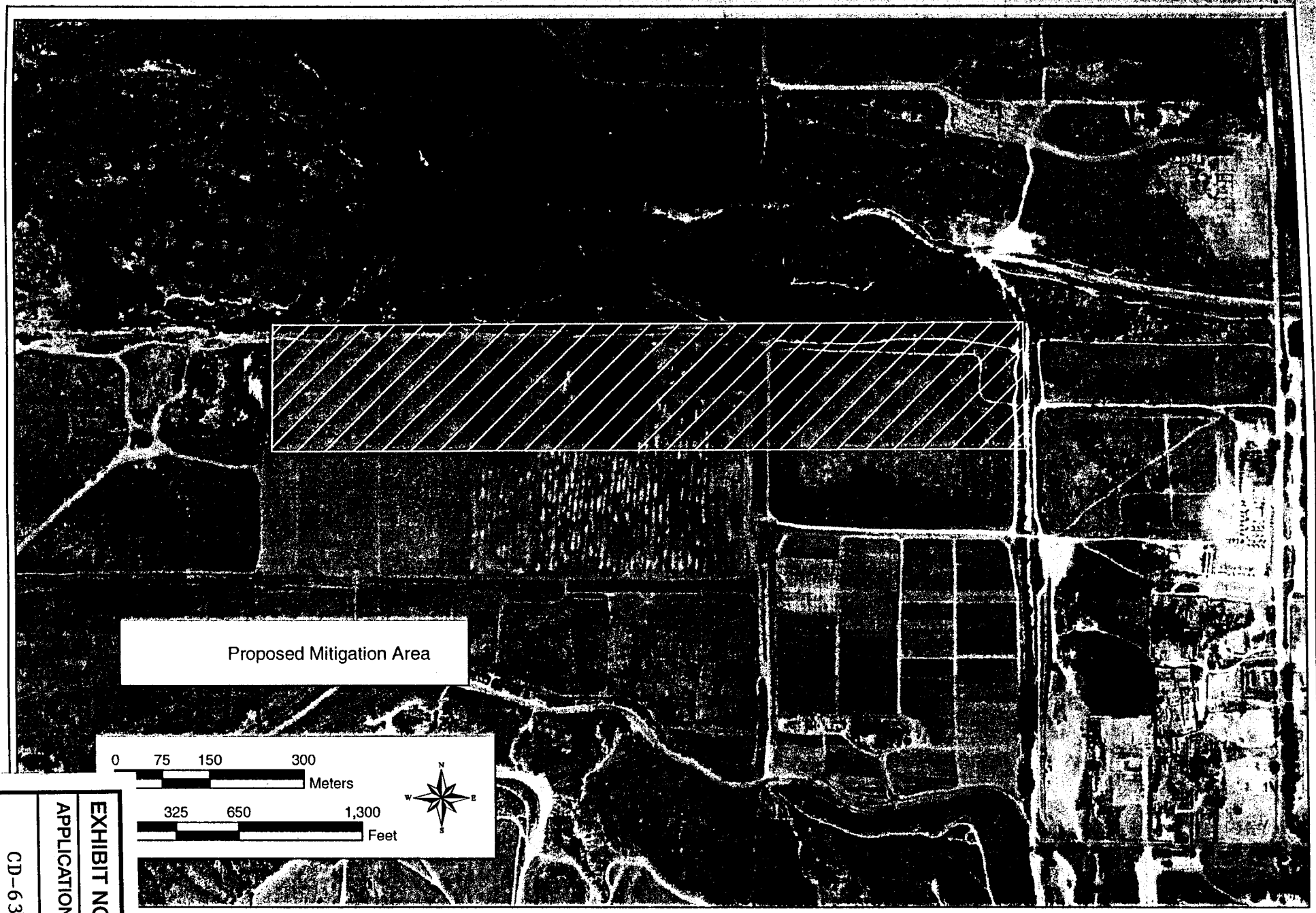


Figure 5-6. Potential Tijuana Valley Mitigation Area

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: July 2003

EXHIBIT NO. 20
APPLICATION NO.
CD-63-03
Riparian INS Application

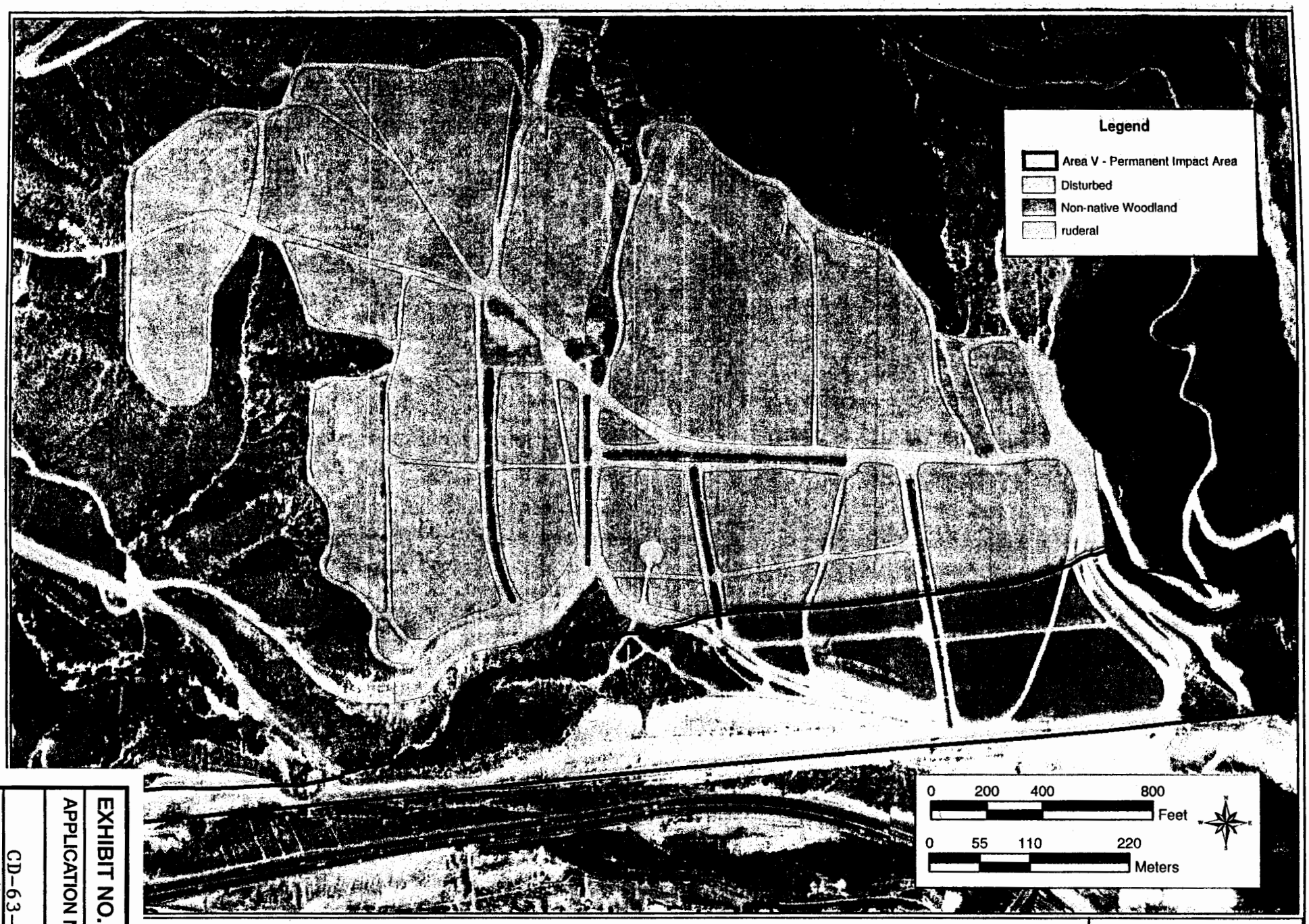


Figure 5-5. Areas Available for Mitigation at Spooner's Mesa

gsrc / GULF SOUTH RESEARCH CORPORATION

Date: July 2003

EXHIBIT NO. 21
APPLICATION NO.
CD-63-03
Spooner's Mesa Mitigation
INS

PWA
PHILIP WILLIAMS & ASSOCIATES
CONSULTANTS IN HYDROLOGY
720 CALIFORNIA ST., 6TH FLOOR, SAN FRANCISCO, CA 94108
TEL 415.262.2300 FAX 415.262.2303
SFO@PWA-LTD.COM

DRAFT MEMORANDUM

DATE: 9/5/03

TO: Mike Wells

COMPANY: DEPARTMENT OF RECREATION AND PARKS

FROM: Andrew Collison, PhD and Bob Battalio, PE

RE: Border Fence EIS

PWA Ref. #: 1684

This memo relates to the Environmental Impact Study (EIS) for the proposed San Diego 14-Mile Border Infrastructure System (BIS) in the Smuggler's Gulch area.

PWA was retained to review the Border Fence EIS and provide comments focused on the analysis and findings related to hydrology and sediment processes associated with the Smuggler's Gulch crossing. We were further tasked to carry out a review of selected portions of the EIS, namely general project description, hydrology and soils sections, and selected reports from the technical appendices.

In Smuggler's Gulch the proposed BIS will involve the construction of a new secondary and tertiary fence and the construction of an earthwork roadway across the canyon. To allow passage of flow through the canyon, a 650 ft long, 2-cell, 10 x 10 ft concrete box culvert is proposed, passing through the earthworks. Michael Baker Jr., Inc. carried out a sedimentation and erosion study for the Army Corps of Engineers (ACE), published in July 2003. This report is the primary source reviewed by this memo.

The objectives of Baker study were (page 4) "to address the potential sediment discharge from the proposed roadway embankment into the stream", "propose measures to reduce any sediment impacts…to ensure that the project does not result in a net increase in sedimentation."

METHODS USED IN THE BAKER 2003 STUDY

The Baker study had two principal thrusts: firstly to assess the sediment yield from the project site and the channel bed under existing and project conditions and compare the two, and secondly, to compare the sediment yield from the project site with the yield from the watershed to assess the relative impact of the project. These objectives were addressed by:

1. Evaluating several methods of calculating watershed runoff under different storm conditions
2. Selecting a method using the ACE HEC-1 rainfall-runoff simulation model to predict a series of design events (flow discharges)

EXHIBIT NO. 22
APPLICATION NO.
DPR: CD-63-03
Preliminary Hydrological INS Memo

3. Using the ACE HEC-RAS hydraulic model to calculate a suitable culvert size to pass the 100 year flow event
4. Using the ACE HEC-6 hydraulics and sediment transport model to assess the degree of channel erosion and deposition that will occur under existing and project conditions
5. Using the Modified Universal Soil Loss Equation (MUSLE) to predict sediment yield from the project site under present and project conditions
6. Using the MUSLE to estimate sediment yield from the rest of the watershed to provide a comparison with project sediment yield

COMMENTS ON THE METHODS AND PRINCIPAL FINDINGS OF THE REPORT

1. **Design Flow**

Report findings

The 100-yr design flow was estimated to be 1525 cfs using HEC-1 and a Type B 24 hr storm, the same method used by PWA in the adjacent Goat Canyon study (PWA 2001).

Comments

There are numerous ways of estimating design flow, and the report discuses several, including the Rational Method (generally used on small watersheds up to 1 square mile), regional regression relationships between drainage basin area and discharge, and rainfall-runoff modeling. The report notes that these methods produce a wide range of estimated 100-year flows, from 875 cubic feet per second (cfs) for the regional regression to 1700 cfs for the Rational Method. The Baker report uses a HEC-1 rainfall-runoff model with five sub-watersheds to produce an estimate of 1525 cfs, which is relatively conservative given the range of values. Use of this methodology rather than the Rational Method is well justified given the size of the watershed (5.8 square miles). However, the result is quite low compared with the PWA (2001) report on neighboring Goat Canyon, a watershed of 4.6 square miles that generated an estimate of 2500 cfs for the 100 yr storm based on the same rainfall.

2. **Culvert size**

Report findings

The report used HEC-RAS to estimate the required culvert size underneath the embankment. They recommend a double-barrel 10 x 10 ft box culvert.

Comments

The HEC-RAS hydraulic model was used to calculate the size of culvert needed to pass the estimated 100-year flow without causing water to 'back up' into Mexico. This is a widely used standard method. The authors made a 25% allowance for hyper concentrated flows (flows containing a very large concentration of sediment), and a further safety margin allowance. The

culvert appears to be very well sized for the watershed type. There did appear to be an error in the input files; the report states that a Manning's n (friction coefficient) of 0.045 was used in the channel, and 0.05 in the out of bank areas (to allow for the effects of rougher vegetation). From input files in Appendix D it appears as though the values used were 0.05 for the bed and 0.045 for the banks. The culvert n value was 0.013, which is reasonable. The effects of miss-assigning roughness values in the channel will be slightly conservative for the culvert analysis (higher n values leading to more backing up, requiring a larger culvert opening).

3. **Sediment transport capacity and channel erosion**

Report findings

Under the 100-year flood the channel would have excess sediment transport capacity (more capacity than available sediment supply) leading it to incise by 5 ft upstream and aggrade by 1.5 ft near the estuary, resulting in a net sediment input of 2,101 tons of material from the channel area. Under the proposed plan channel incision was limited due largely to the 650 ft culvert, resulting in only 1,110 tons of sediment discharge.

Comments

The study uses the estimated design storm as an input in a HEC-6 sediment transport model. HEC-6 calculates flow hydraulics (flow depth, velocity etc) at cross sections along a channel profile, and uses these parameters to calculate sediment transport capacity in each reach (channel length between cross sections). Hydraulic data are supplemented by data on sediment input at the upstream boundary and the availability and size distribution of sediment in the channel cross-section. Where sediment transport capacity exceeds sediment input from the reach upstream, erosion occurs based on the availability of sediment in the bed and the tractive force of the flowing water. Where sediment transport capacity is less than the input of sediment from the next reach upstream, the difference between input and capacity is assumed to be deposited. This section of the report has two main sources of uncertainty: selection of a suitable sediment transport equation and estimation of the upstream sediment input. Selection of suitable sediment transport equations is notoriously difficult where calibration data are not available, since there are numerous equations and the estimated sediment transport is highly sensitive to the model chosen. The authors have selected the Yang model which is used for sediment having a d50 (median particle size) less than 10mm. In this case the d50 is 0.5mm. There are several alternative models that could have been used, and it would be helpful to run several models and compare the result as a sensitivity analysis rather than rely on a single model. The Yang model is not highly rated in these circumstances (Reid and Dunne, 1996) and it is more advisable to use the Engelund-Hansen model or the Akers and White model. The Engelund-Hansen method was successfully used in the neighboring Goat Canyon study (PWA, 2001). The estimated sediment yield will vary considerably depending on which equation is selected.

Upstream sediment load was estimated since no data were available. The estimation method

involved iteratively changing the upstream sediment load until the first reach was in equilibrium, assuming that in these conditions the inflow was at maximum sediment transport capacity. This is a reasonable assumption to make under the circumstances.

As with the HEC-RAS analysis the Manning's n roughness values were miss-assigned, with in-channel values of 0.05 and out-of-bank values of 0.045. Though the difference in n value is small, this error slightly reduces the estimated sediment erosion from the channel, since model velocity will be lower than we would expect. However, it applies equally to both pre and post project conditions, so estimated changes in sediment yield are unlikely to be significantly wrong.

4. **Sediment yield from the project footprint**

Report findings

The report used the MUSLE to account for sediment yield from the project footprint (presumed to be the earthen embankment) under the 100-yr event. This led to an estimate of 3391 tons for existing conditions and 2424 tons for the proposed project conditions. The decrease was due the assumption that erosion control measures on the embankment would be more effective under the project conditions, compared with current (bare ground) conditions (i.e. lower C factor and higher P factor in the MUSLE model).

Comments

It is very hard to understand exactly how the analysis was carried out from the results presented in Appendix I; a schematic map of the selected areas would clarify matters considerably. It appears as though the pre-project conditions assessment was based on the existing topography while the post-project condition is based only on the embankment. It appears as though the post-project assessment did not look at cut slopes above the embankment, which could be a significant source of erosion. There was also no assessment of dirt roads associated with the project, which could be a significant source of erosion and sediment. In selecting C values (crop factors) the analysis made the assumption that existing vegetation cover was 25%, and that future cover would be 0% but with the addition of erosion control measures that cover the ground surface with geotextile. The analysis is very sensitive to these assumptions. Based on photos in the EIS it appears that 25% cover is an underestimate of current conditions. There is thus the potential that the existing conditions assessment is overestimating sediment yield, making the post-project conditions look relatively more advantageous. Using the assumptions as they stand produces an estimated reduction in sediment yield of 40% under the project. Assuming the current vegetation has a 50% canopy cover results in almost no change under pre and post project conditions (1% reduction in erosion). Using a canopy cover of 75% for current conditions results in a 34% *increase* in sediment yield under the project (from 1,599 tons to 2,424). This would suggest an increase in sediment yield of 825 tons under the 100-year event. Assuming the same percentage change for average conditions (a valid assumption since the C factor is a straightforward multiplier in the MUSLE equation) the current average annual sediment yield would be 1,094

under the 25% cover assumed by the Baker report, 790 tons assuming 50% vegetation cover, and 516 tons with 75% cover. Post project yield would be 796 tons using the Baker report assumptions. Thus the project could potentially yield an additional 280 tons of sediment per year, ignoring the cut slope sediment yield and the potential for gully erosion (see below).

An additional concern is that the MUSLE only considers rill and inter-rill erosion; it ignores gully erosion. If gullies were to develop on either the embankment or the cut slope above it this could lead to a significant increase in sediment yield beyond that calculated by this analysis. Changing the assumption of greater erosion control due to slope terracing (the P factor) does not significantly affect the resulting estimate; the predicted sediment yield rises to from 2,424 to 2,694 tons under the 100-yr event if we assume the slope terracing is not effective.

In summary it seems possible that the current conditions estimate of sediment yield is an overestimation, while the post project conditions assessment may be an underestimation.

5. **Sediment yield**

Report findings

Combining the results of the channel erosion assessment and the watershed sediment yield leads to a predicted 36% reduction in total sediment yield (channel plus project footprint) for the 100-yr event (assuming the assumptions outlined above are correct). The annual average sediment yield on this basis is predicted to be reduced by 27%. Using the MUSLE for the entire watershed gives an estimated sediment yield of 210,430 tons per year. The estimated average annual project related sediment yield of 796 tons is 0.4% of total watershed yield.

Comments

This assessment of current watershed sediment yield is again based on a canopy cover of 25%. Using canopy cover percentages of 50% and 75% reduces estimated watershed sediment yield to 151,965 and 99,345 tons respectively. While this obviously raises the relative impact of the project (from 0.4% to 0.5% and 0.8% respectively) the increase is insignificant in percentage terms. Nonetheless, the amount of sediment generated by the project, and its proximity to the estuary is a potential cause for concern. There is also a cumulative effects issue; work by PWA and others has shown that the Tijuana Estuary is currently suffering from excessive sediment deliver rates from Smuggler's Gulch and Goat Canyon. If this project generates additional sediment loading, as seems possible, the cumulative impact will be made worse.

EROSION CONTROL PROVISION

The Baker report contains provision for erosion control in two areas; source control on the earthen embankment and protection from accelerated channel flow from the 650 ft culvert. Permanent erosion control on the project will include a biodegradable geotextile, application of native vegetation seeds, terraces or benches on long slopes and sedimentation basins. Without more detailed plans and

specifications, and information on monitoring and maintenance, it is difficult to comment on the effectiveness of these measures for sediment control. We anticipate that there may be problems achieving vegetation establishment on the embankments due to the relatively harsh growing environment and soils, and that rill and gully development may be a problem. A particular problem is that if the geotextile biodegrades before vegetation becomes established, erosion potential on the embankment will almost double. Using the Baker report MUSLE model and a modified C value of 0.45 (no canopy cover, no geotextile) causes the average annual project sediment yield to rise from 796 tons per year to 1,493 tons. With regards to the energy dissipator at the downstream end of the culvert, there is a discrepancy between the velocity figure stated in the report (23 fps) and that used in the calculations for rip rap to protect the outfall (11.7 fps). Using the HEC-11 rip rap sizing equation the figure of 11.7 fps does give a mean diameter value of 0.88 ft, rounded up to 1 ft for safety. However, if the value used in the report is taken as correct, the required rock diameter rises to almost 7 ft. Likewise the length of channel armoring required is adequate assuming the appendix figures are used, but too small if the report figures are correct.

One potential area of concern is that the cut slope areas above the embankment may increase runoff source areas and create the potential for gully development.

SUMMARY AND CONCLUSIONS

The report uses a series of well-known methods to evaluate sediment inputs from the proposed project. In general the choice of methods used is appropriate and represents good practice for this situation. In the section on channel hydraulics and erosion there are a small number of inconsistencies between the report and the models used, and at least some of these appear to be mistakes in the modeling rather than in the reporting (i.e. Manning's n values). The Manning's n values, if incorrect, are unlikely to seriously affect the report outcome for culvert sizing since they would make the analysis more conservative (indicate a larger than necessary culvert). There is also a potentially serious error in the calculations used for the culvert outlet, which needs to be checked. Despite this the conclusion of the channel erosion modeling appear to be generally valid, and increased channel erosion is unlikely to be an issue under the project conditions.

It is hard to assess the MUSLE soil erosion modeling based on the data presented. The predicted sediment yield from the embankment appears to be reasonable assuming that the erosion control measures are successful. The effect of erosion on the cut slopes appears not to have been modeled; if this is so it is a serious omission that needs to be rectified. The choice of canopy cover values under existing conditions seems low, and may have led to an overestimation of sediment yield under current conditions, and a corresponding underestimation of project impacts. The analysis shows that if erosion control measures on the embankment are not successful sediment yield from the project could almost double, generating an additional 700 tons of sediment per year. Combining these issues it seems quite possible that the project will increase sediment yield by several hundred tons per year.

The general conclusion of the report is that the project will have a small but positive effect on sediment yield to the Tijuana Estuary. This is questionable given the discussion above. The impact of the project on sediment yield in percentage terms is likely to be low given the magnitude of sediment yields from the rest of the watershed, but the absolute amounts of sediment could potentially be quite high, and would be located close to the estuary with a high chance of delivery. Sediment delivery to the estuary is presently well above natural levels, and is adversely affecting estuary wetlands. Hence, it is recommended that increased sediment yield should be avoided.

RECOMMENDED FURTHER STEPS

Given the uncertainty and potential for alternative interpretation of the results, we recommend that an independent party repeat the MUSLE analysis. The analysis should incorporate all project areas and should contain a range of assumptions based on more realistic erosion control scenarios. It would also be advisable to have a ground geomorphic assessment of the project site to qualitatively assess the potential for sediment to be delivered to the estuary, and the effect of the culvert on the channel downstream.

REFERENCES

Michael Baker Jr., Inc., 2003, Smuggler's Gulch: sedimentation and erosion study
Reid, L.M. and Dunne, T., 1996, Rapid Evaluation of Sediment Budgets, GeoEcology
Philip Williams & Associates, 2001, Goat Canyon: sedimentation retention basin alternative development

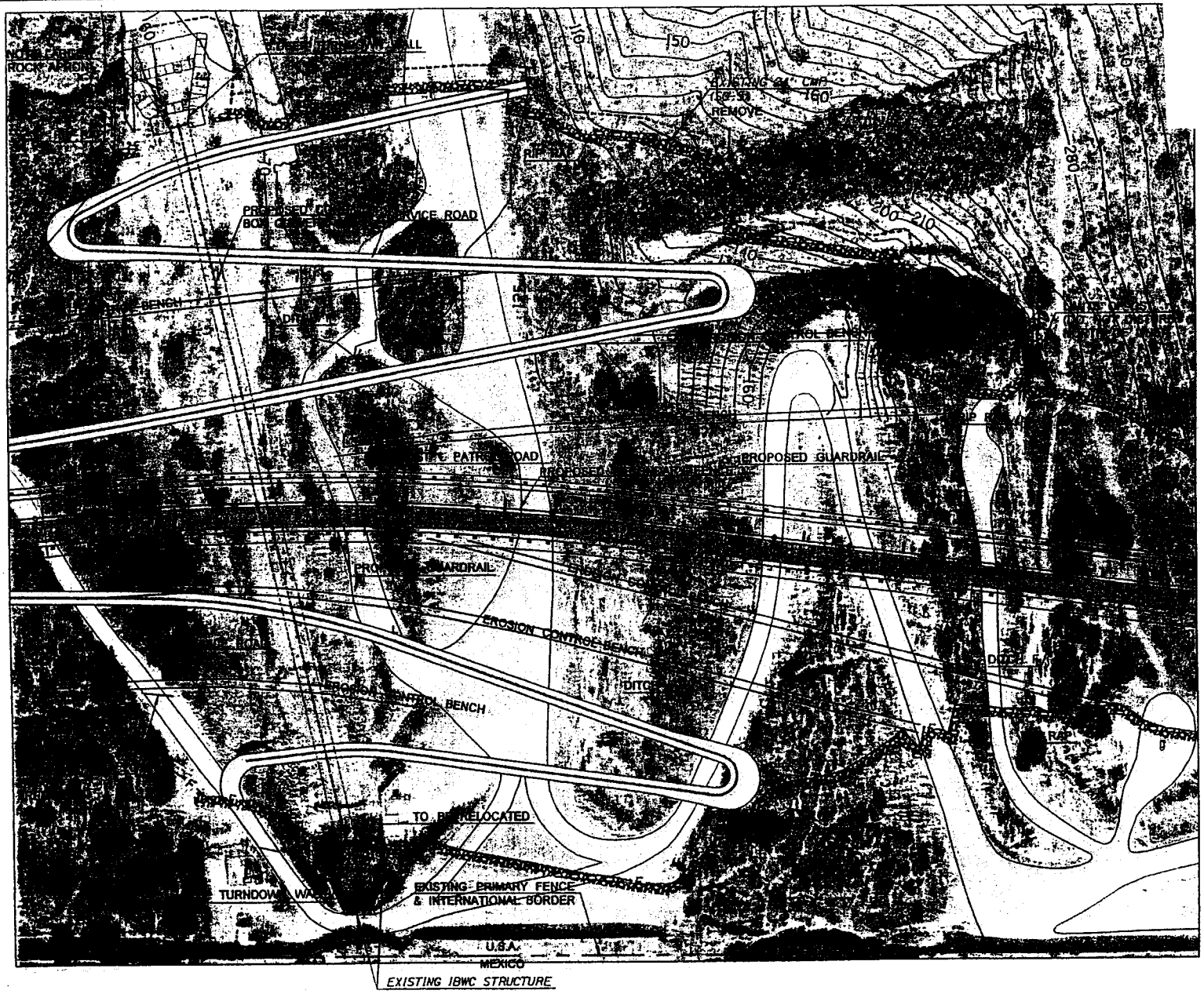
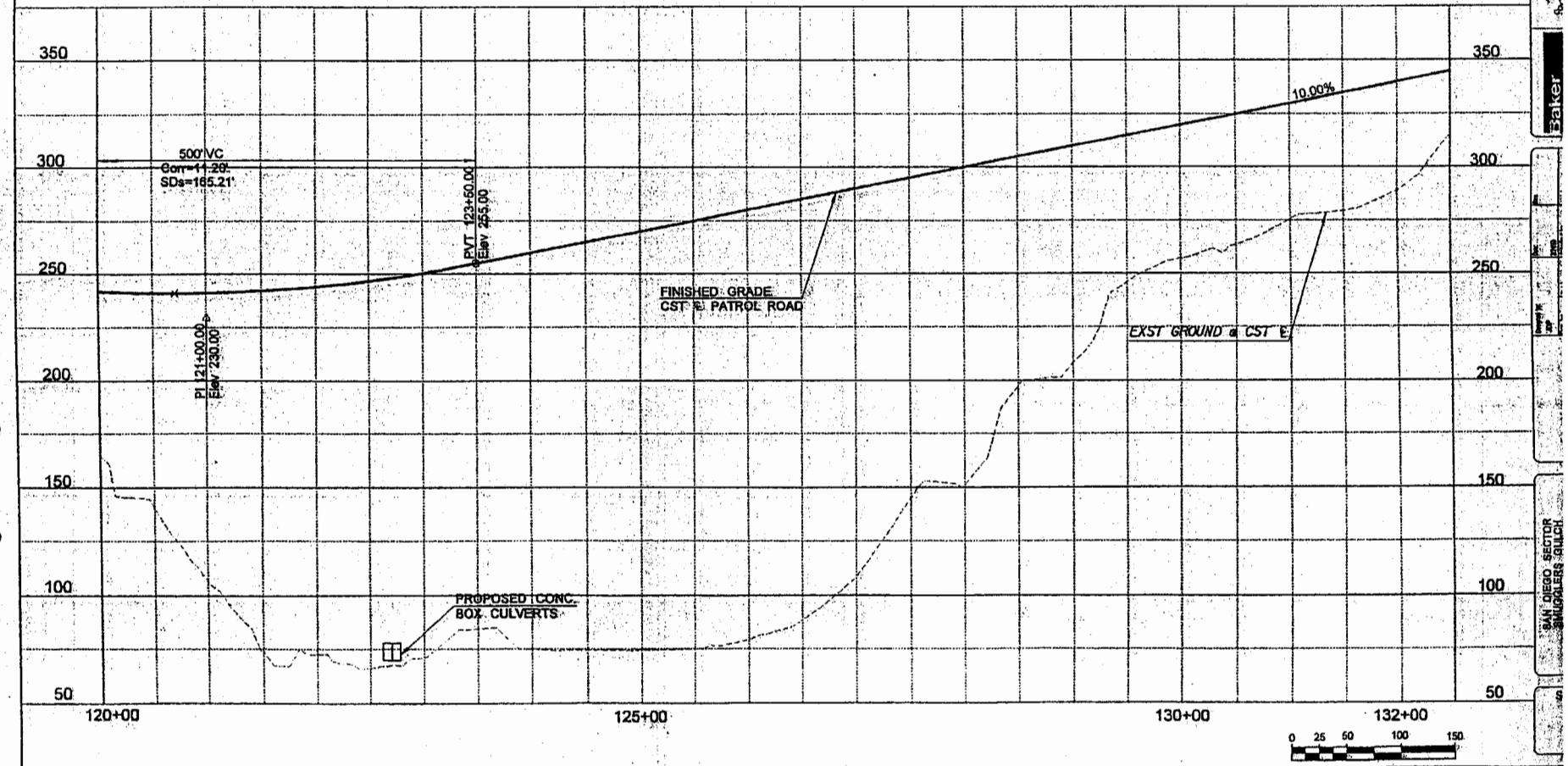


EXHIBIT NO. 23
APPLICATION NO.
CD-63-03
Smuggler's Gulch Plan

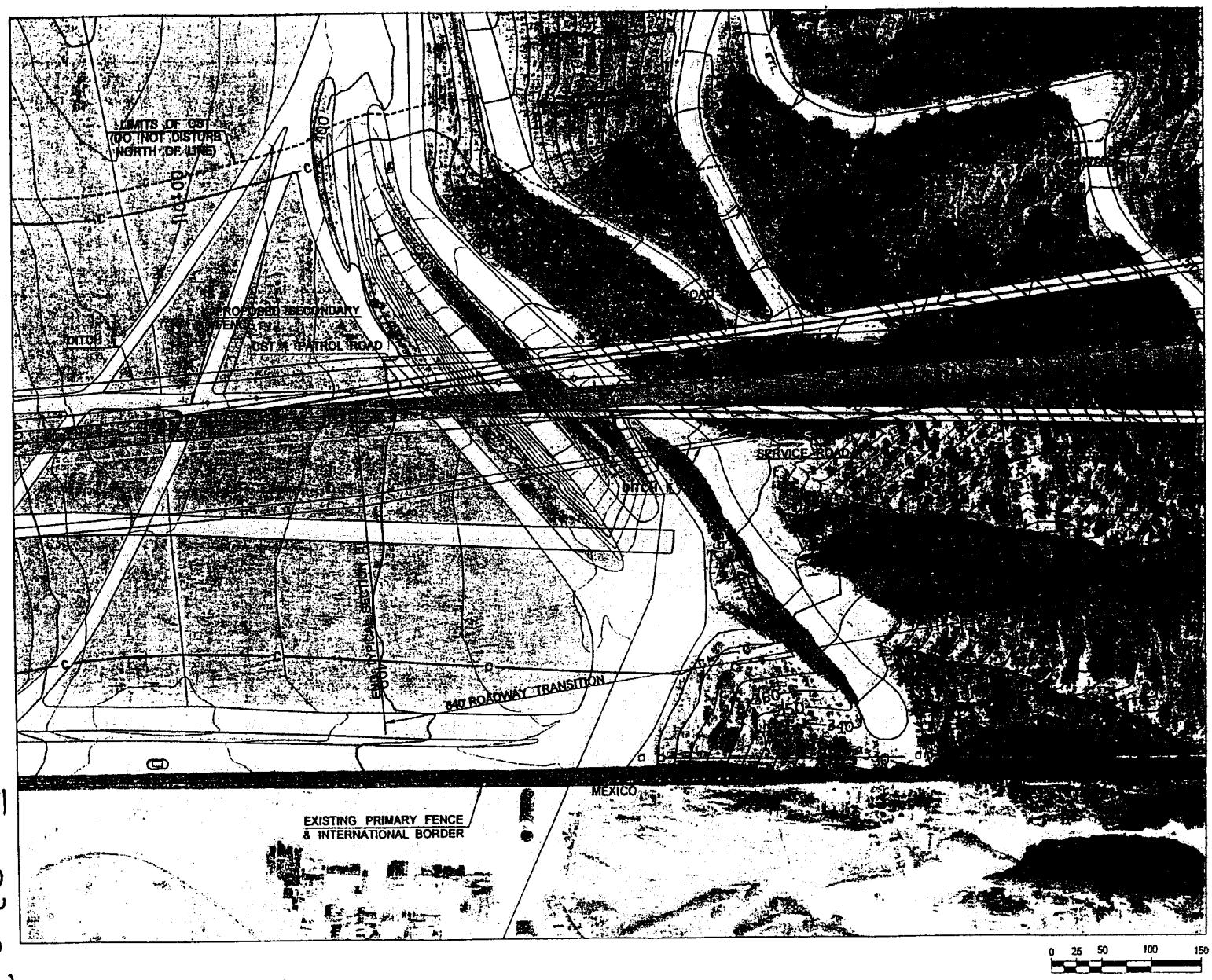
Baker

SAN DIEGO SECTOR
SMUGGLERS GULCH

SEE SHEET 21
FOR PLAN



Exh. 23 p. 2
Smuggler's Gulch
Cross section
for P.1



US Army Corps of Engineers, Fort Worth District

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Baker

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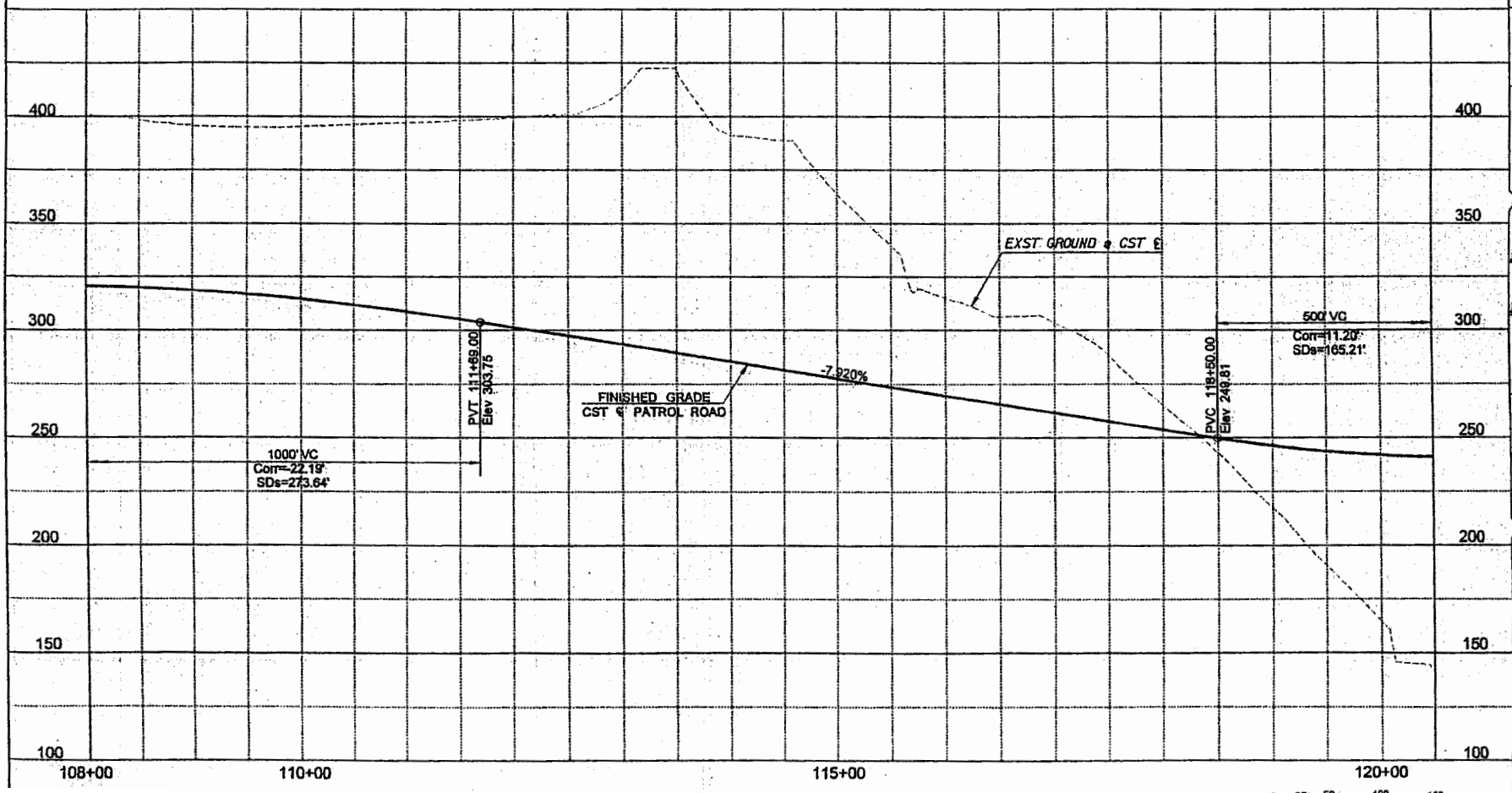
DEPARTMENT OF HOMELAND SECURITY
U.S. CUSTOMS AND BORDER PROTECTION

SAN DIEGO SECTOR
SMUGGLER'S GULCH
SMUGGLER'S GULCH PATROL ROADWAY PLAN
STA 108+00 TO 120+00

SHEET 19 OF 36

Exh. 23 p. 3
West side of Smugglers Gulch
Plans

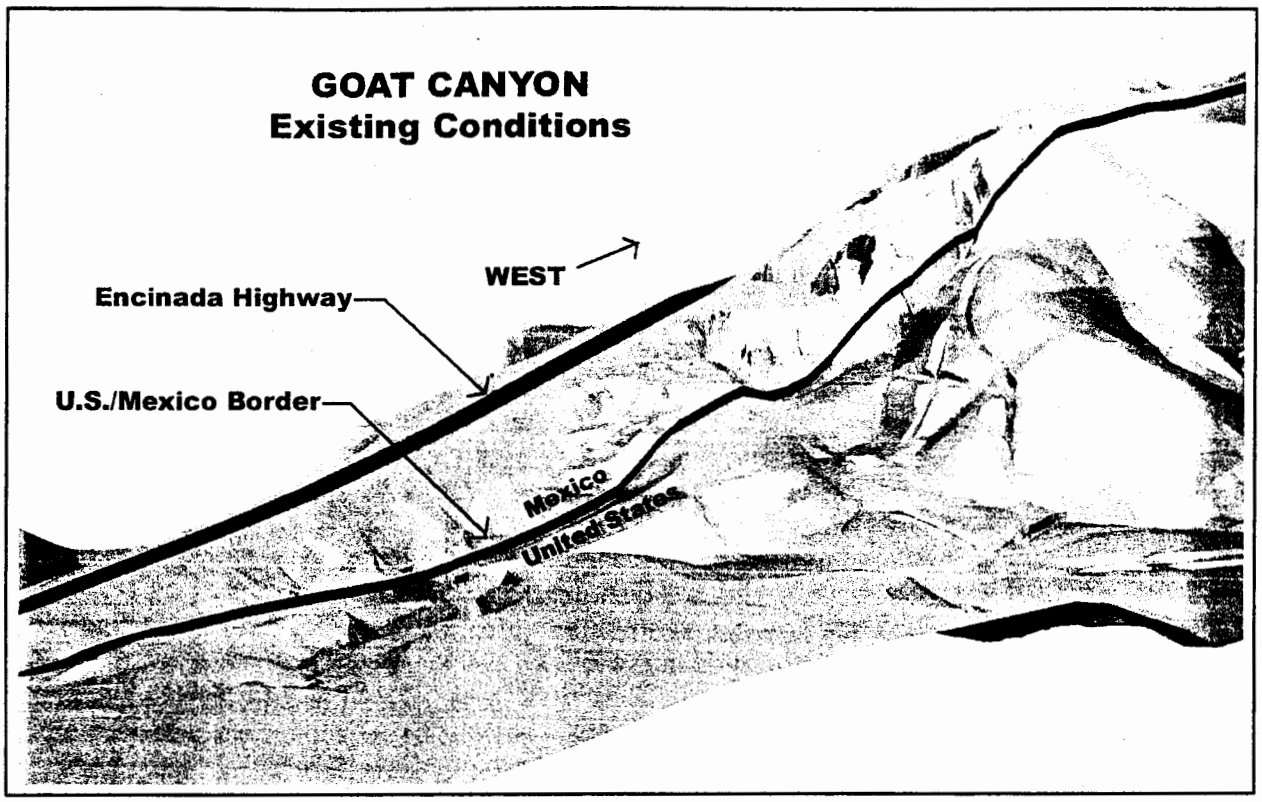
SEE SHEET 19
FOR PLAN



Ext. 23 P.4
Cross section (for p.3)

SAN DIEGO SECTOR
SMUGGLERS GULCH
SMUGGLER'S GULCH PATROL
ROADWAY PROFILE
STA. 108+00 TO 120+00

SHEET
20
OF



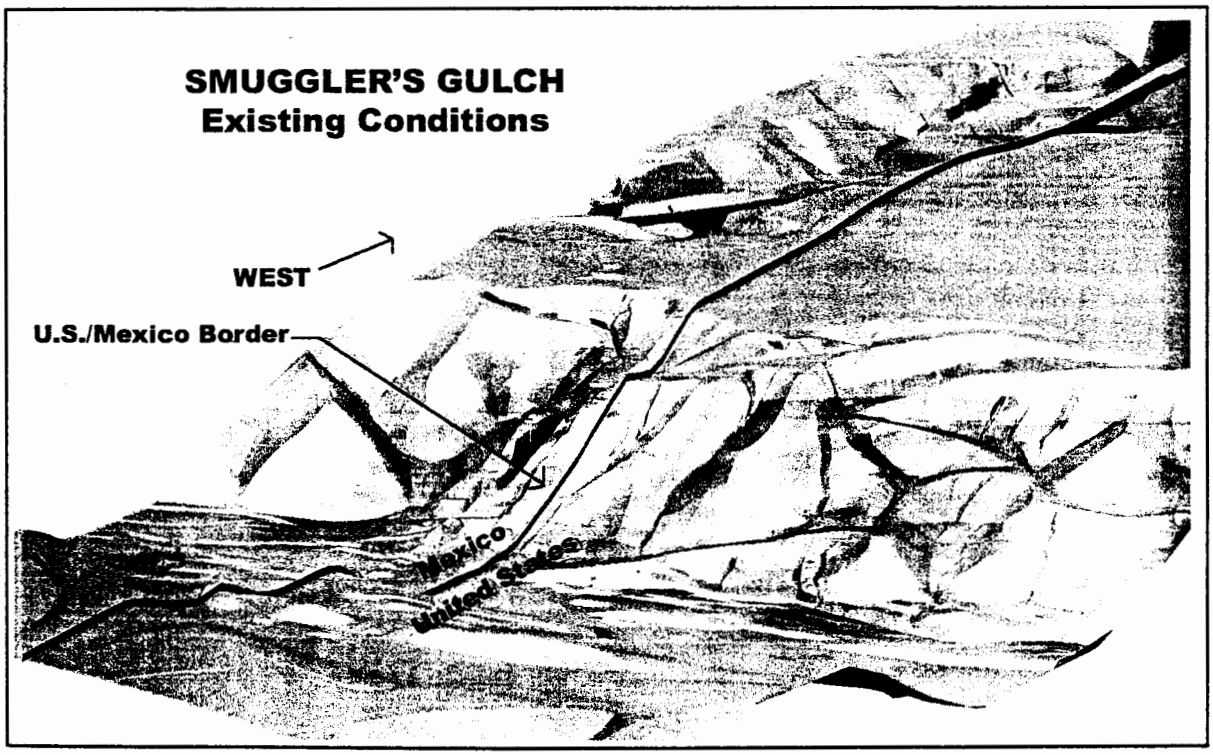
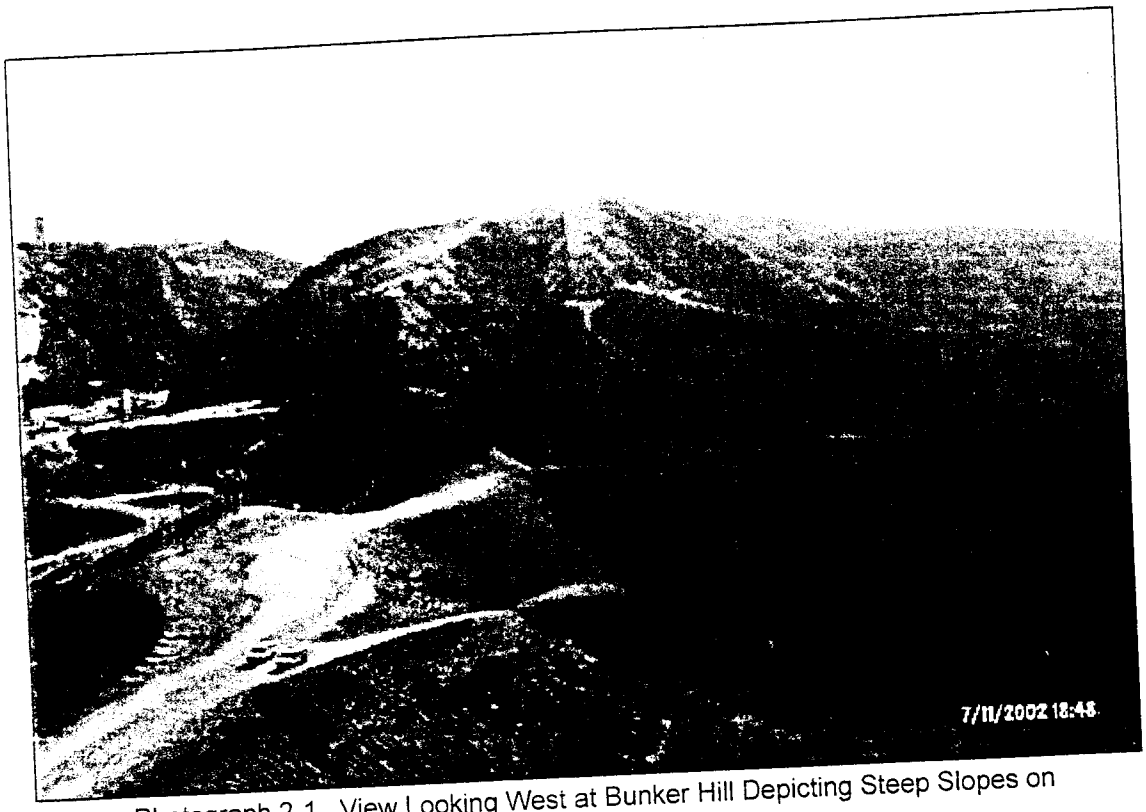


Figure 2-18. 3-D Topographic Map of Goat Canyon and Smuggler's Gulch (looking west)

EXHIBIT NO. 24
APPLICATION NO.
Canyon CD-63-03
Comparison INS



Photograph 2-1. View Looking West at Bunker Hill Depicting Steep Slopes on South Side

Photograph 2-2. Aerial view of Bunker Hill Depicting Steep Slopes on the South Side and Low Density of Vegetation.

Bunker Hill / Goat Canyon

A. Current view of Smuggler's Gulch looking south.

B. View of Smuggler's Gulch looking south with proposed embankment in place.

Figure 2-10. Photos providing a Conceptual Depiction of the Proposed Embankment

Smuggler's Gulch

Exh. 24, p. 3

Photo J-1: View of Borderfield State Park before construction.

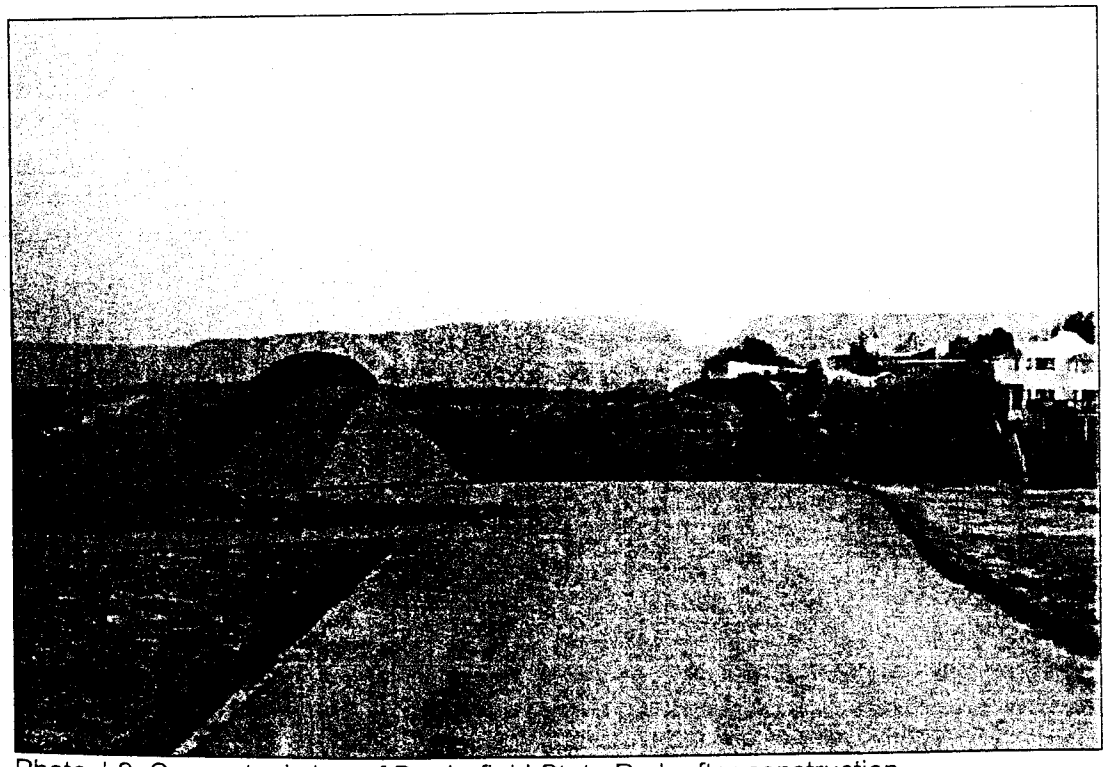
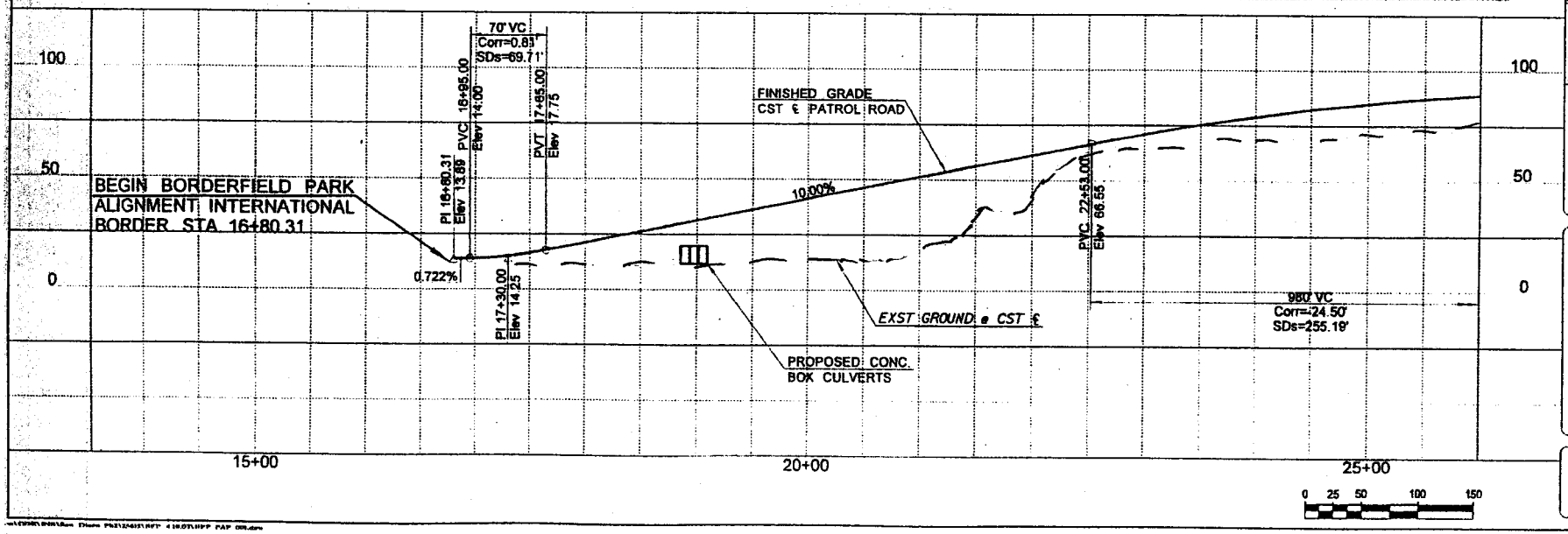
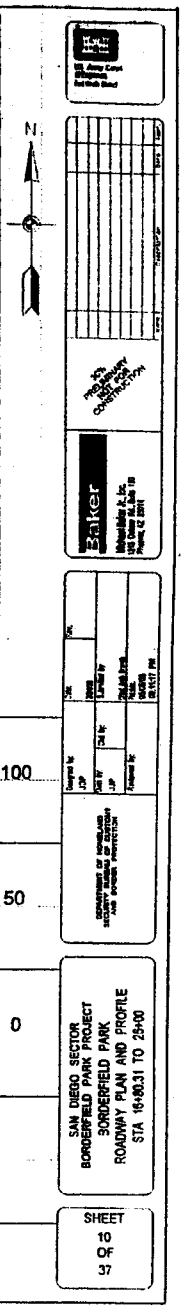


Photo J-2: Conceptual view of Borderfield State Park after construction.

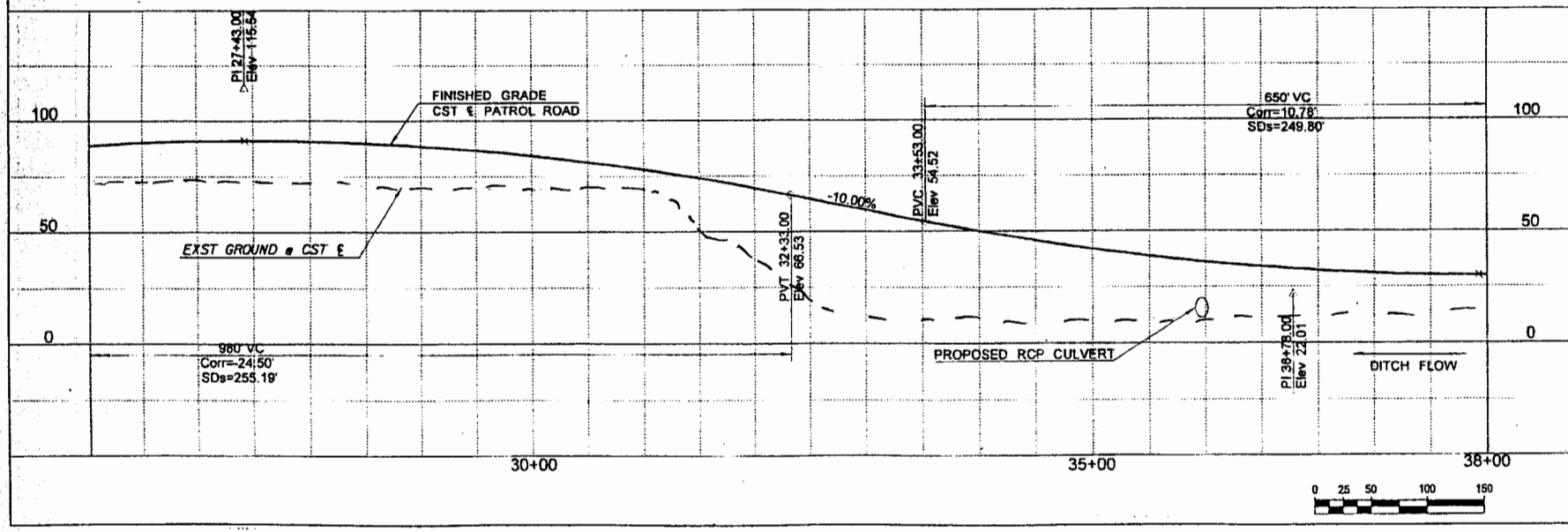
Monument + Lichty Mesas
+ Yogurt Canyon

EXHIBIT NO. 25
APPLICATION NO.
CD-63-03
INS





Exh. 25 p. 2
Monument
Lily Mesas



US Army Corps of Engineers Fort Worth District

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Drawn by: CM
Checked by: JDP
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Time: 12:14:43 PM

DEPARTMENT OF HOMELAND SECURITY
U.S. BORDER AND IMMIGRATION SYSTEMS

SAN DIEGO SECTOR
BORDERFIELD PARK PROJECT
BORDERFIELD PARK
ROADWAY PLAN AND PROFILE
STA 29+00 TO 39+00

SHEET
11
OF
37

Exh. 25, p. 3
Lighty Mesa

Grading, Drainage, and Erosion Control Plan: During Construction

(Or the ***Storm Water Pollution Prevention Plan***, using RWQCB's terminology)
The plan must contain the following components:

Erosion & Sediment Source Control

- Sequence construction to install sediment-capturing devices first, followed by runoff control measures and runoff conveyances. Land clearing activities should only commence after the minimization and capture elements are in place.
- Time the clearing and grading activities to avoid the rainy season wherever appropriate.
- Minimize the area of bare soil exposed at one time (phased grading).
- Clear only areas essential for construction.
- Depending on storm frequency, bare soils should be stabilized with nonvegetative BMPs within five days of clearing or inactivity in construction. If seeding or another vegetative erosion control method is used, it should become established within two weeks.
- Properly grade construction entrances to prevent runoff from construction site. The entrances should be stabilized immediately after grading and frequently maintained to prevent erosion and control dust.
- In areas prone to high winds, implement wind erosion controls to limit the movement of dust from disturbed soil surfaces.

Runoff Control and Conveyance

- Intercept runoff above disturbed slopes and convey it to a permanent channel or stormdrain by using earth dikes, perimeter dikes or swales, or diversions. Use check dams where appropriate.
- Construct benches, terraces, or ditches at regular intervals to intercept runoff on long or steep slopes. Biodegradable fiber rolls are recommended along the face of exposed and erodible slopes to shorten slope length.
- Provide protection for runoff conveyance outlets by reducing flow velocity and dissipating flow energy. A riprap-lined apron is the most commonly used practice.

Sediment-Capturing Devices

- Install stormdrain inlet protection that traps sediment before it enters the storm sewer system. This barrier could consist of filter fabric, gravel, or sand bags. The use of straw bales is discouraged for this purpose.
- Install sediment traps/basins at outlets of diversions, channels, slope drains, or other runoff conveyances that discharge sediment-laden water. Sediment traps are usually used for drainage areas no greater than 5 acres, while the basins are appropriate for larger areas. Sediment traps/basins should be cleaned out when 50% full (by volume).
- Use silt fence and/or vegetated filter strips to trap sediment contained in sheet flow. The maximum drainage area to the fence should be 0.5 acre or less per 100 feet of fence. Silt fences should not be used on slopes or in streams or channels where flow is concentrated. They should be inspected regularly and sediment removed when it

Water Quality Measures Requested by CCC Staff

EXHIBIT NO. 26

CD-63-03

reaches 1/3 the fence height. Vegetated filter strips should have relatively flat slopes and be vegetated with erosion-resistant species.

Chemical Control

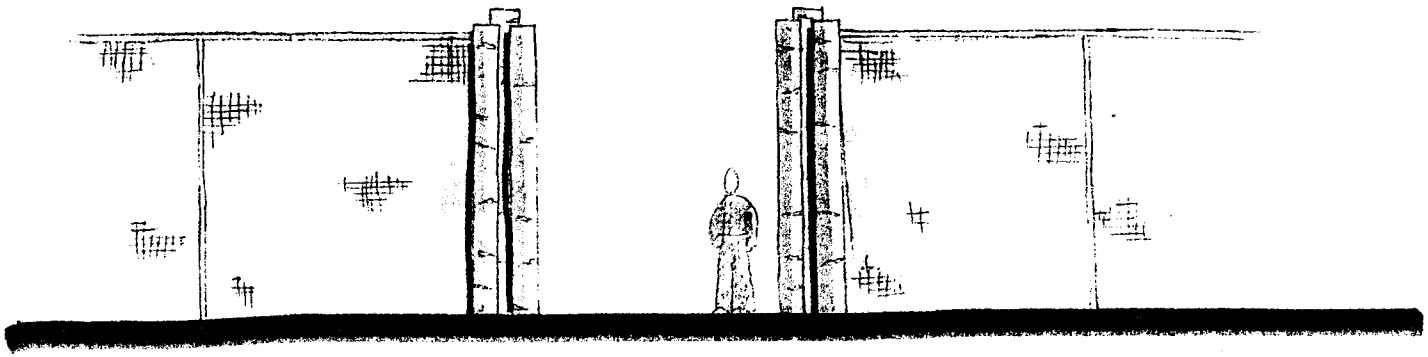
- Store, handle, apply, and dispose of pesticides, petroleum products, and other construction materials properly.
- Conduct fueling, major maintenance/repair, and washing off-site whenever feasible.
- Establish fuel and vehicle maintenance staging areas located away from all drainage courses, and design these areas to control runoff.
- Regularly maintain and inspect vehicles and equipment for damaged hoses, leaky gaskets, or other service problems.
- Use drip pans/drip cloths if necessary to drain and replace fluids on-site.
- Develop and implement spill prevention and control measures.
- Provide sanitary facilities for construction workers.
- Maintain and wash equipment and machinery in confined areas specifically designed to control runoff. Only use water for any on-site cleaning. Do not use soap, solvents, degreasers, steam cleaning, or similar methods.
- Washout from concrete trucks should be disposed of at a location not subject to runoff and more than 50 feet away from a stormdrain, open ditch or surface water. When possible, recycle washout by pumping backing into mixers for reuse. If not feasible, let water percolate through soil and dispose of settled, hardened concrete with trash.
- All stockpiled materials or wastes prone to running off or subject to wind erosion must be covered.
- All potential staging/storage areas must be clearly labeled on project plans.
- Provide adequate disposal facilities for solid waste, including excess asphalt, produced during construction.
- Develop and implement nutrient management measures. Properly time applications, and work fertilizers and liming materials into the soil to depths of 4 to 6 inches. Reduce the amount of nutrients applied by conducting soil tests to determine site nutrient needs.

General Requirements

- Educate all construction personnel on all construction related BMPs. The training must be repeated every time new construction personnel arrive on-site.
- Submit a grading schedule.
- All proposed structural BMPs must be clearly labeled on project plans.
- A narrative description must be provided for all proposed BMPs.

Water Quality Control Plan: Post Construction (WQCP)

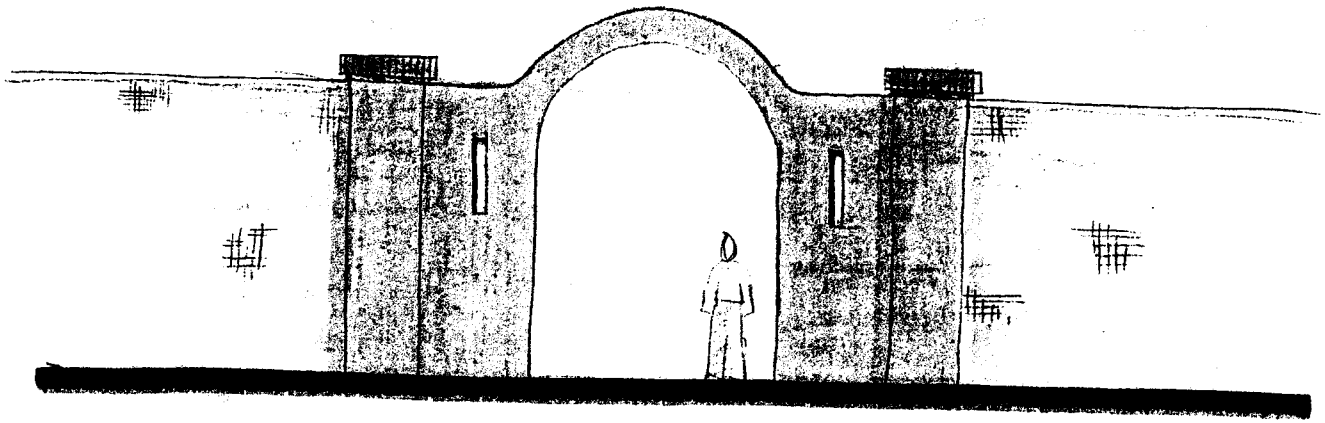
- Clearly describe and label, on the project plans, BMPs to treat or infiltrate runoff from created impervious surfaces (i.e., patrol and maintenance roads) and to discharge the runoff in a manner that avoids erosion, gullying on or downslope of the subject site, discharge of pollutants (e.g., oil, heavy metals, toxics) to surface waters or drainage courses, or other potentially adverse impacts.
- Sheet-flowing of runoff over naturally pervious areas adjacent to the created impervious surfaces is permitted provided that it does not result in erosion, gullying, or the discharge of pollutants to surface waters or drainage courses, or other potentially adverse impacts.
- Notwithstanding the above, runoff resulting from created impervious areas (i.e., patrol and maintenance roads) located on embankments or fill across or within drainage courses, such as Smuggler's Gulch, should be conveyed off the embankments/fill and treated or infiltrated. Runoff infiltration should not occur in natural drainage courses. Specifically, these post-construction structural BMPs (or suites of BMPs) should be designed to treat or infiltrate the amount of stormwater runoff produced by all storms up to and including the 85th percentile, 24-hour storm event for volume-based BMPs, and/or the 85th percentile, 1-hour storm event, with an appropriate safety factor (i.e., 2 or greater), for flow-based BMPs. The WQCP should demonstrate with clear calculations the proposed structural BMPs' compliance with the sizing requirement.
- Clearly describe and label, on the project plans, BMPs to prevent and control erosion and sedimentation from the surface of embankment and cut slopes. To the extent practicable, (re)vegetation with native plants immediately after disturbance/earth work should be implemented.
- Develop a long-term monitoring plan to ensure successful (re)vegetation efforts.
- Provide a long-term plan and schedule for the monitoring and maintenance of all structural stormwater BMPs.
- All BMPs shall be operated, inspected and maintained for the life of the project. For the first three years following completion of project construction, all structural BMPs shall be inspected, and where necessary, cleaned and repaired, at the following minimum frequencies: 1) prior to October 15th each year; 2) following the first storm event with a magnitude of 0.5 inch or greater, and, as necessary, following other significant storm events between October 15th and April 15th of each year; and 3) at the end of the wet season (April 15 th). Significant storm events are those with a magnitude greater than or equal to that of the post-construction structural BMP design storm (i.e., the 85th percentile storm events), as specified above. After the first three years following completion of project construction and inspection as specified herein, the project proponent shall submit to the Executive Director for review and approval a maintenance report including the field observation data, record of cleaning and repair activities, conclusions and a recommended permanent schedule of inspection and maintenance of the BMPs implemented. The recommended permanent schedule of inspection and maintenance shall not become effective until the project proponent obtains a new consistency determination from the Commission unless the Executive Director determines that such a determination is not necessary.
- Perform the annual applications of soil stabilizer only during the dry seasons.



BEACH ACCESS GATE CONCEPT – ELEVATION

SCALE: 1"=5'-0"

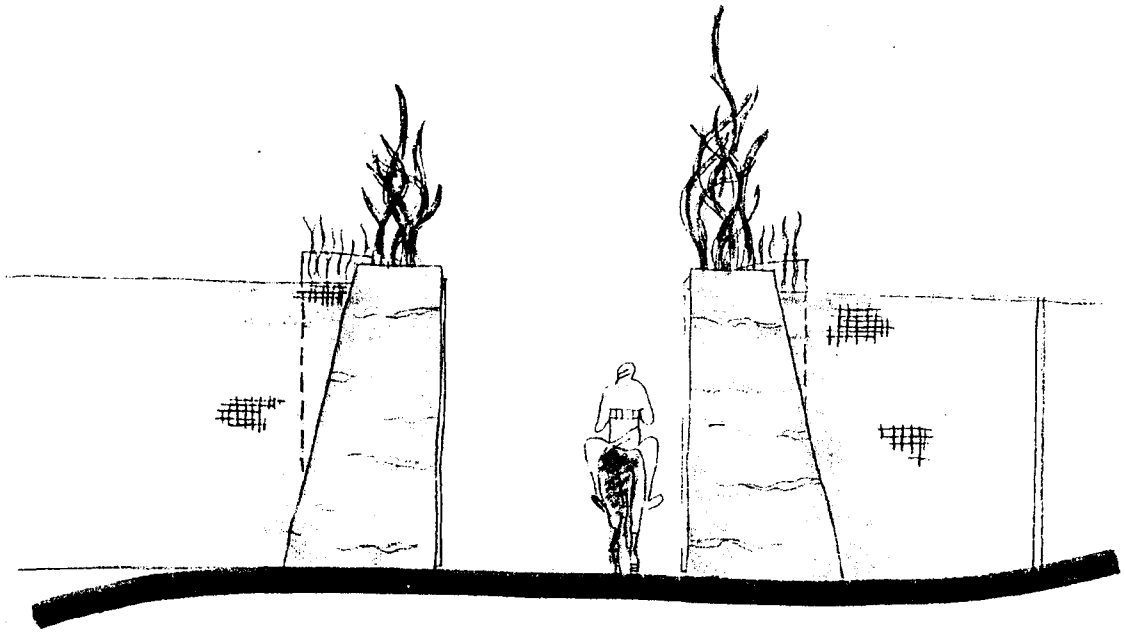
EXHIBIT NO. 27
APPLICATION NO.
CD-63-03
INS



BEACH ACCESS GATE CONCEPT – ELEVATION

SCALE: 1"=5'-0"

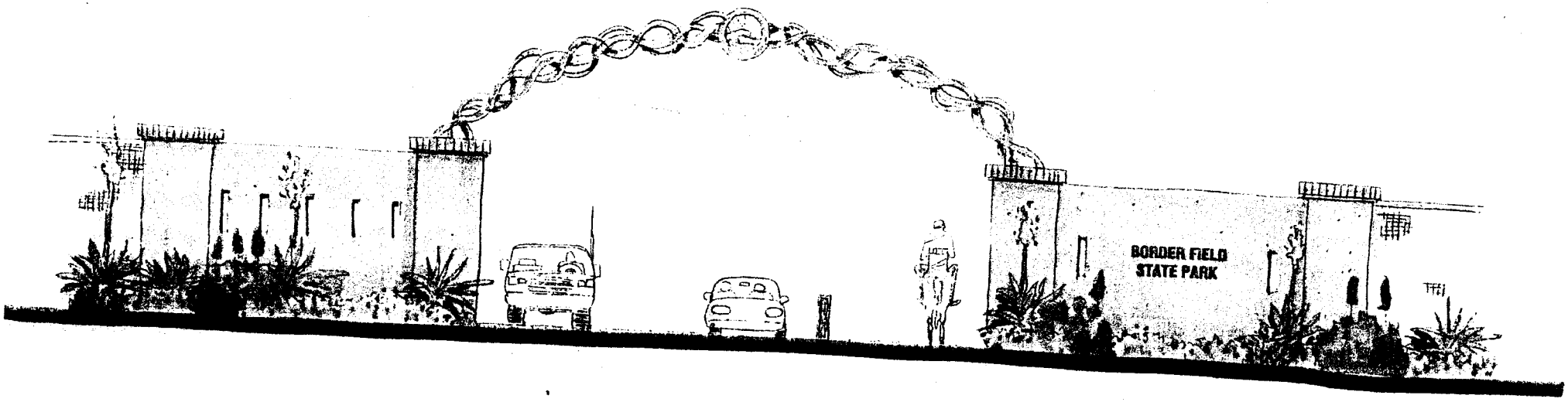
Ex+.27, p.2



BEACH ACCESS GATE CONCEPT – ELEVATION

SCALE: 1"=5'-0"

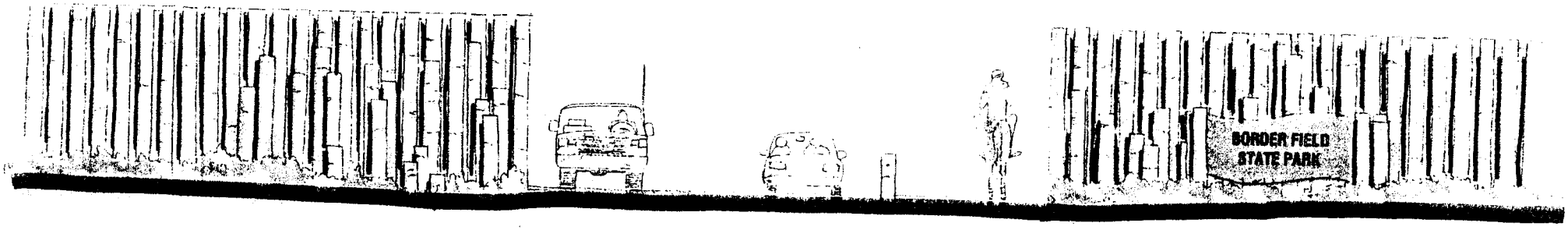
Ext. 27, p. 3



ENTRY CONCEPT – ELEVATION

SCALE: 1"=5'-0"

Ex. 27 p. 4



ENTRY CONCEPT – ELEVATION

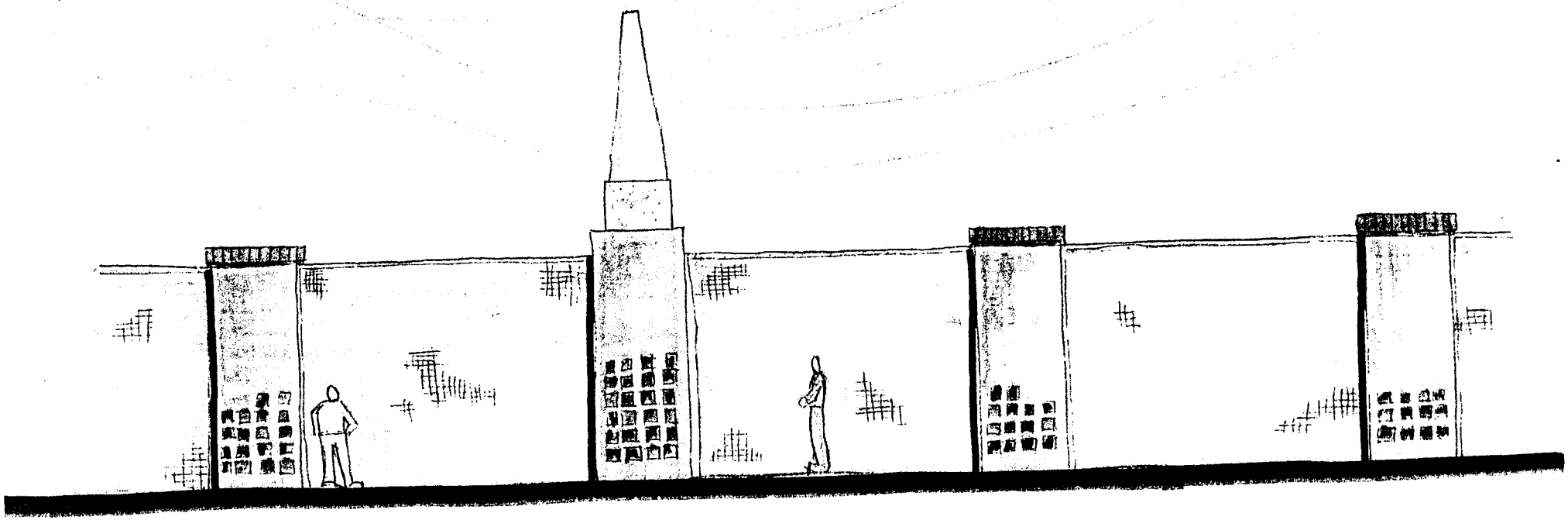
SCALE: 1"=5'-0"

Ext. 27, p.5

ENTRY CONCEPT – ELEVATION

SCALE: 1"=5'-0

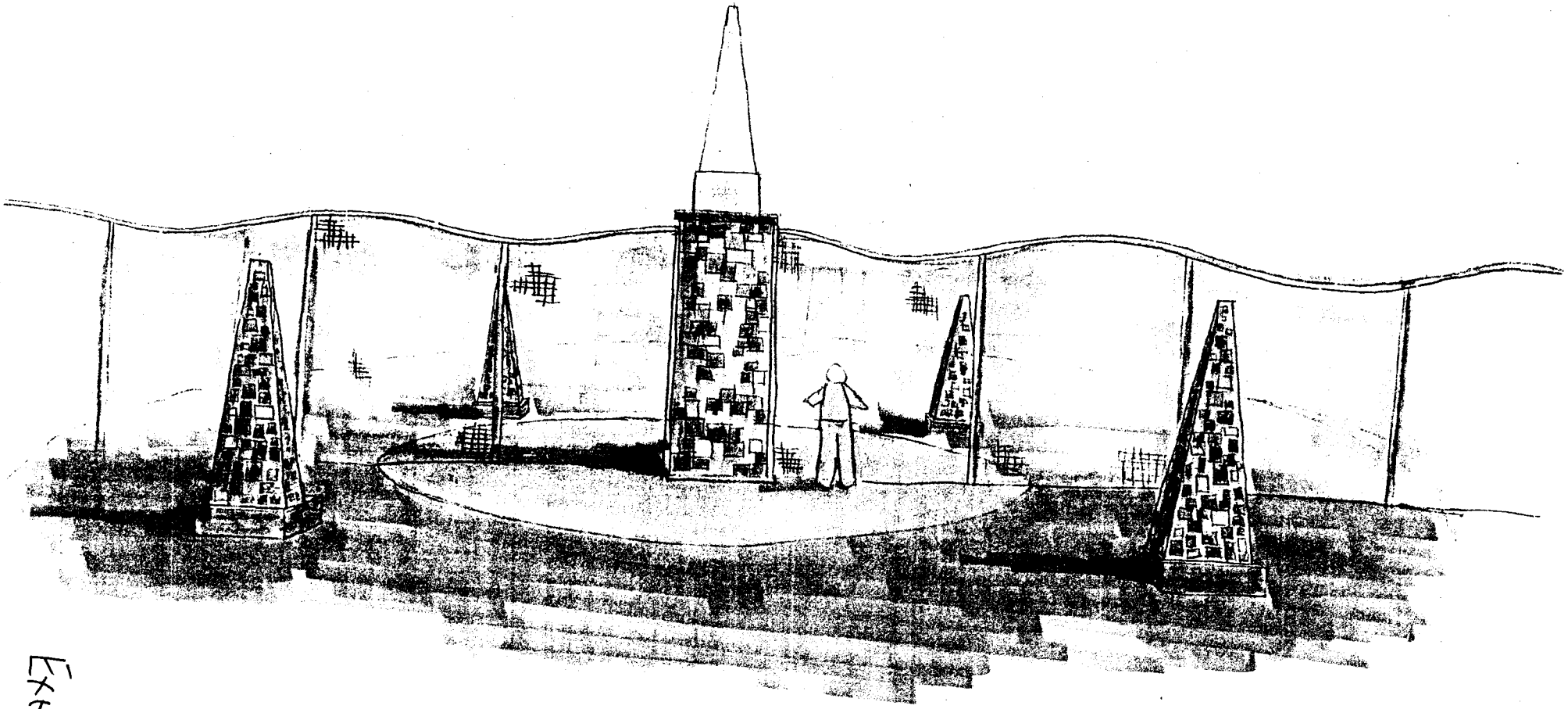
Ex4.27, p.6



PRIMARY FENCE CONCEPT – ELEVATION

SCALE: 1"=5'-0"

Exh. 27, p.7



PRIMARY FENCE CONCEPT – ELEVATION

SCALE: 1"=5'-0"

EXH. 27 p 8

Table 3-5. Archaeological Sites in Area V

Site No.	Age	Site Type	Site Size (m^2)	Previous Investigation	NRHP Eligibility Status	Investigation Conducted by GMI
W-1376	Unknown Prehistoric	Lithic Scatter	32,400	Recorded (Carrico 1976 [site form only]) (Buysse and Largent 1999)	Ineligible	Relocated
CA-SDI-11,947H	Historic	Structure	5,000	Surveyed (Higgins et al. 1994) (Buysse and Largent 1999)	Ineligible	Could Not Relocate/ Destroyed
CA-SDI-8605A	Unknown Prehistoric	Quarry	12,500	Tested (Gallegos et al. 1986; Higgins et al. 1994) (Buysse and Largent 1999)	Ineligible	Could Not Relocate
CA-SDI-8595	Historic	Trash Scatter	46,000+	Mitigated (Polan 1981); Surveyed (Cheever and Gallegos 1987) (Buysse and Largent 1999)	Ineligible	Relocated
CA-SDI-8773	Historic/ Unknown Prehistoric	Lithic Scatter/ Adobe Structure	900 (mapped location)	Recorded (Campbell 1981 [site form only]) (Buysse and Largent 1999)	Ineligible	Could Not Relocate/ Destroyed
CA-SDI-8596	Unknown Prehistoric	Lithic Scatter	2,500 (mapped location)	Surveyed (Buysse and Largent 1999)	Ineligible	Could Not Relocate/ Destroyed
CA-SDI-8604	Unknown Prehistoric	Quarry	48,000	Tested (Gallegos et al. 1986; Higgins et al. 1994) (Buysse and Largent 1999)	Ineligible	Could Not Relocate

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INS

Table 3-6. Archaeological Sites Within Area VI

Site No.	Age	Site Type	Site Size (m^2)	Previous Investigation	NRHP Eligibility Status[1]	Investigation Conducted by GMI
CA-SDI-15,039	Unknown Prehistoric	Lithic Scatter	100	(Buysse and Largent 1999)	Ineligible	Recorded
CA-SDI-15,038	Unknown Prehistoric	Lithic Scatter	2,000	(Buysse and Largent 1999)	Unknown	Recorded
CA-SDI-3627	Prehistoric (San Dieguito) Historic WWII	Lithic Scatter Historic	12,650	Recorded (Moriarty 1974 [site form only])	Potentially Eligible (unknown)	Relocated/Shovel-tested
CA-SDI-4281	Unknown Prehistoric	Habitation	22,550	Tested (Bingham 1978) (Buysse and Largent 1999)	Eligible	Relocated/ Shovel-tested
CA-SDI-222	Prehistoric (La Jollan)	Camp	46,000	Tested (Bingham 1978) (Buysse and Largent 1999)	NRHP-Listed	Relocated

[1] Those sites for which the California SHPO or SCIC does not have an NRHP eligibility status, or that have not yet been evaluated for NRHP eligibility, have been assigned an "unknown" eligibility status.

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Coastal Conservancy

RECEIVED
AUG 27 2003
CALIFORNIA COASTAL COMMISSION

August 25, 2003

James A. Caffrey, Acting Director
Headquarters Facilities and Engineering
U.S. Department of Homeland Security
Bureau of Immigration and Customs Enforcement
425 I Street NW
Washington, DC 20536

RE: Final EIS, San Diego Border Infrastructure System, San Diego, California

Dear Mr. Caffrey:

This letter provides California State Coastal Conservancy comments on the Final Environmental Impact Statement received in our office on July 31, 2003 on the above-referenced project prepared pursuant to the National Environmental Policy Act of 1969.

We hold that the final environmental impact statement insufficiently assesses the feasibility of achieving program objectives through the construction of a primary barrier, an alternative similarly dismissed in the DEIS and noted in our comment letter dated March 20, 2002. Your assertion in FEIS Section 2.3.1.1 that a project configuration lacking the secondary and tertiary fences cannot be made to function effectively is not supported by the discussion presented. We continue to find it untenable to assert that *any* constructed primary fence would be ineffective, particularly when the conclusion is based, in part, on the effects of the poorly conceived and poorly maintained primary fence now in place. Pursuant to NEPA Section 102 (C) (iii), our particular concern remains that to avoid the significant adverse effects of the preferred project alternative that an alternative be examined that assesses truly innovative fence designs, including ones that incorporate advanced surveillance and warning technologies within a primary barrier. The proposed action is not supported by the rigorous analysis of alternatives that is inherent to evaluations under NEPA.

The California State Coastal Conservancy is charged by Division 21, Section 31000 et seq. of the Public Resources Code of the State of California to protect, enhance, and restore the natural resources of the State's designated coastal zone and to ensure public access to its public trust beaches. As we indicated in our project scoping letter dated

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February 21, 2001 and our DEIS comment letter dated March 20, 2002, we have made the U.S./Mexico border zone an area of concentration for over twenty years, dedicating over $19 million to acquiring land, restoring habitats and providing public access. In 2002-2003, the Coastal Conservancy, California Department of Parks and Recreation and the State Wildlife Conservation Board have authorized over $8 million for construction of sediment control facilities at Goat Canyon to protect the wetlands of the Tijuana Estuary saltmarsh. State of California work has been accompanied by the work of local and federal public agencies charged with affecting environmental quality, including $400 million in federal funding for wastewater treatment facilities.

Grading of coastal mesas in Area VI and the cut/fill operation at Smuggler's Gulch in Area V poses a serious threat to this work. As noted in the FEIS, the Terrace escarpment, Chesterton fine loam and Marina loamy coarse sands that constitute the soil profile here experience rapid runoff and are a severe erosion hazard. Section 4.3.4.1 indicates that "measures such as brow ditches, sedimentation traps and stilling basins, and energy dissipaters, in addition to revegetation measures, would be incorporated into the final engineering designs of cut and fill slopes such as Smuggler's Gulch, to ensure long-term stability of the slope and to control erosion and sedimentation." Many variables can affect these actions and more specific analyses are needed to assess probable impacts.

We find that the FEIS inadequately assesses the probable impacts of project alternatives to downstream coastal resources, including jurisdictional Waters of the United States, in regard to the soil loss and resulting downstream sedimentation associated with proposed large-scale topographic alterations. We also view the mitigation program developed to compensate impacts likely to be associated with the proposed action inadequately defined. The level of impact represented here reinforces our concern for a more thorough alternatives analysis to identify a project that meets project objectives without the large-scale land disturbance inherent with each of the alternatives presented.

Strikingly absent from the assessment of environmental impact is a comprehensive assessment of the values that, in combination, make the international border at the Pacific Ocean a critical heritage site for the two nations, an area referred to by both Mexican and American border communities as "Friendship Park". The Border Infrastructure System design, particularly in the westernmost sector (Area VI extending 1.4 miles inland from the Pacific Ocean) has serious consequence for, what is characterized in NEPA Section 102 (B) as the "...the unquantified environmental amenities and values..." of the community. Though NEPA requires that these amenities and values "...be given appropriate consideration in decision making along with economic and technical considerations", the FEIS does not present an acceptable design solution for "Friendship Park", but instead provides a collection of possible designs.

Border Field State Park's two oceanfront mesas, Lichty Mesa and Monument Mesa, constitute a heritage and ecological site consisting of several interrelated parts, having historic, cultural, ecological, geographical and scenic significance unparalleled on the

U.S./Mexican border or the California Coast. An extensive array of public assets exist there including a 4000 year-old Kummehay cultural area, an extremely rare assemblage of coastal scrub plants, and the 150-year old international monument to the treaty commemorating an end to Mexican-American enmity. While Alignment BHPO-4, identified as the Preferred Alternative for Area VI, is laudable for maintaining American access to Friendship Circle and the American side of the 150 year old monument commemorating an end to Mexican-American enmity, the actual project impact to the "...unquantified environmental amenities and values..." of this critically important coastal site at the southwesternmost corner of the United States cannot be evaluated. We consider this a serious FEIS omission.

Current trends indicate that San Diego/Tijuana will become one of the great North American centers of the 21st century, unique in its international geography and character and in its social and economic integration. The U.S. Border Infrastructure System is a highly visible and symbolic part of the fabric of the bi-national community. Where an act of the United States Congress established the necessity for the Border Infrastructure System, it is incumbent upon the agencies of the United States government to use measure and ingenuity to carry out the mandate in accord with all the laws of the United States and the State of California. Based on our review of the FEIS and its preferred project proposal, this challenging initiative has not been successfully met.

Sincerely,

Sam Schuchat
Executive Officer

cc. Senator Diane Feinstein, United States Senate
Senator Barbara Boxer, United States Senate
Congresswoman Susan Davis, United States House of Representatives
Mary Nichols, Secretary, Resources Agency, State of California
Ruth Coleman, Acting Director, California State Parks Department
Peter Douglass, Executive Officer, California Coastal Commission

California Native Plant Society

San Diego Chapter P.O. Box 121390 San Diego, CA 92112

Mark Delaplaine
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

September 19, 2003

Re: Border Fence Infrastructure Project

Dear Mr. Delaplaine:

Attempts by the California Native Plant Society and other non-profit environmental organizations, Federal and State agencies, and local City and County jurisdictions to minimize impacts to an HCP/NCCP preserve (MSCP) and its species have been rebuffed by INS and Army Corps of Engineer personnel in their push to build a triple border fence with a high speed road. We would ask that the Coastal Commission correct this error and require minimization of impacts to rare species by any structure that is built along the border. San Diego has developed most of its coastal mesas and many unique species are found in the first few mesas along the border. Each mesa supports a different assemblage of species that do not occur further inland. Given that the border is largely under control in this area as border crossers have moved east, there is no excuse not to do this project in a manner that minimizes impacts to sensitive species.

San Diego has undergone extensive negotiations to create a preserve system that is believed by some to protect 87 plant and animal species. Part of the reason my organization participated in the process was the belief that we could forgo the listing process for some species as they would be protected adequately by the Multiple Species Conservation Program. There are far more species needing protection than the limited number that are currently listed or examined for the habitat plan. A large number of those rare species were expected to be protected by the habitat plan that resulted from the massive planning effort. Many rare plant species that qualify for listing occur in the southern part of the county in the coastal zone and we believed they were protected by the MSCP preserve and have not tried to petition those species for listing as we would have in the absence of the habitat plan. Many of these species are now under threat due to the proposed Border Fence Infrastructure Project for the 14-mile stretch of the border from the ocean to the base of Otay Mountain. INS denies any responsibility to avoid impacts to those species if they are not currently federally listed even though they occur in preserve lands in the coastal zone. We are enclosing species evaluations developed by Craig Reiser in his web publication *Rare Plants of San Diego County* (1994) to substantiate the rarity of species although some of the information is outdated.

Our concern is that no attempt has been made to minimize impacts from the border fence infrastructure to a wide variety of rare species in the coastal zone. We had believed that INS at least intended to run the secondary fence at the base of Lichty Mesa to avoid many of the sensitive plant and archeological resources but find the final approved plan

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CNPS Letter

includes running a fence across the top of the mesa. In responses to comments concerning non-listed species INS responded, "INS is committed to its obligations under the ESA, but is not in a position to comply with the conditions set forth in the MSCP." Surveying was conducted last year with State Parks and CNPS members to document rare plant populations since the draft EIS released for the project was deficient in disclosing rare plant populations historically known from the impact area. The following discussion includes information for some of the rare species that qualify for listing.

Orcutt's dudleya *(Dudleya attenuata* ssp. *orcuttii*) has a single population in the United States on the first and second mesas along the border from the ocean. The fence infrastructure will impact this population and no mitigation is proposed. Brand's phacelia (*Phacelia stellaris*) is a small annual that has been documented on Lichty Mesa both on State Park lands and private property on Lichty Mesa. There are currently only three populations known of this species in the United States and one of those is on a sand dune area at a military base, Camp Pendleton. The fence across Lichty Mesa will impact the population. There is no discussion of the species in the Final EIS although the plant occurs on State Park lands in the Coastal Zone. Coast wooly-heads (*Nemacaulis denudata* var. *denudata*) co-occurs with the Brand's phacelia and will be impacted by the fence across Lichty Mesa. Reiser identifies the species as a potential candidate for Federal Endangered status in his 1994 analysis. Nuttall's lotus (*Lotus nuttallianus*) occurs on State Parks lands on Lichty Mesa. This is the only population of the species we know of that does not occur on soft sand immediately adjacent to the ocean. Gary Suttle is currently in the process of drafting a Federal and State listing petition for the species as all of its populations appear to be under threat of one kind or another. Reiser states, "long-term outlook for this species is bleak." No mitigation is proposed for impacts of the fence infrastructure project.

Beach goldenaster (*Heterotheca sessiliflora* ssp. *sessiliflora*) occurs on the first two mesas along the border in from the ocean. Reiser concludes, "The San Diego County populations of Beach Goldenaster are almost extirpated." The border fence infrastructure will impact plants and it is not clear that any would remain. We have been in contact with Dr. John Semple of the University of Waterloo. He has confirmed that the subspecies is unique, of limited distribution along the coast, and restricted to San Diego County. Orcutt's bird's beak (*Cordylanthus orcuttianus*) is reported from the native grassland patch on Bunker Hill. Reiser states, "Orcutt's Bird's Beak is substantially declining within its limited U.S. range. All U.S. populations should be protected." Impacts to the species are not discussed in the Final EIS. South Coast saltscale (*Atriplex pacifica*) is known from a variety of small sites along the border (Lichty Mesa and Bunker Hill) but no mitigation is discussed for impacts to the species. The species occurs on many of the islands off the coast which is good since Reiser reports that the species is severely declining throughout its coastal range on the mainland. Shaw's agave (*Agave shawii*) occurs at Borderfield State Park and on Point Loma and has been introduced in a few coastal parks in San Diego. While the species is more common in Baja California Mexico, the fence project is proposing impacts to one of two of it's only natural populations in the United States. This impact could be easily avoided if the grading and fencing at Lichty Mesa were modified or eliminated.

Baja California birdbush (*Ornithostaphylos oppositifolia*) impacts could easily be avoided or at least minimized if the cut and fill for Smuggler's Gulch were eliminated or if the soils were taken from Spooner's Mesa for the fill. Having a fence that followed the contours of the land and improving the surfacing on the switchbacks of the current roads down into Smuggler's Gulch would achieve better border protection over current levels without the impacts to the sole population of the State Listed Endangered species.

The extent of cut and fill associated with the infrastructure project is problematic for many species given the soils are highly erodible and siltation is already a problem in the estuary. Salt marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*) is a listed species with few occurrences. It grows at the edge of salt pan where sedimentation can have drastic impacts. We are exceedingly concerned about the planning for drainage with the project especially in Smuggler's Gulch. Review of the hydrology section of the report suggests there will be sedimentation load reducing the efficacy of the drainage system yet there is insufficient excess capacity for water flow if that sedimentation occurs. Our organization is not skilled at such analysis but are concerned given that we know pieces of houses come down the drainage from Mexico and we fear massive slope failures are likely to occur given soils are highly erodible and structures in Spring Canyon already built for this project have failed in years without significant rains. The function of the estuary is dependent upon INS not contributing to the sedimentation problem yet from discussions with agencies involved with reviewing the project, it is clear that there has been insufficient design of the project.

There are a large number of additional rare plant species that we know occur or have been reported to occur in the footprint area. The Final EIS did not discuss these coastal resources as they refuse any responsibility for mitigating impacts to non-listed species even thought they occur in the coastal zone many times within existing or proposed preserve areas. That list includes: Rayless ragwort (*Senecio aphanactis*), Goldenspined cereus (*Bergerocactus emoryi*), Seaside calandrinia (*Calandrinia maritima*), Lewis's evening primrose (*Camissonia lewisii*), Sea dahlia (*Coreopsis maritima*), Cliff spurge (*Euphorbia misera*), and Snake cholla (*Opuntia parryi* var. *serpentina*).

There are alternatives such as a single improved fence in areas where housing lines the Mexican side of the border or fencing that follows the contours of the land combined with improved road surfaces that would improve conditions for Border Patrol agents. We request that those alternatives be pursued so that coastal resources especially those in preserve areas are protected as much as possible. Should you have any questions about our concerns, please do not hesitate to contact our Chapter Conservation Chair at (858) 404-9366 (weed days), (619) 421-5767 (home), or by email (cindyburrascano@cox.net).

Sincerely,

Cindy Burrascano

Cindy Burrascano
Chapter Conservation Chair

CD-063-03
U.S. Immigration and Naturalization Service (INS) Border Fence Improvements

Attachments

1. INS Consistency Determination

2. Endangered Species Consultation for the Proposed 14-Mile Border Infrastructure System, San Diego County, California (Biological Opinion No. 1-6-03-F-1089.22), U.S. Fish and Wildlife Service, July 12, 2003.

APPENDIX I

CONSISTENCY DETERMINATION

Coastal Zone Management Act of 1972
California Coastal Act of 1976
for the
Proposed Completion of a 3.5-Mile
Border Infrastructure System
San Diego County, California

July 2003

Project Background and Purpose

The Immigration and Naturalization Service (INS) and U.S. Border Patrol (USBP) propose to complete a Border Infrastructure System located along the international border between the United States and Mexico in San Diego County, California. The Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996 mandates that a multi-tiered road and fence system be constructed along the United States and Mexico border starting at the Pacific Ocean and extending inland for 14 miles. The proposed project would develop an enforcement zone near the border that would create a permanent deterrence and halt the continual influx of illegal aliens and smugglers into the San Diego area. The Border Infrastructure System, once completed, would significantly reduce the enforcement actions and reduce the effects to the human and natural environment north of the system. The Border Infrastructure System project corridor has been subdivided into six project areas, as depicted in Figure 1-3 of the 2003 Final Environmental Impact Statement (FEIS).

Portions of the Border Infrastructure System have been completed or are ongoing, starting near the Inernational Boundary and Water Commission's (IBWC) Wastewater Treatment Plant (Area IV) and extended eastward about nine miles to Johnny Wolf Creek (Areas IIII and II). Area IV, which starts at the San Ysidro Port of Entry (POE) and extends to the IBWC's Wastewater Treatment Plant is located within the coastal zone. Construction of this portion of the Border Infrastructure System was conducted under Negative Determinations (ND-118-96 and ND-9-97), provided by the California Coastal Commission.

The remaining portion of the proposed project that is within the California coastal zone would start at the western end of the existing Border Infrastructure System (Area IV) and extend seaward for approximately 3.5 miles to the Pacific Ocean. The two project areas of concern regarding the Consistency Determination are Area V (Smuggler's Gulch) and Area VI (Bunker Hill to Ocean).

The Consistency Determination summarizes the applicable sections of the 2003 FEIS. The FEIS provides greater detail on the proposed project, the existing environment, the alternatives that were evaluated, the effects of the proposed project, and mitigation measures that would be implemented.

Attachment 1
INS CD

Project Location

Area V is bounded by the existing Border Infrastructure System (Area IV) to the east, County of San Diego lands to the west, publicly and privately-owned lands to the north, and Tijuana, Mexico to the south.

Area VI is bordered by the County of San Diego and State of California lands to the east, the Pacific Ocean to the west, state and Federal lands to the north, and Tijuana, Mexico to the south. A small parcel of privately held lands (Lichty Mesa) is also contained in Area VI.

Project Description

The proposed project would compliment the existing primary fence structure and complete the Federally mandated 14-mile Border Infrastructure System. The Border Infrastructure System would be comprised of a secondary and tertiary fence constructed approximately 130 to 150 feet from and parallel to the existing primary fence to ensure the safety of the USBP agents from rocks and other debris that is typically thrown from the Mexican side of the border. A patrol road would be constructed adjacent to and south of the secondary fence. A maintenance road would be constructed between the secondary fence and the tertiary fence. The tertiary fence will be placed parallel to and approximately 20 to 24 feet north of the secondary fence. The proposed project's design is described in detail in Section 2 of the 2003 FEIS.

Equipment and Materials

Fencing Materials. The secondary fence will consist of vertical secura metal mesh panels attached to 16-foot poles. The poles would be anchored to a 12-inch wide by 4-foot deep concrete footing. Additional 6-foot panels would be secured to the top panels. The tertiary fence would typically be a 5- to 8-foot high chain link fence.

Roads. Patrol roads would consist of a compacted sub-base and 12 inches of Class II material saturated with PennzSupress™ or equivalent product. The patrol road would be 24 feet wide with 12-foot shoulders. The maintenance roads would be constructed by grading the soil surface (i.e., no all weather surface would be placed on the maintenance road). This road would be expected to be 12 to 18 feet wide.

Lighting. Lights would be placed on poles approximately 50 feet high placed at 200 to 300 feet apart. The lighting design was developed to ensure that no more than 0.1 foot candles of illumination would be experienced at the northern toe of the construction footprint. Therefore, ambient light conditions north of the Border Infrastructure System would not be substantially increased.

Heavy equipment. A list of the heavy equipment that would be used for the construction of the proposed project is presented in Table 2-2 of the 2003 FEIS.

Schedule

Construction activities would occur during daylight hours beginning around 7:00 a.m. and ending around 7:00 p.m. It is presently envisioned that construction would occur only on weekdays. Construction activities at Border Field State Park (BFSP) would be

restricted on holidays and weekends, except in emergency situation where health and safety or significant construction problems associated with the fence/road platform is likely. The construction for the proposed project would require approximately five to seven years, depending on weather conditions, Congressional funding, availability of personnel and construction equipment, etc.

Determination of Consistency

A Consistency Determination is required for the proposed project because it could have an effect upon the coastal zone of California. The following Determination of Consistency is prepared in compliance with the Federal Coastal Zone Management Act (CZMA) of 1972, Section 307 (Title 16, U.S.C. Section 1456), which states that Federal actions must be consistent with approved state coastal management programs to the maximum extent practicable. Sections of the California Coastal Act (CCA) of 1976 applicable to this project include: Article 1—General (Section 30200); Article 2—Public Access (Sections 30210-30213); Article 3—Recreation (Sections 30220-30244); Article 4—Marine Environment (Sections 30230-30237); Article 5—Land Resources (Sections 30240-30244); Article 6—Development (Sections 30250-30255); and Article 7—Industrial Development (Sections 30260-30265).

It is the opinion of the INS, based on a review of the applicable sections of the Act, and on the data presented in the FEIS, that the proposed project is consistent with the California Coastal Act of 1976, to the maximum extent practicable, as defined by 15 CFR 930.32. The IIRIRA of 1996 mandates that a multi-tiered road and fence system be constructed along the US and Mexico border starting at the Pacific Ocean and extending inland for 14 miles. In order to comply with this statute, some impacts to coastal resources are unavoidable. However, this action is similar to the construction of the Border Infrastructure System in Area IV, for which a Negative Determination was issued, as indicated above. This Determination of Consistency has been prepared with the following applicable sections of the California Coastal Act of 1976:

Article 1 – General (Section 30200)

The proposed action consists of completing the Border Infrastructure System, in compliance with IIRIRA. The purpose of this action is to create an effective and defensible enforcement zone that will ensure absolute apprehension and, thus, deterrence of illegal activities along this portion of the border. The Border Infrastructure System begins east of the USIBWC's International Wastewater Treatment Plant and terminates at the Pacific Ocean. Sensitive resources in the project area that are outside of the project footprint will be fenced, flagged, and otherwise protected during maintenance or construction activities. Following these procedures should avoid significant adverse environmental impacts to the surrounding environment. Therefore, the proposed fence rehabilitation will not significantly impact resources within the coastal zone that are outside the permanent footprint of the Border Infrastructure System.

Article 2 – Public Access (Sections 30210 – 30213):

The proposed project activities would not cause a significant adverse impact to public access to the local beaches or associated recreational facilities. Under the preferred alignment described in the FEIS, public access to the BFSP would be unrestricted during normal park hours.

INS has committed to designing and constructing an aesthetically pleasing gate and fence within the BFSP area that can serve both as an inviting entrance to the BFSP and also as the required enforcement zone. The gate would be locked except during normal park hours. Copies of some of the designs that have been presented to the California State Parks are included in Appendix J of the 2003 FEIS.

Access to the Bunker Hill would be improved by paving the primary road to the top. Currently, access to the top of Bunker Hill is limited to 4-wheel drive vehicles due to the steepness and poor conditions of the extant road.

The area between the primary fence and the secondary fence would be restricted to public access, except at the BFSP, as described above. However, the public seldom uses this corridor. In addition, this use is similar to the secondary bollard fence system in Area IV, for which the California Coastal Commission has already granted Negative Determinations (ND-188-96 and ND-9-97).

Article 3 – Recreation (Sections 30220 – 30224)

The BFSP's major recreational uses are as a picnic area and for sightseeing mainly to view San Diego Bay, the Tijuana River Estuary, and portions of Mexico along the coast. The area immediately north of the park is used for horseback riding and bird watching. The picnic area will be encompassed by the proposed action, but there will be unrestricted access to this area during normal park areas. Some extant roads that are used as horseback trails (0.6 miles in Smuggler's Gulch and 0.4 miles west of Bunker Hill) will be closed during the construction of the Border Infrastructure System. The USBP will work closely the BFSP and Tijuana Valley Equistrian Association to allow the use of the access road on the northern slope of the embankment at Smuggler' Gulch to access the mesas on either side of the gulch. The proposed action will indirectly benefit the unique and sensitive areas north of the proposed Border Infrastructure System by reducing or eliminating illegal traffic, brush clearing, fires, and by a reduction in the enforcement footprint of USBP.

Article 4 – Marine Environment (Sections 30230 – 30237)

The impacts of the proposed activities on water resources are covered in detail in Section 4.3.9 in the 2003 FEIS. In summary, effects to surface water quality would be considered minimal and temporary. Implementation of the structure would impact 10 acres of waters of the U.S., including wetlands, under the preferred alignments (SG-1 and BHPO-4) within Areas V and VI, respectively. A total of 2.35 acres of disturbed and native coastal salt marsh would be impacted. Of this, 76% is considered highly degraded and of low quality and value.

The potential effects to surface water and water quality from the implementation of this project would be associated with erosion and sedimentation during construction activities and/or accidental spills. The Best Management Practices (BMP) required for compliance with the Stormwater Pollution Prevention Plan (SWPPP) and immediate response to any accidental spill would alleviate any potential effect to insignificance. A list of BMPs that would be implemented are discussed in Section 5.1 of the 2003 FEIS.

Temporary increases in turbidity and suspended solids levels in the immediate vicinity of the project area could occur. Increased turbidity would result in a general decline in aquatic productivity and may cause respiration difficulties of fish and filter feeders. Motile organisms, however, would evacuate and avoid the project area by temporarily relocating. Turbidity levels would be expected to return to pre-project conditions or better upon the successful revegetation of the cut and fill slopes. In fact, Michael Baker Jr., Engineers Inc. (2003) analyzed the current erosion/sedimentation conditions withn the project corridor against the anticipated sedimentation loads upon completion of the Border Infrastructure System and determined that the completion of the project would result in an average annual reduction of 796 tons (27% reduction). A copy of the Baker report is contained in Appendix G of the 2003 FEIS.

Temporary and indirect effects to wetlands would occur during the construction period, but would be restored upon completion. Approximately 8.2 acres waters of the U.S. and wetlands would be permanently impacted from the implementation of the project. Specific mitigation plans and the Clean Water Act (CWA) Section 404/401 permit process will be completed prior to initiation of construction activities within wetlands. A draft conceptual mitigation plan is included in Appendix G of the FEIS, but will require extensive coordination with the appropriate regulatory authorities to finalize and implement. It should be noted, however, that the U.S. Fish and Wildlife Service has agreed to the concept, mitigation ratios, and proposed locations of the mitigation areas during Section 7 consultation. A copy of the Biological Opinion (BO) is contained I Appendix H of the 2003 FEIS. Beneficial, long-term, indirect effects would result from the construction of the system by eliminating illegal foot and vehicle traffic north of the tertiary fence.

Impacts to coastal waters, streams, wetlands, estuaries, and lakes have been minimized to the maximum extent practicable, while satisfying the stated purpose and need and complying with IIRIRA. The western portion of the project corridor falls near the high tide zone of a sandy beach. Marine mammals are known to visit the areas offshore from the project area but do not frequent the high tide zone and shallow waters of the project area. As a result, the marine environment will not be impacted by the proposed action.

Article 5 – Land Resources (Sections 30240-30244)

The Proposed Action would involve the elimination of lands proposed for inclusion in the Multiple Species Conservation Plan (MSCP) program. INS has committed to its obligations under the Endangered Species Act (ESA). However, INS was not a signatory partner to the MSCP and, thus, is not in a position to comply with the conditions established in the MSCP. INS has committed, though, to transferring or preserving lands acquired as part of the Border Infrastructure System, as partial or full compensation required under the ESA or CWA. Transfer or preservation of these areas could benefit the MSCP.

Implementation of the proposed action would allow USBP to abandon approximately 100 miles of existing patrol roads. The abandonment of these patrol roads and subsequent revegetation of these roads would directly benefit existing MSCP lands within the project region. Direct benefits include improved aesthetic value to MSCP lands, improved wildlife habitat on MSCP lands, and improved recreational opportunities on these lands. Restoration of the roads would be dependent upon approval from the various

landowners; however, about 16 miles are on public lands, which would be revegetated. This effort would provide about 24 acres of habitat.

The proposed action would affect habitat occupied by the Federally endangered least Bell's Vireo and coastal California gnatcatcher. This habitat would be mitigated within portions of the Tijuana River Valley Regional Park. These areas have been identified in the Framework Management Plan for the Regional Park as potential sites for future restoration and have been coordinated with the County of San Diego Planning Department. Impacts to other sensitive species and habitats (e.g., Baja California birdbush and maritime succulent scrub) would be mitigated through restoration actions and/or land acquisition/transfer, as described above. A copy of the BO, which defines the types of mitigation/conservation measures to be employed, is contained in Appendix H of the 2003 FEIS. A conceptual mitigation plan is also presented in Appendix G of the 2003 FEIS.

Area V contains seven recorded cultural resource properties, but three sites have disappeared and are thought to have been destroyed. The remaining four are ineligible for inclusion in the National Register of Historic Places (NRHP); therefore, no historic properties would be affected in Area V by project activities.

In Area VI, testing of the archaeological site CA-SDI-15,038 would be required to determine its NRHP eligibility status. Mitigation measures would be taken should the site prove to meet the eligibility criteria. Site CA-SDI-3627 is considered to be potentially eligible and site CA-SDI-4281 is considered eligible for the NRHP. These sites would require avoidance and/or other mitigation measures. Sites CA-SDI-222 would be avoided under the preferred alignment (BHPO-4).

Article 6 – Development (Sections 30250 – 30255)

The proposed project activities will be visually compatible with the character of the surrounding areas to the south, and, where feasible, will restore and enhance visual quality in visually degraded areas. Within the Tijuana estuary and especially near the BFSP, INS has proposed that native shrubs be planted along the northern boundary of the Border Infrastructure System to enhance the aesthetics of the system.. Numerous conceptual designs for the Border Infrastructure System have been submitted to the California Resource Agency and California Department of Parks and Recreation for review. Copies of some of these plans are contained in Appendix J of the FEIS.

There is a potential for increased soil erosion during construction due to an increase in surface runoff; however, runoff would be captured by storm drainage minimizing the potential for soil erosion. As mentioned above, completion of the Border Infrastructure System would reduce the annual sediment loads being generated within the project corridor by 27%. In addition, compaction techniques and erosion control measures such as waterbars, gabions, straw bales and reseeding would be implemented to alleviate these situations during the construction period. These areas should be converted back to their natural condition upon completion of the project to help reduce the potential of soil erosion. A Stormwater Pollution Prevention Plan (SWPPP) would be required since the area of impact would be greater than one acre.

Significance thresholds for air quality impacts are based on *de minimus* thresholds for Federal conformity. As outlined in Section 3.8 (2003 FEIS), these thresholds are

developed for pollutants (and pollutant precursors) for which an area is in nonattainment or maintenance and are dependent on the severity of a region's air pollution problem. For the San Diego Air Basin, *de minimus* thresholds are 50 tons per year for ozone precursors (VOC and NOx) and 100 tons per year for CO.

Annual construction emissions are less than *de minimus* thresholds within the project area. If any portion of the project were to exceed the *de minimus* thresholds, a Federal conformity analysis (consistent with San Diego Air Pollution Control District Rule 1501) would need to be performed in order to demonstrate that the construction project and resulting emissions conform to the State Implementation Plan and would not impede progress towards achieving or maintaining the NAAQS.

Article 7 – Industrial Development (Sections 30260 – 30265)

The proposed completion of the Border Infrastructure System is not an industrial development, and therefore, is not applicable to the conditions set forth in the aforementioned section.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92009

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COASTAL COMMISSION

In Reply Refer To:
FWS-SDG-1089.22

JUL 1 2003

Mr. James Caffrey
Acting Director, Facilities & Engineering Division
Immigration and Naturalization Service
U.S. Department Homeland Security
425 I Street North West
Washington, D.C. 20536

Re: Endangered Species Consultation for the Proposed 14-Mile Border Infrastructure System, San Diego County, California (1-6-03-F-1089.22)

Dear Mr. Caffrey:

This biological opinion (Opinion) responds to your request for formal consultation with the U. S. Fish and Wildlife Service (Service) pursuant to section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*) for Areas I, part of II, V, and VI of the 14-mile Border Infrastructure System (BIS) Project from the Pacific Ocean east to the foothills of the San Ysidro Mountains. Though the Service received your letter and Draft Report-Biological Assessment (BA), dated February 6, 2002, our agencies exchanged numerous letters, as documented below, intended to fulfill the informational requirements necessary to complete a biological opinion. After our September 3, 2002 receipt of your August 30, 2002, letter with additional information, we began a series of meetings, conference calls, and electronic mail messages to refine and gather all pertinent information needed to prepare this Opinion. This Opinion addresses the effects of construction and operation of a border fence infrastructure system including roads, lights, surveillance equipment, and a secondary and tertiary fence on the federally listed least Bell's vireo (*Vireo bellii pusillus*; vireo), coastal California gnatcatcher (*Polioptila californica californica*; gnatcatcher), Quino checkerspot butterfly (*Euphydryas editha quino*; Quino), and southwestern willow flycatcher (*Empidonax traillii extimus*, willow flycatcher); and designated critical habitat for the gnatcatcher, Quino and vireo. Currently, designated critical habitat for the gnatcatcher is in the process of being redefined through a proposed rule, dated April 24, 2003 (50 CFR 17). In the project area, the boundaries of the existing designated critical habitat and proposed critical habitat are the same. Therefore, the effects to designated and proposed gnatcatcher critical habitat are also the same. The biological opinion for designated critical habitat will also be considered a conference opinion for the proposed critical habitat.

Construction of the proposed project across the beach is designed to avoid the breeding season of the California least tern (*Sterna natillarum browni*; least tern) and western snowy plover (*Charadrius alexandrinus nivosus*; snowy plover). In addition, construction activities on the

Attachment 2
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beach outside of the breeding season for the snowy plover will commence only if it is determined by a qualified biologist that snowy plovers are not present within the project work area. Separation of snowy plovers from project work activities during the non-breeding season will be delineated by having a qualified biologist install a small mesh plastic fence. All construction activities including equipment, workers, vehicles, materials, and temporary access roads should be located south of the plastic fence. Therefore, the proposed project will not adversely affect these federally listed species and designated critical habitat for the western snowy plover.

The BIS project will implement a Storm Water Pollution Prevention Plan that is designed to remove all sediment from storm water runoff generated by the project prior to discharging from the BIS into the Tijuana River watershed. This erosion control program is intended to avoid direct and indirect effects to the federally listed salt marsh bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*; bird's-beak) and the light-footed clapper rail (*Rallus longirostris levipes*; clapper rail). If construction of the BIS project results in non-compliance with Water Quality Standards as determined by the California State Regional Water Quality Control Board, then the assumption of no adverse effects may no longer be valid and reinitiation of consultation may be required to address adverse effects to the bird's-beak and the clapper rail.

The proposed BIS project includes a plan to fill Smuggler's Gulch and construct the BIS on top of the fill. The Corps of Engineers Regulatory Branch and the Environmental Protection Agency will evaluate this project pursuant to 404(b)(1) Guidelines, which must be taken into account in the Corps determination whether to grant a permit under section 404 of the Clean Water Act (40 Code of Federal Regulations (CFR) Part 230). Pursuant to the Fish and Wildlife Coordination Act, we will provide comments to the Corps Regulatory Branch on the 404 permit.

This document is based on information provided in the *Draft Environmental Impact Statement* (DEIS) *for the Completion of the BIS, San Diego, California (Volume 1)*, dated January 2002; Immigration and Naturalization Service's (INS) *Draft Report-Biological Assessment for the Completion of the 14-Mile Border Infrastructure System, San Diego, California* dated February 2002; *Final Report-BA for the Completion of the 14-Mile Border Infrastructure System, San Diego, California*, dated April 2002; and other information in Service files. A complete administrative record of this consultation is on file at Carlsbad Fish and Wildlife Service.

CONSULTATION HISTORY

Informal consultation began in mid 1996 with discussions regarding the scope of project and environmental planning. Consultation entailed: (a) a Service letter dated March 7, 2002, to INS that provided comments on the February 2002 BA and requested additional information and analysis of project effects on federally listed species; (b) the Department of the Interior comment letter on the DEIS dated April 10, 2002, which raised several concerns, including effects to the conservation strategy under the Multiple Species Conservation Program, sensitivity of rare species and habitats in the Tijuana River Valley, informational needs and clarification of project effects to listed species, and impacts to jurisdictional wetlands, such as filling Smuggler's Gulch; (c) INS' April 23, 2002, letter and accompanying BA that requested initiation of section 7 consultation; (d) a Service letter dated July 5, 2002, to INS identifying information needed including formulation of conservation measures to obtain a complete project description, and

associated biological issues needing to be clarified or addressed in greater detail before the Service could proceed with INS' request for consultation; (e) INS' August 30, 2002, letter of response to the Service's July 5, 2002, letter providing additional project information and discussing the possibility of funding a Service staff position to expedite the completion of the biological opinion; (f) project revised vegetation impact maps for the completion of the 14- Mile BIS from Gulf South Research Corporation (GSRC), dated August 19, 2002; (g) an August 30, 2002, conference call between the Service, U.S. Border Patrol (USBP), U.S. Army Corps of Engineers (Corps) that resulted in a mutual agreement that the federally endangered Quino checkerspot butterfly and designated critical habitat, within Area II of the BIS, would be addressed in the future overall section 7 consultation for the BIS project; (h) a September 11, 2002, meeting with the County of San Diego's (County) Deputy Chief Administrative Officer, Land Use and Environmental Group in which the Immigration and Naturalization Service (INS) and Corps proposed to conduct habitat restoration efforts on County property in the Tijuana River Valley; (i) an October 2, 2002, meeting with the Corps, INS, USBP, County, and Service in which the Corps and INS presented a current description of the BIS project and the County and Service asked questions concerning the engineering design of specific project features, including the proposed grading of 2.1 million cubic yards of material from the mesa tops in the Tijuana River Valley and placing this fill in Smuggler's Gulch, the size of the proposed box culvert in Smuggler's Gulch, and if a sedimentation basin could be constructed in Smuggler's Gulch, as a potential mitigation measure, to control sediment runoff associated with project construction; (j) a November 6, 2002, meeting with the Corps, INS, USBP, GSRC, County, City of San Diego (City), California State Parks (State Parks), California Department of Fish and Game (CDFG), Corps' Regulatory Branch San Diego (Corps Regulatory), and Service to discuss acres of vegetation types that would be directly impacted by the project and opportunities available to compensate for habitat losses, the feasibility of constructing a sedimentation basin in Smuggler's Gulch, and the County Department of Public Work's future coordination with the Corps and INS in providing technical expertise in the calculation of peak winter flow rates within Smuggler's Gulch, review of draft design plans for the culverts proposed in Smuggler's Gulch, and review of proposed best management practices (BMPs) to control erosion and sedimentation associated with project construction; (k) a January 15, 2003, meeting with Corps, INS, USBP, GSRC, County, City, State Parks, CDFG, Corps' Regulatory, Environmental Protection Agency (via telephone), and Service to further discuss habitat compensation and control of sedimentation during project construction and timing associated with INS application of a Corps 404 permit for the discharge of fill material into regulated wetlands and waters of the U.S.; (l) a January 31, 2003, conference call with the Corps, INS, USBP, and Service concerning major issues needing to be addressed as part of the section 7 consultation and time frame associated with completion of a draft biological opinion; (m) Service electronic mail messages to the Corps dated January 31, 2003, and February 3, 2003, that provided a draft Project Description and Conservation Measures for the 14-Mile BIS; (n) Corps' electronic mail message to INS, USBP, and the Service dated February 7, 2003, which included a Project Description for the BIS prepared by the Service and a *Draft Conceptual Mitigation Plan-Coastal Salt Marsh, Occupied Habitat, and Critical Habitat Impacted by the San Diego Border Infrastructure System*, prepared by INS and Corps; (o) a February 11, 2003, conference call with DHS, Corps, GSRC and the Service to discuss requirements for the BA project description including project acreage, locations of endangered species, mapping and breeding seasons; (p) a March 13, 2003, meeting with Corps, INS, USBP, City, and County to discuss the possibility of cost sharing between INS and the City for a

sedimentation basin within Smuggler's Gulch; (q) on March 24, Service staff (Alison Anderson, Patricia Cole, Martin Kenney, and John DiGregoria) conducted a field reconnaissance in Area I surveying for Quino critical habitat constituent elements; (r) an April 10, 2003, meeting with Corps, INS, Border Patrol, and Service (including Nick Haluschak, PE, Project Manager, Service's Regional Office in Portland, Oregon) in which Todd Smith, Project Manager, Corps gave a presentation on the description, project schedule and current engineering design for the BIS, which included a discussion on measures that could be incorporated into the project to minimize erosion and sediment from stormwater runoff from construction activities; (s) an April 24, 2003 meeting with USBP, DHS, Corps, GSRC, and the Service to discuss conservation strategies and priorities; (t) a May 8, 2003, meeting with the Corps, INS, USBP, and Service, in which the Corps and INS presented a revised project description for the BIS that included draft conservation measures to minimize effects to federally listed species; (u) a GSRC electronic mail message with attached file dated May 15, 2003, with the current footprint of INS' BIS; (v) a Service electronic mail message dated May 15, 2003, that presented revisions to the draft project description and conservation measures discussed at May 8, 2003, referenced above; (w) a Corps' electronic mail message, dated May 21, 2003, that proposed revisions to the draft project description and conservation measures; (x) a May 22, 2003, meeting with the Corps, INS, USBP, and Service, in which we discussed revisions to the project description and conservation measures, concerns with the current habitat map and acreage of coastal sage scrub at Spring Canyon, long-term restoration and conservation of 145 acres at Spring Canyon, the need for Corps and INS to identify noise contours associated with project construction, a discussion on options available to address temporary project impacts, identification of roads to be abandoned when the BIS is completed, and the establishment of a June 4th field meeting to evaluate the extent of constituent elements within Quino designated critical habitat impacted by BIS; (y) a Service electronic mail message dated May 23, 2003, that further revised the project description and conservation measures; (z) an electronic mail message dated May 28, 2003, in which the Corps proposed erecting sound attenuation barriers to avoid noise effects to breeding birds; (aa) an electronic mail message dated June 2, 2003, in which the Corps submitted a provided additional revisions to the project description; (bb) a June 4, 2003, field meeting between Corps, INS, USBP, and Service resulting in an agreement on the acres of designated critical habitat for the Quino that had primary constituent elements that would be impacted by the BIS project; (cc) the June 20, 2003 DHS draft Opinion comment letter; (dd) a June 25, 2003, conference call between the Service, Corps, DHS, Department of Justice (DOJ) and USBP to discuss outstanding issues and DHS comments on the first draft Opinion; (ee) a June 30, 2003, conference call between the Service, Corps, DHS, DOJ, and USBP to discuss final issues and language for Opinion; (ff) the review comments of the 30 percent drawings by the Service (Nick Haluschak); and (gg) the final July 1, 2003, comment letter from DHS on the draft Opinion.

The Service prepared two previous biological opinions on a portion of the 14-Mile BIS, both of which addressed project effects to vernal pool habitat within Areas II and III on Otay Mesa. The biological opinion on a linear vernal pool on Arnie's Point (1-6-01-F-1089.12), dated February 6, 2002, addressed the permanent loss of an approximate 300 square-foot vernal pool occupied by San Diego fairy shrimp (*Branchinecta sandiegonenis*) and Riverside fairy shrimp (*Streptocephalus woottoni*). This biological opinion also addressed potential effects to the San Diego button-celery (*Eryngium aristulatum* var. *parishii*) that may be impacted by the implementation of the final restoration plan, if the extant vernal pools found on the Arnie's Point

restoration site were subjected to ground disturbance or vehicular intrusion. The second biological opinion (1-6-03-F-1089.17) dated January 9, 2003, addressed the permanent loss of three vernal pools (0.52-acre of ponded area) occupied by San Diego and Riverside fairy shrimp in Area II of the BIS.

PROJECT DESCRIPTION

The legacy INS within the Department of Homeland Security proposes to complete construction of a 14-mile BIS project consisting of eastern and western segments. In 1993, a 14-mile primary border fence was constructed along the international boundary in San Diego County. In order to comply with the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996, the proposed BIS project will utilize a secondary and tertiary fence as well as other design elements that include improved road surfaces (patrol and maintenance roads) for better USBP accessibility, lighting to illuminate the border at night, and additional surveillance equipment (Integrated Surveillance and Intelligence Systems (ISIS) components) to prevent illegal traffic from moving north. The overall project area (a 14-mile corridor from the Pacific Ocean inland to the eastern slope of Tin Can Hill) is divided into six sub-areas (Figure 1). For approximately nine miles of the 14-mile system (Areas II, III, and IV) the border infrastructure construction has been completed or is currently under construction. These construction activities were addressed in prior NEPA documents that included four Environmental Assessments (EA).

The final phase of the BIS project would occur in two non-contiguous segments termed Area I (eastern segment) and Areas V and VI (western segment). Areas V and VI begin at the Pacific Ocean coast and stretch eastward 3.1 miles to a gravel pit near the International Boundary Water Commission's (IBWC) Wastewater Treatment Plant located in the southeastern portion of the Tijuana River Valley. Area I begins at Johnny Wolf Creek and stretches 1.55 miles east to the east of Tin Can Hill. Area I would encompass 37.3 acres of permanent impacts and 3.1 acres of temporary impacts with the impact area ranging in width up to 300 feet north of the border, depending on engineering requirements, topographic constraints, and operational needs. Areas V and VI will encompass 92.3 and 32.3 acres of permanent impacts and 5.4 and 2.5 acres of temporary impacts, respectively, and the impact area ranges in width up to 920 feet north of the border. Most of the BIS project area has or would be constructed in areas that (1) are in a general state of degradation; (2) have previously been impacted by historical agricultural use, industrial development, and severe fragmentation; (3) have few known plans for development at this time; or (4) have been identified as lands to be conserved.

Reduction of the current enforcement footprint to the area between the primary and tertiary fences would enhance the USBP's apprehension and consequent deterrence capability, and reduce potential adverse effects to sensitive resources north of the fences. When completed, the construction would result in a continuous patrol zone, which would, in most locations, extend approximately 150 feet north of the international boundary. The minimum width of the corridor created between the primary and secondary fence would typically be 130 feet and the distance between the secondary and tertiary fence would typically be 20 to 24 feet. This distance would vary depending upon large cut and fill activities.

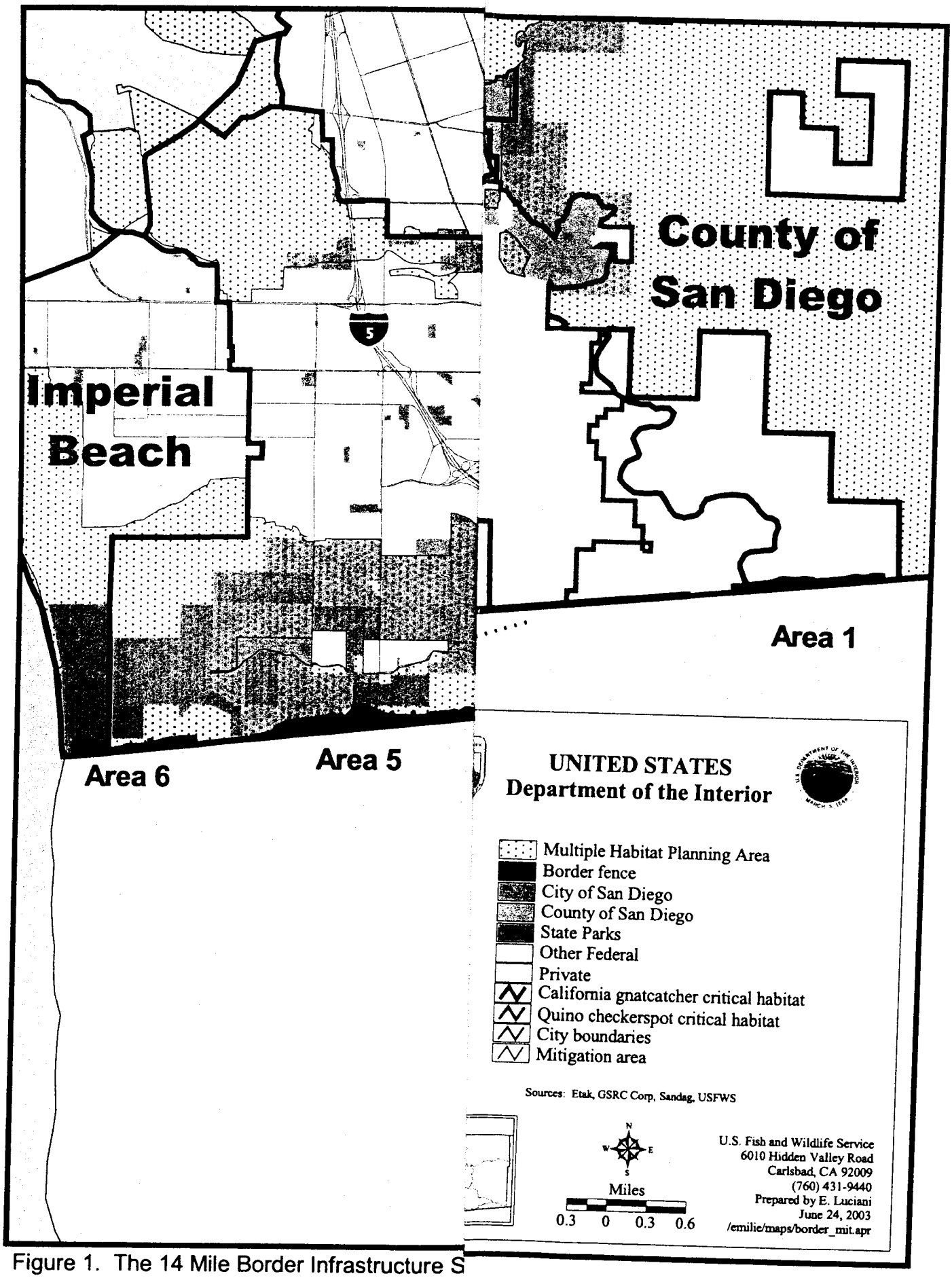

Figure 1. The 14 Mile Border Infrastructure S

As indicated above, the primary fence was installed in 1993. This fence consists of vertical steel poles embedded into the ground with concrete and steel landing mat panels welded to the poles. Throughout most of the 14-mile corridor, this fence is 10 to 12 feet high. The standard design for the secondary fence consists of vertical secure metal mesh panels attached to 16-foot steel poles. Additional 6-foot panels are secured to the top panels at an angle of 45 degrees toward the south.

The poles will be anchored to a 12-inch wide by 4-foot deep concrete footing that runs the length of the proposed fence. The secondary fence would be placed no less than 130 feet from the primary fence. As part of the secondary fence construction, a series of gates would be provided within the fence. The gates will consist of 4.5-foot wide pedestrian gates, 10-foot wide vehicle swing gates, and overhead rolling vehicle gates (15-feet wide and 22-feet wide). Agent safety zones would be constructed, in selected areas, to protect agents from debris thrown across the border. These agent safety zones would be constructed in the same manner as the secondary fencing using the same materials. The typical agent safety zone is 30 feet wide and 100 feet long with one sliding gate and one swing gate. Power to the gates would be provided via underground cables from an existing grid, along the north side of the secondary fence. The tertiary fence would generally be placed parallel to and approximately 20 to 24 feet north of the secondary fence. Where appropriate, the tertiary fence would be placed on the northern edge of the construction zone, in areas where large cut and fill activities are required. The tertiary fence is envisioned to be a 5-8 foot high chain link fence.

Two roads would be constructed as part of the BIS: a patrol road and a maintenance road. Both roads would be built on a single raised earthen platform with the secondary fence placed between the two. The design criteria for the road/fence platform are based upon the California Department of Transportation (Caltrans) and American Association of State Highway and Transportation Officials specifications, USBP functionality requirements and maintenance constraints.

The proposed action would use a road and fence platform with a maximum vertical grade of 10%. This slope would reduce the health and safety risks to USBP agents as required by IIRIRA, vehicle maintenance costs, and road construction and maintenance costs (i.e., roads at greater slopes would probably require pavement for stability). This design would also enhance response time by USBP agents when illegal entries are detected.

Two general criteria were used to set the horizontal alignment of the road/fence platform (Figure 2): (1) keep the platform as close to the border as possible and (2) maintain a straight line of sight along the platform to the extent practicable. The toe of the fill and top of the cut lines were kept a minimum distance of 25 feet from the border to allow for maintenance access to the existing fence that is coincident with the border. Horizontal curvature in the road/fence platform was set to maintain a minimum sight distance equivalent to a 55 mph design speed throughout the alignments except in a few isolated areas where rugged terrain would require the use of sharper horizontal curves.

A typical patrol road will run primarily parallel to and immediately south of the secondary fence (Figure 2). The road will be 24 feet wide with 12-foot shoulders, for a total of 48 feet in width. A five percent crown would be maintained for adequate drainage.

A maintenance road will be constructed parallel to the secondary fence. The maintenance road would be immediately north of the secondary fence and would run the entire length of the fence. The maintenance road would be constructed by grading the surface of the soil (20 feet wide), thereby creating a clear, somewhat smooth, level surface on which to drive maintenance vehicles. The tertiary fence will typically be located on the northern toe of the maintenance road, or at the northern toe of construction cut and fill areas, as appropriate..

It is anticipated that the majority of cut and fill slopes for the roadway and fence platform will be designed at 1.5H:1V ratios, based on the results of preliminary geotechnical investigations. Tin Can Hill (Area I) is composed mainly of granite rock therefore cut slopes in this area are expected to be 1H:1V or steeper depending upon the results of the final geotechnical investigation. A 10% shrinkage factor for placed embankment fill is used in all earthwork calculations.

The preferred alignment for the proposed action would involve blasting in Area I. Blasting with small charges will be used for the cut portions along this alignment. Blasting mats will be used around the proposed blasting site as necessary to reduce noise impacts and the amount of debris escaping into the air.

The BIS road and fence platform includes deep cuts and high, steep sloped embankments at several locations. Of major concern is control of sediment discharge from the surface of the embankment and cut slopes into streams and estuaries during and after construction. The approach to controlling erosion and sedimentation is to implement Best Management Practices (BMPs) during construction and incorporate permanent erosion control features into the design and construction of the system. Some permanent control features will enhance the establishment of vegetation for the long-term control of erosion and sedimentation while others will capture sediment before it leaves the right-of-way and enters area streams. Such measures would be required as part of the Storm Water Pollution Prevention Plan (SWPPP), which will be required under Section 401 of the Clean Water Act, and will be implemented within the area of impact identified for the proposed action. BMPs will be implemented to control erosion and sedimentation during the construction phase. Construction BMPs include, but are not limited to the following measures:

1. The limits of fill and cut slopes shall be field surveyed and staked prior to construction;
2. Separate and stockpile topsoil for re-application;
3. Schedule major construction during the dry season when erosion potential is low;
4. Minimize the size of exposed areas and the length of time of exposure through construction phasing, seeding, and mulching;
5. Roughen finished slope surfaces to aid infiltration thus reducing erosion. Methods to roughen include texturing with heavy equipment such as sheepfoot roller, ripping and tilling perpendicular to the slope with ripper bars; and

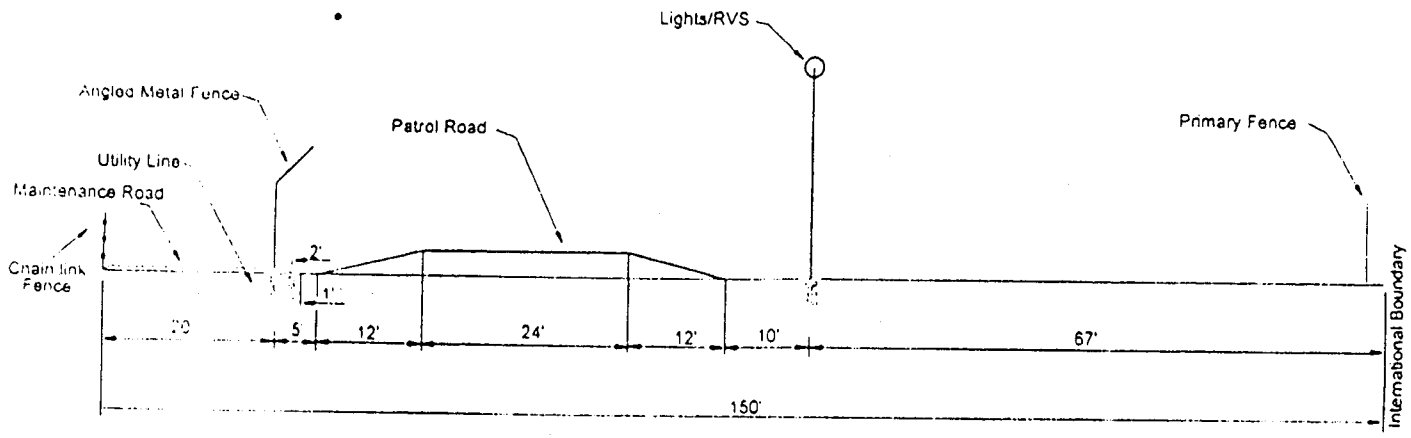

Figure 2. A cross section of the proposed prism for the border infrastructure system.

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SCALE:

DATE: December 2001

6. Trap sediment before it leaves the construction site using silt fences, straw bales, and temporary stilling basins.

The final engineering designs and SWPPP will identify specific measures/designs to be constructed that will provide permanent control of erosion and sedimentation to assure that the proposed action does not add to the existing problem of sedimentation in the Tijuana estuary or degrade downstream water quality. Permanent erosion control features that will be incorporated to the design will include, but are not limited to the following measures:

1. Apply jute fabric, bonded fiber matrix, or other types of slope stabilization materials on the slope to hold soil, reduce impact of raindrops on soil material, hold seed in place for germination, and maintain soil moisture. The preferred cover shall be natural product so that it will degrade into the soil matrix;
2. Apply stockpiled native topsoil to finished slopes;
3. Seed the slopes with native vegetation before the rainy season;
4. Construct terraces of benches on steep and long slopes. Provide swale within the benches and line with riprap to slow water velocity and create energy dissipation. These swales should be directed to down-drains or rock-lined spillways to convey the storm water down slope in a safe and controlled manner to prevent slope erosion by concentrated flows;
5. Collect and direct runoff from top of slopes away from slope surfaces using embankment curbs, spillways and down-drains. Provide energy dissipaters at the outlet of down-drains and spillways;
6. Provide appropriate erosion and sediment control (ESC) at toe of slopes to intercept and trap sediment before it leaves the project footprint. Maintenance of the ESC shall be the responsibility of the USBP and shall be accomplished on an as-needed basis, but not less than annually to ensure that the basin will function properly.

The proposed lighting for the entire 14-mile project corridor has been designed to eliminate or reduce illumination of areas to the north of the tertiary fence. Lights will typically be placed on poles approximately 50 feet high, which are located between the primary and secondary fences. The proposed design will produce a maximum of 0.1-foot candles of light at the northern toe of the maintenance road. Lighting will not be placed on the northern side of the poles. Each pole will be placed about 200 to 300 feet apart, depending upon topography. To allow for the continuous illumination of the primary fence, in areas where the topography blocks sufficient light from reaching the primary fence, additional poles and lights would be installed. Power to the light standards will be provided via underground cables from existing and/or installed transformers in each specific area. The lights will be operated year round from dusk to dawn.

The ISIS program consists of numerous remote sensing technologies including, but not limited to: unattended ground sensors, low-light television cameras, infrared cameras, towers and their connections to power and communication lines, and intelligent computer aided detection. Sensors are typically either boxes (14 inches by 20 inches by 4 inches) or two cylinders (51 inches by 12 inches) that utilize radio and seismic frequencies to detect foot and/or vehicular movements. Thus, no communication wiring between sensors is necessary. Low-light television and infrared cameras are placed in high-traffic areas. A typical camera or remote video

surveillance (RVS) system would be installed at a height of about 50 feet on top of a concrete or steel pole, and can be co-located on light poles. Currently, about 28-35 RVS towers are envisioned for the 14-mile corridor. Power to the RVS towers would be provided via underground cables from the existing grid and/or solar panels in each specific area. Signals from the RVS and other remote ISIS components will be transmitted back to a monitoring/control center at the various USBP Stations via microwave, hardwire, and/or fiber optic cable.

In Areas V and VI, noise attenuation structures will be installed at all locations adjacent to wetlands and shrublands where noise levels from construction exceed 60 d(B)A L_{eq} or ambient noise levels if ambient noise levels exceed 60 d(B)A L_{eq}. These noise attenuation structures will be installed prior to the breeding season for the vireo, gnatcatcher, and willow flycatcher to ensure that noise does not disrupt reproductive behavior and success.

Construction is anticipated to last for five to seven years. The actual schedule may vary depending on prevailing weather conditions, the availability of personnel, construction equipment and/or materials, property acquisition, completion of the environmental analysis and permits, and future funding appropriations by Congress.

Construction of Project Area II was initiated in 1997, prior to the designation of critical habitat for Quino in May of 2002. However, the construction of Area II is ongoing and incomplete. Impacts to Quino critical habitat in the eastern portion of Area II have not been addressed through consultation with the Service. Therefore offsetting measures for these impacts will be included in the conservation measures addressed below. A total of 15 acres of designated critical habitat is encompassed by the BIS footprint in Area II. Of the 15 acres, 4.9 acres of designated critical habitat, including 2.5 acres of grasslands and 2.4 acres of bare ground and roads.

The INS has committed to offset habitat losses occupied by or designated as critical habitat of federally listed species in Areas I, II, V, and VI. This will be accomplished by replacement of in-kind habitat using measures such as restoration of abandoned roads (Figures 3, 4, and 5), restoration or creation of wetland/riparian communities, and/or other mitigation measures (Table 3). The total acres of impacts from the project are presented in Table 1. The mitigation ratios and total compensation acres for impacts to habitat used by listed species are presented in Table 2. The total acres of impacts by project area and the locations of conservation strategies are presented in Table 3.

Individual organisms of the State listed Baja California birdbush (*Ornithostaphylos oppositifolia*) will be directly impacted by the construction of the BIS. These individuals are part of the only known population in the U.S. Those individuals that currently occupy the project footprint will be salvaged and translocated to a suitable location adjacent to the BIS corridor and within close proximity to the existing population following the Baja California birdbush salvage plan. This effort is being pursued by the INS/USBP, even though it is not statutorily required, to avoid effects to this species which could lead to the possible listing of the species in the future.

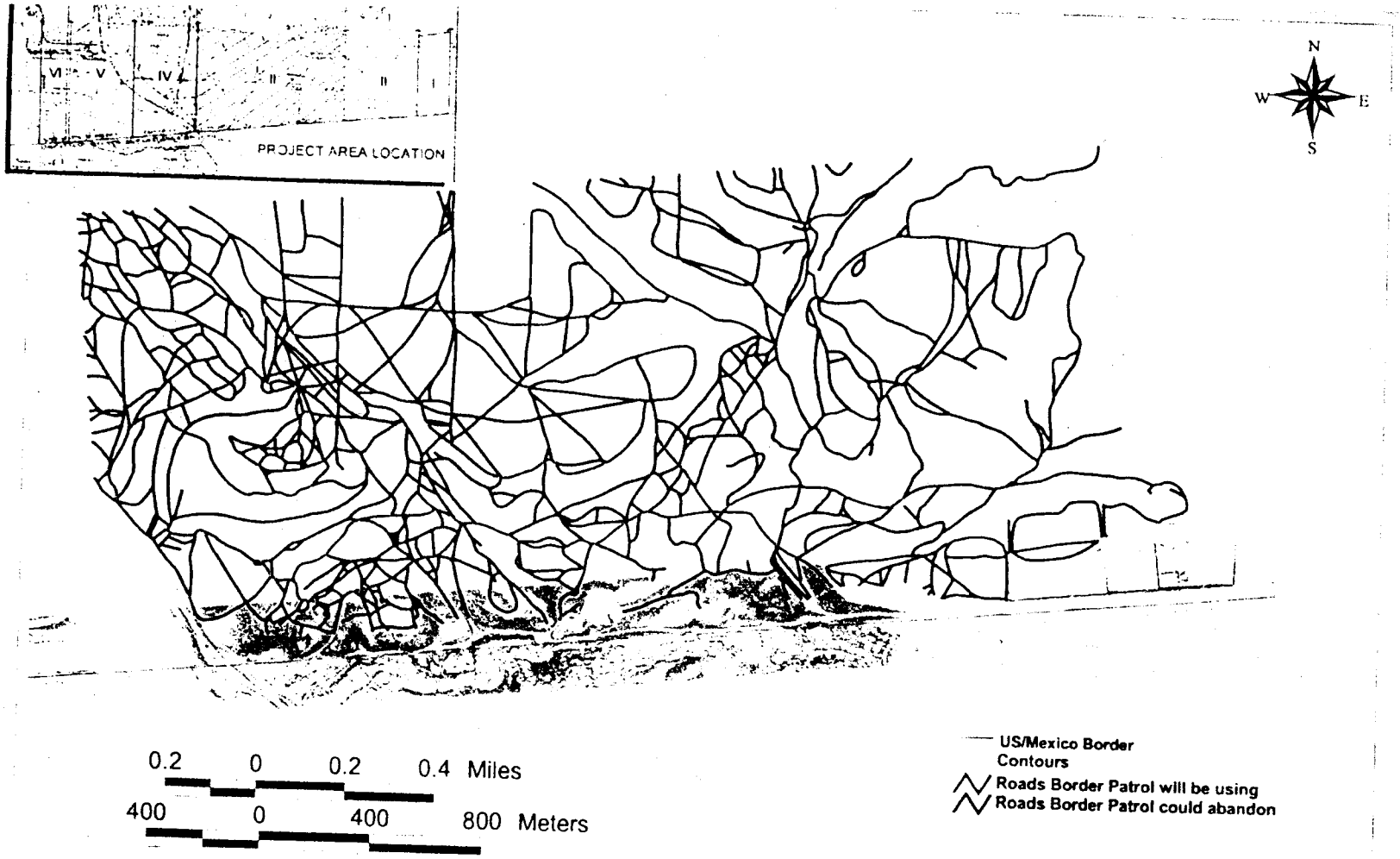

Figure 3. U.S. Border Patrol roads that could be abandoned in Spring Canyon.

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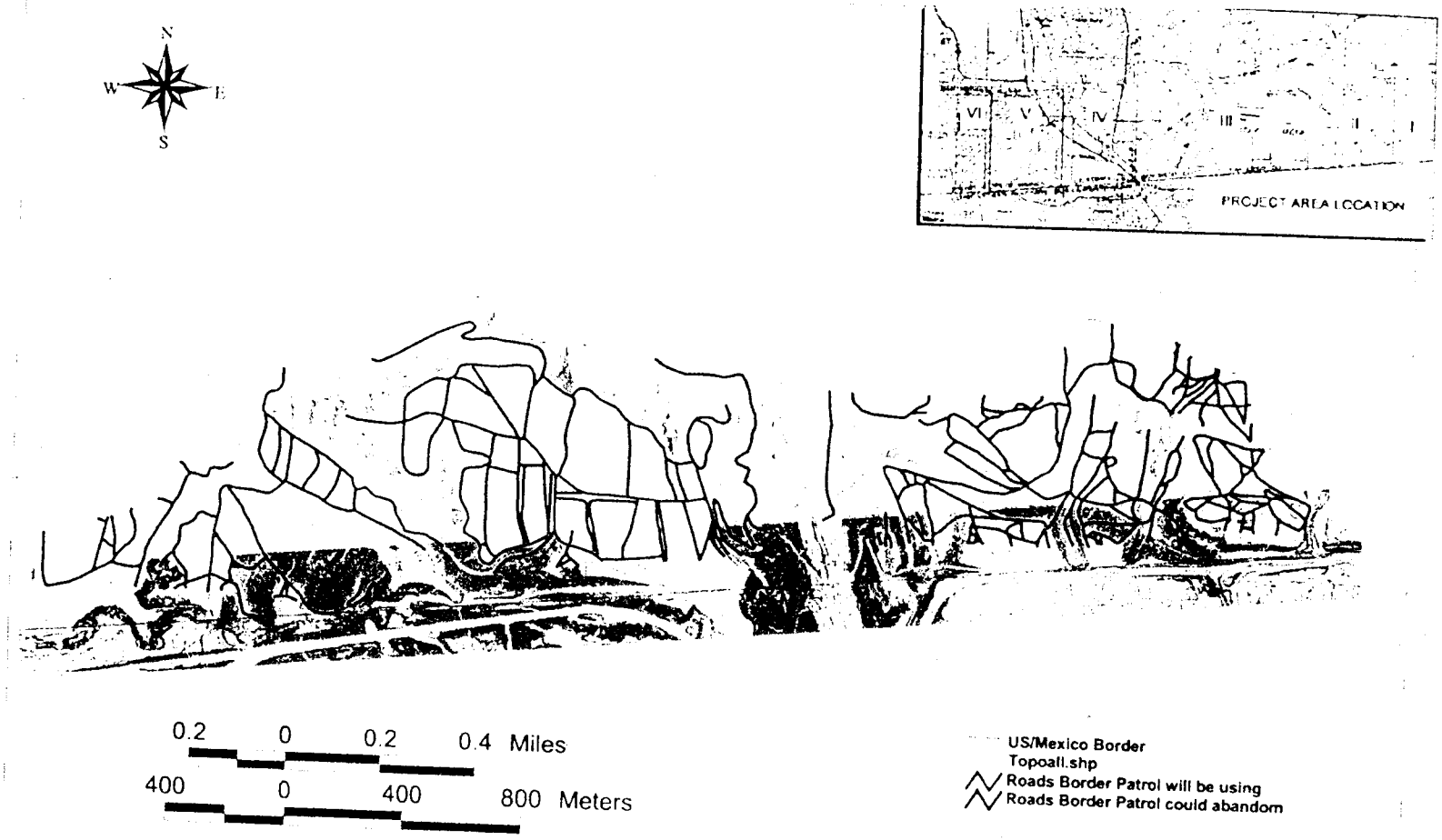

Figure 4. U.S. Border Patrol roads that could be abandoned in Areas V and VI.

gsrc / GULF SOUTH RESEARCH CORPORATION

Scale: on map

Date: December 2001

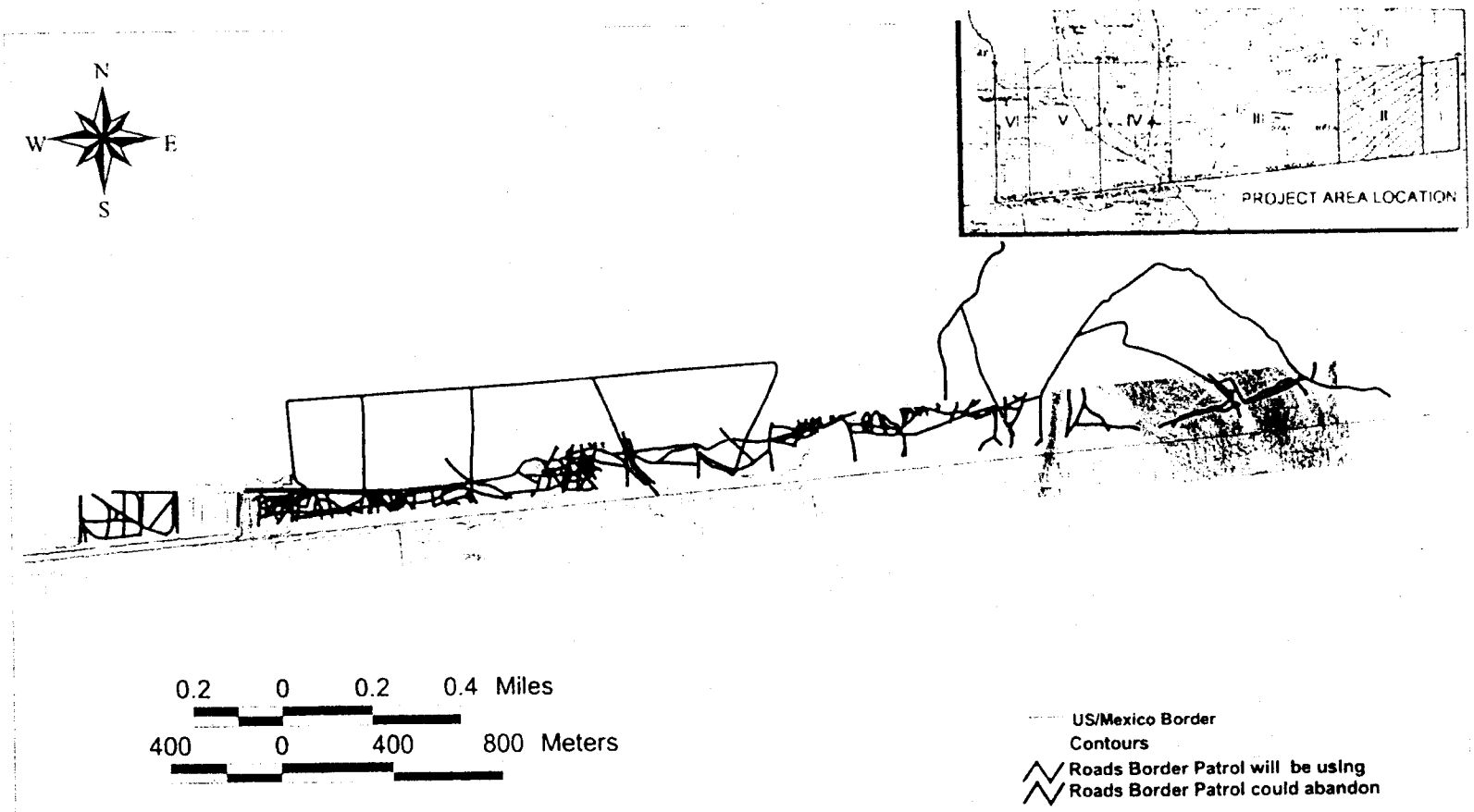

Figure 5. U.S. Border Patrol roads that could be abandoned in Areas I and II.

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Scale: on map

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Table 1. Total acres of habitat impacted by the proposed action, by Project area.

Habitat Type	Area I	Area II	Area V	Area VI	Total Acres
Coastal Sage Scrub	7.9		16.4	2.0	26.3
Disturbed Coastal Sage Scrub	6.2		2.5	0.6	9.3
Native Grassland	13.8	2.5			16.3
Southern Willow Scrub			0.67	1.9	2.57
Mulefat Scrub			2.2	2.0	4.2
Maritime Succulent Scrub			3.7	9.4	13.1
Disturbed Maritime Succulent Scrub			0.1	0.7	0.8
Coastal Salt Marsh				1.0	1.0
Disturbed Coastal Salt Marsh				0.5	0.5
Southern Mixed Chaparral			9.2		9.2
Ruderal			12.2		12.2
Non-Native Woodlands			0.3	0.5	0.8
Distrubed/Developed	9.2	2.4	42.4	13.6	67.6
Unvegetated Waters of the US	0.2		3.0	0.1	3.3
TOTAL	37.3	4.9	92.3	32.3	166.8

Table 2. Mitigation ratios and replacement amounts for the proposed action.

Habitat Type	Total Acres Impacted	Conservation Ratio	Proposed Replacement Acreage
Coastal Sage Scrub (CSS)	26.3	3:1	78.9
Disturbed CSS	9.3	1:1	9.3
Native Grassland	16.3	3:1	48.9
Southern willow scrub	2.57	3:1	7.71
Mulefat scrub	4.2	3:1	12.6
Unvegetated Waters of U.S.	3.3	1:1	3.3
Maritime succulent scrub (MSS)	13.1	3:1	39.3
Disturbed MSS	0.8	2:1	1.6
Southern Mixed Chaparral	9.2	2:1	18.4
Disturbed/barren soil in Critical Habitat	11.6	1:1	11.6
Total	96.3		231.6

Table 3. Conservation strategies for offsetting impacts to federally listed species and unoccupied wetlands from the BIS Project.

Resource	Impacts	Conservation Requirement	Proposed Conservation
Quino checkerspot/gnatcatcher Critical Habitat (Areas I and II)	7.9 acres CSS	23.7 acres @ 3:1	41.5 acres of CSS to be restored/ enhanced at Spring Canyon
	6.2 acres disturbed CSS	6.2 acres @ 1:1	
	11.6 acres Disturbed/Barren soil	11.6 acres @ 1:1	
	16.3 acres Native Grassland	48.9 acres @ 3:1	20 acres transferred to Spring Canyon and 28.9 acres of Quino habitat to be enhanced by noxious weed eradication program.
Vireo/flycatcher impacts (Areas I, V, and VI)	2.57 acres SWS	7.7 acres @ 3:1	23.6 acres restoration of riparian habitat on lands adjacent to Tijuana River floodplain. (Location to be formalized with Service)
	4.2 acres MFS	12.6 acres @ 3:1	
	3.3 acres unvegetated waters	3.3 acres @ 1:1	
Gnatcatcher habitat (Areas V and VI)	13.1 acres MSS	39.3 acres @ 3:1	4 acres MSS preserved on Lichty Mesa, 36.9 acres of MSS restored on Spooner's Mesa adjacent to existing native shrublands and a small acreage associated with riparian restoration.
	0.8 acres disturbed MSS	1.6 acres @ 2:1	
	9.2 acres chaparral	18.4 acres @ 2:1	18.4 acres of chaparral to be restored at Spring Canyon.
	18.4 acres CSS	55.2 acres @ 3:1	58.3 acres of CSS to be restored/ enhanced at Spring Canyon
	3.1 acres disturbed CSS	3.1 acres @ 1:1	
Unoccupied wetlands	1.0 acres coastal salt marsh		To be determined by Section 404 permit from the Corps.
	0.5 acres disturbed coastal salt marsh		

Where possible, the INS/USBP will offset habitat losses within or near the area where the impact will occur in a configuration that is biologically defensible (i.e. within or near the project footprint only when adjacent to large contiguous blocks of conserved lands such as the Multi-Habitat Planning Area). The Service and INS/USBP have previously agreed that the INS lands within the Spring Canyon/Arnie's Point area will be used to gain the fullest extent of mitigation credits as is practicable. Therefore, there will be some compensation that occurs in areas not included in the Spring Canyon area. Two primary conservation measures are proposed to reduce the impacts to the Federally protected species occupied and designated critical habitat: (1) Conservation or Transfer of Lands to a Resource Agency and (2) Restoration and Re-vegetation of Disturbed Habitats. Table 3 identifies acres of conservation stategies for offsetting impacts to federally listed species. Figures 3, 4, and 5 identify the potential location of the approximate 24 acres of roads on Federal lands that will be closed/restored by revegetation efforts. Road closures on private lands have not been identified at this time.

The project will impact 1.0 acre of coastal saltmarsh habitat and 0.5 acres of disturbed coastal saltmarsh habitat. Impacts will be offset according to conditions in a future Corps' 404 permit.

Previous biological opinions (1-6-01-F-1089.12 and 1-6-03-F-1089.17) included conservation measures to restore a vernal pool complex on the top of Arnie's Point. Each biological opinion had its own vernal pool restoration component, including the restoration/ enhancement of vernal pool habitat and associated watertsheds. The restoration component includes restoring approximately 1.4 acres of vernal pool surface area and two acres of native grasslands within and around the vernal pool preserve. The enhancement component includes dethatching 18 acres of exotic plant species in the preserve area.

Conservation Measures

The proposed action contains the following measures which will be implemented as part of the proposed project:

1. All beach and vegetated areas outside of the project footprint will be delineated by a qualified biologist as Environmentally Sensitive Areas (ESAs). All parties in conjunction with this operation will strictly avoid these areas. No construction activities, materials, or equipment will be permitted in the ESA. The boundaries of the ESA will be fenced with orange plastic snow fencing.

2. Construction work areas shall be delineated and marked clearly in the field prior to habitat clearing, and the marked boundaries maintained throughout the construction period.

3. An employee education program will be developed. Each employee (including temporary, contractors, and subcontractors) will receive a training/awareness program prior to working on the proposed project. They will be advised of the potential impact to the listed species and the potential penalties for taking such species. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area, their general ecology, sensitivity of the species to human

activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the project area environs. Included in this program will be color photos of the listed species, which will be shown to the employees. Following the education program, the photos will be posted in the contractor and resident engineer office, where they will remain through the duration of the project. The USBP and designated biological monitor will be responsible for ensuring that employees are aware of the listed species.

4. The project proponent will designate a qualified biologist who will be responsible for overseeing compliance with protective measures for the listed species during construction activities within desingated areas. The designated biologist's qualifications shall be subject to the approval of the Service. The biologist shall immediately notify the project proponent's designated representative to halt all associated project activities which may be in violation of this biological opinion. In such an event, the project proponent will halt all construction activities and contact the Service within 24 hours.

5. The designated biologist will monitor construction activities within designated areas during critical times such as breeding seasons, vegetation removal, the installation of Best Management Practices (BMPs) and ESA fencing, and all avoidance and minimization measures are properly constructed and followed.

6. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities, will occur in designated upland areas. The designated upland areas will be located in such a manner as to prevent any runoff from entering waters of the United States, including wetlands.

7. Typical erosion control measures, BMPs, throughout the project area will be employed in accordance with the Project SWPPP and all conditions in the 401 Water Quality Certification requirements of the Regional Water Quality Control Board.

8. No invasive exotic plant species will be seeded or planted in landscaped areas adjacent to or near sensitive vegetation communities. In compliance with Executive Order 13112, impacted areas shall be revegetated with plant species native to local habitat types, and will avoid the use of species listed in Lists A & B of the California Exotic Pest Plant Council's list of Exotic Pest Plants of Greatest Ecological Concern in California as of October 1999 to the extent practicable. Areas hydroseeded for temporary erosion control measures will use native plant species when feasible.

9. No off-road vehicle activity will occur outside of the project footprint by the project proponent, project workers, and project contractors. The USBP will discourage offroad use by the public in areas adjacent to the BIS project. Normal USBP operations will continue to use designated unpaved roads north of the project footprint for the duration of project construction.

10. To reduce attraction of ravens and crows, all trash shall be placed in crow/raven-proof containers and promptly removed from the site.

11. No pets owned or under the care of the project proponent or any and all construction workers shall be permitted inside the project's construction boundaries, adjacent native habitats, or other associated work areas.

12. Any night lighting for the construction of the BIS Project will be selectively placed, shielded, and directed away from all native vegetative communities north of the project footprint and the beach. Proposed lighting in the area is not expected to have a significant impact on the gnatcatcher due to special bulb designs for the project. These lights have been designed to ensure no increase in ambient light conditions in areas north of the project footprint.

13. All areas temporarily impacted by project construction will be revegetated with native plant species following the Service approved restoration plan. All native seed and plant stock will be from seed and propagules collected within a five mile radius of the project area to the extent practicable. Seed sources outside of the 5 mile radius will be approved by the Service to determine whether the source is acceptable. All restored areas will have successfully estabished native plant communities within five years of implementing restoration.

14. All restoration activities will be conducted by restoration firms with at least five years experience conducting successful comprehensive ecological restoration in southern California of the habitat type to be restored/enhanced.

15. Restoration plans will be developed by a consulting firm with at least five years experience writing restoration plans for the habitat type to be restored/enhanced. All restoration plans and long-term managment plans will be approved by the Service prior to the commencement of construction.

16. The project proponent will establish an appropriate financial mechanism (determined using a program such as the Property Analysis Report (PAR) system) to fully implement all appropriate conservation measures.

17. The project proponent will ensure that long-term management of the conservation sites will occur. Within three months of the acquisition of the conservation parcels or easement, a draft management plan will be developed in coordination with the Service. The report should be finalized within six months and implemented immediately following final sign off of all restoration activities for each parcel. If the conservation sites are transferred to a third party for long-term managment, then an endowment with sufficient funds (determined using the PAR system) will be established subject to availability of funds, unless otherwise negotiated with the receiving party.

The following measures will be implemented to avoid impacts to the least tern and snowy plover:

18. All construction activities on the beach will be timed to avoid the nesting season of the least tern (April 1 to September 15) and the snowy plover (March 1 to September 15).

19. The designated biologist will monitor the site throughout project construction on the beach to ensure that no snowy plover have moved into the project footprint. If snowy plovers are found within the project footprint, work will be temporarily halted until the snowy plovers move to a location away from the construction area.

20. For the snowy plover, a year round resident on the beach, a barrier fence will be installed along the northern boundary of the project footprint on the beach. The barrier fence should be a fine mesh material that will prevent snowy plovers from running into the active construction area.

The following measures will be implemented to avoid and minimize impacts to the vireo and potential impacts to the southwestern willow flycatcher, if the willow flycatcher establishes a territory in the area:

21. Construction of all project features, within proximity to riparian habitat, including clearing and grubbing will be timed to avoid the nesting season of the vireo (March 15 to September 15) and willow flycatcher (May 1 to September 15).

22. Since willow flycatchers and vireo are site tenaceous (they typically return to the same nesting territory each year), all areas where willow flycatchers and/or vireos territories are known to occur will have noise attenuation structures constructed prior to the breeding season to reduce noise levels to 60 d(B)A L_{eq} or to ambient noise levels if ambient noise levels exceed 60 d(B)A L_{eq}. Those construction activities that are creating the excess noise (greater than 60 d(B)A L_{eq} or greater than ambient noise levels) will cease operation until effective noise attenuation structures are in place.

23. To offset impacts to vireo and any potential future impacts to willow flycatcher, all southern willow scrub and mulefat scrub impacted by the project will be replaced at a 3:1 ratio. Replacement will occur through the excavation of upland habitat and restoration of riparian habitat within the Tijuana River floodplain on lands within close proximity to Smuggler's Gulch. The wetland restoration plan will be approved by the Service prior to the start of construction.

24. Restoration of habitat for vireos and willow flycatchers will consist of a multi-layered willow riparian scrub habitat with the canopy comprised of trees (e.g., black willow, red willow, arroyo willow, cottonwoods) and an understory consisting of shrubs (e.g., sandbar willow, mulefat).

25. All areas proposed for restoration will be cleared of exotic plant species and replaced with native species.

The following measures will be implemented to avoid and minimize impacts to gnatcatchers:

26. Project impacts to maritime succulent scrub and southern mixed chaparral, which can potentially be used by gnatcatchers as nesting or foraging habitat, will be replaced at 3:1 and 2:1 ratio respectively.

27. In CSS and MSS vegetative communities, all clearing and grubbing activities will be timed to avoid the nesting season of the gnatcatcher (February 15 to September 1).

28. Since gnatcatchers are year-round residents and are site tenaceous (they typically utilize the same nesting territory each year), all areas where gnatcatcher territories are known to occur will have noise attenuation structures constructed prior to the breeding season to reduce noise levels to 60 d(B)A L_{eq} or to ambient noise levels if ambient noise levels exceed 60 d(B)A L_{eq}. Those construction activities that are creating the excess noise will cease operation until effective noise attenuation structures are in place.

29. To offset impacts to gnatcatchers, all MSS impacted by the project will be replaced at a 3:1 ratio and disturbed MSS will be replaced at 2:1. Replacement will occur by preserving and/or restoring lands on Lichty Mesa and Spooner's Mesa within the Tijuana River Valley on lands located in areas V and VI.

The following measures will be implemented to avoid and minimize impacts to Quino:

30. To offset impacts to Quino designated critical habitat impacted in project Areas I and II, the project proponent will implement a noxious weed eradication program, on 28.9 acres of lands located within designated critical habitat Unit 3, following the Service approved noxious weed eradication plan.

31. All patches of dwarf plantain (*Plantago erecta*), and/or other known host plants (*Plantago* spp.; plantain, *Castilleja exserta;* annual owl's clover, and *Cordylanthus rigidus*; thread-leaved birdsbeak) that occur immediately adjacent to the project footprint, will be clearly delineated by the designated biologist with exprerience identifying Quino habitat and familiar with the areas of know Quino activity near the construction corridor. The host plant areas will be delineated with orange snow fencing during construction activities.

32. To avoid harm to Quino larvae, all clearing and grubbing within 50 feet of host plant areas immediately adjacent to and within Project Area I will occur during the Quino flight season. The flight season is determined annually by Service staff and is posted on the Service website: http://carlsbad.fws.gov/Rules/QuinoDocuments/Quino_htms/Quino_protocol_monit.htm.

33. Service staff will be notified at least one week prior to the start of construction in Project area I. For those areas containing host plants within 50 feet of the construction corridor, monitoring of host plants will be conducted from January 1 to the beginning

of the adult flight season. If larvae are found to be active, construction activities will be revised such that no impact to the larval population would occur.

STATUS OF THE SPECIES/CRITICAL HABITAT

Least Bell's Vireo

Listing Status

The vireo was federally-listed as endangered on May 2, 1986 (*Federal Register* 51: 16474), and state listed as endangered in California on October 2, 1980. A draft recovery plan was prepared for this species in March 1998 (Service 1998).

Species Description

The vireo is a small migratory songbird. It is olive-gray above and pure white on its underparts with two dull white wing stripes and dull white to olive narrow margins on the outer border of its wings and tail. Males and females are identical in plumage. This vireo is easily distinguished by its song, a rapid bubbling series of rough notes, increasing in tempo and intensity toward a rapid climax. Phrases of the song are alternatively slurred upward and downward. Eggs are on average 17.5 millimeters (mm) (0.7 inches (in)) long, and dull white, often with fine brown, black, or reddish-brown dots concentrated on the larger end (Brown 1993).

The least Bell's vireo is in the family *Vireonidae*, and is one of four subspecies of Bell's vireo (*Vireo bellii*) that have been recognized. Although all subspecies are similar in behavior and life history, they are isolated from one another on both the breeding and wintering grounds (Hamilton 1962).

Distribution

The vireo formerly was found in valley bottom riparian habitats from Tehama County, California, southward locally to northwestern Baja California, Mexico, in the south, and as far east as Owens Valley, Death Valley, and along the Mojave River (Grinnell and Miller 1944). Except for a few outlying pairs, the subspecies is currently restricted to southern California south of the Tehachapi Mountains and northwestern Baja California (Garrett and Dunn 1981). Least Bell's vireo breeding pairs currently occur in Monterey, San Benito, Inyo, San Bernardino, Ventura, Los Angeles, Orange, Riverside, and San Diego Counties. The highest reported concentration is in San Diego County along the Santa Margarita River (Small 1994). According to Grinnell and Miller (1944) 1,200 meters (m) [4,000 feet (ft)] is the upper limit where the vireo occur in coastal southern California.

Habitat Affinities

The vireo primarily occupies riparian habitats that typically feature dense cover within 1 to 2 m (3 to 7 ft) of the ground and a dense, stratified canopy. It inhabits low, dense riparian growth along water or along dry parts of intermittent streams. The understory is typically dominated by

sandbar willow (*Salix hindsiana*), mule fat (*Baccharis salicifolia*), young individuals of other willow species, such as arroyo willow (*Salix lasiolepis*) or black willow (*Salix gooddingii*) and one or more herbaceous species (Salata 1983a, 1983b, Zembal 1984, Zembal *et al.* 1985). Important overstory species include mature arroyo willows and black willows. Other overstory species that may contribute to vireo habitat include cottonwoods (*Populus* spp.), western sycamore (*Platanus racemosa*), and coast live oak (*Quercus agrifolia*). The vireo uses habitat which is limited to the immediate vicinity of water courses (Service 1986, Small 1994). It primarily nests in small, remnant segments of vegetation typically dominated by willows and mule fat but may also use a variety of shrubs, trees, and vines. Nests are typically built within 1 m (3 ft) of the ground in the fork of willows, wild rose (*Rosa californica*), mule fat, or other understory vegetation (Franzreb 1989). Cover surrounding nests is usually a moderately open midstory with an overstory of willow, cottonwood, sycamore, or oak. Crown cover is usually more than 50 percent and contains occasional small openings. The most critical structural component to least Bell's vireo breeding habitat is a dense shrub layer at 0.6 to 3 m (2 to 10 ft) above the ground (Franzreb 1989). The birds forage in riparian and adjoining chaparral habitat (Salata 1983b).

Critical Habitat

Critical habitat was designated for the vireo on February 2, 1994 (*Federal Register* 59: 34982) at 10 areas encompassing about 15,200 hectares (ha) (38,000 acres [ac]) in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, and San Diego Counties. In San Diego County, the following areas contain designated critical habitat for the least Bell's vireo: Coyote Creek, Santa Margarita River, San Luis Rey River, San Diego River, Sweetwater River, Jamul-Dulzura Creeks, and Tijuana River. Primary constituent elements that support feeding, nesting, roosting and sheltering are essential to the conservation of the least Bell's vireo. These primary constituent elements can be described as riparian woodland vegetation that generally contains both canopy and shrub layers and some associated upland habitats.

Life History

The vireo exhibits year-round diurnal activity and is known to be a nocturnal migrant (Brown 1993). This subspecies feeds primarily on insects and spiders, and rarely on fruit (Brown 1993). Insects consumed include true bugs, beetles, bees, wasps, ants, snails, grasshoppers, moths, and butterflies (Terres 1980). The vireo forages primarily within willow (*Salix* spp.) stands or associated riparian vegetation with forays into non-riparian vegetation including chaparral and oak woodlands later in the breeding season (Gray and Greaves 1984, Salata 1983b, Kus and Minor 1987, 1989). Individuals travel between 3 and 61 m (10 and 200 ft) while foraging, with the majority of these destinations occurring within 30 m (98 ft) of the edge of riparian vegetation (Kus and Minor 1987). The vireo forages in all vertical vegetation layers from 0 to 20 m (0 to 66 ft) but most feeding is concentrated above the ground surface in the lower vegetation layers between 0 to 6 m (0 to 20 ft) (Kus and Minor 1987, Salata 1983b). Feeding behavior largely consists of collecting prey from leaves or in bark crevices while perched or hovering, and less frequently by capturing prey by aerial pursuit (Salata 1983a, 1983b).

The vireo is mainly monogamous, however, some individuals of both sexes are sequentially polygamous within the breeding season (Greaves 1987). The male vireo contests and establishes breeding territories (Barlow 1962) which range in size from 0.2 to 3.0 ha (0.5 to 7.4 ac) (Gray and Greaves 1984, Collins *et al.* 1992) with most averaging between 0.4 and 1.2 ha (1 and 3 ac) (Service 1998). Vireo territories are maintained by threat and physical confrontation early in the breeding season, tapering to vocal warnings later in the season (Barlow 1962).

The breeding season for the vireo extends from mid-March to mid- or late-September (Service 1986). A majority of the birds arrive from the Mexican wintering areas by the end of March, and depart by end of August (Zeiner *et al.* 1990). Most breeding vireos depart the breeding grounds by the third week of September, and only very few are found wintering in the United States (Garrett and Dunn 1981, Salata 1983b). Nests are typically suspended in forked branches of many different riparian species with no clear preference for any particular species (Nolan 1960, Barlow 1962, Gray and Greaves 1984). Vireo nests are usually placed between 0.9 and 1.5 m (3.0 and 4.9 ft) from the ground with a range between 0.2 and 3.6 m (0.7 and 11.8 ft) (Dudek and Associates 2000). Females probably select the nesting sites but both genders participate in nest construction (Barlow 1962). Nests appear to only be used once with new ones constructed for failed or successive broods (Greaves 1987). Between 2 to 5 (typically 3 or 4) eggs are laid shortly after nest construction (Service 1998). A typical clutch is incubated by both parents for about 14 days with the young remaining in the nest for another 10-12 days (Pitelka and Koestner 1942, Nolan 1960, Barlow 1962). The vireo may produce two broods of young and occasionally up to four per season, although it is thought that most are capable of successfully raising only one brood (Franzreb 1989).

Banding records have documented vireos that have lived approximately seven years, however, maximum life-span is probably longer (Brown 1993). Over two different time periods, within the same population, Greaves and Gray (1991) found that only a small percentage of the vireos were older than 3 and 4 years (8 percent and 15 percent). Survival rates measured as average nesting success has been recorded for several large drainages in southern California (Service 1998). The average percentage of nests to successfully produce fledglings ranges over several study areas from 46 percent (on the Santa Ana River) to a high of 74 percent (on the western portion of the San Luis Rey River) (Service 1998). Beyond one year, survivorship increases averaging approximately 47 percent (Service 1998). Predation is common in the vireo owing in part to the close proximity between nest and ground (Franzreb 1989). Nest predation among the vireo has been reported as high as 45 percent in the San Luis Rey river to as low as 8 percent on the San Diego River (Salata 1983b).

Additional long-term research is needed over long periods of time to determine dispersal characteristics of the vireo (Service 1998). Fledgling vireos expand their dispersal distances from about 10 m (33 ft) the first day to approximately 60 m (197 ft) several weeks after fledging (Hensley 1950, Nolan 1960). This distance has been shown to increase to approximately 1.6 kilometer (km) [1 mile (mi)] during the same breeding season (Gray and Greaves 1984). Studies by Kus and Greaves have provided estimates of extra-watershed dispersal rates and distances for the vireo, with approximately 20 percent dispersing outside their natal drainages over distances of 210 km (130 mi) (Service 1998). Data collected by Kus also suggests that males are more likely to disperse from their natal sites than females (Service 1998).

Population Trend

No other passerine (perching songbird) species in California is known to have declined as dramatically as the vireo (Brown 1993). The narrow and limited nature of the habitat of the vireo makes the subspecies more susceptible to major population reductions than the other subspecies of Bell's vireo. Intensive surveys between 1977 and 1985 of virtually all potential breeding habitat were conducted (Gaines 1977, Goldwasser 1978, Goldwasser *et al.* 1980), resulting in occurrences at only 46 of over 150 former localities. Once common, the vireo populations had decreased substantially by the late 1980's due to loss and degradation of habitat as well as from brown-headed cowbird (*Molothrus ater*) parasitism (Goldwasser *et al.* 1980). The regional population has increased from 300 pairs in 1986 to 1,500 pairs in 1996, primarily due to the management of local cowbird populations (Kus 1998). Although the vireo has begun to recover and approximately 2,000 vireo pairs were on territories in 1998, data indicate that the United States breeding population in 1999 apparently declined. Population declines were noted at Marine Corps Base, Camp Pendleton, the Prado Basin, and at other locales throughout the range of the species in 1999 (Service, unpublished data). The reason for this apparent, recent population decline is unknown. However, observed increases in the well-studied Prado Basin population during the 2001 breeding season (Pike et al. 2001) and the detection of vireos at sites in 2002 where they had been absent for 25+ years (e.g., Santa Ana River Mouth) (Service unpublished data) suggest that the vireo numbers may once again be on the rise.

The subpopulation of vireos in the Tijuana River Valley is one of the largest breeding concentrations in California. In 1997, a comprehensive survey was conducted by TW Biological Services (1998a) to determine the presence, territory location, and breeding status of the vireo in the Tijuana River Valley. TW Biological Services documented a total of 150 singing males within the river valley with 103 of the males being paired, 39 males being single individuals that established territories and 8 males considered transitory [e.g., birds that stayed less than 30 days within the valley]. During the 1997 survey TW Biological recorded two vireo pairs and one transitory male in the alluvial floodplain adjacent to Goat Canyon and bounded by northern and western segments of Monument Road. The 1997 survey recorded one additional transitory male vireo immediately north of Monument Road and 2,000 feet east of California State Parks kiosk. In 1998, another comprehensive vireo survey of entire Tijuana River Valley was conducted by TW Biological Services (1998b). They documented a total of 139 singing male vireos, including 105 pairs, 25 single territorial males, 5 territorial males with unknown breeding status, and 4 transitory males. During the 1998 survey a vireo pair and a territorial male, who breeding status was undetermined, were documented occupying the alluvial floodplain adjacent to Goat Canyon.

Threats

Causes for decline of the vireo include destruction of habitat, river channelization, water diversions, lowered water tables, gravel mining, agricultural development, and cowbird parasitism. Vireos are known to be sensitive to many forms of disturbance including noise, night lighting, and consistent human presence in an area. Excessive noise can cause vireos to abandon an area. Greaves (1989) hypothesized that the lack of breeding vireos in apparently suitable habitat was due to human disturbances (e.g., bulldozers, off-road vehicles, and hiking trails). He further suggested that buffer zones between natural areas and surrounding degraded and

disturbed areas could be used to increase the suitability of some vireo habitat. It appears that vireos nesting in areas containing a high proportion of degraded habitat have lower productivity (e.g., hatching success) than those in areas of high quality riparian woodland (Pike and Hays 1992). Additionally, widespread habitat losses have fragmented most remaining populations into small, disjunct, widely dispersed subpopulations (Franzreb 1989). As much as 90 percent of the original extent of riparian woodland in California has been eliminated, and most of the remaining 10 percent is in a degraded condition (Smith 1977, Dahl 1990). Oberbauer (1990) reported a 61 percent loss of riparian habitat for San Diego County. Habitat fragmentation negatively affects abundance and distribution of neotropical migratory songbirds, in part by increasing incidence of nest predation and parasitism (Small and Hunter 1988, Yahner and DeLong 1992). Management programs aimed at reducing numbers of cowbirds have been considered very successful at maintaining some local populations (Small 1994).

Coastal California Gnatcatcher

Listing Status

The Service listed the gnatcatcher as threatened on March 30, 1993 (*Federal Register* 58:16742-16757). As part of the Federal listing, the Service issued a special rule, pursuant to section 4(d) of the Act, defining the conditions under which take of the gnatcatcher would not be a violation of section 9 (*Federal Register* 58: 65088-65096). This special rule recognized the State's Natural Community Conservation Planning (NCCP) Program, and several local governments' ongoing multi-species conservation planning efforts (e.g., the Multiple Species Conservation Program (MSCP)) that intend to apply Act standards to activities affecting the gnatcatcher. An interim process was established whereby jurisdictions actively involved in NCCP planning would be allowed to take up to five percent of the remaining coastal sage habitat for projects that were consistent with the NCCP conservation guidelines (CDFG and California Resources Agency 1993).

Species Description

The gnatcatcher is a small (length: 11 centimeters; weight: 6 grams), long-tailed member of the old-world warbler and gnatcatcher family *Sylviidae* (American Ornithologists' Union 1998). The bird's plumage is dark blue-gray above and grayish-white below. The tail is mostly black above and below. The male has a distinctive black cap which is absent during the winter. Both sexes have a distinctive white eye-ring.

The coastal California gnatcatcher is one of three subspecies of the California gnatcatcher (*Polioptila californica*) (Atwood 1991). Prior to 1989, the California gnatcatcher was classified as a subspecies of the Black-tailed gnatcatcher (*Polioptila melanura*). Atwood (1980, 1988) concluded that the species was distinct from *P. melanura*, based on differences in ecology and behavior. Recent mitochondrial DNA sequencing confirmed the species-level recognition of the California gnatcatcher (Zink and Blackwell 1998).

Distribution

Gnatcatchers occur on coastal slopes in southern California, ranging from southern Ventura southward through Palos Verdes Peninsula in Los Angeles County through Orange, Riverside, San Bernardino and San Diego Counties into Baja California to El Rosario, Mexico, at about 30 degrees north latitude (Atwood 1991). In 1990, Atwood reported that ninety-nine percent of all gnatcatcher locality records occurred at or below an elevation of 300 meters (m) (984 feet (ft)). In 1992, Atwood and Bolsinger reported that, of 324 sites of recent occurrence, 272 (84 percent) were located below 250 m (820 ft) in elevation, 315 (97 percent) were below 500 m (1,640 ft), and 324 (100 percent) were below 750 m (2,460 ft). Since that time, additional data collected at higher elevations shows that this species may occur as high as 912 m (3,000 ft) and that more than 99 percent of the known gnatcatcher locations occurred below 770 m (2,500 ft) (Service 2000).

Habitat Affinities

Gnatcatchers typically occur in or near coastal sage scrub habitat. Coastal sage scrub is patchily distributed throughout the range of the gnatcatcher, and the gnatcatcher is not uniformly distributed within the structurally and floristically variable coastal sage scrub community. Rather, the subspecies tends to occur most frequently within California sagebrush (*Artemisia californica*)-dominated stands on mesas, gently sloping areas, and along the lower slopes of the coast ranges (Atwood 1990). An analysis of the percent gap in shrub canopy supports the hypothesis that gnatcatchers prefer relatively open stands of coastal sage scrub (Weaver 1998). The gnatcatcher occurs in high frequencies and densities in scrub with an open or broken canopy while it is absent from scrub dominated by tall shrubs and occurs in low frequencies and densities in low scrub with a closed canopy (Weaver 1998). Territory size increases as vegetation density decreases and with distance from the coast, probably due to food resource availability.

Gnatcatchers also use chaparral, grassland, and riparian habitats where they occur adjacent to sage scrub (Campbell *et al.* 1998). The use of these habitats appears to be most frequent during late summer, autumn, and winter, with smaller numbers of birds using such areas during the breeding season. These non-sage scrub habitats are used for dispersal, but data on dispersal use are largely anecdotal (Campbell *et al.* 1998). Linkages of habitat along linear features such as highways and power-line corridors may be of significant value in linking populations of the gnatcatcher (Famolaro and Newman 1998). Although existing quantitative data may reveal relatively little about gnatcatcher use of these other habitats, these areas may be critical during certain times of year for dispersal or as foraging areas during drought conditions (Campbell *et al.* 1998). Breeding territories have also been documented in non-sage scrub habitat. Campbell *et al.* (1998) discuss likely scenarios explaining why habitats other than coastal sage scrub are used by gnatcatchers including food source availability, dispersal areas for juveniles, temperature extremes, fire avoidance, and lowered predation rate for fledglings.

Critical Habitat

Final determination of critical habitat for the gnatcatcher was published in the *Federal Register* on October 24, 2000 (Service 2000). On June 11, 2002, the U.S. District court for the Central District of California remanded the critical habitat rule to the Service so that we may prepare a new economic analysis. Areas previously designatd as ciritical habitat for the gnatcatcher in 2000, will remain in place until such time as a new, final designation becomes effective.

Critical habitat for the gnatcatcher includes 207,868 hectares (ha) (513,650 acres [ac]) of Federal, state, local, and private land in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (Service 2000). Primary constituent elements for the gnatcatcher are those habitat components that are essential for the primary biological needs of foraging, nesting, rearing of young, intra-specific communication, roosting, dispersal, genetic exchange, or sheltering (Atwood 1990). Primary constituent elements are provided in (1) undeveloped areas, including agricultural lands, that support or have the potential to support, through natural successional processes, various types of sage scrub, or (2) undeveloped areas that support chaparral, grassland, or riparian habitats where they occur proximal to sage scrub and where they may be utilized for the biological needs of dispersal and foraging, and (3) undeveloped areas, including agricultural areas, that provide or could provide connectivity or linkage between or within larger core areas, including open space and disturbed areas that may receive only periodic use.

Life History

The gnatcatcher is primarily insectivorous, nonmigratory, and exhibits strong site tenacity (Atwood 1990). Diet deduced from fecal samples resulted in leaf- and plant-hoppers and spiders predominating the samples. True bugs, wasps, bees, and ants were only minor components of the diet (Burger *et al.* 1999). Gnatcatcher adults selected prey to feed their young that was larger than expected given the distribution of arthropods available in their environment. Both adults and young consumed more sessile than active prey items (Burger *et al.* 1999).

The gnatcatcher seems to become highly territorial by late February or early March each year, as males become more vocal during this time period (Mock *et al.* 1990). In southwestern San Diego County the mean breeding season territory size ranged from 5 to 11 ha (12 to 27 ac) per pair and non-breeding season territory size ranged from 5 to 17 ha (12 to 42 ac) per pair (Preston *et al.* 1998). During the non-breeding season, gnatcatchers have been observed to wander in adjacent territories and unoccupied habitat increasing their home range size to approximately 78 percent larger than their breeding territory (Preston *et al.* 1998).

The breeding season of the gnatcatcher extends from mid-February through the end of August, with the peak of nesting activity occurring from mid-March through mid-May. The gnatcatcher's nest is a small, cup-shaped basket usually found 0.3 to 1 m (1 to 3 ft) above the ground in a small shrub or cactus. Clutch sizes range between three and five eggs, with the average being four. Juvenile birds associate with their parents for several weeks (sometimes months) after fledging (Atwood 1990). Nest building begins in mid-March with the earliest recorded egg date of March 20 (Mock *et al.* 1990). Post-breeding dispersal of fledglings occurs between late May and late November. Nest predation is the most common cause of nest failure (Grishaver *et al.* 1998).

Gnatcatchers are persistent nest builders and often attempt multiple broods, which is suggestive of a high reproductive potential. This is, however, typically offset by high rates of nest predation and brood parasitism (Atwood 1990). Nest site attendance by male gnatcatchers was determined to be equal to that of females for the first nest attempt and then decline to almost a third of female nest attendance for later nesting attempts (Sockman 1998).

Gnatcatchers typically live for two to three years, although ages of up to five years have been recorded for some banded birds (Dudek and Associates 2000). Observations indicate that gnatcatchers are highly vulnerable to extreme cold, wet weather (Mock *et al.* 1990). Predation occurs in greater proportion in the upper and lower third of the nest shrub. Predation is lower in nests with full clutch sizes (Sockman 1997). Potential nest predators are numerous, and include snakes, raccoons, and corvids (Grishaver *et al.* 1998). The California gnatcatcher also is known to be affected by nest parasitism of the brown-headed cowbird (*Molothrus ater*). Nest parasitism apparently has resulted in earlier nesting dates of the gnatcatcher which may help compensate for the negative effect of parasitism (Patten and Campbell 1998). However, the gains in nest success from decreased nest parasitism appear to be negated by increased nest abandonment due to predation before cowbirds have migrated into an area (Braden *et al.* 1997).

The natal dispersal, for a nonmigratory bird, such as the gnatcatcher, is an important aspect of the biology of the species (Galvin 1998). The mean dispersal distance of gnatcatchers banded in San Diego County is reported at less than 3 kilometers (km) (1.9 miles (mi)) (Bailey and Mock 1998). Although the mean dispersal distances that have been documented above are relatively low, dispersal of juveniles is difficult to observe and to document without extensive banding studies. Therefore, it is likely that the few current studies underestimate the gnatcatcher's typical dispersal capacity (Bailey and Mock 1998). Juvenile gnatcatchers are apparently able to traverse highly man-modified landscapes for at least short distances (Bailey and Mock 1998). Natural and restored coastal sage scrub habitat along highway corridors is used for foraging and nesting by gnatcatchers and may serve important dispersal functions (Famolaro and Newman 1998). Typically, however, the dispersal of juveniles requires a corridor of native vegetation which provides foraging and cover opportunities to link larger patches of appropriate sage scrub vegetation (Soulé 1991). These dispersal corridors may facilitate the exchange of genetic material and provide a path for recolonization of areas from which the species has been extirpated (Soulé 1991, Galvin 1998).

Population Trend

The gnatcatcher was considered locally common in the mid-1940's, but by the 1960's this subspecies had declined substantially in the United States owing to widespread destruction of its habitat (Atwood 1990). By 1980, Atwood (1980) estimated that no more than 1,000 to 1,500 pairs remained in the United States. In 1993, at the time the gnatcatcher was listed as threatened, the Service estimated that approximately 2,562 pairs of gnatcatchers occurred in the United States. Of these, 30 pairs occurred in Los Angeles County, 757 pairs occurred in Orange County, 261 pairs occurred in Riverside County, and 1,514 pairs occurred in San Diego County (Service 1993a). In October 1996, the total number of gnatcatchers in the United States was estimated at 2,899 pairs with two-thirds occurring in San Diego County (Service 1996), after subtracting out all gnatcatcher pairs authorized for take under Habitat Loss Permits, approved Natural

Community Conservation Plans, Habitat Conservation Plans, and section 7 consultations. These population estimates were intended to represent a coarse approximation of the number of gnatcatchers in southern California. Confidence intervals have not been calculated for these estimates and therefore, we can not be sure of their precision.

Threats

The loss, fragmentation, and adverse modification of habitat are the principal reasons for the gnatcatcher's federally threatened status (Service 1993a). The amount of coastal sage scrub available to gnatcatchers has continued to decrease during the period after the listing of the species. It is estimated that up to 90 percent of coastal sage scrub vegetation has been lost as a result of development and land conversion (Westman 1981a, 1981b, Barbour and Major 1977), and coastal sage scrub is considered to be one of the most depleted habitat-types in the United States (Kirkpatrick and Hutchinson 1977, O'Leary 1990). The fragmentation of habitat may artificially increase populations in adjacent preserved habitat; however, these population surpluses may be lost in subsequent years due to crowding and lack of resources (Scott 1993). In addition, agricultural use, such as grazing and field crops, urbanization, air pollution, and the introduction of non-native plants have all had an adverse impact on extant sage scrub habitat. A consequence of urbanization that is contributing to the loss, degradation, and fragmentation of coastal sage scrub is an increase in wildfires due to anthropogenic ignitions. High fire frequencies and the lag period associated with recovery of the vegetation may significantly reduce the viability of affected subpopulations (Dudek and Associates 2000). Furthermore, nest-parasitism by the brown-headed cowbird (Unitt 1984) and nest predation threaten the recovery of the gnatcatcher (Atwood 1980, Unitt 1984).

Southwestern Willow Flycatcher

Listing Status

The southwestern willow flycatcher (flycatcher) was federally-listed as endangered on February 27, 1995 (*Federal Register* 60: 10694). A final recovery plan was issued in August 2002.

Species Description

The willow flycatcher, a relatively small, insectivorous (passerine) songbird, is approximately 15 centimeters (5.75 inches) in length. Both sexes of the flycatcher have grayish-green back and wings, whitish throats, light gray-olive breasts, and pale, yellowish bellies. The song is a sneezy "fitz-bew" or "fitz-a-bew" and the typical call is a breathy "whit" (e.g., Unitt 1987). The southwestern willow flycatcher is a recognized subspecies of the willow flycatcher (*Empidonax traillii*). Although previously considered conspecific with the alder flycatcher (*Empidonax alnorum*), the willow flycatcher is distinguishable from that species by morphology (Aldrich 1951), song type, habitat use, structure and placement of nests (Aldrich 1953), eggs (Walkinshaw 1966), ecological separation (Barlow and MacGillivray 1983), and genetic distinctness (Seutin and Simon 1988). In turn, the southwestern willow flycatcher is one of five subspecies of the willow flycatcher currently recognized (Hubbard 1987, Unitt 1987, Browning 1993). The willow flycatcher subspecies are distinguished primarily by differences in color and morphology.

Although the subspecific differences in color have been termed "minor" (Unitt 1987), P.E. Lehman (recognized expert field biologist, pers. comm.) has indicated that the southwestern willow flycatcher in California is distinguishable in the field from other forms of willow flycatchers that might be present (in migration) within the breeding range of the former. Unitt (1987) and Browning (1993) concluded that the southwestern willow flycatcher is paler than other willow flycatcher subspecies. Preliminary data also suggest that the song dialect of the southwestern willow flycatcher is distinguishable from other willow flycatchers.

Distribution

The breeding range of the willow flycatcher includes southern California, southern Nevada, Arizona, New Mexico, and western Texas (Hubbard 1987, Unitt 1987, Browning 1993). The species may also breed in southwestern Colorado, but nesting records are lacking. Past records of breeding in Mexico are few and confined to extreme northern Baja California and Sonora (Unitt 1987, Howell and Webb 1995). Willow flycatchers winter in Mexico, Central America, and northern South America (Phillips 1948, Ridgely 1981, AOU 1983, Stiles and Skutch 1989, Ridgely and Tudor 1994, Howell and Webb 1995).

Habitat Affinities

The willow flycatcher is restricted to riparian woodlands along streams and rivers with mature, dense stands of willows (*Salix* spp.), cottonwoods (*Populus* spp.), or smaller spring fed areas with willows or alders (*Alnus* spp.). Riparian habitat provides both breeding and foraging habitat for the species. The flycatcher nests in thickets of trees and shrubs approximately 4 to 7 meters (13 to 23 feet) or more in height with dense foliage from approximately 0 to 4 meters (0 to 13 feet) above ground. The nest site plant community is typically even-aged, structurally homogeneous and dense (Brown 1988, Sedgewick and Knopf 1992). This species usually nests in the upright fork of a shrub but occasionally nests on horizontal limbs within trees and shrubs (Terres 1980). Historically, the willow flycatcher nested primarily in willows and mule fat with a scattered overstory of cottonwood (Grinnell and Miller 1944). Following more recent changes in riparian plant communities in the region, the species still nests in willows where available but is also known to nest in thickets dominated by tamarisk and Russian olive (Brown 1988). Typically, sites selected as song perches by male willow flycatchers show higher variability in shrub size than do nest sites and often include large central shrubs. Fragmented riparian zones with large distances between willow patches and individual willow plants are not selected for either nesting or singing (Sedgewick and Knopf 1992). Migrating willow flycatchers use habitats similar to breeding flycatchers, but will also use desert washes, oases, and open canyon woodlands near watercourses (Small 1994).

Critical Habitat

Critical habitat for the willow flycatcher was designated on July 22, 1997 (*Federal Register* 62: No. 140, 39129-39147). The proposal included 18 critical habitat units totaling 964 river kilometers (599 river miles) in Arizona, California, and New Mexico. In San Diego County, critical habitat was designated along portions of the Santa Margarita, San Luis Rey, San Dieguito, San Diego, and Tijuana Rivers. The primary constituent elements of critical habitat for

the southwestern willow flycatcher include: (a) dense thickets of riparian shrubs and trees (native and exotic species); (b) areas within the 100 year floodplain where dense riparian vegetation is not present, but may become established in the future; and (c) vegetation structure ranging from 3 meters (9 feet) in height and lacking a distinct overstory to complex patches with multiple strata and canopies nearing 18 meters (60 feet) in height. A correction to the final determination of critical habitat for the willow flycatcher was made on August 20, 1997 (*Federal Register 62:* No. 161, 44228). On May 11, 2001, the U.S. Court of Appeals Tenth Circuit "set aside" the critical habitat designation for the willow flycatcher and instructed the Service to issue a new willow flycatcher critical habitat designation.

Life History

The willow flycatcher is a diurnally active species that begins singing at a predawn hour while within the territory (San Diego Natural History Museum 1995). The willow flycatcher is an insectivore that forages within and above dense riparian vegetation, taking insects on the wing or gleaning them from foliage (Service 1995). This species also forages in areas adjacent to nest sites which may be more open (Service 1995).

Males typically arrive in southern California at the end of April and females arrive approximately one week later. The willow flycatcher has a home range that is larger than the defended territory. This species initiates territorial defense in late May. Territory size varies from 0.59 to 1.33 acres (0.24 to 0.45 hectares). Adults depart from the breeding territory in mid-August to early September (San Diego Natural History Museum 1995). The migration routes and destination of the willow flycatcher are not well understood. The species has been reported to sing and defend winter territories in Mexico and Central America. The willow flycatcher most likely winters in Mexico, Central America, and perhaps northern South America, however, the habitats it uses on the wintering grounds are unknown (Service 1995).

Willow flycatchers typically raise one brood per year (Service 1995). The clutch size ranges from two to five; the average clutch size is 3.4 eggs in coastal southern California. These species usually have a monogamous mating system within one nesting season although not all territorial males are mated (San Diego Natural History Museum 1995). The southwestern willow flycatcher fledgling leaves the nest at age 12-15 days in early July (Service 1995) and usually disperses from the natal territory at age 26-30 days. About 25% of adults return to their territory from the previous year and at least 20% of juveniles return to the natal area which is usually two to four kilometers from the natal territory. Adults usually depart from their breeding territory between 12 August and 4 September (San Diego Natural History Museum 1995).

Population Trend

Once considered widespread and common breeders in southern California, the willow flycatcher has declined precipitously throughout its range during the last 50 years (Unitt 1987). Current numbers remain significantly reduced from historical levels. Willow flycatcher occupied riparian habitats tend to be widely separated by vast expanses of relatively arid lands (Dudek and Associates 2000). Only 450 willow flycatcher territories were detected in the United States in 1995, many of which consisted of unpaired males. Within its United States range, only seven

sites (populations) consist of 20 or more flycatchers one of which is the upper San Luis Rey River in San Diego county (Service, unpub. data). Over the range of the species, 75 percent of the willow flycatcher populations contain fewer than five birds. Aside from the few moderately sized populations (such as the Kern River, Santa Ynez River, Santa Ysabel River, and Gila River populations), the remaining populations are small and widely isolated with very high percentages of unpaired males.

Threats

The major threats to the species are the destruction, modification, or curtailment of its habitat and nest parasitism by the brown-headed cowbird (Service 1995). Changes in riparian plant communities have resulted in the degradation and elimination of nesting habitat for the willow flycatcher which has reduced the range, distribution, and population size of this species (Service 1995). Loss and modification of southwestern riparian habitats has occurred from urban and agricultural development, water diversion and impoundment, channelization, livestock grazing, off-road vehicle and other recreational uses, and hydrological changes resulting from these and other land uses. It is estimated that 91 percent of historic riparian habitat has been lost in California due to widespread destruction. Cowbird parasitism of willow flycatchers is frequent, particularly in the lowland populations, and seems to heavily impact nesting success (Gaines 1977). In California, parasitism rates are high, ranging from 50 to 80 percent.

Quino Checkerspot Butterfly

Listing Status

On August 4, 1994, the Service published a petition finding in the Federal Register (*Federal Register* 59: 39868) with a proposed rule to list the Quino checkerspot butterfly as endangered. We published the final rule listing the species on January 16, 1997 (*Federal Register* 62: 2313). We proposed designating critical habitat for the Quino checkerspot butterfly on February 7, 2002 (*Federal Register* 66: 9476), and finalized the designation on April 15, 2002 (*Federal Register* 67: 18356). A draft recovery plan for this species was issued in January 2001.

Species Description

The Quino checkerspot butterfly (*Euphydryas editha quino*) is a recognized subspecies of Edith's checkerspot (*E. editha*), and is a member of the Nymphalidae family, the brush-footed butterflies, and the Melitaeinae subfamily, checkerspots and fritillaries. Quino differs from the other *E. editha* subspecies in size, wing coloration, and larval and pupal phenotypes (Mattoni *et al* 1997). Among the other subspecies of *E. editha*, Quino is moderate in size with a wingspan of approximately 4 cm (1.5 in). The dorsal (top) side of its wings is covered with a red, black, and cream colored checkered pattern, the ventral (bottom) side is mottled with tan and gold. Its abdomen generally has bright red stripes across the top. Quino larvae are black and have a row of nine, orange-colored tubercles (fleshy/hairy extensions) on their back. Pupae are extremely cryptic and are mottled black and blue-gray.

Distribution

Quino was historically distributed throughout the coastal slopes of southern California, including Los Angeles, Orange, Riverside, San Diego, and San Bernardino counties, and northern Baja California, Mexico (Mattoni *et al.* 1997; Service database). That distribution included the westernmost slopes of the Santa Monica Mountains, the Los Angeles Plain and Transverse Ranges to the edge of the upper Anza-Borrego Desert, and south to El Rosario in Baja California, Mexico (Emmel and Emmel 1973; Mattoni *et al.* 1997; Service database). Although historical collection records allow for an estimate of a species' range, such records usually underestimate the number of historical sites and extent of local distributions. Collectors tended to frequent well-known sites, and no systematic or comprehensive surveys for Quino have ever been conducted (Mattoni *et al.* 1997).

As recently as the 1950's, collectors described Quino as occurring on every coastal bluff, inland mesa top, and lower mountain slope in San Diego County and coastal northern Baja California. These observations indicate that Quino was historically widespread throughout the southern California landscape, and occurred in a variety of vegetation types, including coastal sage scrub, open chaparral, juniper woodland, meadows, and grasslands. By the 1970's, most of the coastal bluff and mesa habitats in southern California had been urbanized or otherwise disturbed. However, Quino still occupied known habitat locations inland and at higher elevations including Dictionary Hill, Otay Lakes, and San Miguel Mountain in San Diego County, and the Gavilan Hills in Riverside County. By the middle 1980's the species was thought to have disappeared from the known locations; the petition to list the species in 1988 suggested that it might be extinct. Nonetheless, new populations were discovered in Riverside County, Quino was rediscovered in San Diego County, and the species continued to survive in northern Baja California, Mexico. Current information suggests that Quino has been extirpated from Los Angeles, Orange, and San Bernardino Counties.

Habitat Affinities

In southwestern San Diego County, the primary host plant for Quino is the dot-seed plantain (*Plantago erecta*), however Quino may use other species of plantain (*Plantago* spp.) and annual owl's-clover (*Castilleja exserta*) as primary or secondary host plants. Another apparently important, but only recently documented, primary host plant is white snapdragon (*Antirrhinum coulterianum*; Pratt 2001). Quino is generally found in open areas and ecotone situations which may occur in a number of plant communities, including grasslands, coastal sage scrub, chaparral, and sparse native woodlands. Open areas within a given vegetation community seem to be a critical landscape feature for butterfly populations. Optimal habitat appears to contain little or no invasive exotic vegetation, and especially, a well-developed cryptogramic crust. In its adult stage, Quino uses a number of flowering plants as nectar sources.

Critical Habitat

Critical habitat for Quino was designated on April 15, 2002 (*Federal Register* 67: 18356) and includes Quino habitat throughout the species' current range in the United States (i.e., Riverside and San Diego Counties, California). It is composed of four units:

1. Unit 1, the Lake Mathews Unit, encompasses approximately 5,765 ha (14,250 ac) within the northwestern portion of Riverside County and occurs within the Northwest Riverside Recovery Unit described in the final recovery plan (Service, in prep.).

2. Unit 2, the Southwest Riverside Unit, encompasses approximately 34,780 ha (85,950 ac) within southwestern Riverside County and northern San Diego County. This critical habitat unit supports all or part of 21 of the 22 occurrence complexes identified as important to Quino recovery in the southwestern Riverside region (Service, in prep.).

3. Unit 3, the Otay Unit, encompasses approximately 26,075 ha (64,430 ac) within the southwestern portion of San Diego County. Unit 3 supports all or part of 12 of the 13 occurrence complexes identified in the final recovery plan (Service, in prep.) as important to recovery in southwestern San Diego County. Mapped portions of some of the complexes identified as important to recovery in the final recovery plan (Service, in prep.) were not designated because those portions fell outside the proposed critical habitat.

4. Unit 4, the Jacumba Unit, encompasses approximately 2,820 ha (9,970 ac) of land in southeastern San Diego County south of Interstate 8 in the vicinity of the town of Jacumba. This critical habitat unit supports the Jacumba occurrence complex identified as important to recovery in the recovery plan (Service, in prep.).

The primary constituent elements of Quino habitat consist of:

1. Grassland and open-canopy woody plant communities, such as coastal sage scrub, open red shank chaparral, and open juniper woodland, with host plants or nectar plants;

2. Undeveloped areas containing grassland or open-canopy woody plant communities, within and between habitat patches, utilized for butterfly mating, basking, and movement; or

3. Prominent topographic features, such as hills and/or ridges, with an open woody or herbaceous canopy at the top. Prominence should be determined relative to other local topographic features.

Life History

The life cycle of Quino typically entails one generation of adults per year, with a 4- to 6-week flight period occurring generally February to May, depending on weather conditions (Emmel and Emmel 1973, Orsak 1978). During the flight period, adult butterflies move about and search for nectar sources and mates. Females lay multiple masses of 20 to150 eggs (M. Singer, C. Parmesan, and G. Pratt unpubl. data) with a single female capable of producing more than 1,000 eggs. The eggs hatch in about 10 days and the larvae begin to feed immediately. At lower elevations in San Diego County, the primary host plant for Quino is the dot-seed plantain

(*Plantago erecta*), however Quino may use other species of plantain (*Plantago* spp.) and annual owl's-clover (*Castilleja exserta*). As the larvae grow, they periodically shed their skin. Each phase between skin molts is referred to as an "instar" with the first instar being the first larval stage after hatching.

As summer approaches the food plants dry out. In their third or fourth instar, larvae enter into an obligatory diapause. Diapause is a low-metabolic resting state that may last for a year or more, depending on conditions. Diapause allows larvae to survive the regular seasonal climatic extremes and also to better survive times of extended adverse conditions, such as drought. After termination of diapause, larvae become active and feed. They then enter their pupal stage and within two to six weeks, transform into the adults and emerge as butterflies. The butterflies feed, disperse, reproduce, and then die.

Adult Quino, and *E. editha* in general, are sedentary by nature and generally fly close to the ground. Evidence from the bay checkerspot (*E. editha bayensis*; bay checkerspot) suggests that long-distance dispersal is rare (Ehrlich 1961, Brussard and Ehrlich 1970, Ehrlich and Murphy 1981). *Bay checkerspots* have been documented to move up to about 4.5 km (2.8 mi) to colonize distant habitat patches (Harrison 1989). For Quino, many experts familiar with the species believe that Quino populations separated by more than about 3 km (approximately 2 mi) may be demographically isolated. However, responses to abiotic factors, such as weather, may increase the distance butterflies will move (Ehrlich and Murphy 1987). Additionally, adult Quino are known to "hilltop". Hilltopping is a behavior where the males butterflies form territories on hilltops, ridgelines, and other prominent geographic features in order to locate mates.

Population Trend

Until as recently as the 1980s, Quino may have been one of the most abundant butterflies in coastal southern California. More than 75 percent of Quino's historic range has been lost (Brown 1991; Service database), and more than 90 percent of the species' coastal mesa and bluff habitat, where most historic records are located, has been destroyed by habitat fragmentation, degradation, and loss (Service database). It is estimated that Quino population density range-wide has been reduced 95 percent by human-caused impacts. Sources of habitat loss and habitat degradation include competition from non-native plants, livestock grazing, off-road vehicle activity, and fire management practices. Additionally, the butterfly larva are susceptible to predation by exotic invertebrates.

Recent studies have shown competitive exclusion by non-native plants may be accelerated by nitrogen deposition from atmospheric pollution in southern California vegetation communities (Allen et al. 1997, Eliason and Allen 1997, Padgett and Allen 1999, Padgett et al. 1999). The non-native weeds may also directly out-compete the native plants, including butterfly host-plant species. This effect has been documented in a native plant community that supports Bay checkerspot in the San Francisco Bay area (Weiss 1999). Not only does the increase in weeds degrade the quality of the native habitat, it may also increase the frequency or severity of wildfires, further impacting the vegetation community and the wildlife species inhabiting it.

Threats

Quino is threatened primarily by urban and agricultural development, non-native plant species invasion, off-road vehicle use, grazing, and fire management practices (*Federal Register* 62: 2313). These threats destroy and degrade the quality of habitat and result in the extirpation of local Quino populations. Quino population decline likely has been, and will continue to be, caused in part by enhanced nitrogen deposition, elevated atmospheric carbon dioxide concentrations, and climate change. Nonetheless, urban development poses the greatest threat and exacerbates all other threats. Activities resulting in habitat fragmentation or host or nectar plant removal reduce habitat quality and increase the probability of local Quino population extirpation and species extinction.

Other threats to the species identified in the final listing rule (*Federal Register* 62: 2313) include illegal trash dumping and predation. Dumping, a documented problem for some populations (G. Pratt *fide Federal Register* 67: 18356), is detrimental because of resulting habitat degradation and destruction. Over-collection by butterfly hobbyists and dealers is a probable threat, although the magnitude of this activity is unknown. Stamp (1984) and White (1986) examined the effects of parasitism and predation on the genus *Euphydryas*, although it is not clear whether these mortality factors pose a significant threat to this species. Predation by Argentine ants (*Iridomyrmex humilis*) has been observed in colonies of the butterfly in the laboratory (G. Pratt *fide Federal Register* 67: 18356) and intense predation by nonnative Brazilian fire ants (*Solenopsis invicta*) is likely where they co-occur with Quino (Porter and Savignano 1990). Brazilian fire ants were documented in 1998 in the vicinity of historic Quino habitat in Orange County and have subsequently been found in Riverside and Los Angeles Counties (California Department of Food and Agriculture 1999).

ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR §402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action area that have undergone section 7 consultation, and the impacts of State and private actions which are contemporaneous with the consultation in progress.

Since 1990, the Service has issued six biological opinions for projects within the action area for the project (Appendix A). In 1990, the Service issued a biological opinion (1-6-90-F-17) to the EPA for the construction of a 12,300 linear foot pipeline. This project impacted 1.2 acres of southern willow scrub and 5.1 acres of mulefat srub. Project impacts were offset by creating 3.6 acres of southern willow scrub and 7.65 acres of mulefat scrub habitat in the Tijuana River Valley. This opinion allowed for zero take of vireo, California least tern, and the light-footed clapper rail.

In 1993, the Service issued a biological opinion (1-6-93-F-35) to the Corps for the construction of a 5,400 foot pilot channel in the main stem of the Tijuana River and the placement of an erodible berm in northern channel of the river. This project impacted 2.67 acres of southern

willow scrub and mulefat scrub. Project impacts were offset by creating 9.43 acres of southern willow scrub and mulefat scrub habitat in the Tijuana River Valley. Incidental take exemptions were provided for up to three vireo due to harm from habitat destruction.

In 1994, the Service issued a biological opinion (1-6-94-F-13) to the EPA for the construction of the International Watewater Treatment Plant, canyon collectors and construction of an ocean outfall. This project impacted 0.8 acres of riparian habitat and 1.6 acres of waters of the United States. Project impacts were offset by creating 2.4 acres of riparian habitat in the Tijuana River Valley. Incidental take exemptions were provided for one pair of vireo from harm due to habitat destruction and up to four pairs of gnatcatcher from harassment due to noise generated from pile driving immediately adjacent to active nests.

In 1997, the Service issued a biological opinion (1-6-97-F-9) to the Bureau of Reclamation for the construction of the South Bay Water Reclamation Plant and the Dairy Mart Road and Bridge improvements. This project resulted in permanent impacts to 0.47 acres of southern willow scrub and 0.2 acres of CSS, and temporary impacts to 5.83 acres of southern willow scrub, 0.4 acres of cottonwood scrub, and 1.18 acres of open water habitat. Project impacts were offset by the creation of 6.77 acres of riparian habitat in the Tijuana River Valley, and 0.4 acres of CSS acquisition/preservation on Otay Mesa. Incidental take exemptions were provided for up to four pairs of vireo from harm due to habitat destruction.

In 1998, the Service issued a biological opinion (1-6-98-F-16) to the Corps for the excavation of approximately 4,900 square feet of the Tijuana River Pilot Channel and widening the confluence of Smuggler's Gulch and the Pilot Channel by excavating an additonal 4,300 square feet of channel habitat. This project impacted 0.11 acres of southern willow scrub. Project impacts were offset by the creation of 0.229 acres of riparian habitat within the Tijuana River Valley. This opinion allowed for zero take of vireo and willow flycatcher.

In 2003, the Service issued a biological opinion (1-6-03-F-3302.1) to the National Oceanic and Atmospheric Administration for the construction and operation of a diversion structure in Goat Canyon, sedimentation basins, access roads, a visual berm and improvements to Monument Road. This project impacted 0.394 acres of southern willow scrub; 5.928 acres of mulefat scrub, disturbed mulefat scrub, and mulefat scrub mixed with elderberry; 0.716 acres of MSS, and 0.1 acres of southern mixed chaparral. Project impacts were offset by the creation of 20.71 acres of mulefat scrub, 2.59 acres of southern willow scrub, 2.16 acres of MSS, and 0.3 acres of southern mixed chaparral. This opinion allowed for zero take of vireo, willow flycatcher, and gnatcatcher.

In 1999, the Service issued a biological opinion for a project north of the action area. The Federal Highway Administration received a biological opinion for the construction and operation of an extension of State Route 125 from State Route 54 south to State Route 905. State Route 905 is in the planning phase for extending the existing freeway from Interstate 805 to the 905 border crossing.

In addition, a new border crossing and connecting highways and arterials are in the planning phase and informal consultation process. This new infrastructure is being planned for a location bordering Areas I and II. The purpose of the new International Port of Entry is to increase time,

efficiency, and capacity when attempting to cross the international border. Another project in the planning phase includes a proposed rock quarry at Big Murphy, a few miles north of the proposed BIS project.

A significant portion of the lands immediately north of the international border occurs within an approved Natural Community Conservation Planning/Habitat Conservation Plan (NCCP/HCP) that is referred to as the Multiple Species Conservation Program (MSCP). The MSCP Planning Area encompasses 582,000 acres within southwestern San Diego County, and will conserve about 172,000 acres of habitat within a preserve system known as the Multiple-Habitat Planning Area (MHPA). Within the MSCP plan, each jurisdiction will implement their respective portion of the plan through a subarea plan. The combination of the subregional MSCP plan and the subarea plans will serve as a multiple species HCP pursuant to Section 10(a)(1)(B) of the Act and to the California NCCP Act of 1991. The Service and CDFG approved the overall MSCP and the City of San Diego's Subarea Plan in July 1997 and the County's subarea plan in 1998. Areas III, IV, V and VI lie within the MHPA. A total of 163.6 acres of the proposed BIS project occurs within MHPA boundaries and 51.4 acres of major and minor amendment areas. Completed construction in Areas II, III, and IV impacted 55 acres of MHPA and areas under construction in Area II and to be constructed in Areas I, V, and VI will impact 108.6 acres of MHPA and 51.4 acres of major and minor amendment areas. However, INS was not a signatory partner to the MSCP and has no statutory requirements to comply with the MSCP.

The MSCP provides regional planning requirements for a 50-year time frame. This regional conservation plan addresses 27 federally listed birds (including the gnatcatcher, vireo, and willow flycatcher), amphibians, invertebrates, and plants, and 58 sensitive species; as such, MSCP represents the "blueprint" for a long-term conservation strategy for southwestern San Diego County natural resources.

With the exception of the Quino checkerspot butterfly, all of the species addressed in this Opinion are covered species under the MSCP. Incidental take for projects that affect jurisdictional wetlands are not covered under the MSCP and must be authorized through the section 7 process between the Service and the Corps' Regulatory Branch pursuant to section 404 of the Clean Water Act. Incidental take of wetland associated or dependent species outside of jurisdictional wetlands will be in accordance with MSCP and subarea plans; therefore most of the anticipated impacts associated with private actions (i.e., urban development) have already been analyzed through this program. Table 3-5 in "Species Evaluated for Coverage Under the MSCP of the MSCP (August 1998) outlines the anticipated conservation and impacts for each species. Table 4 outlines the expectations for the MSCP for the covered species addressed in this Opinion.

Table 4. Species Coverage within the MSCP. Potential impacts are for full buildout under the MSCP.

SPECIES	CONSERVED	POTENTIALLY IMPACTED
California gnatcatcher	73,300 acres, 65% known locals	67,300 acres, 35 % known locals
Least Bell's vireo	1,700 acres, 81% potential habitat	400 acres, 19% potential habitat[1]
Southwestern willow flycatcher	4,900 acres, 76% potential habitat	1,400 acres, 24% potential habitat[1]

Least Bell's Vireo

The subpopulation of the vireo in the Tijuana River Valley is one of the largest breeding concentrations found in southern California. In 1997, a comprehensive vireo survey was conducted by TW Biological Services (1998a) to determine the presence, territory location, and breeding status in the Tijuana River Valley. TW Biological Services documented a total of 150 singing males within the river valley with 103 of the males paired, 39 single males that established territories, and 8 transitory males (e.g., birds that stayed less than 30 days within the valley). In 1998, TW Biological Services (1998b) conducted the most recent comprehensive survey of the river valley. This survey effort documented a total of 139 singing male vireos, including 105 breeding pairs, 25 single males that established territories, 5 territorial males with unknown breeding status, and 4 transitory males. The predominance of these breeding pairs were concentrated along the mainstem of the Tijuana River between Dairy Mart Road and Saturn Avenue. Designated critical habitat for the vireo extends along the mainstem of the Tijuana River.

Focused surveys for the vireo in riparian areas immediately adjacent to the international bounary and within the Tijuana River Valley were conducted in 1999 by Ogden Environmental and Energy Services (Ogden 1999a) and in 2001 by AMEC Earth and Environmental (AMEC). The survey area included the proposed project footprint of the BIS and an area of approximately 150 feet surrounding the project footprint except in the western most portion of the project (i.e., Western Mesa), where this survey area expanded to approximately 500 feet north of the U.S./Mexico border. In addition to this survey effort, Varanus Biological Services (Varanus), a consultant to California State Parks and California Coastal Conservancy on the Goat Canyon Enhancement Project, conducted vireo surveys in 2000, 2001, and 2002, in the alluvial floodplain of the Goat Canyon Creek channel that extends from the mouth of Goat Canyon to the perimeter of the northern and western segments of Monument Road. Characterization of the riparian habitat and results of the survey efforts in these areas are discussed below.

The western extent of riparian habitat surveyed was located in Yogurt Canyon, which is defined by a small creek channel located immediately east of Friendship Park (i.e., the western mesa within Border Field State Park that over looks the Pacific Ocean). The vegetation in this drainage is composed of a mixture southern willow scrub and mulefat scrub. Surveys conducted

[1]All proposed impacts to wetlands are subject to no net loss of function or value and the 404(b)1 guidelines and require the appropriate state and federal wetland permits.

by Ogden and AMEC in this area did not detect the presence of any nesting vireos, however, the habitat may be used by vireos for foraging.

Approximately 0.5 miles east of Yogurt Canyon, riparian habitat occurs in the alluvial floodplain extending from the mouth of Goat Canyon. This floodplain has been highly degraded by sedimentation from Mexico and dirt roads continuously used by USBP. A component of this alluvial floodplain is the historic Goat Canyon Creek that flows to the west adjacent to the coastal bluffs of numerous mesas. However, during winter storm events, the primary creek channel is to the northwest following the path of least resistence, which coincides with the network of roads used by USBP during routine operations. The alluvial floodplain is a complex mosaic of native and non-native plant communities. The dominant habitat types occurring in the alluvial fan include ruderal areas interspersed with patches of mulefat, southern willow scrub, and mulefat scrub mixed with elderberry scrub. The floodplain has been invaded by numerous non-native plant species, including castor bean (*Ricinus communis*), giant reed (*Arundo donax*), tree tobacco (*Nicotiana glauca*), mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), chrysanthemum (*Chrysanthemum coronarium*), and myoporum (*Myoporum latens*). The mulefat, southern willow scrub, and mulefat mixed blue elderberry has been used as nesting and foraging habitat by the vireo.

Ogden (1999a) documented a vireo territory in a small section of the Goat Canyon Creek alluvial floodplain adjacent to the base of the unnamed mesa between Lichty Mesa and Bunker Hill. In 2000, within the overall alluvial floodplain encompassed by Monument Road, Varanus documented the presence of 9 occupied nesting territories, including 4 territories supporting vireo breeding pairs and the remaining 5 territories occupied by solitary male vireos. In 2001 and 2002, Varanus conducted follow-up surveys for vireos in the alluvial floodplain. In 2001, biologists determined the presence of 9 occupied territories. Eight of the 9 territories supported confirmed vireo pairs (Varanus 2001). In 2002, 10 occupied territories were documented in the alluvial floodplain adjacent to the mouth of Goat Canyon. Seven of the 10 territories remained relatively constant throughout the breeding season (Figure 6). Five of the 10 territories supported confirmed vireo pairs (Varanus 2002).

In 2001, AMEC also conducted surveys for vireos in the riparian habitat of the alluvial floodplain adjacent to the unnamed mesa between Lichty Mesa and Bunker Hill. They documented the presence of 3 nesting pairs adjacent to the mesa and the historic flow channel of Goat Creek. These vireo pairs were in a similar location to the vireo territories that were documented by Varanus in 2001. One of the vireo territories overlaps the project footprint in Area VI. Three additional territories are adjacent to the project footprint.

The third riparian area adjacent to the international border that would be modified by the proposed BIS project is Smuggler's Gulch, located immediately east of Spooner's Mesa. The main river channel in Smuggler's Gulch has sparse patches of riparian vegetation. This channel, during winter storm events, is inundated by stormwater runoff and sewage from Mexico, which culminates in flows that have sufficient volume and velocity to transport huge sediment loads, cobbles, tires, plastic bottles, wood debris, pieces of sheet metal, and other trash. The majority of the riparian habitat in Smuggler's Gulch is located on a floodplain bench to the immediate east of

Grading
Least Bell's Vireo '2002
Least Bell's Vireo '2001

Approximate Location of an Adult Migrant Willow Flycatcher Observed by W. Haas, Varanus Biological Services

Figure From Rick Engineering & Tierra Environmental Services

W E S

No Scale

01-07-03

Figure 6. Breeding territories for least Bell's vireo in the lower Tijuana River (Varanus 2002).

the main channel. This riparian habitat is comprised of mulefat and willows that in recent years have grown in sufficient height, structural complexity, and area to support a breeding vireo pair.

Ogden (1999a) and AMEC (2001) conducted surveys for the vireo in Smuggler's Gulch in 1999 and 2001, respectively. In 1999, a vireo pair was documented in Smuggler's Gulch and remained there throughout the breeding season. While no active search for the nest was conducted, the presence of the pair throughout the breeding season indicated that these birds were a breeding pair. In 2001, a breeding pair with two fledglings was found in Smuggler's Gulch.

Southwestern Willow Flycatcher

Ogden (1999a) and AMEC (2001) conducted surveys for the willow flycatcher in locations identified as the Western Mesa, Bunker Hill, Goat Canyon, and Smuggler's Gulch. The survey area included the proposed project footprint and an area of approximately 150 feet surrounding the project footprint, except in the western most portion of the project (i.e., Western Mesa), where the survey was expanded approximately 500 feet north of the U.S./Mexico border. No willow flycatchers were observed during these survey efforts.

However, historical presence of willow flycatchers in the Tijuana River Valley has been documented. In 1978 and 1981, a single individual willow flycatcher was observed by Sharon Goldwasser and Elizabeth Copper, respectively (Unitt 1984). Between 1990 and 1998, when Barbara Kus of Diego State University, and TW Biological Services conducted an annual vireo census of the river valley, a single transitory willow flycatcher was reported in 1996. This individual was observed approximately 0.5-mile west of Hollister Street bridge (Kus, pers. comm.) and one mile north of the border. On May 23, 2000, William Haàs of Varanus, observed one adult willow flycatcher vocalizing and fly-catching from a 10 to 12-foot tall willow adjacent to a vireo territory that had been mapped approximately 500 feet north of the unnamed mesa between Lichty Mesa and Bunker Hill (Figure 6). These observations suggest the potential for willow flycatchers nesting in the Tijuana River Valley.

Coastal California Gnatcatcher

Areas V and VI consist of a mosaic of maritime succulent scrub (MSS), coastal sage scrub (CSS), southern maritime chaparral (SMC), grasslands, coastal salt marsh and riparian vegetative communities. This mosaic is distributed throughout the mesas and drainage floodplains east to west along the international border. To the south is the densely developed City of Tijuana, Mexico. To the north, across Monument Road, lie the estuary and riparian corridor of the lower Tijuana River. The mosaic of vegetative habitats is continuous with unpaved, low-use access roads interspersed throughout.

According to the Service's GIS database and recent surveys (Kus 1993, TW Biological Services 1996, 1997, 1998, and 1999, Ogden 1999b, and AMEC 2001), a core population of gnatcatchers has historically and currently occupied the mesas to the south of the lower Tijuana River floodplain. This population is distrubuted throughout the MSS, CSS, SMC, and grassland vegetative communities across the mesas south of Monument Road and between Friendship Park and the IBWC Wastewater Treatment Plant. The vegetative communities between the mesas are

typically wetlands or vegetated floodplains in drainages originating in Mexico. The proximity of the mesas and the continuum of vegetation allow for the gnatcatchers to move between mesas and utilize the MSS, CSS, SMC, and grassland communities in Project Areas V and VI. For example, a dispersing fledgling was identified on Lichty Mesa during a 1999 survey (Ogden 1999b). Numerous surveys conducted between 1993 and 2001, resulted in observations of a single gnatcatcher on Lichty Mesa (Ogden 1999b), three gnatcatcher pairs with nests on the mesas between Lichty Mesa and Bunker Hill (Kus 1993, TW Biological Services 1996 and 999, Odgen 1999b, AMEC 2001), a gnatcatcher pair and two individuals on the western slope of Bunker Hill (Kus 1993, AMEC 2001), three pairs of gnatctchers and one single gnatcatcher on the western slopes of Spooner's Mesa (Kus 1993), numerous gnatcatchers on Spooner's Mesa (Kus 1993, Wells and Turnbull 1998), a pair of gnatcatchers on the eastern slopes of Smuggler's Gulch (Service database), and a pair of gnatcatchers on the unnamed mesa rising to the east of Smuggler's Gulch (Service database). The BA (2002) states that five adults, three juveniles and two nests were detected on the western slope of Bunker Hill in the project area during surveys conducted in 2001. The surveys and studies conducted in this area since 1993 suggest that the gnatcatchers in the area are moving around and modifying their territories over the years.

The size of gnatcatcher territories is highly variable (12 to 24 acres during the breeding season and 12 to 42 acres during the non-breeding season). The majority of gnatcatchers detected along the mesas south of the Tijuana River floodplain west of the IBWC wastewater treatment plant occupy habitat that is contiguous with, adjacent to, or part of MSS, CSS, SMC and grasslands. Since the surveys for this project were intended to only detect species presence/absence, gnatcatcher territories were not determined. However, studies conducted by TW Biological Services and UCSD between 1993 and 1999 found that territory sizes for breeding gnatcatchers is typically around 12 acres and that these territories shift over time (Kus 1993, TW Biological Services 1996, 1997, 1998c, and 1999).

Area I of the BIS Project overlaps approximately 31.9 acres of designated and proposed critical habitat for the gnatcatcher. To the south of Area I, connected habitat no longer exists in the Tjuana metropolitan area. In Area I, gnatcatchers were detected over 725 meters north of the project footprint (Service database). The BA states that six gnatcatchers were detected near Johnny Wolf Creek, northwest of Tin Can Hill, outside the proposed project corridor. The habitat types in Area I that overlap designated critical habitat are variable and include grasslands, disturbed CSS and CSS. Designated critical habitat in Area I contains constituent elements and quality habitat for the gnatcatcher. There have been no gnatcatchers detected in, or immediately adjacent to, the proposed project footprint in Area I.

Quino Checkerspot Butterfly

Area I and II of the BIS project overlap approximately 52.3 acres of Quino designated critical habitat of which 42.2 acres contain primary constituent elements. The approximately 31.9 acres of gnatcatcher critical habitat in Area I lie wholly within the boundaries of Quino critical habitat. In Areas I and II, Quino critical habitat is a mosaic of grasslands interspersed with CSS, disturbed CSS, rocky outcrops, hilltops, bare ground, and riparian habitat along intermittent stream channels. The eastern section of Metropolitan Tijuana has areas immediately adjacent to

the existing border fence (Areas I and II) that have the potential to support Quino. The proposed project footprint is contiguous with occupied grassland/CSS/disturbed CSS to the north and east.

Surveys conducted during 2001 by AMEC and KEA Environmental, Inc. (KEA) detected Quino proximate to the project area. At least eight patches of dot seed plantain (*Plantago erecta*) were found within or immediately adjacent to the proposed project footprint (AMEC 2001, KEA 2001). In addition, Quino were observed immediately adjacent to the proposed project footprint (AMEC 2001, KEA 2001). In general, numerous Quino sitings in 2001 (KEA 2001) occurred within 100 to 600 meters of the international boundary. Since Quino can range up to three kilometers, those Quino that were detected closer than 600 meters, and particularly within 200 meters, of the border may be utilizing the dot seed plantain and other constituent elements that occur within the project footprint. During 2003, the Service surveyed Areas I and II for Quino critical habitat constituent elements and found a continuum of nectar sources with numerous patches of dot seed plantain distributed throughout and immediately adjacent to the project footprint of Area I and the eastern part of Area II.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat that, together with the effects of other activities that are interrelated and interdependent with that action, will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

Effects to the Natural Community Conservation Planning Program

As described in the Environmental Baseline, Areas II, IV, V, and VI include areas identified in the MHPA for MSCP. The proposed project in Areas I, the eastern portion of II, V, and VI would result in a permanent loss of 108.6 acres of the MHPA reserve system and 51.4 acres of major and minor amendment areas. Amendment areas, although not permitted under MSCP, were anticipated to provide additional conservation once the appropriate level of information was available to analyze the effects to MSCP. Public conservation lands (MHPA and amendment areas) would be permanently eliminated by the project, including 13.3 acres owned by the City of San Diego, 36.2 acres owned by the County of San Diego, 16.4 acres owned by California State Parks and Recreation, and 101.5 acres owned by other Federal agencies.

Loss of MHPA lands is of particular concern since it was the conservation and management of these lands that justified the coverage of the gnatcather, vireo and flycatcher, as well as the other 82 species included on the covered species list. The INS proposes to offset impacts from the BIS project by restoring habitat on approximately 145 acres of land in Spring Canyon. In addition, the BA (INS 2002c) states that INS is considering closure and restoration of approximately 200 miles of roads throughout the project area. The proposed restoration may offset some of this loss, by increasing the biological value of MHPA preserve lands. However, much of this area lies wholly within the MHPA, therefore it would not fully offset the loss of 163.6 acres of the

MHPA preserve. In addition, INS has not fully determined how it will implement these conceptual proposals, therefore we can not determine the overall effects of the project on MSCP. The Service will continue to work with the INS to increase the acreage of lands in the MHPA.

Least Bell's Vireo and Southwestern Willow Flycatcher

The permanent and temporary effects of the proposed BIS project would be similar to both species because the vireo and willow flycatcher both use southern willow scrub and mulefat as nesting and foraging habitat. The BIS, within Areas V and VI, would result in the permanent loss of 2.57 acres of southern willow scrub, 4.2 acres of mulefat scrub, and 3.10 acres waters of the U.S. (interspersed with willows and mulefat) in the Tijuana River Valley. Construction of the BIS, within Areas V and VI, would also result in temporary impacts to approximately 0.29 acres of southern willow scrub, 0.61 acres of mulefat scrub 0.4 acres of waters of the U.S. in the Tijuana River Valley. Permanent loss of riparian habitat from project construction would be offset through the restoration of 23.4 acres of riparian habitat in the floodplain of the Tijuana River Valley, east of Smuggler's Gulch. A portion of this restoration may occur in an area that is currently designated critical habitat for the vireo. Temporal impacts would be offset by revegetating 1.3 acres of disturbed soils with native riparian plant species following a restoration plan that will be approved by the Service.

The grading and filling activities associated with project construction will impact two locations in the Tijuana River Valley documented to support breeding vireos. Within Area VI, project construction would result in the loss of riparian habitat in Yogurt Canyon and along the base of the unnamed mesa between Lichty Mesa and Bunker Hill adjacent to the historic Goat Canyon Creek channel. The riparian habitat in Yogurt Canyon provides suitable foraging habitat. Project impacts to mulefat scrub adjacent to Monument Mesa would permanently eliminate a small portion of a vireo territory mapped by Varanus in 2002 (Figure 6). An additional vireo territory occupied by a breeding pair in Smuggler's Gulch (Area V) would be impacted through the placement of approximately 2.1 million cubic yards of fill material in the flow channel (Figure 6). The fill material would be the result of grading Spooner's Mesa and the adjacent un-named mesa to the east of Smuggler's Gulch for the purpose of connecting the two mesas with a continuous road, secondary fence, and associated BIS project features.

Vireos are site tenacious, with adults typically returning to the previous year's nesting location (Franzreb 1989). When vireos return during their spring migration, loud noise generated in or near the previous season's territory may cause the vireo to abandon the territory. Noise generated by the operation of construction equipment and associated activities that exceeds 60dBA L_{eq} or existing ambient background conditions during breeding season of the vireo (March 15 to September 15) and the willow flycatcher (May 1 to September 15) has the potential to impact four vireo territories that occur within 500 feet from the outer boundary of the project footprint adjacent to the unnamed mesa between Lichty Mesa and Bunker Hill and the historic Goat Canyon Creek channel. Noise at this location also could impact an adult willow flycatcher, which used this site in 2000 (Figure 6). In addition, the remaining riparian habitat in Smuggler's Gulch outside the project footprint would be impacted for up to three years through noise generated by construction activities. Noise above 60 d(B)A L_{eq} is believed to be capable of disrupting normal behavior of the vireo (Regional Environmental Consultants 1990). Noise from

construction may interfere with courtship behavior or cause temporary or permanent abandonment of the nesting territory (San Diego Association of Governments and Regional Environmental Consultants 1990). Noise in excess of 60 d(B)A L_{eq} can mask the song of a male vireo, thereby inhibiting his chance of attracting a mate (San Diego Association of Governments and Regional Environmental Consultants 1990). A male vireo attempting to establish a territory or a vireo pair trying to maintain a territory while exposed to a loud continuous source of noise for a prolonged period can abandon a nesting territory (San Diego Association of Governments and Regional Environmental Consultants 1990). Loud noise can also mask the vocalizations of vireos signaling the presence of a predator. The INS and Corps propose to minimize the effects of construction noise by placement of sound attenuation structures adjacent to riparian habitat prior to the on-set of the breeding season. Noise levels will be monitored by the designated biologist to ensure levels do not exceed 60 d(B)A L_{eq} hourly or existing ambient background levels. At this time, the ambient noise levels are unknown along the BIS corridor.

Lighting associated with construction, or long-term operation of light structures associated with the BIS, may result in impacts to vireos and willow flycatchers. The presence of light in riparian habitat during construction may result in birds not utilizing potential suitable nesting habitat. Increased background levels of luminescence at vireo or willow flycatcher nest locations may lead to increased predation of eggs or young by predators. However, INS and Corps have proposed to avoid increased ambient light conditions by selectively placing, shielding, and directing all lights away from riparian areas. In addition, once construction is completed, lighting during BIS operations has the potential to illuminate native vegetation north of the tertiary fence. INS proposes to implement corrective measures to ensure that lighting from the BIS will not illuminate native vegetation north of the project footprint.

The location of riparian restoration sites in Areas V and VI have not been determined, but could occur near habitat occupied by the vireo and willow flycatcher. Therefore, construction and maintenance activities at the restoration site, during the breeding season, could potentially flush birds from their nests, endangering eggs and chicks, or cause males to alter their territorial singing patterns. To avoid and minimize potential direct effects to breeding vireo and willow flycatchers during restoration implementation and maintenance activities, a qualified biologist would monitor the restoration site and adjacent habitat for breeding activity prior to the the start of implementing the restoration plan and all maintenance activities. Noise effects to all vireos and willow flycatchers would be monitored and noise attenuation structures would be designed and implemented to reduce noise levels to below 60d(B)A L_{eq}. In addition, to avoid and minimize potential direct effects to vireos and willow flycatchers during maintenance activities at the restoration site, a qualified biologist would locate vireo and willow flycatcher nests prior to beginning work. If a nest is detected, maintenance activities would occur by hand and outside of a 100-foot exclusion zone around the nest. Details of the restoration program will be developed in coordination with the Service.

Portions of the restoration site may occur within designated critical habitat for the vireo. Restoration activities may require clearing a strip of riparian vegetation along the base of an existing berm. The removal of vegetation may adversely affect vireos or willow flycatchers occupying adjacent habitat. However, this clearing would occur outside of the breeding season

and therefore the effect would be minimal. In time, the restored site would add to exisiting riparian habitat within the area designated as vireo critical habitat.

Coastal California Gnatcatcher

The BIS project has the potential to directly and indirectly affect the gnatcatcher. Direct effects would occur from the temporary and permanent removal of habitat, potential effects of noise during construction, potential effects of lighting during construction, and restoration activities to offset permanent and temporary impacts . Indirect effects to the gnatcatcher may occur from the introduction and spread of exotic plant species and lighting after the fence is constructed and are addressed in more detail in the Indirect Effects section below.

Direct effects to six pairs and one individual gnatcatcher are expected from the permanent removal of 18.8 acres of CSS, 3.2 acres of disturbed CSS, 13.1 acres of MSS, 0.8 acres of disturbed MSS, and 9.2 acres of SMC in Areas V and VI, and temporary removal and revegetation of 1.4 acres of CSS, 0.2 acres of disturbed CSS, 0.9 acres of MSS, 0.6 acres of SMC, and 1.3 acres of waters of the U. S. The western most mesas, Lichty and the two unnamed mesas to the east, would be reduced in size and fragmented from gnatcatcher habitat on, and to the north of, Bunker Hill. The MSS on Lichty Mesa may be reduced and isolated to a level where the gnatcatcher detected there in 1999 (AMEC 2001) would have too small an area to support a territory. Permanent and temporal losses of habitat on Bunker Hill, Spooner's Mesa and the unnamed mesa east of Smuggler's Gulch would reduce the available habitat along the tops and east/west facing slopes for the gnatcatcher. Permanent impacts from the loss of habitat would be offset by restoring and preserving 147.5 acres of habitat (88.2 acres CSS, 40.9 acres MSS, 18.4 acres SMC) in Spring Canyon (Area III) and on Spooner's Mesa (Area V). Temporal impacts would be offset by revegetating 4.4 acres of disturbed soils with native species immediately following completion of construction in a given area. Furthermore, revegetating . with CSS on of the fill slopes (e.g., Smuggler's Gulch) on the north side of the BIS will also provide long-term habitat for the gnatcatcher.

Gnatcatchers typically maintain year-round territories that fluctuate in size (breeding vs. non-breeding seasons) and may shift slightly betwen years (LSA Associates 1999). If construction is conducted during the breeding season (February 15 through August 31), noise and disturbance associated with construction would likely adversely affect gnatcatchers in adjacent occupied habitat by disrupting breeding and foraging, and causing the birds to frequently flush from the nest, endangering eggs and chicks. Construction noise is a concern if it is at such a level that it masks vital communication signals (Awbrey 1993), normal singing behavior, or alters the ability to detect conspecific encroachments, defend a territory, attract a mate, detect or warn of the approach of a predator or other interspecific intruder, and/or forage adequately. To reduce the potential for these impacts, noise levels would be monitored by a Service-approved biologist, and if noise levels exceed 60 d(B)A L_{eq} hourly, noise attenuation will be implemented to reduce the noise level to below 60 d(B)A L_{eq} hourly or existing ambient levels.

The BIS project would be constructed during the daytime and nighttime hours. Lighting introduced onto the project site during construction may adversely affect adjacent habitat areas and facilitate predation of gnatcatchers. However, INS proposes to reduce the potential for such

impacts by selectively placing, shielding, and directing lights away from adjacent habitat north of the project footprint. In addition, once construction is completed, lighting during BIS operations has the potential to illuminate native vegetation north of the tertiary fence. Howver, INS proposes to implement corrective measures to ensure that lighting from the BIS will not illuminate native vegetation north of the project footprint.

Although no gnatcatchers were detected near the proposed Spring Canyon restoration site, gnatcatchers may occur on lands adjacent to the restoration area. Restoration sites located in Areas V and VI, or other areas to be determined later, could occur near habitat occupied by gnatcatchers. Therefore, construction and maintenance activities, at the restoration site, during the breeding season could potentially flush birds from their nests, endangering eggs and chicks, or cause males to alter their territorial singing patterns. To avoid and minimize potential direct effects to breeding gnatcatchers during restoration and maintenance activities, a qualified biologist would monitor the restoration site and adjacent habitat for breeding activity prior to the the start of implementing the restoration plan and all maintenance activities. Noise effects to nesting birds would be monitored and noise attenuation structures would be designed and implemented to reduce noise levels to below 60d(B)A L_{eq} hourly. In addition, to avoid and minimize potential direct effects to gnatcatchers during maintenance activities, a qualified biologist would locate gnatcatcher nests at the restoration site prior to maintenance work. If a nest is detected, maintenance activities would occur by hand and outside of a 100-foot exclusion zone around the nest. Details of the restoration program will be developed in coordination with the Service.

Quino Checkerspot Butterfly

The proposed BIS project has the potential to directly and indirectly affect Quino. Direct effects would occur due to the temporary and permanent removal of habitat, restoration activities to offset permanent and temporary impacts, further isolation from Mexican populations due to a bigger barrier, the potential effects of fugitive dust during construction, and adult Quino flying into windshields of workers vehicles. Indirect effects to Quino may occur from the introduction and spread of exotic plant species, which is discussed in more detail in the Indirect Effects section below.

Areas I and II, east of the truck border crossing checkpoint, would directly impact occupied designated critical habitat Unit 3 (Otay Unit) for Quino. This area contains a mosaic of habitat features comprised of constituent elements such as patches of dot seed plantain, grassland, and nectar sources. The permanent removal of 7.9 acres of CSS, 6.2 acres of disturbed CSS, 13.8 acres of grassland, 0.2 acres of unvegetated waters of the U.S., and 9.2 acres of bare ground in Area I; and 2.5 acres of grassland and 2.4 acres of bare ground in Area II would eliminate potentially suitable Quino habitat. The temporal loss of 2.6 acres of habitat (0.4 acres of CSS, 1.3 acres of disturbed CSS, and 0.9 acres of grassland) would also directly affect Quino. Permanent effects would be offset by enhancing 28.9 acres of Quino habitat within designated critical habitat Unit 3. Enhancement includes: revegetating unused roads and trails; removing exotic plant species; and seeding areas with low potential for natural revegetation. Temporary impacts to Quino habitat would be offset by revegetating all temporary impacts using locally

collected seed immediately following project completion for each given segment. Details of the restoration program will be developed in coordination with the Service.

Construction of the BIS in Areas I and II may isolate the U.S. population from adjacent Mexican populations. The tertiary fence of the BIS varies between 150 and 300 feet north of the international border. Quino can fly as high as 50 feet during courtship behaviour, and have been cited flying over low structures such as fencing (Osborne pers comm in INS 2002c). However, adult Quino typically avoid flying over trees, buildings, or other objects taller than six to eight feet (Pratt, Parmesan, and Osborne, pers. comm. as cited in Service 2001); therefore, the construction of the secondary and tertiary fences may prevent movement of adults across the border. However, this isolation would be partially offset by the proposed abandonment and restoration of numerous roads and other habitat improvements in Quino critical habitat. See the section on Beneficial Effects below.

Fugitive dust during construction has the potential to directly affect Quino larvae. Dust can coat the host plant of Quino catepillars and wear down their mandibles, reducing their ability to chew vegetation. To avoid and minimize fugitive dust during the active larval stage (January through May), all exposed soils would be periodically (timing as stated in the SWPPP) watered down to prevent dust from becoming airborne.

Construction workers driving to and from the job site across Otay Mesa in Areas I and II could inadvertantly kill adult Quino that fly into the path of their vehicles. In addition, construction vehicles working on the project could also kill adult Quino in the same way. Because the size of the adult population is unknown and varies annually, we cannot estimate a precise number of butterflies that could be killed or injured.

Indirect Effects

Invasive species are now recognized as a major threat to biodiversity within native vegetation, second only to direct habitat loss and fragmentation (Pimm and Gilpin 1989, Scott and Wilcove 1998). Non-native, weedy species can out-compete and exclude native species, potentially altering the structure of the vegetation, degrading or eliminating habitat needed by the vireo, gnatcatcher, willow flycatcher, and Quino for breeding and foraging, and providing food and cover for undesirable non-native animals (Bossard *et al.* 2000). To reduce the potential for exotic plant invasion into natural habitat, all areas disturbed during construction would be revegetated with the appropriate native species and exotic species control measures initiated according to the Service-approved restoration plan.

There has always been illegal immigrant foot traffic throughout the border area. However, the BIS will effectively stop attempts at crossing the border by foot within 14 miles of the Pacific Ocean. This may result in redirecting illegal immigrant foot traffic to less disturbed, occupied critical habitat on the east slope of Otay Mountain in the Marron Valley area and would likely degrade quality habitat for Quino. Habitat immediately east of Otay Mountain supports a core Quino population. There is already illegal immigrant traffic through the Marron Valley area; for example, in 2000, an illegal immigrant was found dead in the middle of occupied habitat at the Marron Valley reference site (A. Anderson pers. comm. 2003). Because of the importance of the

Marron Valley area to recovery of Quino, any increased illegal immigrants traffic through this area is cause for concern.

Beneficial Effects

Completion of the BIS would reduce the direct impacts from illegal immigrants attempting to illegally cross the international border within 14 miles of the Pacific Ocean. Historic and current levels of foot traffic from people attempting to cross into the U.S. likely have affected listed species by trampling vegetation and Quino larvae, knocking listed songbirds out of their nests, and starting fires in highly flammable vegetative communities. In response to this foot traffic across the border, DHS uses teams in vehicles and on foot to pursue and apprehend perpetrators. This results in further degradation of native plant communities, by driving over native vegetation, creating new roads, shining lights into native habitat, and trampling vegetation during pursuit and capture activities. The installation of the BIS should reduce the need for numerous large teams patrolling the area north of the BIS, extensive lighting of native vegetative communities north of the BIS, and an overall reduction in use of patrol roads north of the BIS.

Another beneficial effect will be the abandonment and restoration of approximately 100 miles of select roads adjacent to the BIS project (INS 2002c). Taking select roads out of use and revegetating them with native plant species will reduce fragmentation and increase the size and quality of native plant communities. The INS has committed to abandoning the roads depicted on Figures 3, 4, and 5 upon completion of the BIS. The INS has also committed to restoring those abandoned roads that are located on public lands, which will provide about 24 acres of restored habitat. Restoration of the remaining abandoned roads would occur if permission from the landonwers can be obtained. In the event that future intelligence determines that one or more of the roads scheduled for abandonement would hinder or impede enforcement actions, an altenate road(s) of equal length would be abandoned. The INS will coordinate with the Service to identify the alternate road(s) and to schedule the closure. Furthermore, the INS will continue to evaluate the need for the patrol and access roads north of the BIS to determine if additional roads can be abandoned.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal Actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

In August 2002, the California State Parks released a Notice of Availability and Intent to Adopt an Initial Study/Mitigated Negative Declaration that identified the addition and rehabilitation of day-use facilities at Border Field State Park. The project includes the construction and landscaping improvements at the base of Monument Mesa, on Monument Mesa, Monument Road, and at the Tijuana Estuary Visitor Center. At Border Field State Park, adjacent to Goat Canyon Creek, California State Parks will construct a new entrance station kiosk on a paved area of Monument Road. The structure will be approximately 450 square feet. At the foot of Monument Mesa bluff two improvement projects are proposed that include the replacement of

public restroom facilities and repair of an existing parking lot. On Monument Mesa, California State Parks plans to add a group picnic facility with a ramada, plant native landscaping, and improve the drainage associated with runoff on the mesa top. No work has been proposed within areas having native habitat.

An ongoing problem in the Tijuana River watershed is the movement of sediment into the Tijuana estuary. Currently, large precipitation events move sediment from the upper subwatersheds in Mexico into the main stem of the Tijuana River and eventually into the Tijuana River estuary. This sediment load has been filling in estuarine wetlands at an accelerated rate. In addition, subwatersheds that feed directly to the estuary (e.g., Smuggler's Gulch and Goat Canyon) exacerbate this problem.

The project area will continue to be subjected to sewage spill events that occur in Mexico and flow across the border through Smuggler's Gulch and Goat Canyon. In addition, it is expected that unauthorized roads and trails will continue to be constructed in the southwestern portion of the Tijuana River Valley without the benefit of environmental review or associated offsetting restoration efforts for the habitat being impacted. This latter problem can only be addressed by increased law enforcement efforts along with systematic documentation of the habitat destruction and the identification of parties responsible for the impact.

Many actions that could reasonably be expected to occur within the vicinity of the proposed project will be subject to future section 7 consultations because of the numerous Federal agencies that have management or regulatory oversight in this area, including NOAA, Corps, IBWC, DHS, and INS.

CONCLUSION

After reviewing the current status of the species at issue, environmental baseline, effects of BIS, and cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the vireo, willow flycatcher, gnatcatcher, and Quino, and the project is not likely to adversely modify designated critical habitat for the gnatcatcher and Quino. We have reached these conclusions for the following reasons:

Vireo and Willow Flycatcher

- The proposed action would take one (1) pair of vireo and one (1) pair of willow flycatcher, a small proportion of the rangewide populations of these species.

- The permanent loss in Areas V and VI of 2.57 acres of southern willow scrub and 4.2 acres of mulefat scrub and 3.1 acres of waters of the U.S. is not large relative to the extent of habitat remaining over their ranges.

- The permanent and temporary impacts to southern willow scrub and mulefat scrub habitat within the Tijuana River Valley have been minimized through conservation measures incorporated into the project description that identified the replacement of these

vegetative types at a minimum of a 3:1 ratio with follow-up monitoring to ensure success of the restoration effort.

Gnatcatcher

- The proposed action would take two (2) pairs of and one (1) individual gnatcatcher(s), a small proportion of the rangewide populations of this species.

- The permanent loss of 26.3 acres of CSS, 9.3 acres of disturbed CSS, 13.1 acres of MSS, 0.8 acre of disturbed MSS, and 9.2 acres of SMC is not large relative to the amount of existing suitable habitat available in MSCP and the range of this species.

- The permanent and temporary impacts to CSS, MSS and SMC within the Tijuana River Valley have been minimized by the incorporation of conservation measures into the project description, including the restoration and enhancement of CSS, MSS and SMC.

Quino

- The proposed action would take all Quino larvae and eggs that occupy dot-seed plantain patches within constuction areas of the project footprint and two (2) adults flying along the access roads to and within the project footprint, a small proportion of the rangewide population of this species.

- The numbers of Quino that may be harmed by the loss of 42.2 acres of designated critical habitat that contain primary constituent elements is relatively small compared to the total population in critical habitat Unit 3.

- The permanent and temporary impacts of the proposed action to occupied critical habitat containing constituent elements have been minimized by the incorporation of conservation measures in the project description, including the restoration and enhancement of designated critical habitat for Quino.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and 7(o)(2), taking that is incidental to and not intended as

part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by INS and/or agencies and individuals designated by INS, as the lead federal agency for the project. INS has ongoing responsibility to regulate the activity that is covered by this incidental take statement. If INS: (1) fails to assume and implement the terms and conditions or (2) fails to require its designated agency(ies) and individual(s) to adhere to the terms and conditions of this incidental take statement through enforceable terms incorporated into contracts, grants, and permits related to work activities associated with the project, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of the incidental take, INS or its designated agency(ies) or individual(s), must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

The Service will not refer the incidental take of any such migratory bird or bald eagle for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. §§ 668-668d), if such take is in compliance with the terms and conditions (including the amount and/or number) specified herein.

Amount or Extent of Take

The Service anticipates that approximately one (1) pair of vireo and one (1) pair of willow flycatcher could be harmed as a result of this proposed action. The take may be in the form of harm and harrassment as a result of the removal of 2.57 acres of southern willow scrub and 4.2 acres of mulefat scrub that otherwise could be utilized by both of these species as foraging habitat and/or nesting habitat.

The Service anticipates that approximately two (2) pairs and one (1) individual gnatcatchers could be harmed as a result of this proposed action. The take may be in the form of harm and harrassment as a result of the removal of 26.3 acres of CSS, 9.3 acres of disturbed CSS, 13.1 acres of MSS, 0.8 acres of disturbed MSS, and 9.2 acres of SMC that otherwise could be inhabited by the gnatcatcher.

The Service anticipates that incidental take of Quino checkerspot butterfly will be difficult to quantify due to the variability of population sizes from year to year, and the difficulty in detecting individuals during the different life stages (i.e. laval in-stars, pupae, adults). If more than two (2) adults flying along the access roads to and within the project footprint are killed or injured by vehicles, INS shall report and discuss the circumstances to determine the need for reinintiation of consultation.

If, during the course of the action, incidental take of numbers higher than stated above occurs to vireos, willow flycatchers, adult Quino, and/or gnatcatchers, INS, or its designated representative(s), shall immediately notify the Service in writing as required by 50 CFR § 402.14(i). If incidental take occurs, INS, or its designated representative(s), should cease the

activity resulting in the take and reinitiate consultation with the Service. INS should provide an explanation of the causes of the taking.

Reasonable and Prudent Measures

The following reasonable and prudent measures are necessary and appropriate to minimize take of the vireo, willow flycatcher, gnatcatcher, and Quino. These measures are based on the premise that take of these species will be avoided and minimized through the implementation of the thirty-four (34) Conservation Measures as described in the Project Description of this biological opinion.

1. INS shall submit to the Service, prior to the start of construction, pertinent information required to ensure that take of these species, is minimized.

2. INS shall monitor and adaptively manage USBP operations and maintenance in lands adjacent to the 14-mile BIS to ensure that take of these species is minimized.

3. INS shall offset unavoidable project impacts by implementing the restoration and long-term management of conservation lands.

Terms and Conditions

To be exempt from the prohibitions of section 9 of the Act, INS, and its designated agency(ies) and contractor(s) (hereinafter INS) must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. INS shall implement Reasonable and Prudent Measure Number 1 through the following term and conditions:

   1.1 Ambient noise levels shall be determined prior to the start of construction.

   - All areas where vireos, gnatcatchers, and willow flycatchers may be present or have historically occured shall have ambient noise level contours along the BIS corridor determined prior to the start of construction. Noise level measurements shall be taken according to a Service-approved sampling design developed by a third party contractor with demonstrated experience conducting noise level monitoring.

   - The contractor shall prepare a report of the results of the noise level measurements to the Service for review prior to the start of any construction activities associated with Areas I, V, and VI of the BIS project. Based on the results of this report, the INS shall work with the Service to develop a plan for the design and location of all noise attenuation barriers.

1.2 The INS shall provide a map and schedule to the Service describing road closures and those roads to remain in use, along with recent aerial photographs and property ownership boundaries, for the presentation of this information.

1.3 The INS shall provide the Service with all engineering and design documents, including the SWPPP, for review and comment prior to the completion of the design process.

1.4 The INS shall submit in writing, the names, any permit numbers, resumes, and at least three references (of people who are famiar with the relevant qualifications of the proposed biologist) to the Service for review and approval of the designated biologist(s) who is responsible for overseeing compliance with protective measures for listed species during project-related activities.

2. INS shall implement Reasonable and Prudent Measure Number 2 through the following terms and condition:

2.1 The INS will monitor light levels immediatly north of the tertiary fence to ensure that light levels do not illuminate native vegetation. If lighting illuminates native vegetation north of the BIS, then INS will modify light fixtures, or design and install shields to deflect light away from the native vegetation being illuminated.

2.2 Since the effectiveness of the BIS may result in increased foot traffic of illegal immigrants into the mountains east of the BIS corridor, INS shall monitor and manage all new effects that the USBP may have on listed species and the native plant communities on which they depend. This information will be submitted to the Service as part of annual reporting requirements.

3. INS shall implement Reasonable and Prudent Measure Number 3 through the following terms and conditions:

3.1 Restoration/enhancement efforts shall be designed and implemented in a manner to ensure success.

- To establish suitable hydrological conditions necessary to create riparian habitat, the restoration site shall be excavated and graded down to the same elevation as adjacent riparian habitat. The Service, in cooperation with the Corps' Regulatory Branch, shall review and approve the final grading of the site prior to beginning the revegetation phase of the restoration plan.

- Seed mixes for all restoration efforts shall consist of clean seed of only plant species native to southwestern San Diego County. The project proponent shall not include plant species for seeding or planting that are on Lists A and B of the California Exotic Pest Council's list of Exotic Pest Plants of Greatest Ecological

Concern in California as of October 1999. If local seed is not available, the INS shall work with the Service to find an acceptable solution.

- For each of the five years of post-seeding/planting weed management, exotic annual plant species shall have no more than ten (10) percent cover for any given year. All biennial/perennial species shall be removed from the restoration/ enhancement sites.

3.2 The INS shall submit a plan for Service review and approval on the salvage and transplanting of the Baja California birdbush. INS shall coordinate with the Service in determining where and when the salvaged Baja California birdbush will be transplanted. This effort is being pursued by INS/USBP, even though it is not statutorily required, to avoid effets to this species that could lead to the possible listing of the species in the future.

3.3 Since Quino habitat includes bare ground, success criteria addressing exotic plant species on all restoration/enhancement sites within designated Quino critical habitat shall include:

- Total cover of annual exotic species for each of the five years of maintenance shall be less than five (5) percent. All biennial/perennial exotic species including but not limited to sweet fennel, starthistle, artichoke thistle, and pampas grass shall be removed from the restoration site until the success criteria in the restoration plan are met.

3.4 Since the plant communities at the border are unique, the INS shall hire a Service-approved restoration firm with a minimum of five-years demonstrated experience conducting successful comprehensive ecological restoration projects of CSS, MSS, SMC, riparian, and native grasslands in southern California.

3.5 The INS shall dedicate all restored/enhanced lands for permanent conservation through a mechanism to be approved by the Service. Prior to completing habitat restoration activities on the conservation lands, the INS shall submit a management and funding plan for review and approval by the Service.

Reporting Requirements

To demonstrate compliance with the foregoing Terms and Conditions, INS or its designated representative, shall submit an annual report, by November of each year, to the Service that describes and summarizes how the project is in compliance with the conservation measures, Reasonable and Prudent Measures, and the Terms and Conditions of this Opionion.

Disposition of Sick, Injured, or Dead Specimens

The Service's Division of Law Enforcement, San Diego, California (619) 557-5063 is to be notified within three working days should any vireo(s), willow flycatcher(s), or gnatcatcher(s) be found sick, injured, or dead in the project area. The Service's Carlsbad Fish and Wildlife Office should be notified concurrently at (760) 431-9440. Written notification to both offices must be made within five calendar days and include the collection date and time, location of the bird(s), and any other pertinent information. Care must be taken in handling sick or injured bird(s) to ensure effective treatment and care, and in handling dead specimens to preserve biological material in the best possible state. The remains of intact vireo(s), willow flycatcher(s), gnatcatcher(s), or Quino(s) shall be placed with: (1) educational or research institutions holding the appropriate State and Federal permits, or (2) the Service's Division of Law Enforcement, San Diego, California.

The Service retains the right to access and inspect the project site for compliance with the proposed project description and with the terms and conditions of this biological opinion. Because of the security surrounding the BIS, the Service will notify the Sector's Facilities Supervisor prior to entering INS/USBP lands. Any habitat destroyed outside the project footprint contemplated herein be reported immediately to the Service; reinitiation of consultation may be required. Compensation for such habitat loss will be requested at a minimum replacement ratio of 5:1.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by implementing conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on a listed species or critical habitat, to help implement recovery of a listed species, or develop information. The recommendations provided below relate only to the proposed action and do not necessarily represent complete fulfillment of the agency's 7(a)(1) responsibilities for these species relative to other agency actions.

1. INS, in conjunction with the proposed riparian restoration plan that will be implemented with the project, should construct and operate during the vireo nesting season, two brown-headed cowbird traps in the Tijuana River Valley within Border Field State Park.

2. INS should provide funding to restore additional coastal sage scrub, maritime succulent scrub, and southern mixed chaparral habitats within ruderal and disturbed lands adjacent to the BIS corridor to remedy past damage not rectified by the proposed action.

3. The proposed project would reduce the MHPA by 163.6 acres. To offset this loss, INS should purchase a commensurate amount of conservation lands adjacent to existing MHPA as part of the conservation strategy for offsetting project impacts. In selecting areas to be conserved, INS should target lands that are adjacent to but outside of the MHPA.

4. The INS/USBP should coordinate with the City of San Diego to implement an enforcement mechanism to eliminate off-highway vehicle use on lands within the MHPA.

5. The INS should participate in planning efforts to construct a sedimentation basin in Smuggler's Gulch.

6. The INS, in cooperation with the Environmental Protection Agency and the Corps' Regualtory Branch, should continue to analyze alternatives in Smuggler's Gulch that are less environmentally damaging than the proposed action.

7. The INS should incorporate into, and implement as part of, their restoration planning efforts methods for salvaging all sensitive plant species (Ogden 1999c), particularly Brand's phacelia (*Phacelia stellaris*), and reestablishing these species as part of MSS restoration efforts.

For the Service to be kept informed of actions that minimize and avoid adverse effects or benefit listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on the Border Infrastructure System Project. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this biological opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this biological opinion; (4) a new species is listed or critical habitat designated that may be affected by the action; (5) if noise attentuation barriers do not reduce construction noise levels north of the project footprint to 60 d(B)A L_{eq} hourly or ambient levels; or (6) sediment leaves the project footprint resulting in non-compliance with Water Quality Standards as determined by the State Regional Water Quality Control Board. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation. If you have any questions or concerns about this biological opinion, please contact Martin Kenney or John DiGregoria of my staff at (760) 431-9440.

Sincerely,

Peter C. Sorensen
Acting Assistant Field Supervisor

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Appendix A

Tijuana River Valley Consultations

TIJUANA RIVER VALLEY CONSULTATION HISTORY

Federal Agency and Project	Consultation Number	Date	Species Affected	Incidental Take	Habitats Affected By Project	Key Minimization & Avoidance Measures
EPA Project: construction of a 12,300 linear foot, 144-inch concrete pipeline as phase I of an outfall system	1-6-90-F-17	4/16/90	LBV, CLT, LFCR	0 take for all three species	1.2 acres of southern willow scrub (SWS) 5.1 acres of mulefat scrub	Creation of 3.6 acres of SWS and 7.65 acres of mulefat scrub habitat in the Tijuana River Valley; 3 consecutive years of brown-headed cowbird trapping; monitoring groundwater pumping to ensure riparian and cattail marsh habitats are not affected; noise not to exceed 60 decibels at occupied LBV habitat; clearing of riparian habitat in the project right-of-way shall occur from September 25 to March 15; shielding of construction lighting; placement or removal of pipeline on the ocean beach between April 1 and September 15 must be conducted under the supervision of a Service biologist; the turbidity plume generated by de-watering effluent discharged into the ocean shall not extend further than 200 feet north from the point of discharge
CORPS Project: construction of 5,400-foot pilot channel in the main stem of the Tijuana River and placement of an erodible berm in northern channel of the river	1-6-93-F-35	10/1/93 with an amendment to the biological opinion on 10/22/93	LBV	3 LBV	2.67 acres of SWS and mulefat scrub	Creation of 9.43 acres of SWS and mulefat scrub habitat in the Tijuana River Valley; construction of pilot channel and erodible berm during the non-nesting season of the LBV (March 15 -September 15); delineating LBV territories adjacent to channel construction to minimize construction impacts to occupied habitat; placement of excavated sediment from the river channel LFCR outside the 100-year floodplain

EPA Project construction of the International Wastewater Treatment Plant, canyon collectors, and construction of an ocean outfall	1-6-94-F-13	4/19/94	LBV, CCG, CLT, PPM, and designated critical habitat for LBV	1 LBV pair, 4 CCG pairs, 0 CLT Required surveys for PPM that was emergency listed 2/3/94 to determine presence or absence of this species in the project area. Re-initiation of consultation with Service if found.	0.8 acres of riparian habitat and 1.6 acres of waters of the U.S.	Directional boring of the ocean outfall underneath the Tijuana Estuary; creation of 2.4 acres of riparian habitat in the Tijuana River Valley, 5-year brown-headed cowbird trapping program; noise curtains (i.e., walls) constructed around the perimeter of tunnel staging area; noise monitoring program to ensure hourly Leq sound levels do not exceed the 60 dBA Leq threshold at LVB and CCG habitats; construction of canyon collectors to be conducted during the non-breeding season of CCG and LBV; shielding lights to ensure suitable habitat for federally listed species is protected from illumination; collection of only dry weather sewage flows; 10-year monitoring of ground-water levels and soil moisture in the river valley; turbidity plume generated de-watering operations shall extend more than 200 feet from the ocean discharge point or seaward of the surf zone; placement of the de-watering pipeline conducted during the non-nesting season of the CLT and snowy plover; development of an employee education program; designation a field contact representative responsible for overseeing compliance with protective measures for federally listed species
BR Project construction of South Bay Water Reclamation Plant and Dairy Mart Road and Bridge improvements	1-6-97-F-9	12/27/96	LVB, SWF, designated critical habitat for LBV and Proposed critical habitat for SWF	4 LVB pairs	Permanent impacts to 0.47 acres of SWS and 0.2 acres of CSS, temporary impacts to 5.83 acres of SWS, 0.04 acres of cottonwood/SWS habitat, and 1.18 acres of open water habitat	Creation of 6.77 acres of riparian habitat in the Tijuana River Valley; 0.4 acres of CSS acquisition/preservation on Otay Mesa, conduct noise monitoring studies and erect noise walls adjacent to project construction or suspend, redirect or limit the extent or timing of construction activities, if 60 dBA Leq or existing ambient background levels are exceeded adjacent to riparian habitat; clearing of riparian habitat during the non-breeding season of LBV and SWF; grading and excavation of site being created for riparian habitat during the non-breeding season of LBV and SWF; use of shields on construction lighting

CORPS Project: excavation of approximately 4,900 square feet of the Tijuana River Pilot Channel and widening the confluence of Smuggler's Gulch and the Pilot Channel by excavating an additional 4,300 square feet of channel habitat	1-6-98-F-16	1/21/98	LBV, SWF, and designated critical habitat for both species	0 take for both species	0.11 acres of SWS	Creation of 0.229 acres of riparian habitat within the Tijuana River Valley; construction activities performed during the non-breeding season of LBV and SWF; no riparian vegetation removed by excavation activities will be within any LBV territories delineated in 1997
NOAA Project: construction and operation of a diversion structure in Goat Canyon, sedimentation basins, access roads, a visual berm, and improvements to Monument Road	FWS-SDG-3302.1	1/16/03	LBV, CCG, SWF	0 take for all three species	0.394 acres of SWS, 5.928 acres of mulefat scrub, disturbed mulefat scrub, mulefat scrub mixed with elderberry, 0.716 acres of MSS, and 0.100 acres of southern mixed chaparral	Construction of all project features to be conducted during the non-breeding season of the LVB, SWF, CCG; creation of 20.71 acres of mulefat scrub, 2.59 acres of SWS, 2.16 acres of MSS, and 0.3 acres of southern mixed chaparral; all restoration areas will be maintained so non-native plants are effectively controlled ; 8.39 acres of the floodplain will be graded to facilitate the growth of SWS and mulefat scrub; impacts breeding Belding's Savannah sparrow, a State-listed species will be avoided; the diversion structure in Goat Canyon will be designed so that approximately 3 cubic feet per second of flow will be diverted into the historic Goat Canyon Creek

EPA-Environmental Protection Agency

Corps-Corps of Engineers, Regulatory Branch

BR-Bureau of Reclamation

NOAA-National Oceanic and Atmospheric Administration

LBV-least Bell's vireo

CCG-coastal California gnatcatcher

SWF-southwestern willow flycatcher

CLT-California least tern

PPM-Pacific pocket mouse

SWS-southern willow scrub

CSS-coastal sage scrub

MSS-maritime succulent scrub

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September 2, 2003

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The Honorable Asa Hutchinson
Under Secretary for Border & Transportation Security
U.S. Department of Homeland Security
Nebraska Avenue Complex
Washington, D.C. 20528

Dear Under Secretary Hutchinson:

I have serious concerns with the Final Environmental Impact Statement (FEIS) on the San Diego Border Infrastructure System -- a document that outlines plans for building a 14-mile-long triple fence along the U.S.-Mexico border. As California's Border Congressman, I am writing to share these concerns with you.

It is obvious that the security and integrity of our nation's borders should be our number one priority. Therefore, I support a well-designed and well-constructed border fence within the Tijuana River Reserve and Tijuana River Valley Regional Park that respects the natural features of the area. If constructed properly, one primary fence would adequately meet the needs of the United States Border Patrol (USBP) in fulfilling its mandate.

The Multi-tiered Fence Alternative (proposed action) in the FEIS threatens to disturb and destroy sensitive habitats, harm threatened and endangered species, limit access to cultural resources, reduce public access, and damage water quality due to increased sediments.

My specific concerns with the FEIS are as follows:

The plan mistakenly equates "more fencing" with "security". The FEIS dismisses the "Primary Fence Only" option, stating that this would be the same as taking no action. I disagree. If a single fence were built to highest specifications and were maintained properly, it would do the job.

The plan harms the environment. Plans to fill Smuggler's Gulch by moving over 1 million cubic yards of soil will create an unending erosion impact on the area. This process will not only destroy the local micro-ecosystems, but will also disrupt the natural water flow and send large amounts of sediments downstream into the marsh and other parts of the estuary. The soil in the area is highly erosive, and any cutting of natural landforms will likely send extensive amounts of soil upstream into the delicate marshland. The USBP has yet to describe long term maintenance plans to prevent erosion and sedimentation from happening.

The plan is too expensive. I am concerned with the significant amount of federal funds invested on a project that will have little impact in controlling illegal immigration. The original amount allocated by Congress for construction of the triple fence was $12 million. The nine miles already completed cost

taxpayers roughly $26 million dollars, and completion of the project – not including maintenance or mitigation – will bring the cost to over $54 million. Currently, in the area where the USBP hopes to continue construction, only 10-20 people cross a day with only 1-2 of them evading apprehension and succeeding in entering the United States. Little contraband is brought through the area. According to the Border Patrol, every two days one person is likely to succeed in scaling the fence after it is built, and the rest will likely cross in areas east of the fence.

The need for the fence no longer exists. The Illegal Immigration Reform and Immigrant Responsibility Act of 1996, the law that mandates a second and third layer fence is seven years old. It is time to review this law and analyze whether it is logical to invest an additional $26 million in an area where a relatively low number of undocumented immigrants cross the border illegally. It is never a smart move to spend money, only because the money is there. We must be flexible – and note the changes that have taken place with the passage of time. Operation Gatekeeper more than doubled the Border Patrol's manpower and provided more technological assistance; the results have been successful. Hence, the need for a third layer fence is no longer necessary.

The data in the plan is misleading. I strongly take exception to much of the data in the FEIS. It concludes that land values have risen due to the border fence. It points to the construction of a shopping mall constructed in 2002 west of the San Ysidro POE – but gives no data to show a direct correlation between the construction of this mall and the building of a fence. Additionally, the comment that "violent crimes, in particular murder, rape, and robbery, have been eliminated" gives a false impression on the fence's impact since the comparison shows murder and rapes decreasing from 1 to 0 and robberies decreasing from 2 to 0.

We must improve the ability of the border patrol to conduct its operations in a smart and effective manner. However, we must make sure that any changes to the border infrastructure are cost-effective, environmentally sound, and, in fact, necessary!

Sincerely,

BOB FILNER
Member of Congress

BF/ig
2124602

cc: Todd Smith, USACE Border Barriers Program
Mark Deleplaine, Coastal Commission

THE CITY OF SAN DIEGO

RECEIVED
SEP 22 2003
CALIFORNIA
COASTAL COMMISSION

September 17, 2003

Mark Delaplaine
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Dear Mr. Delaplaine:

Subject: TRIPLE BORDER FENCE

On September 10, 2003, the City of San Diego's Community Forest Advisory Board voted unanimously to send this letter ***objecting*** to the proposed Triple Border Fence, the 14-mile Border Infrastructure System which will irrevocably impact the environmental health of the region. The Community Forest Advisory Board is established in the San Diego Municipal Code and its members are appointed by the Mayor and confirmed by the City Council. A major part of our mission is to preserve existing trees and vegetative cover. The proposed project will result in the irretrievable loss of trees, shrubs and grassland. A project of this scale, with potentially disastrous environmental consequences, will be imposed on two urban communities. The well-being of citizens of San Diego and Tijuana will be compromised.

The ramification of permanently destroying 270 acres of valuable wetland, riparian woodland and upland habitat extends far beyond loss of vegetation. It creates long-term air and water quality problems, not just for neighborhoods near the border, but for both cities in their entirety. It negates the 250 million dollars already spent on restoration, research and water quality improvement at the Tijuana River National Estuarine Research Reserve, one of the most valuable water quality and wildlife resources on the Pacific Coast.

Please let us know what you are doing to oppose the Triple Border Fence. And please let us know how we can help you.

Sincerely,

Nancy J. Hughes

Nancy J. Hughes
Chairperson
Community Forest Advisory Board

cc: Members, Community Forest Advisory Board
Tom Story, Senior Policy Advisor to Mayor Dick Murphy
Terri Williams, City Manager's Liaison to Community Forest Advisory Board

DIVERSITY
BRINGS US ALL TOGETHER

Community Forest Advisory Board
Attn: Manager's Liaison to Board
1200 Third Avenue, Suite 224 • San Diego, CA 92101-3869
(619) 533-4563 • (619) 234-2915 (FAX)

SWIA

RECEIVED
AUG 29 2003
CALIFORNIA
COASTAL COMMISSION

August 25, 2003

The California Coastal Commission
c/o Mark Delaplaine, Federal Consistency Supervisor
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Dear ~~Mr. Delaplaine~~ Mark:

This letter is written by the Southwest Wetlands Interpretive Association (SWIA) in response to the EIS for the completion of the 14 mile Border Infrastructure System, San Diego, California.

SWIA was founded in 1979 as a Cooperating Association with the California Department of Parks and Recreation. Our mission is to protect Southern California Wetland Ecosystems, educate the public about them, acquire and transfer land for protection against development within and adjacent to them, to protect them against pollution and to restore and monitor them.

Our specific accomplishments include partnering with multiple agencies and political leadership to establish the Tijuana Slough National Wildlife Refuge, to establish the Tijuana Slough National Estuarine Research Reserve, to participate in the construction of the visitor center at the national reserve and to partner with agencies to restore, rehabilitate and monitor wetlands within the Tijuana Estuarine Ecosystem.

SWIA is aware of the difficulties the INS faces in protecting the international borders of the United States. We also recognize that area V and VI of this project will have significant impacts on endangered species, public trust lands and resources including lands belonging to the City of San Diego, San Diego County, The State of California and Federal Lands. These lands include coastal salt marsh habitat, maritime succulent scrub, coastal sage scrub, riparian systems in and adjacent to the project. In addition are significant archeological and cultural sites, and recreationally important lands including Border Field State Park and the Tijuana River Valley Park.

The proposed project will impact all of the aforementioned both directly and indirectly. There is great concern about the specifics of hydrological and sediment impacts within the entire wetland ecosystem including both the riparian and saltmarsh components.

Southwest Wetlands Interpretive Association ▪ P.O. Box 575 ▪ Imperial Beach, CA 91933
tel. (619) 575-0550 ▪ fax (619) 424-6420 ▪ www.swia4earth.org

Printed on recycled paper. 30% post-consumer waste. Printed with soy-based ink.

The planned project will result in serious impacts affecting the biological, hydrological, cultural, recreational and topographic components of the entire Tijuana River Valley and Coastal Salt Marsh. The guidelines laid out in the Biological Opinion will help to ameliorate some of the damage during and after construction but there still does not appear to be an attempt made to come up with an Environmentally Preferred Alternative for the EIS. An alternative that addresses border protection and environmental protection is needed.

Recommendations have been suggested that would minimize the ecological, hydrological and topographic damage but with little or no response to incorporate these ideas into the planning process by the INS. A federal mediation opportunity was initiated several years ago that would have given agencies, elected officials, the public and the INS a format to discuss and incorporate alternatives to the "preferred alternative." The INS refused the opportunity to discuss project modifications. This pattern of rejection has occurred numerous times since the inception of the project.

There have been recommendations to minimize the project impact at Border Field and Smugglers Gulch in addition to other recommendations and modifications but these have not been fully analyzed for possible implementation.

The footprint of the project will heavily impact lands conserved by the Multiple Species Conservation Program, MSCP. There will be no new MSCP lands acquired to offset this loss of about 100 acres. It should be mandatory that these losses be compensated for by acquisition of private lands that have similar habitat value.

There are still great concerns about the potential impact of this project on threatened and endangered species and critical habitat adjacent to the footprint. Noise and light have been addressed as factors that have significant effect on behavior patterns. These problems and solutions to some of them have been discussed in the biological opinion and should be diligently adhered to during all phases of construction if this project goes forward. Protection against noise and lighting need more clarification.

Sediment control poses a very serious problem. Sediment arises from a number of areas including the border mesas due to poor farming practices, border patrol roads, loss of vegetation and sediment arising in Mexico due to slope destabilization and development in canyons adjacent to the border. It must be recognized that poor land management practices on the United States side of the border significantly contribute to this problem. The sediment problem is certainly not all generated by Mexico. This needs to be studied and clarified.

Grading the mesa tops adjacent to Smugglers Gulch to create a high speed road needs more study with reference to hydrology and sediment transport. Moving over 2 million cubic yards of fill from the mesa tops into the gulch is ecologically unsound and could have catastrophic consequences due to accelerated sediment accretion in the tidal creeks of the Tijuana Estuary. The accretion in these creeks is multifold greater than similar salt marshes according to research data gathered at the reserve. This has an impact on tidal

circulation, nutrient distribution, the tidal prism and ultimately the health of the entire marsh.

If the grading and filling of Smugglers Gulch overrides the objections and findings of hydrological studies, the Regional Water Quality Control Board, agencies and other interested parties then the INS should be required to construct sediment basins in Smugglers Gulch and maintain these basins similar to the sediment basin project in Goat Canyon.

More than thirty million dollars have been spent over the past 25 years to protect the sensitive lands in the Tijuana Valley, the Tijuana Estuary and the Border Mesa Complex. It seems senseless to promote a preferred alternative that will heavily impact this complex when there are alternatives that should be evaluated to prevent these impacts.

The INS follows a mandate voted in by an act of Congress. There is little or no latitude within this mandate that takes ecological, cultural or recreational concerns into consideration. The congressional representatives in the district where this project is being considered understand the dilemma and have helped us try to find alternatives to the current project design. Representatives from other areas of the country do not understand the complexity of the issue. If this law were amended to allow an alternative project that meets the objectives of the project and protects the natural resources, cultural heritage and public trust this would be ideal.

The congressional mandate should be amended. An interdisciplinary team including agencies, scientists, elected officials and public members should be convened to find an acceptable alternative that allows for protecting the international border and the land form, biological resources, cultural resources and recreational lands simultaneously. It should not be an either or situation, rather it should be a cooperative venture between the INS and other interested parties. This would lead to an acceptable compromise.

Sincerely,

Mike

Michael A. McCoy, DVM
Vice President SWIA

September 6, 2003

To: Mr. Mark Delapaine
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

RECEIVED
SEP 08 2003
CALIFORNIA
COASTAL COMMISSION

Dear Mr. Delapaine;

I am strongly opposed to the INS preferred alternative for the Border Infrastructure System. The Tijuana Estuary and Borderfield State Park and the other parts of the fourteen mile triple border fence proposal will cause irreversible and irreplaceable impacts on this region which includes valuable wetlands, riparian and upland coastal habitat.

The government has already spent close to 250 million dollars on restoring the adjacent Tijuana estuary and has budgeted another ten million for Borderfield State Park.

The project, as proposed, will cause sediment loading at Smuggler's Gulch and Yogurt Canyon, to name only two effects, and conflicts with the Clean Water Act, Coastal Zone Management Act and the Endangered Species Act. The area already is contained in the Multiple Species Conservation Planning Area. The western most part of the proposal is part of the Tijuana River National Estuarine Research Reserve and should be protected on those merits alone.

Please remind the Coastal Commissioners that they must adhere to the mandate to preserve these remaining coastal areas now. They must not follow the governments example in disengage itself from environmental laws. Refuse this permit for the Triple Border Fence.

Very Truly Yours;

Cheryl A. Reiff

Cheryl Reiff
1152 Sloan Canyon Road
Jamul, CA 91935

September 6, 2003

To: Mr. Mark Delapaine
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

RECEIVED
SEP 08 2003
CALIFORNIA
COASTAL COMMISSION

Dear Mr. Delapaine;

I am strongly opposed to the INS preferred alternative for the Border Triple Fence with Mexico. This project bisects Friendship Park and destroys the adjacent Borderfield State Park, built as a symbol of friendship between our two countries.

The government has already spent close to 250 million dollars on restoring the Tijuana estuary and has budgeted another ten million for Borderfield State Park. The best alternative would be for the INS to reinforce and repair the existing single fence instead of pursuing this needless project.

The preferred alternative (by the INS) will require substantial cutting/grading of Smuggler's Gulch and Yogurt Canyon. Several valleys will be filled to create earthern berms (up to 165 feet high) for the fences and roadways. The entire fourteen mile system will permanently impact 270 acres of valuable riparian and upland wetlands.

Please inform the Coastal Commissioners that they must adhere to the mandate to preserve these remaining coastal areas now. Refusing this permit for the triple border fence is the only reasonable action that our Coastal Commissioners can take if they truly represent the people and the good of the environment.

Very Truly Yours;
Elizabeth Kottwitz

Elizabeth Kottwitz
1268 22nd St.
San Diego, CA 92102

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September 6, 2003

RECEIVED
SEP 08 2003
CALIFORNIA
COASTAL COMMISSION

To: Mr. Mark Delapaine
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Dear Mr. Delapaine;

The Immigration and Naturalization Service (INS) has requested a permit to build a "triple border fence" on the Mexico- U.S. border. There is now a single fence with many holes running through Borderfield State Park and Friendship Park, dedicated some years ago as a symbol of friendship between our two countries. Efforts to repair and reinforce the existing fence is a viable alternative that needs to be considered at the very least on a trial basis.

Also, there are several sites of archeological importance from more than 6,000 years ago that are irreplaceable and threatened by this expansion.

The proposed triple fence will have significant impacts to adjacent wetlands from sediment loading due to the substantial amount of grading and filling of canyons and valleys required for the proposed project.

Please convey to the Coastal Commissioners that the time to refuse approval for this project is now! Too much is at stake and once the area is bulldozed over, it will never be recovered. Approval would not be in compliance with the Coastal Commission's mandate to protect our valuable coastal areas.

Thank you for your consideration of my views.

Very Truly Yours;

Francis L. Cooper

Francis L. Cooper
2459 Market street
San Diego, CA 92102

Mark Delapaine
45 Fremont Street
Suite 2000
San Francisco, CA 94105-2219

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SEP 08 2003
CALIFORNIA
COASTAL COMMISSION

The California Coastal Commission should refuse a permit for the proposed triple border fence, the government's preferred alternative for the Border Infrastructure System. The Tijuana Estuary and Borderfield State Park must be protected from sediment loading. Smuggler's Gulch and Yogurt Canyon must be preserved intact.

Our government has already spent 250 million dollars on restoring the estuary and has budgeted another 10 million for Borderfields State Park. It is outrageous that INS will not consider reinforcing and fixing the existing fence instead of destroying the irreplaceable.

Even if the government has exempted itself from all environmental laws, the coastal commission must not.

Sincerely,
Ellen Shively

Ellen Shively
6011 Cumberland Street
San Diego, CA 92139

FAX
415 904 5400

September 6, 2003

To: Mr. Mark Delapaine
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

RECEIVED
SEP 08 2003
CALIFORNIA
COASTAL COMMISSION

Dear Mr. Delapaine;

I understand the California Coastal Commission soon will be considering the permit for the INS to continue construction of the triple border fence project on the border between Mexico and the U.S.

The San Diego Chapter of the Sierra Club has heard several presentations on this topic over the past six months. Representatives of our 17,000 members have unanimously voted against this expansion of the existing divisive fence on environmental and humanitarian grounds.

Simply put, this project is not needed. The proposed triple fence bisects Friendship Park, developed as a symbol of friendship between our two countries. The proposal will destroy the Borderfield State Park and the functionality of the Tijuana River National Estuarine Research Reserve. 6,000 year old archeological sites will be destroyed.

Due to extensive impacts of a fourteen mile graded set of fences, over 270 acres of valuable wetland, riparian and upland habitat will be permanently destroyed. Pilot projects have already disturbed over 143 acres as a test site. The western most part of the project is part of the Tijuana River National Estuarine Research Reserve. Cutting and grading of these mesas and the filling of the valleys to create earthern berms will have devestating effects of the remaining undisturbed sections.

Over 250 million dollars in federal and state tax levies have already been spent on restoration, research and water quality improvement projects, with another ten million budgeted. It does not make sense to approve such a needless and destructive proposal when a single existing single fence can be repaired. Please advise the Coastal Commissioners to recommend this alternative at least on a trial basis.

Thank you.

Yours Truly;

Richard Miller
Executive Committee Chair
San Diego Chapter, Sierra Club

SEP-8-2003 02:11 FROM:SIERRA CLUB,SAN DIEG 619-299-1742 TO:14159045400 P.1

September 6, 2003

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SEP 0 8 2003
CALIFORNIA
COASTAL COMMISSION

To: Mr. Mark Delapaine
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Dear Mr. Delapaine;

Please inform the Coastal Commissioners to stand firm against the proposal for the Triple Border Fence permit as requested by the INS. The government has already spent close to 250 million dollars on restoring the adjacent Tijuana estuary and has budgeted another ten million for Borderfield State Park.

The project, as proposed, will cause sediment loading at Smuggler's Gulch and Yogurt Canyon, to name only two effects, and conflicts with the Clean Water Act, Coastal Zone Management Act and the Endangered Species Act. The area already is contained in the Multiple Species Conservation Planning Area

In addition, the entire 14-mile Border Infrastructure System will permanently impact 270 acres of valuable wetland, riparian and upland habitat. Of these, 143 acres have already been disturbed in pilot project sites. The western most part of the proposal is part of the Tijuana River National Estuarine Research Reserve and should be protected on those merits alone.

Adhere to your mandate to preserve these coastal areas intact. Do not follow the government's example to disengage itself from environmental laws. Refuse this permit for the Triple Border Fence.

Most Sincerely;

Michael Conway
333 west D. St.
Encinitas, CA 92024

September 6, 2003

RECEIVED
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CALIFORNIA
COASTAL COMMISSION

To: Mr. Mark Delapaine
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Dear Mr. Delapaine;

Please inform the Coastal Commissioners to stand firm against the proposal for the Triple Border Fence permit as requested by the INS. It is outrageous that the INS will not consider reinforcing and fixing the existing fence, after the government has already spent close to 250 million dollars on restoring the adjacent Tijuana estuary and has budgeted another ten million for Borderfield State Park.

The Tijuana Estuary and Borderfield State Park must be protected. The project, as proposed, will cause sediment loading and conflicts with the Clean Water Act, Coastal Zone Management Act and the Endangered Species Act. The area already is contained in the Multiple Species Conservation Planning Area which should provide protection on those merits alone.

Please maintain your high standard to preserve these coastal areas intact. Do not follow the government's example to disengage itself from environmental laws. Refuse this permit for the Trriple Border Fence.

Most Sincerely;

Martha Coffman
1503 Bobwhite Lane
El Cajon, CA 92020

RECEIVED
SEP 0 8 2003
CALIFORNIA
COASTAL COMMISSION

CALIFORNIA COASTAL COMMISSION

Att. Mark Delapaine
45 Fremont Street, Suite 2000,
San Francisco, CA 94105-2219
T. (415) 904-5200,
FAX (415) 904-5400.

September 3, 2003

Dear Sirs,

Please consider denying the proposed triple fence (the 14-mile BIS (Border Infrastructure System) for the border area at San Diego County. The proposed triple fence will alter an enormous area of wetlands and riparian habitat that is now so rare in our state and so important to our declining wildlife. The project is extremely damaging as proposed, and will level our mesas and fill up canyons completely destroying some areas and severely damaging others, effectively ruining a rich and diverse habitat.

The Project conflicts with the Clean Water Act, Coastal Zone Management Act and the Endangered Species Act, is in a Multi Species Conservation Planning Area and will have severe impacts on the Tijuana River Estuary Area. If it goes ahead, millions of dollars already spent on restoring and upgrading this habitat will have been wasted.

It is well known that the impact of illegal immigration on this area is now much reduced due to other border patrolling efforts and with some kind of repair it is highly likely that the existing fence could serve just fine.

Please consider denying this project and directing the project towards ways of fixing and adjusting the existing fence in order to maintain this valuable habitat while protecting our land. Please give this less damaging alternative a chance to work. Anything short of this would be a tragedy for the natural environment of our area.

Thank you very much for allowing me to present my views.

Nuri Pierce

Nuri Pierce
(619) 4402168
10746 Melva Rd., La Mesa, CA 91941

September 4, 2003

RECEIVED

SEP 0 8 2003

CALIFORNIA
COASTAL COMMISSION

Mark Delaplaine
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Dear Mr. Delaplaine,

I'm writing to protest the Triple Border Fence being proposed by the federal government. This project, if approved, will have an adverse affect on the down stream environment of the ~~cover~~ LOWER Tijuana River Valley and Estuary.

I don't believe a project of this scale is necessary to have effective border security. Many people have worked far too long and hard to see this area harmed by an ill-considered project. I hope your office will support the coastal environment by opposing this unnecessary project.

Sincerely yours,

Jose Carvajal
3061 "C" Street
San Diego, CA 92102

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SEP 0 4 2003
CALIFORNIA
COASTAL COMMISSION

August 28, 2003

Mark Delapane
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

RE: Oppose Triple Border Fence

Dear Mr. Delapane:

I'm writing to express my opposition to the proposed fourteen-mile Border Infrastructure System (triple border fence) and to urge the Coastal Commission to find that this project is **not** in compliance with the California Coastal Act. Section 30240 of the Act states that "Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas".

The proposed project clearly disrupts habitat values of habitat values within the Coastal Zone. This project will cut \ mesas and fill valleys containing a 270 acres of wetland and sensitive upland vegetation communities providing habitat for at least five rare plant species. Sensitive plant species impacted include:

- Approximately half of the only U.S. population of Baja California birdbush, a candidate for listing as a California endangered species will be destroyed by the project;
- One of three populations of Brand's phacelia, a CNPS List 1B (i.e. CEQA-significant) species;
- Nuttall's lotus, a CNPS List 1B species whose distribution is limited to seven areas in coastal San Diego;
- Golden spine cereus, a CNPS List 2 species (also CEQA-significant) limited to coastal San Diego, San Clemente Island, Santa Catalina Island, and Baja California.
- South coast salt scale, a CNPS List 1B species.

Please do not let legitimate concerns about the threat of terrorism lead to xenophobic overkill and cause you to lose sight of your mandate to protect our natural heritage in the coastal zone. Your decision will have permanent and unalterable consequences for the fate of unique natural habitats.

I appreciate your attention to this letter and respectfully request a full and complete replay to the points made herein.

Sincerely,

David Flietner

David Flietner
4430 Cleveland Avenue #18
San Diego, California 92116

Mark Delaplaine
45 Fremont Street, Suite 200
San Francisco, CA 94105-2219
FAX 415-904-5400

September 3, 2003

Re: Proposed Triple Border Fence between San Diego and Mexico

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SEP 04 2003
CALIFORNIA
COASTAL COMMISSION

Dear Mr. Delaplaine:

I am writing to urge the California Coastal Commission to oppose the Triple Border Fence. I am very unhappy that the only U.S. population of a rare plant will be destroyed by this fence, and that other very rare populations will also be affected. The area in question is a tiny remnant of the coast before massive development wiped out the majority of natural living systems. I feel that this is sufficient justification for more and better thinking about how Border Control can accomplish it's mission without destroying our country.

Thank you for your consideration.

Best Regards,

Carrie Schneider
858-352-4413

Jane Carrie Schneider

2621 32ND Street *San Diego CA 92104* *cschneid@n2.net*

375 Jason Place
Chula Vista, CA 91910
August 27, 2003

Attention: Mark Delapaine
California Coastal Commission
45 Fremont St. Suite 2000
San Francisco, CA 94105-2219

California Coastal Commission Commissioners:

This is an urgent appeal to you to please save the last of our valuable, irreplaceable riparian and salt marsh habitats. The federal government's BIS (triple border fence) is an absolutely inexcusable assault upon our protected lands. The easily erosion subject soils of the canyons they plan to bulldoze are one of the only remaining homes for a floral that was unique to San Diego County.

Currently there is a feeble fence with holes in it running through Borderfields State Park. Fortifying this fence would be a sensible alternative to filling in canyons and their irreplaceable habitat, paving roads and burying salt marsh, as the government's preferred alternative would do. The government's pilot project further east has already caused significant sediment loading damage.

They need to treat the equally steep and more environmentally sensitive Smuggler's Gulch and Yogurt Canyons the same way as Goat Canyon by leaving them alone. Moving the quantity of dirt proposed would lead to an incredible amount of sediment loading that would bury precious salt marsh. 250 million federal and state dollars have been spent to restore and enhance these public lands. It is insane to destroy them for an unnecessary project such as this.

Not only environmental resources would be destroyed by this alternative, but also cultural resources as old as 7,000 years. Borderfields was established as a Friendship Park to enhance relations with Mexico. This proposed infrastructure is hardly a friendly or neighborly gesture. Please vigorously defend the valuable California coastal lands by strongly opposing the government's BIS. Destroying the effectiveness of the Tijuana Estuarian Research Reserve will not enhance our national security.

Sincerely,

Robert Boyd Robert S Boyd

RECEIVED
AUG 27 2003
CALIFORNIA
COASTAL COMMISSION

Mark Delaplaine
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

RECEIVED
AUG 2 5 2003
CALIFORNIA
COASTAL COMMISSION

August 21, 2003

RE: Triple Border Fence
San Diego, CA

Dear Sir:

The Coastal Commission should oppose the triple border fence as designed.

It will greatly effect threatened and endangered species in the area.

It will cause unbearable siltation and degradation of water quality and habitat quality at Tijuana Slough.

I will not even comment on its effect on international relations or human rights. That's probably outside your purview.

Let me know what I can do to help stop, or at a minimum, re-design this terrible obstruction.

Sincerely,

Peter H. St.Clair
2341 Whitman St.
San Diego, CA 92103
peter.stclair@sbcglobal.net

(I am also legislative chair of the San Diego Chapter of the California Native Plant Society)

L. Louise Pardy
2500 69th Street
Lemon Grove, CA 91945

RECEIVED
AUG 25 2003
CALIFORNIA
COASTAL COMMISSION

19 August 2003

To: Mr. Mark Delaplaine
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Subject: Modification of Border Fence to Avoid Significant Impacts to Native Plant and Wildlife Habitats Is Needed

I am writing to ask the California Coastal Commision to request modification of the proposed border fence. A single reinforced fence that follows the contours of the land should be considered a viable alternative. The proposed triple fence with two paved roads would cause substantial negative impacts to native plant communities, watershed hydrology, and wildlife corridors. These impacts could be avoided by modifying the proposed project to preserve the natural contours of the land as much as possible, and preserving the natural hydrologic function(s) of the watershed. As proposed, the proposed project is likely to result in the following significant impacts:

Native Plants -The triple fence project if constructed would result in the direct loss of unique plant communities. Approximately half of the sole U.S. population of *Ornithostaphylos oppositifolia* will be impacted. The fence across Lichty Mesa will impact one of three known populations of *Phacelia stellaris*. In addition, it will result in the loss of *Lotus nuttalianus*, *Bergerocactus emoryi*, and *Atriplex pacifica*.

The triple fence project will also result in the loss of plant communities due to hydrologic impacts. Storm water runoff velocity will increase due to the impervious triple roadway. The runoff from the roadway will cause hillsides to become unstable and erode away. Large channels and gullies will form downstream of the roadway. The long-term cost of the triple fence will be significant in terms of the need to repair downstream watersheds. Lowland habitats such as Border Field State Park and Tijuana Estuary National Wildlife Refuge will be buried with sediment, at an increasing rate. The increased runoff velocity will favor an increase in disturbance-oriented invasive exotic plant communities at the expense of native plant communities. Long-term negative impacts to native plant communities will reduce the health and diversity of native wildlife communities that are dependent upon these habitats.

Hydrology - The triple fence will require substantial cutting/grading of mesas and fill of several valleys to create earthen berms for fences and roadways that will negatively impact the hydrologic function(s) of downstream areas. Riparian habitat(s) in Smuggler's Gulch and Yogurt Canyon, and at least ten acres of highly valuable salt marsh in the Tijuana River estuary will be adversely affected. The triple fence is expected to result in an increase in storm water velocity from the site, and increase the loading of sediment into areas downstream. Erosion of sediment into natural areas such as Border Field State Park and the Tijuana Estuary will increase. The Tijuana Estuary has already been placed on the federal Clean Water Act, Section 303(d) list of impaired waters due to excess sediment, and Border Field State Park has been buried by sediment. Please request that the project be modified to a single fence that preserves the natural contours of the land. A border fence project should allow protection of habitats downstream of the project so that plant communities and wildlife habitats can recover and be restored to natural functions. A triple fence is expected to exacerbate erosion, and cause even greater sediment loading of environmentally fragile ecosystems.

Sincerely,

L. Louise Pardy

KARIN ZIRK
4629 CASS st
188
SAN DIEGO
CA 92109

Aug 19, 2003

RECEIVED
AUG 20 2003
CALIFORNIA
COASTAL COMMISSION

Mark Delaplaine, CCC
45 Fremont st #2000
SF CA 94105

RE: Opposition to triple fence on Border

Creating a triple fence & paved roads along the Mexican Border in San Diego will cause environmental devistation in the Tijuana River National Estuarian Research Reserve.

A single reinforced fence is a viable alternative. We need to strengthen our ties with Mexico and reduce illegal immegration by supporting Mexico's economic reforms not by paving over our natural resources

Regards

3730 Festival Court
Chula Vista, CA 91911
August 13, 2003

RECEIVED
AUG 1 9 2003
CALIFORNIA
COASTAL COMMISSION

Attention: Mark Delapane
California Coastal Commission
45 Fremont St. Suite 2000
San Francisco, CA 94105-2219

California Coastal Commission Commissioners:

This is an urgent appeal to you to please save the last of our valuable, irreplaceable riparian and salt marsh habitats. The federal government's BIS (triple border fence) is an absolutely inexcusable assault upon our protected lands. Currently there is a feeble fence with holes in it running through Borderfields State Park. Fortifying this fence would be a sensible alternative to filling in canyons and their irreplaceable habitat, paving roads and burying salt marsh, as the government's preferred alternative would do.

They are not going to destroy Goat Canyon, which is good, but if they can see the foolishness of messing with this steep canyon why are they intent upon destroying the equally steep and more environmentally sensitive Smuggler's Gulch and Yogurt Canyons? 250 million federal and state dollars have been spent to restore and enhance these public lands. It is insane to destroy them for an unnecessary project such as this. There are other less damaging alternatives to the government's preferred alternative that should at least be tried first.

Not only environmental resources would be destroyed by this alternative, but also cultural resources as old as 7,000 years and the Friendship Park established to enhance relations with out nearest neighbor. Please vigorously defend the valuable California coastal lands by strongly opposing the government's BIS. Destroying the effectiveness of the Tijuana Estuarian Research Reserve will not enhance our national security.

Sincerely,

Theresa B. Acerro

John Stevens Robey & Isabelle Gaston
P.O. Box 714
Solana Beach, CA 92075-0714
858-509-2965
steve.robey@sbcglobal.net

Tuesday, November 20, 2001

California Coastal Commission
C/o Mark Delapane (415) 904-5200
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219
FAX 415 904-5400.

Dear Commsissioner .

I am writing to you to request that your seriously consider **a single reinforced fence** as a viable alternative for the proposed border fence between the US and Mexico.

The government [roposed alternative will require substantial cutting/grading of mesas and fill of several valleys to create huge man made earthen berms for the fences and roadways. The project conflicts with the Clean Water Act, Coastal Zone Management Act and the Endangered Species Act and is in a Multi Species Conservation Planning Area. It will result in the complete destruction of riparian habitats in Smuggler's Gulch and Yogurt Canyon, and at least 10 acres of highly valuable salt marsh in the Tijuana River estuary. The project will also have significant impacts to wetlands from sediment loading due to the substantial amount of grading and filling required for the proposed project. There has been significant degradation from sediment in the last several years that has buried 10 acres of the estuary.

There is a danger this will even destroy the functionality of the Estuary.

Please consider single reinforced fence alternativeas the environmental impact will be much less severe.

Sincerely,

John Stevens Robey & Isabelle Gaston
P.O. Box 714
Solana Beach, CA 92075-0714
(858) 509-2965

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AUG 19 2003
CALIFORNIA
COASTAL COMMISSION

Callie Mack
digital and traditional illustration
8529 Jackie Drive • San Diego, CA 92119 • Tel/fax (619) 461-7050
www.cmackillustration.com • email: callie@sdccu.net

Tuesday, August 19, 2003

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COASTAL COMMISSION

Mr. Mark Delaplaine
California Coastal Commission
45 Fremont Street
Suite 2000
San Francisco, CA 94105-2219

Dear Mr. Delaplaine:

The Immigration and Naturalization Service (Border Patrol) is planning to construct an environmentally disastrous triple border fence and two paved roads in and near Tijuana River National Estuarine Research Reserve. I am writing to ask the California Coastal Commission to require the INS to consider a single reinforced fence and no paved roads as a viable alternative.

The impacts to the local environment will be severe. Approximately half of the sole U.S. population of *Ornithostaphylos oppositifolia* will be lost, and the fence across Lichty Mesa will impact one of three known populations of *Phacelia stellaris*. It will result in the loss of *Lotus nuttalianus, Bergerocactus emoryi,* and *Atriplex pacifica*. It will impact the Belding's savannah sparrow, California least tern and light-footed clapper rail through loss of habitat, both from planned construction and the likelihood of further siltation of the Tijuana Estuary.

The EPA has found that entire 14-mile BIS (Border Infrastructure System) will permanently impact 270 acres of valuable wetland, riparian and upland habitat, 143 acres of which have already been impacted in pilot project areas and 126 acres which will be impacted under the preferred alternative for the remaining project areas. ***We have already lost around 90% of our salt marsh habitats in California; we can't afford to lose any more.***

The western-most part of the project is part of the Tijuana River National Estuarine Research Reserve. ***Over 250 million dollars in federal and state tax dollars*** have already been spent on restoration, research, and water quality improvement projects in this area to protect and restore the health of this river and estuary. The preferred alternative will require substantial cutting/grading of mesas and fill of several valleys to create earthen berms (up to 165 feet high) for the fences and roadways.

The project conflicts with the Clean Water Act, Coastal Zone Management Act and the Endangered Species Act, and is in a Multi Species Conservation Planning Area. It will result in the complete destruction of riparian habitats in Smuggler's Gulch and Yogurt Canyon, and at least ***10 acres of highly valuable salt marsh*** in the Tijuana River Estuary. The project will also have significant impacts to wetlands from sediment loading due to

the substantial amount of grading and filling required for the proposed project. There has already been significant degradation from sediment in the last several years that has buried 10 acres of the estuary. There is a real danger that this additional sedimentation will destroy the functionality of the Estuary.

Several sites of archeological importance (more than 6,000 years old) are also threatened. The proposed triple fence will bisect Friendship Park and destroy Border Field State Park (originally constructed as a symbol of friendship between Mexico and the U.S.)

This project is badly planned, environmentally horrific, a waste of taxpayer dollars, and just plain unnecessary. There is now a single fence, poorly maintained and riddled with holes, running through Border Field State Park and environs. Most immigrants have been forced east into the mountains or desert by the INS' Project Gatekeeper; the illegal immigrant traffic through the area is currently quite low. ***A single, well-reinforced fence is a viable alternative that needs to be considered.*** There is no need for our nation to destroy our irreplaceable and invaluable natural resources under the cloak of "national security" when there are equally workable solutions available.

Yours truly,

Callie Mack

Callie Mack

Aug. 13, 2003

Dear Mr. Delapaz,

May I introduce myself. My name is Mrs. Sally Bartlett: mom, teacher, church member, and civic volunteer. Keeping our community nice for everyone, including wildlife, is a priority. I guess we agree on the letter.

One of my recent projects was to replant an area in the Tijuana Estuary. An old dump site was transformed into a beautiful area to walk and learn about life. Many generations will benefit.

Now this area may be threatened by the construction of a triple fence. This is considered a severe danger to our precious research reserve. Two paved roads nearby would harm wildlife and fragile plants. Please modify these plans for minimal effect on our estuary.

Let's continue to use our heads and hearts to make decisions -- not use lawyers and politicians.

Sincerely,

Sally Bartlett

9/4/03

Dear Sirs,

I am very opposed to the triple border fence. The existing fence should be repaired and maintained and any more work on the triple fence should be scrapped. It is appalling that this fence will cut through very sensitive environmental areas and do such great damage to wildlife and the landscape.

This fence will bisect Border Field State Park and Friendship Park, a symbol of friendship between Mexico and the United States. The fence will turn this symbol into a joke.

Please do all you can to oppose this fence.

Thank you for considering my comments.

Sincerely,

Judy McIntosh
10455 Don Pico Rd.
Spring Valley, CA 91978

September 17, 2003

Mark Delaplaine
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Dear Mr. Delaphine:

I am writing to urge you to consider an alternative to the proposed Border Fence infrastructure Project. I believe that the existing proprosal, with its massive grading, will destroy the existing natural environment and result in the loss of many rare plants and animals in what should be regarded as a protected area.

More than a decade ago, I was privileged to tour the Smuggler Gulch and Spooner's Mesa area. At that time, the area was being considered for a sand and gravel operation. But, because of its unique characteristics, efforts to protect the area ensued resulting in the supposed) protection of an MSCP preserve.

However, once again, the area is being threatened, this time by massive grading for a triple fence and paved roads. I believe it would be tragic to destroy our natural landscape and the rare plants and animals that are dependent.

It is required by law that a biologically preferred alternative be considered in the EIS. I urge you to consider such an alternative.

Sincerely,

Linda Michael

Linda Michael
3390 Lake Apopka Place
San Diego, CA 92119

(619) 463-4580

September 18, 2003

Mark Delaplaine
CA Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

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SEP 18 2003
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COASTAL COMMISSION

RE: Border Infrastructure System

Dear Mr. Delaplaine,

I am a resident of San Diego and am writing on the issue of the Border Infrastructure System to ask the CCC to stand up to the Feds in protecting our local habitat from bad policy and bad planning. I am sure that you are more capable than I of appreciating the consequences of the border fence project with respect to the destruction of habitat. I only wish to convey my belief that it is more important to view such issues in terms of their long-term consequences than simply in terms of political pressures of the moment. From this point of view, it seems reasonable that only under extreme conditions should we allow actions whose consequences can never be undone. This fence is not such a case. First, it will not stop the problem of illegal border crossings. It is not a long term solution to the problem and will only shift the areas where crossings take place. But it will permanently destroy habitats which are supposed to be protected, and this will directly affect the environment and thus the quality of life of people forever. It will destroy something that cannot be replaced.

The problem of illegal immigrants has been with us for a long time and will continue to be with us in the future. We don't need to respond to our fears by building our border into a fortress, especially when it is so obvious that such an approach cannot work. If the Feds must have their fence, please force them in whatever way possible to consider ways in which there will be as little permanent destruction of habitats and endangered species as possible. Show our children that we needn't overact to problems with mindless fear.

Thank you for your time in reading this,

Wesley Hudson

Wes Hudson
2627 Covington Rd.
San Diego, CA 92104

STATE OF CALIFORNIA-THE RESOURCES AGENCY GRAY DAVIS, *Governor*

DEPARTMENT OF FISH AND GAME

South Coast Region
4949 Viewridge Avenue
San Diego, California 92123
(858) 467-4201
FAX (858) 467-4299

W8a

September 25, 2003

Mr. Peter M. Douglas
Executive Director
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, California 94195-2219

Attn: Mark DeLaplaine

Comments on the Final Environmental Impact Statement for the Completion of the 14-Mile Border Infrastructure System, San Diego, California.

Dear Mr. Douglas:

The Department of Fish and Game (Department) offers the comments and recommendations below regarding the subject final Environmental Impact Statement (FEIS) and the associated Biological Opinion (1-6-03-F-1089.22, July 1, 2003) to inform the California Coastal Commission of the Department's outstanding concerns regarding the proposed project's potential impacts on sensitive biological resources. The Department has written three previous letters to the U.S. Army Corps of Engineers (Corps) on the proposed project: a letter dated December 15, 2000, which was co-signed by the U.S. Fish and Wildlife Service (Service; joint letter); a letter dated February 28, 2001; and a letter dated May 1, 2002 regarding the draft EIS. We also wrote a joint letter with the Service dated June 1, 2000, to the Supervisory Border Patrol Agent. The issues identified in these previous letters remain pertinent. We have also attended several meetings among the local, state, and federal agencies which have been involved in the border infrastructure system (BIS) project. The Department is a Trustee Agency pursuant to the California Environmental Quality Act Section 15386 and is responsible for the conservation, protection, and management of the State's biological resources.

Our interest is in avoiding or minimizing these potential impacts. The Department has determined that, even with the implementation of the conservation measures and the terms and conditions in the Biological Opinion, the proposed project would (1) have unmitigable significant impacts on Multiple Species Conservation Program (MSCP) core resource areas, (2) have severe impacts on the biological resources in Smuggler's Gulch, the two adjacent mesas, and the portion of the Tijuana Estuary downstream, and (3) not mitigate adequately for the loss of sensitive habitat, or plant and animal species, including the burrowing owl (*Athene cunicularia hypugaea*) and the State endangered Baja California birdbush (*Ornithostaphylos oppositifolia*). Unless our recommendations are integrated into the proposed project, we believe that it will result in significant losses of several sensitive habitats and species, and severely compromise the biological functions and values and the geographical integrity of the MSCP.

PROJECT DESCRIPTION

The proposed project involves the construction of the BIS along the portion of the United States/Mexico border between the Pacific Ocean and Tin Can Hill near the base of Otay Mountain, a distance of approximately 14 miles. The Immigration and Naturalization Service (INS)[1] has divided the border barrier system into six segments, with Area I beginning at Tin Can Hill and Area VI ending at the Pacific Ocean. To date, nine miles of the BIS have been or are being constructed within Areas II, III, and IV (i.e., the middle portion of the project). Areas I, V, and VI are the subject of the FEIS. Areas V and VI, which are in the Coastal Zone, extend 3.1 miles between the Pacific Ocean and a gravel pit near the International Boundary and Water Commission's (IBWC) Wastewater Treatment Plant located in the southeastern portion of the Tijuana River Valley. Area I extends 1.55 miles between Johnny Wolf Creek at its western boundary and the east side of Tin Can Hill.

From south to north, the BIS would include a patrol road north of the existing primary fence, secondary fence, maintenance road, and a tertiary fence. The BIS would utilize lights, remote video surveillance (RVS), and other integrated surveillance and intelligence systems. Specifically, INS's proposed action, the Multi-tiered Fence Alternative, includes the construction of a patrol zone (ranging from 130 feet to 800 feet in width) with an all-weather road, a secondary fence16 feet in height,[2] a 20-foot wide maintenance road, and a tertiary 5 to 8 foot high chain-link fence on the northern edge of the maintenance road. The footprint of the preferred alignment for the Multi-tiered Fence Alternative would occupy 162 acres (the information and comments in this letter relate to the preferred alignment for the Multi-tiered Fence Alternative). Construction would require approximately five to seven years.

As the area between the secondary and primary fences would be used for enforcement actions, the entire area is considered to be an impact area. Table 1 provides the numbers of acres per Area that the BIS would affect. The permanent impacts in Areas I, V, and VI would encompass 84 acres of sensitive habitat (Table 1).[3] Per the Biological Opinion prepared by the Service, mitigation for the permanent impacts would occur at ratios ranging from 1:1 to 3:1 on lands within Spring Canyon, the Tijuana River Valley, and lands on Lichty and Spooner's mesas. Mitigation for temporary impacts would entail revegetation with native species following a Service-approved restoration plan.

1 We acknowledge that the INS is now called the U.S. Department of Homeland Security. However, throughout our letter, we refer to the agency as the INS, as does the FEIS.

2 The secondary fence would be a 10.5-foot vertical fence mounted on a 12 inch x 48 inch concrete footing, and an additional 6-foot panel secured to the top of the vertical fence at a 45 degree angle directed to the south.

3 The total impacts of 161.9 acres include 26.3 acres of coastal sage scrub, 9.3 acres of disturbed coastal sage scrub, 13.8 acres of native grassland, 2.57 acres of southern willow scrub, 4.2 acres of mulefat scrub, 13.1 acres of maritime succulent scrub, 0.8 acre of maritime succulent scrub, 1.0 acre of coastal salt marsh, 0.5 acre of disturbed coastal salt marsh, 9.2 acres of southern maritime chaparral, 3.3 acres of unvegetated waters of the U.S., 12.2 acres of ruderal habitat, 0.8 acre of non-native woodlands, and 67.6 acres of disturbed/developed.

Table 1. Acreage Impacts of Project by Area

	Temporary Impacts	Permanent Impacts	Acres of Sensitive Habitat Within the Permanent Impacts[1]	Acres Within the MHPA	Acres Within a MSCP Major Amendment Area[2]
Area I	3.1	37.3	28.1		37.3
Area V	5.4	92.3	37.7	92.3	
Area VI	2.5	32.3	18.2	32.3	
Total	11.0	161.9	84.0	124.6	37.3

1. These acreages represent existing conditions. Much of the land classified as ruderal or disturbed (77.4 acres) is occupied by dirt roads created by the INS. That the land is part of the MHPA confers value to it for the long-term intent for the MSCP is to restore the land to native habitats.

2. Area I is part of an important biological resource core area of the MSCP. It has not been designated for preservation because it is a major amendment area, where no development is allowed until the conservation design is resolved.

All areas of the 14-mile BIS (i.e., Areas I-VI) fall within the boundaries of the MSCP. The impacts within Areas V and VI would occur within the MSCP's Multi-Habitat Planning Area (MHPA), and all the mitigation lands are within the MHPA. Therefore, there would be a net loss of over 100 acres of MHPA lands. The cumulative impacts from the BIS (i.e., from Areas I through VI) would be 331.8 acres, at least 114.5 of which is sensitive habitat.

DEPARTMENT'S COMMENTS

The Biological Opinion authorizes the INS for the incidental take of one pair of least Bell's vireo (*Vireo bellii pusillus*, vireo), one pair of southwestern willow flycatcher (*Empidonax traillii extimus*, willow flycatcher), two pairs and one individual of coastal California gnatcatcher (*Polioptila californica californica*, gnatcatcher), and two adult Quino checkerspot butterfly (*Euphydryas editha quino*). Our comments below do not address in detail the impacts on these species.

Impacts on the MSCP

The MSCP is a comprehensive habitat conservation planning program designed to meet multiple species' habitat needs through the preservation of native vegetation communities within a 900-square mile area in southwestern San Diego County. The MSCP identifies "Core Resource Areas" that are defined as having a "high concentration of sensitive biological resources, which if lost, could not be replaced or mitigated elsewhere." The Tijuana River National Estuarine Research Reserve (Tijuana Estuary) and River Valley, which occupy Areas V and VI, are Core Resource Areas. The Tijuana Estuary supports the most extensive salt marsh

and salt pan habitats within the MSCP planning area. The footprint of the BIS would significantly affect sensitive plant species, vegetative communities, and wildlife and aquatic resources that are currently protected under the MSCP.

The Biological Opinion discusses the project-related loss of MHPA lands, and indicates that the INS is considering abandonment and restoration of approximately 200 miles of roads throughout the project area. The INS suggests that the proposed restoration may offset some of the loss of MHPA lands by increasing their biological value. The Biological Opinion indicates that, since the INS has not fully determined how it will implement the road closures and restoration, it is infeasible to determine the overall effects of the BIS on the MSCP. This uncertainty about the project impacts on the MSCP and the mitigation for the impacts, in conjunction with the fact that much of the road area under consideration lies wholly within the MHPA, provides no confidence that the INS would properly quantify, much less fully offset the net loss of MHPA lands.

Generally, the Biological Opinion stipulates appropriate mitigation ratios for the project-related impacts on sensitive habitats (see comments under the heading "Mitigation"). However, even if the mitigation occurred in conformance with the Biological Opinion, all success criteria were met, and the native habitat on all abandoned roads was appropriately restored, the BIS would seriously undermine the purpose of the MSCP by causing a net loss of over 100 acres within the MHPA. In its responses to comments, the INS repeatedly notes that it is not obligated to conform with the MSCP because the agency is not a signatory partner to the MSCP. In addition, INS opines that the agency is not in a position to comply with the conditions set forth within the MSCP, but will comply fully with the federal Endangered Species Act (FESA). While the INS is not signatory to the MSCP, we do not concur that the agency is not in a position to comply with the MSCP (see recommendation at end of this section).

Furthermore, we believe that there is a strong justification for the INS to comply with the MSCP. First, the MSCP is a mechanism to comply with the FESA, and, even though the INS indicates that it will fully comply with the FESA, the magnitude of the project-related net loss of MHPA lands would preclude achieving the purpose and intent of the MSCP. The MSCP treats all 85 species which it is intended to protect as though they are listed species. The Biological Opinion finds that the BIS would not jeopardize the vireo, willow flycatcher, and gnatcatcher (the Quino checkerspot butterfly is not covered under the MSCP). Nevertheless, we believe that the mitigation for the BIS would not provide adequate compensation for the loss of the protection contemplated by the MSCP for other covered species that occur within the project's area of effect. The magnitude of the proposed net loss of MHPA lands represents a failure by the INS to meet FESA obligations as they are intended to be carried out through the MSCP. Second, the Department of the Interior (DOI) has promoted the MSCP as a model for allowing development to proceed in a more streamlined manner than is typically possible under the FESA and the state ESA when listed species are affected while simultaneously protecting sensitive biological resources. The failure of the INS to meet the intent of the MSCP erodes the goal of preserving large blocks of contiguous sensitive habitats that support the sensitive plants and animals within them. This situation could undermine the support of other agencies and jurisdictions who are

parties to the MSCP or other federal agencies that could participate in the MSCP.

The proposed area of permanent impacts within Areas V and VI is 124.6 acres, all of which are within the MHPA, according to MSCP maps on file in our office. However, the Biological Opinion indicates that only 108.64 acres within the MHPA are included in the area under consideration (the Biological Opinion includes Areas I, V, VI, and part of II in this value). Furthermore, the source of the Biological Opinion's value of 163.6 acres of loss of MHPA is not clear. The Biological Opinion contains other apparent discrepancies regarding acreage within the MHPA.

Recommendation. The INS has the opportunity to comply with the MSCP, and we recommend that the INS do so by offsetting the net loss of the MHPA lands by, in part, purchasing a commensurate amount of land adjacent to, but outside, the MHPA.[4] One such block of land exists in Area III, adjacent to and north of Spring Canyon. The land should be placed under a conservation easement to protect the land in perpetuity, and the INS should establish an endowment to underwrite the costs of managing and preserving the land in perpetuity. We also recommend that the above-mentioned discrepancies be reconciled before finalizing the mitigation requirements.

Impacts on Smuggler's Gulch and the Tijuana Estuary (Area V)

Perhaps the most contentious components of the BIS are the cut on Spooner's Mesa and the unnamed mesa ("East Mesa") located to the east of Smuggler's Gulch, and the fill in Smuggler's Gulch, to connect the BIS between the mesas.[5] The construction footprint in Areas V and VI of a proposed barrier system would directly and likely indirectly destroy sensitive habitats which are part of the Tijuana Estuary, whose importance to the MSCP has already been mentioned. The Tijuana Estuary was established in 1982 under provisions of Section 315 of the Coastal Zone Management Act and is one of 21 reserves in the U.S. and Puerto Rico established for states to protect sensitive coastal and estuarine habitats. Both the Tijuana Slough National Wildlife Refuge and Border Field State Park are within the Tijuana Estuary. The Tijuana Estuary provides habitats for seven federally and/or State listed threatened or endangered bird species including the California least tern (*Sterna antillarum browni*), western snowy plover (*Charadrius alexandrinus nivosus*), vireo, willow flycatcher, Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), brown pelican (*Pelecanus occidentalis californicus*), gnatcatcher, and light-footed clapper rail (*Rallus longirostris levipes*, clapper rail). The clapper rail is also a State

4 The Biological Opinion includes this recommendation as a conservation recommendation.

5 The BIS would cross through the 2,460-foot-wide by 310-foot-deep, steep walled Smuggler's Gulch near the midpoint of Area V. The road/fence platform geometry for Area V would require 5.5 million cubic yards of earthwork, and the fill height would be 175 feet. The difference between the extant 310-foot depth maximum height of the adjacent mesas and the planned 175-foot height of the fill reflects the extreme project-related change in the topography of the mesas. The north-south footprint would reach 800 feet in width.

Fully Protected Species.[6]

Surface flows from upstream (i.e., Mexico) through Smuggler's Gulch empty directly into the main stem of the Tijuana River, which flows directly into the Tijuana Estuary. The filling of Smuggler's Gulch would potentially result in a net loss of wetland habitat, functions, and values solely due to indirect impacts (i.e., impacts away from the construction footprint, during and potentially after construction completion). While the INS proposes to vegetate the soils exposed from the cuts and grading, several factors point to a high potential for aggravating the pre-existing threats from sedimentation in the Tijuana Estuary.[7] These factors include (a) the magnitude of the area whose substrate would be rendered unarmored, destabilized, and denuded during the construction process,[8] (b) the multi-year duration of the construction process and of the period when the bare surfaces would be susceptible to erosion, (c) the steepness of the proposed fill slopes (1.5:1), (d) the moderate to high erosion hazard of the soils from the mesa tops, as classified by the U.S. Department of Agriculture, (e) the underestimation of the potentially quite high sediment yield from the construction area (PWA 2003), (f) the proximity of the Tijuana Estuary to the source of sediment, and (g) the best management practices used which would be inadequate unless they are designed and constructed to collect all the sediment produced by the construction area. We believe erosion during local storm events would pose a significant ecological threat by transporting sediment from the construction area to the Tijuana Estuary, possibly over several years. Continuous project-related sedimentation could lead to changes in the topography of the Tijuana Estuary and further degradation of habitats upon which many listed (e.g., clapper rail) and other sensitive species depend.

The Department believes that the options to avoid the proposed impacts on the mesas and Smuggler's Gulch have not been adequately considered. Therefore, our following comments focus on avoidance rather than minimization of impacts, which others have addressed thoroughly.

1. The Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) of 1996 states, "The Attorney General shall provide for the construction along the 14 miles of the international land border of the United States, starting at the Pacific Ocean and extending eastward, of second and third fences, in addition to the first reinforced fence, and for roads

6 Pursuant to Section 3511 of the California Fish and Game Code, the light-footed clapper rail is also designated as a State Fully Protected species. This designation prohibits take or possession of this species at any time (i.e., no take authorizations from the State are available). This also applies to any parts of the animal (e.g., their eggs).

7 Sedimentation, particularly in recent years, has been a major cause of the loss of tidal salt marsh and mudflat habitats within the Tijuana Estuary. Long-term input of sediments into the Tijuana Estuary can lead to closures of the River mouth, such as those which occurred in 1984. This results in the need to conduct dredging operations of the Tijuana River mouth resulting in a costly operations and maintenance burden to the resource managers of the Tijuana Estuary. The FEIS identifies the significance of this issue on page 4-2, stating, "Areas such as Smuggler's Gulch, Goat Canyon, and Lichty Mesa would be particularly vulnerable due to the highly erodible soils (e.g., terrace escarpments) that occur in these areas."

8 The bare area susceptible to erosion would include not only the embankments created with the fill, but also the areas where cutting occurred.

between the fences." The determination that a stretch along the border in Area VI does not require a second and third fence demonstrates that it is not necessary to have a triple fence system along the entire 14 miles.[9] Therefore, we recommend that the INS seriously consider an additional alternative to the proposed portion of the BIS within the area of Smuggler's Gulch. The alternative would avoid the proposed cut and fill and would include the following elements.

a. Reinforcement/reparation of the primary fence on both sides of Smuggler's Gulch.

b. Construction of secondary and tertiary fences along the mesa tops, and also down the slopes to the high water mark.[10] This should include a realignment of the secondary and tertiary fences closer to the primary fence because the absence of fill in the Gulch would obviate the need for the alignment to avoid the IBWC's sewage collection system immediately north of the border in the bottom of Smuggler's Gulch.

c. Construction of the patrol road (between the primary and secondary fences) and maintenance road (between the secondary and tertiary fences) on the mesa tops, but not on the slopes.

d. Regular pruning (i.e., not discing) of the vegetation on the slopes, between the fences and below the fences on the toe of the slopes and in the bottom of Smuggler's Gulch, to simultaneously prevent opportunities for concealment and prevent erosion.

e. Deployment of additional components of the integrated surveillance and intelligence systems (ISIS) to increase the potential for detection.

f. Deployment of agents to increase the potential for deterrence and apprehension of illegals.

g. Limiting the cut and fill, if any, to the construction of the fences on the slopes of the mesas.

2. Based on the following information provided in the FEIS and the IIRIRA, we believe that the above-described alternative, or some variation of it that would avoid massive cut and fill and the associated ecological impacts, is logistically feasible.

9 In responses to comments regarding the feasibility of similarly exempting Smuggler's Gulch, the INS explains that the factors that enabled the exception east of Bunker's Hill do not apply to Smuggler's Gulch. These factors include the unobstructed view the U.S. Border Patrol (USBP) has from Bunker Hill, improving the access to the top of Bunker Hill by paving the road, the vegetation in the area offering very little concealment, and the nearly vertical slope on the south of the border providing a physical barrier. Nonetheless, the point is that exceptions are possible.

10 The reason for keeping the fence above the high water mark is to prevent obstruction of storm flows (as debris collects on the fence, flows would be backed up). We would support a design, if feasible, in which the fencing would be continued into and across the bottom of Smuggler's Gulch without obstruction of flows. The design could entail regular maintenance, including the collection of debris.

a. The goal of this project is to integrate infrastructure and technology into the current enforcement strategy to maximize the potential achievement of permanent deterrence (page 1-10). Accordingly, the USBP is required to identify the appropriate mix of technology, equipment, and personnel needed to allow the USBP to establish and maintain control of the southwest border (page 1-10).

b. The IIRIRA mandated an annual increase in active-duty USBP agents from 1997 through 2001, and an annual increase in positions for personnel in support of USBP agents.

c. The USBP is required to increase the proportion of time USBP agents spend on border enforcement activities (page 1-10).

d. The IIRIRA also required that, to the maximum extent practicable, USBP agents be deployed along the border in proportion to the level of illegal crossing of the border.

e. One important benefit of the systems approach to barrier fencing (such as the BIS) is that a more effective barrier system allows the USBP to more efficiently and strategically deploy its agents (page 1-11). Infrastructure allows USBP agents to reinforce critical areas (page 2-1).

f. The BIS would reduce the number of USBP agents and roads needed for pursuit and apprehension because the geographical area where these activities occur now would be reduced to the area between the primary and secondary fences. The draft EIS states, "Today the USBP reports that minimum staffing levels are needed within Areas II, III, and IV and the smugglers have only made it through the infrastructure systems on rare occasions" (page 1-7).

We recognize that the ISIS functions primarily in detection, and that other infrastructure (e.g., roads, fences) is critical to apprehending illegal entrants once they are detected. Considering the preceding information in #2a through #2f, if the alternative described above were implemented, it would be appropriate and feasible to deploy the extra USBP agents that would be needed in this area of the BIS to apprehend illegal entrants that are detected by the ISIS. It appears that this is the very strategy contemplated by the IIRIRA.

3. We believe that the alternative or some equivalent variation is warranted because the biological impacts from the BIS in Area V alone, primarily from the cut and fill would be greatly reduced. The reduction in width between the primary and secondary fences alone would provide a significant reduction. The biological impacts from the BIS in Area V would include the following.

a. There would be potentially severe exacerbation of the sedimentation in the Tijuana Estuary and the concomitant ecological impacts.

b. There would be a loss of 37.7[11] acres of sensitive habitats, comprising 37.7 acres of the net loss of habitat within the MHPA.

c. The BIS would preclude achieving the MSCP's objective for Spooner's Mesa which the BIS would excavate and grade to obtain fill material for Smuggler's Gulch. The primary objective for Spooner's Mesa in the City's MHPA guidelines for the Tijuana River Valley is to "Maintain existing agriculture uses on Spooner's Mesa, with a long-term goal of phased restoration to coastal sage scrub, maritime succulent scrub or native grasslands."

d. There would be a significant loss of the sensitive plant species listed in Table 2. All these species occur on East Mesa, and, in the alternative, the secondary and tertiary fences would be realigned to avoid most of the individuals. Three of the species are covered by the MSCP, which presumes that they would be mostly protected from impacts within the MHPA. If the BIS is constructed as proposed, this would not be the case. The California Department of Parks and Recreation (April 24, 2002, comment letter on the draft EIS) and the California Native Plant Society (CNPS) (April 27, 2002, comment letter on the draft EIS) identified several other sensitive plant species that are found in or near the project footprint but are not mentioned in the FEIS.

4. We note that the cost of the proposed cut and fill in Area V would exceed $8 million (page 2-35).[12, 13] It is not clear whether this includes the cost of mitigation, monitoring, and management required for the impacts. If the INS intends to justify the portion of the BIS within Area V by comparing costs of the proposed design and our alternative (or equivalent variation), we request that the INS provide detailed cost estimates. For both the proposed project and the alternative, these estimates should include the costs of (a) construction of the BIS, (b) construction and maintenance of the best management practices (BMPs) needed to prevent erosion over the life of the project,[14] (c) mitigation for the loss of habitats, (d) the mitigation for the loss of species, (e) the mitigation, if any, for the net loss of land within the MHPA, (f) the contingency measures should the BMPs or the mitigation fail, (g) the USBP agents, (h) components of the ISIS, (i) maintaining the infrastructure, (j) annual vehicular

11 These include 16.4 acres of coastal sage scrub (CSS), 2.5 acres of disturbed CSS, 0.67 acres of southern willow scrub, 2.2 acres of mulefat scrub, 3.7 acres of maritime succulent scrub (MSS), 0.1 acre of disturbed MSS, 9.2 acres of southern maritime chaparral, and 3 acres of unvegetated waters of the U.S.

12 The cost of the bridge-only option for Smuggler's Gulch was estimated to be $27.6 million or $16.3 million if constructed by a general contractor or military units, respectively. *This is roughly twice the cost of any of the embankment alternatives* (FEIS, page 2-35) We note that the DEIS had indicated that the estimated cost of the bridge-only option would be $10 million (page 2-26).

13 The IIRIRA authorized an appropriation to carry out the BIS not to exceed $12 million.

14 These costs should include the costs of a sedimentation basin or other adequate infrastructure to capture the sediment that would be released from the project footprint. If the proposed BMPs are based on the hydrological analyses done for the BIS in Area V, it is likely that they are undersized and inadequate. According to the preliminary analysis conducted by Philip Williams and Associates of the hydrological analyses, it is likely that more sediment would be generated than anticipated.

needs, and (k) any other appropriate costs. All costs should be for the same period of time (e.g., the life of the project).

Table 2. Sensitive Plant Species on East Mesa Affected by the BIS (Area V)

Species	Number to be Lost	Status[1]	Covered by MSCP?
Baja California birdbush *Ornithostaphylos oppositifolia*	47	State Endangered	no
Barrel cactus *Ferocactus viridescens*	663	CNPS List 2	yes
Cliff spurge *Euphorbia misera*	483	CNPS List 2	no
Orcutt's bird's beak *Cordylanthus orcuttianus*	71	CNPS List 2	yes
Wart-stemmed ceanothus *Ceanothus verrucosus*	65	CNPS List 2	yes
San Diego Conty viguiera *Viguiera laciniata*	2,276	CNPS List 4	no

1. Department recognizes that CNPS (California Native Plant Society) List 1A (presumed extinct in California), 1B, and 2 species may qualify for listing under the CESA. Under section 15380(b) and (d) of the CEQA guidelines, if a species is not listed under CESA, it will be considered to be listed as rare if it can be shown that, "Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens."

5. The FEIS indicates that the existing drainage pipe that carries low flow sewage to the IBWC sewage treatment facilities in the Tijuana River Valley would be relocated within the culverts that would be built at the base of Smuggler's Gulch. The sewage pipe should be outside of or separate from the culverts intended to carry storm flows to prevent flow- and debris-related damage to the sewage pipe, and possible resulting breakage of the pipe.

Mitigation

Habitat

The INS's responses to comments state that the conceptual mitigation plan in the FEIS "will be finalized in coordination with the appropriate agencies." We provide the following comments for consideration in the finalization process, and would appreciate being involved in

the process.

1. It is our understanding that the location of the mitigation land in Spring Canyon is within the 145 acres owned by the INS within the MHPA. On page 5-5, the FEIS explains that 110 acres of the 145 would be counted as mitigation or compensation for the BIS. The remaining 35 acres are mitigation land for other projects. However, Table 3 in the Biological Opinion assigns a minimum of 138.2 acres of mitigation needs to Spring Canyon. Clarification is needed on the location of the 28.2 acres (i.e., 138.2 - 110) of the mitigation land apparently unaccounted for.

2. Page 5-5 of the FEIS indicates that the above-mentioned 110 acres in Spring Canyon consists of disturbed and undisturbed coastal sage scrub (CSS), native grassland (NG), and disturbed/denuded areas. The latter occupy 37 acres, leaving 73 acres of NG and disturbed and undisturbed CSS. The Biological Opinion requires restoration of 99.8 acres of CSS in Spring Canyon. We recommend that confirmation be made that there are 99.8 acres of disturbed CSS (requiring restoration) within the proposed mitigation area. We are concerned that NG may be impacted to create CSS.

3. The Biological Opinion requires mitigation at a ratio of 3:1 for the loss of southern willow scrub (SWS) and mulefat scrub (MFS). We recommend that the loss of SWS and MFS used as nesting habitat by vireo and/or willow flycatcher be mitigated at a ratio of 5:1. This would be consistent with the mitigation requirements applied to the Goat Canyon Enhancement project and its associated Biological Opinion.

4. The Biological Opinion requires mitigation at a ratio of 2:1 for the loss of 9.2 acres of southern mixed chaparral in Area V. However, we believe that this habitat on east mesa in Area V is southern maritime chaparral.[15] As such, the mitigation ratio should be 3:1and the mitigation should be in kind. We recommend that the mitigation area in Spring Canyon be reassessed to determine whether the chaparral that is proposed to be restored there is maritime chaparral (i.e., the maritime influences may not reach this area). If it is not maritime chaparral, an appropriate alternate area should be selected.

5. The Biological Opinion requires mitigation for the loss of 13.9 acres of maritime succulent scrub (MSS) at a ratio of 3:1. While this is consistent with the MSCP, we note that projects that are subject to discretionary actions by parties to MSCP benefit from reduced mitigation requirements compared to projects that are undertaken by entities not party to the MSCP. Therefore, the application of the MSCP ratios to habitats affected by the BIS confers to the project the benefit of reduced mitigation requirements. While this approach may be

15 We believe that the Biological Opinion is in error based on the following: (a) Figures 3-7 and 3-8 in the FEIS identify southern maritime chaparral, but not southern mixed chaparral; (b) the FEIS provides a habitat description for southern maritime chaparral (page 3-22), but no description for southern mixed chaparral; and (c) the vegetation community/plant species map we have in our files prepared by Ogden Environmental and Energy Systems and entitled *INS Border Project Biological Resources – Smuggler's Gulch East* lists southern maritime chaparral in the key, but does not list southern mixed chaparral.

biologically defensible for the other habitats, the magnitude of the impacts on the MSS of which there is only eight percent remaining of its original acreage in San Diego County, warrants mitigation at a ratio of at least 4:1, particularly in light of the fact that this project is not fully meeting MSCP objectives.

6. The conceptual mitigation plan mentions that INS would install wells in Spring Canyon to provide irrigation in that area. We recommend that:

   a. any direct impacts on sensitive habitats from well installation and operation be quantified and appropriately mitigated;

   b. an assessment of potential indirect impacts on existing sensitive plants/habitats (e.g., from the drawdown of groundwater upon which they rely) be prepared and mitigation provided;

   c. a monitoring plan be developed and implemented to determine whether the mitigation effectively prevents indirect impacts; and

   d. preparation of contingency measures for implementation in the event the mitigation measures are not adequate.

7. It is not clear whether the mitigation plan applies to all the areas where restoration would occur. For example, the roads that are to be abandoned and revegetated/restored should be identified and the vegetation acreage gains quantified.

8. As mentioned previously, the Biological Opinion indicates that the INS is considering closure and restoration of approximately 200 miles of roads throughout the project area. The Biological Opinion also indicates that 100 miles would be abandoned and restored. While we understand that the INS cannot determine which roads would be abandoned until after the BIS is in place, it should be clarified that the acreage encompassed by the restored roads is in addition to the mitigation acreage identified in Tables 2 and 3 in the Biological Opinion.

9. It is not clear whether the mitigation would conform with the federal and State policies for the no-net loss in acres, values, and function of wetlands. The Corps should consider the following issues in preparing the 404 permit for the BIS.

   a. The conceptual mitigation plan indicates that the CSM mitigation would occur immediately north of the project footprint, where Monument Road turns to the west toward Border Field State Park. The plan proposes four acres of mitigation for the loss of 1.0 acre of undisturbed and 0.5 acre of disturbed CSM, though the Corps' permit will finalize the ratios and mitigation requirements. We are concerned about the mitigation proposed thus far because (i) the area identified was previously salt marsh, and therefore this mitigation would be considered restoration and would not meet the requirement of no-net loss of wetlands, (ii) the mitigation may interfere with the proposed mitigation for

the Goat Canyon Enhancement Project, and (iii) INS's response #EPA-32 indicates that the project would affect 2.89 acres of CSM, not 1.5 acres as reported in Table 4-23 in the FEIS and the tables in the Biological Opinion (we request that this discrepancy be reconciled).

b. The mitigation ratio for the loss of CSM should be at least 4:1 to be consistent with the MSCP.

c. The Biological Opinion (page 20) indicates that replacement of SWS and MFS would occur through excavation of upland habitat and restoration of riparian habitat within the Tijuana River Floodplain and on lands within close proximity to Smuggler's Gulch. However, it is unclear whether there would be at least a 1:1 creation component.

10. Contingency measures should be established up front for all the mitigation other than preservation, in case the success criteria are not met.

11. Irrigation should cease and the vegetation be self-sustaining two years prior to sign-off.

Plant Species

12. According to the FEIS, there are 103 specimens of Baja California birdbush (birdbush) at its only known location in the United States, on East Mesa. The FEIS includes a proposed salvage and translocation plan for the 47 specimens proposed to be lost, and the Biological Opinion requires the INS to submit to the Service such a plan for review and approval.

    In our comment letter on the draft EIS, we stated, "this species has not shown significant natural recruitment and we recommend avoidance rather than mitigation to conserve the population. If impacts are unavoidable, then a specific propagation and translocation proposal should be developed by qualified biologists." We again recommend avoidance, particularly as we have been unable to find any indication that transplantation would work. In *Rare Plants of San Diego County* (Copyright February 2001, Aquafir Press, 2001 edition), Craig H. Reiser states of this species, "All U.S. sites should be protected in situ." We believe that the impacts on the birdbush would be greatly reduced if our alternative (or an equivalent variation) is implemented.

    If avoidance is infeasible, the transplantation plan should be developed and implemented. We suggest that the mitigation for this loss also include a plan to propagate the plants from seed. Contingency measures should be developed in case the success criteria for the mitigation plan are not met. The INS's response #DOI-65, indicates that the salvage plan will be coordinated with the Service and the Department prior to implementation of the construction activities. We appreciate being involved in this effort.

13. The conceptual mitigation plan in the FEIS includes barrel cactus, snake cholla (*Opuntia*

californica var. *californica*, a CNPS List 1B species), cliff spurge, and San Diego sunflower (*Encelia californica*) among the species in the plant pallette proposed for the restoration. But, there is no indication as to whether the planting would endeavor to replace the numbers of plants lost (64 barrel cactus out of a total of 66, 238 coastal agave out of a total of 338, and 254 snake cholla out of a total of 254). We recommend that such an effort be made. Nor is there any indication that an effort would be made to replace the lost specimens of the other sensitive plant species (e.g., Orcutt's bird's beak, wart-stemmed ceanothus). We recommend that, if avoidance is not feasible, those species be added to the plant pallette in quantities intended to replace the lost plants. A determination should be made for each species as to whether it is amenable to translocation, or whether seeds should be collected (prior to the removal of the plants) for future germination, and mitigation should occur accordingly. We recommend that the restoration follow CNPS mitigation guidelines (CNPS 1998).

14. In order to adequately mitigate for the loss of sensitive plant species, it is necessary to know the distribution and numbers of the specimens close to the time of construction. The most recent surveys were conducted in 2001, which was a third consecutive drought year. Consequently, some plants may not have been detectable at that time. For these reasons, we recommend that plant surveys be conducted at the appropriate time of year within one year of construction in the area to be affected.

<u>Animal Species</u>

15. The Biological Opinion stipulates that construction of all project features in areas where federally listed avian species occur would be restricted to these species' non-breeding seasons, and requires noise mitigation for these species. Surveys for these species (though not all of them) were most recently conducted in 2001.

    a. In order to know which areas need to be avoided, and the boundaries of the areas requiring noise mitigation, we recommend that the areas of potential effect be surveyed again within one year of construction using protocol level surveys, as available. Since the construction will be phased, there may be several years for which surveys will be necessary. The FEIS indicates that preconstruction surveys for migratory birds would be done, but we found no mention of this in the Biological Opinion.

    b. These requirements should also apply, as appropriate, to the work associated with the mitigation (e.g., excavation of upland habitat).

    c. These requirements also should apply to the Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), a state endangered species which occupies the CSM in the project area, and which may be affected by the construction of and mitigation for the project. This species lives in the upper salt marsh and is commonly seen along Monument Road in the vicinity of the mitigation area.

d. If the surveys reveal that the project would result in incidental take of more individuals than authorized by the Biological Opinion, formal consultation should be reinitiated.

16. The FEIS indicates that construction activities would be restricted to the maximum extent practicable, to avoid the nesting seasons of migratory birds, in compliance with the MBTA. We found no mention of this in the Biological Opinion, but recommend that it be adhered to.[16] It is particularly important that this provision apply to areas that support the coastal cactus wren (*Camphylorhynchus brunneicapillus couesi*) such as MSS, and the burrowing owl.

17. The Department is very concerned about the potential project-related impacts on the burrowing owl (*Athene cunicularia hypugaea*), which is a California Species of Special Concern, and which the Department has under consideration for possible listing as a state threatened or endangered species. There has been a dramatic reduction in resident/breeding as well as wintering burrowing owls in all the counties in southern California (Miller et al. 2003). According to the FEIS, burrowing owls are locally common in Area I, within MSCP major amendment areas near Tin Can Hill. Twenty four were observed during surveys in 1999 within a 500-foot survey corridor within Area I. There are also one or two pairs of burrowing owls in the Spring Canyon MHPA/open space within Area III (pers. comm., David Mayer, Department). While Areas I and III are outside of the Coastal Zone, we believe that the California Coastal Commission may be concerned about the potential project-related impacts on burrowing owls because they would be among the many biological impacts of the overall project which the Commission is reviewing. Furthermore, the potential impacts within Area III would occur as a result of the mitigation needed for impacts within the Coastal Zone.

    The FEIS indicates that burrowing owls "could" be avoided by scheduling work during non-breeding seasons or relocation (page 4-38). We recommend that construction within areas of potential effect on the burrowing owl be timed to avoid their breeding season. As the species also winters in San Diego County, there is potential for construction within their habitat to affect them year-round. As indicated previously (for all migratory birds) updated surveys should be conducted within a year of construction to determine the owls' current use of habitat. The surveys should follow the protocol developed by the (California Burrowing Owl Consortium 1997).

    To avoid direct and indirect impacts such as noise and vibration on burrowing owls, the avoidance area should encompass a 500 foot buffer zone between the impact area and the owl nesting and foraging habitat (California Burrowing Owl Consortium 1997). If avoidance is infeasible, we recommend that a passive relocation program be developed and implemented in conformance with the Departments' guidelines (CDFG 1995). Active

16 The Biological Opinion's conditions apply only to listed species.

relocation, which involves trapping and other invasive techniques, has been shown to have an extremely low level of success, and has even resulted in injury and consequent euthanization of owls. The Department would appreciate being involved in the development and implementation of a passive relocation program should that occur. As the species occupies grasslands, suitable agricultural habitat, and areas with sparse vegetation on flat land or mild slopes, it should be relatively easy to accommodate in nearby areas any owls that need to relocate. Each pair of owls would need approximately 6.5 acres, depending on habitat type, and the habitat to which the owls relocate would need to preserved and managed in perpetuity.

The Department appreciates the efforts the INS and Corps have made to minimize the potential adverse biological impacts from the proposed BIS. However, we believe that key environmental issues remain unresolved and pose significant threats to the ecology of the border area. If you have any questions, please contact Libby Lucas of the Department at (858) 467-4230.

Sincerely,

C.F. Raysbrook
Regional Manager

cc: Department of Homeland Security (James Caffrey)
California Department of Parks and Recreation (Mike Wells)
San Diego Regional Water Quality Control Board (Phil Hammer)
U.S. Army Corps of Engineers, San Diego Office (Terry Dean)
U.S. Army Corps of Engineers, Fort Worth Office (Todd Smith)
U.S. Environmental Protection Agency (Elizabeth Goldman)
U.S. Fish and Wildlife Service (Martin Kenney)

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Miller et al. 2003. *Petition to State of California Fish and Game Commission and Supporting Information for Listing the California Population of the Western Burrowing Owl* (Athene cunicularia hypugaea) *as an Endangered or Threatened Species Under the California Endangered Species Act.* Center for Biological Diversity. April 4, 2003.

PWA. 2003. Memorandum dated September 5, 2003, from Philip Williams and Associates (PWA) to Mike Wells, Resource Ecologist, California Department of Parks and Recreation. The memorandum reports PWA's findings on its preliminary analysis of the FEIS, specifically and hydrological studies/modeling conducted regarding the portion of the BIS in Smuggler's Gulch.