

### 3.13 AESTHETIC AND VISUAL RESOURCES

#### 3.13.1 Affected Environment

Aesthetic resources were discussed in the 2004 TVB EA, and are incorporated herein by reference. Aesthetic resources consist of the natural and man-made landscape features that give a particular environment its visual characteristics (see Exhibit 3-1). The current visual characteristics of the project corridor are mostly open areas with steep rolling hills and deep dissecting valleys covered by native grasses and other vegetation. Background vistas outside of the city consist of distant views of the surrounding mountains. The ROI and the entire southern Arizona region is known for its tranquil dark skies and scenic mountain ranges. Trails, trash, and wildfires caused by illegal traffic, have degraded many areas. In addition, overgrazing has also resulted in a diminished aesthetic quality in several locations along the border.

#### Exhibit 3-1. A Typical View along the Eastern Portion of the Project Corridor



### 3.13.2 Environmental Consequences

#### 3.13.2.1 Alternative 1: No Action Alternative

The No Action Alternative would result in an indirect adverse impact on the aesthetic qualities of the area, as illegal traffic would continue to occur within the project corridor and surrounding areas. The rate of illegal traffic could also increase as other areas along the border come under more intensive control.

#### 3.13.2.2 Alternative 2: Proposed Action Alternative

The primary pedestrian fence would result in a minor adverse impact on the aesthetic qualities of the specific location where it is installed. Exhibit 3-2 provides a simple visual representation of what the project corridor may look like with primary fence constructed.

**Exhibit 3-2. Digitally Enhanced Photo Representation of the Project Corridor at the Same Location as Exhibit 3-1**



While the addition of TI would result in an adverse impact, reducing or eliminating illegal foot traffic, which causes long-term changes to the environment, would be considered a benefit to the region's appearance. Of further benefit would be a reduction of trash (as

identified in Photograph 3-1) and wildfires set by IAs would also be considered a benefit to the region's aesthetics.



Photograph 3-1. Trash left behind by IAs, typical of the ROI

### 3.13.2.3 Alternative 3: Secure Fence Act Alternative

The impact on aesthetic resources under Alternative 3 would be similar to that of Alternative 2. However, additional vegetation would be removed under this alternative, detracting from the area's aesthetic quality. The construction of a two-tiered system of infrastructure could further detract from the appearance of the project corridor.

## 3.14 HAZARDOUS MATERIALS

### 3.14.1 Affected Environment

Hazardous materials were discussed in the 2004 TVB EA and are incorporated herein by reference (CBP 2004a). Unregulated solid waste due to the increase of IA vehicle and foot traffic along the U.S.-Mexico border has become a severe problem in recent years. BLM estimates that approximately 4 million pounds of trash was deposited by IAs in southern Arizona in 2004 and 2005 (Davis 2006). Clothing, water bottles, food, and other debris have been the most common waste materials observed during past surveys of the project corridor.

Without data that can only be obtained from pedestrian surveys, it is difficult to make an accurate determination as to the presence or absence of hazardous material within the project corridor. In the future, a Phase I environmental site assessment or visual inspection would be completed within the project corridor to make a determination of the location of any *Recognized Environmental Conditions*. However, preliminary searches of data and maps on the of USEPA's *Envirofacts Data Warehouse* web site revealed no known hazardous waste sites located within the project corridor.

### **3.14.2 Environmental Consequences**

#### **3.14.2.1 Alternative 1: No Action Alternative**

There would be no direct impact as a result of the No Action Alternative because no construction activities would take place. The potential for indirect impact from unregulated solid waste generated by illegal traffic would remain at current levels. As IA traffic remains at current levels or increases within the project corridor, the associated unregulated solid waste (*i.e.*, clothes, water bottles, backpacks, and other debris) would also increase.

#### **3.14.2.2 Alternative 2: Proposed Action Alternative**

Although no hazardous waste is anticipated to be stored within the project corridor, POL would be stored at the temporary staging areas in order to maintain and refuel construction equipment. However, these activities would include primary and secondary containment measures. Clean-up materials (*e.g.*, oil mops) would also be maintained at the site to allow an immediate response in case an accidental spill occurs. Drip pans would be provided for the power generators and other stationary equipment to capture any POL that is accidentally spilled during maintenance activities or from equipment leaks.

Sanitation facilities would be provided during construction activities, and waste would be collected and disposed of by licensed contractors. No gray water would be discharged to the ground. Disposal contractors would use only established roads to transport



equipment and supplies, and all waste would be disposed of in strict compliance with Federal, state, and local regulations, in accordance with the contractor's permits.

A Phase 1 site survey would be required prior to the start of construction. If the presence of hazardous material is confirmed, then it would be avoided or removed and the site cleaned, as appropriate.

### **3.14.2.3 Alternative 3: Secure Fence Act Alternative**

Under Alternative 3, the potential impact and required surveys would be similar to those of Alternative 2.

## **3.15 ROADWAYS AND TRAFFIC**

### **3.15.1 Affected Environment**

The project is located within a remote and undeveloped area east of Nogales, Arizona, where no public roadways exist near the project corridor. The nearest roadways are rural all-weather aggregate roads connecting to Arizona State Highway (State Hwy) 80 (Patagonia Hwy). As identified in Figure 2-1, these roadways include David Drive, Royal Road, Kino Springs Drive, and El Camino Real. Access to the project corridor is provided via connections between these public roadways and the three privately-owned access roads. There are two sparsely developed residential areas located between the project corridor and State Hwy 80. David Road and North Royal Road provide access to State Hwy 80 through a rural residential area approximately 1 mile north of the project corridor on the western portion of the corridor, while the El Camino Real and Kino Drive provide access through a small developed golf course community located almost 3 miles north of the project corridor.

### **3.15.2 Environmental Consequences**

#### **3.15.2.1 Alternative 1: No Action Alternative**

There would be no direct impact as a result of the No Action Alternative because no construction activities and subsequent transport of equipment and materials would take place.

#### **3.15.2.2 Alternative 2: Proposed Action Alternative**

The Proposed Action Alternative would have only a minor and temporary impacts to public roadways and traffic, as construction activities are expected to last only 8 months. During construction, traffic from construction equipment would likely impose some minimal delays in traffic from over-sized vehicles and material transport through residential areas. The contractor would be required to coordinate and comply with transportation requirements and safety measures identified by the Santa Cruz County Public Works Department-Transportation Division to ensure safe and efficient movement of equipment and materials to the project corridor. The potential for delays and disruption of traffic would not occur on a daily basis, as the heavy equipment transport would occur intermittently, and the equipment would be stockpiled at one of the temporary staging areas. Therefore, local and regional impacts on public roadways and traffic would be insignificant and would return to near-normal conditions following the construction period.

#### **3.15.2.3 Alternative 3: Secure Fence Act Alternative**

Under Alternative 3, the potential impact and required coordination would be similar to those of the Proposed Action Alternative.

### **3.16 SOCIOECONIMICS**

#### **3.16.1 Affected Environment**

The socioeconomic environment for the project region is described in detail in the 2003 CBP Nogales Infrastructure Improvements EA, the 2004 TVB EA, the 2007 Road EA, and the 2007 Fence EA and is incorporated herein by reference (CBP 2003, CBP

2004a, CBP 2007a-c). In summary, the previous EAs examined population structure, housing, environmental justice, and protection of children.

The ROI for the proposed project is Santa Cruz County. The estimated 2005 population of Santa Cruz County was 44,055. The City of Nogales accounts for almost half (21,830) of the total residents of Santa Cruz County (Arizona Department of Commerce 2007). The racial mix of Santa Cruz County consists predominantly of Caucasians (76 percent) and people claiming to be of some race other than Caucasian, African-American, Native American, Asian, Native Hawaiian, and other Pacific Islander (21 percent). About 81 percent of the total Caucasian population of Santa Cruz County claim to be of Hispanic origin (Arizona Department of Commerce 2007).

#### **3.16.1.1 Employment, Poverty Levels, and Income**

The total number of jobs in the study area in 2005 was 15,956, an increase of 18 percent over the number of jobs in 1990 (13,491) (U.S. Bureau of Economic Analysis 2003). The service industry provided the most jobs, followed by the retail trade industry and the government sector. The 2000 annual average unemployment rate for Santa Cruz County was 13.9 percent.

### **3.16.2 Environmental Consequences**

#### **3.16.2.1 Alternative 1: No Action Alternative**

Under the No Action Alternative, no construction of pedestrian fence would occur, and IAs and smugglers would continue to increase costs to U.S. citizens due to criminal activities. Increased costs would be associated with apprehension, detention, and incarceration of criminals and, indirectly, with loss of property, illegal participation in government programs, and increased insurance costs.

#### **3.16.2.2 Alternative 2: Proposed Action Alternative**

While some residential areas and businesses (e.g., a golf course community) are located north of the project corridor along construction access routes, no housing units or businesses are located within the project corridor or adjacent to it, so no

1 displacement of people, houses, or businesses would occur. Land acquired through fee  
2 title would result in a loss of property taxes, as 55 acres of land would be transferred to  
3 the government, resulting in a minor, yet long-term adverse economic impact on the  
4 Santa Cruz County tax base.

5  
6 During construction of the primary pedestrian fence, there would be temporary,  
7 insignificant increases in population from the addition of construction crews in the area.  
8 Construction crews would likely stay at nearby hotels in Nogales. As a result, no  
9 additional demand for housing would be anticipated during construction. The  
10 construction of the primary pedestrian fence would not require any additional demands  
11 on public services during or after construction.

12  
13 The Proposed Action Alternative would have a direct beneficial impact on the income of  
14 the local area resulting from the rental of construction equipment and purchase of  
15 materials, such as fuel and cement, during the construction period. While the exact  
16 amount of raw material expenditures is not known, it is expected to result in a moderate,  
17 short-term beneficial impact on income.

18  
19 An indirect result of the Proposed Action Alternative is the potential for IA traffic to shift  
20 to areas with less TI. However, it is unknown where IAs would choose to cross the  
21 U.S.-Mexico border. Social costs, such as property damage, car theft, violent crime,  
22 drug treatment and rehabilitation, and entitlement programs on a regional and National  
23 level would potentially be reduced as the effectiveness of the USBP to gain and  
24 maintain control of the border reduces illegal cross-border traffic. Overall, social and  
25 economic resources would experience beneficial, long term and temporary impacts with  
26 a reduction in illegal activities.

### 27 28 **3.16.2.3 Alternative 3: Secure Fence Act Alternative**

29 Impacts on the socioeconomic resources in the ROI would be similar in type to those of  
30 the Proposed Action Alternative, yet the magnitude of impacts, adverse and beneficial,  
31 would be much greater. Depending on the land acquisition process, Alternative 3 could



1 result in over twice (130 acres) the loss of property taxes available to the economy, an  
2 additional long-term adverse impact. However, a greater demand for hotel rooms and  
3 temporary housing during the construction period and raw material expenditures  
4 required for the addition of a secondary pedestrian fence and wider project corridor  
5 would have a temporary beneficial impact on the economy.

6  
7 Social and economic resources within the ROI would experience a net beneficial, long-  
8 term impact from a reduction in illegal activities, offsetting any adverse impact.

***SECTION 4.0***  
***CUMULATIVE IMPACTS***



## 4.0 CUMULATIVE IMPACTS

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This section of the EA addresses the potential cumulative impacts associated with the implementation of the alternatives and other projects/programs that are planned for the region. The CEQ defines cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7). This section continues, “Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

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

With continued funding and implementation of CBP’s environmental conservation measures, including environmental education and training of its agents, use of biological and archeological monitors, wildlife water systems, and restoration activities, adverse effects of future and on-going projects would be avoided or minimized. However, recent, on-going and reasonably foreseeable proposed projects will result in cumulative

impacts. In particular, within the next 2 years, 225 miles are scheduled to be completed. The first phase of construction would occur in areas that have already been developed (e.g., currently contain permanent vehicle barrier or TVB), thus little or no additional environmental impact would be expected. The second phase of construction would generally occur in more remote areas and would inevitably result in cumulative impacts. It should be noted that the final locations for the primary pedestrian fence have not been determined yet, so these should be considered only as planning estimates. A list of the past, on-going, and other proposed USBP projects within the ROI surrounding the Nogales Station AO is presented in Table 4-1.

**Table 4-1. Recently Completed or Reasonably Foreseeable USBP projects within and near the Project Corridor and ROI**

Project	Approximate Distance from Project Corridor (miles)	Approximate Acres Permanently Impacted
Leased an 80-acre parcel of land near the Mariposa POE for USBP operations (portable lights and maintenance of roads), Nogales Station	1	80
Proposed construction and maintenance of approximately 11.7 miles of all-weather roads, which includes 8.5 miles of drag roads, low water crossings, and drainage structures on either side of Nogales.	1-5	40
Restoration of Ephraim Ridge near Nogales	2	1
Expansion of USBP checkpoint facilities near Three-Points	35	5
Proposed placement of TVBs at up to 21 different locations (approximately 37 miles) along the U.S.-Mexico border within the Tucson, Nogales, and Sonoita stations AO	0 to 60	0
Relocation of Nogales Interstate 19 (I-19) checkpoint	50	1
Installation of 15 remote video surveillance systems in the Nogales Station's AO	2-5	2
Installation of a relay tower at Crawford Hill in the Nogales Station's AO	2	0.1
Construction and improvements to 3 miles of USBP patrol roads and drag roads west of the Mariposa POE	0	37
Construction 2.4 miles of primary fence and maintenance road west of the Mariposa POE in Nogales, Arizona	2	18
Realignments to 0.34 mile of all-weather patrol road and relocation of 55 permanent lights east DeConcini POE	0	24
<b>Total</b>		<b>198 acres</b>

1 The NEPA analysis for the 2007 Fence EA was recently completed (CBP 2007c).  
2 Construction is expected to begin in early 2008.

3  
4 In addition to these phased projects, USBP might be required to implement other  
5 activities and operations that are currently not foreseen or mentioned in this document.  
6 These actions could be in response to national emergencies or security events like the  
7 terrorist attacks on September 11, 2001, or to changes in the mode of operations of  
8 potential IAs. One such USBP initiative that has only recently come to fruition is a  
9 proposal to identify locations (as much as 300 miles) along the southwestern border  
10 where vehicle fence would be the preferred fence design. While still in the planning  
11 stages, areas within the Tucson Sector that have been identified as potential projects  
12 include the Baboquivari Mountains to the west of the ROI and areas in eastern Arizona  
13 near the Arizona-New Mexico state line to the east.

14  
15 Plans by other agencies that would also affect the region's natural and human  
16 environment include various road improvements by Arizona Department of  
17 Transportation (ADOT) and/or Santa Cruz County. The majority of these projects would  
18 be expected to occur along existing corridors and/or within previously disturbed sites.  
19 The magnitude of the effects would depend upon the length and width of the road right-  
20 of-way (ROW) and the extant conditions within and adjacent to the ROW.

21  
22 The 2007 Road EA documented several ADOT projects planned in the next 5 years  
23 (CBP 2007b). The details of these projects are incorporated herein by reference.  
24 Following is a summary of the types of ADOT projects currently in the planning stage:

- 25
- 26 • Country Club Road-Ruby Road - design of frontage roads
- 27 • U.S.-Mexico border - Business I-19 roadway improvements
- 28 • Junction of State Route-189 and I-19 - roadway improvements
- 29 • Doe Street to Baffert Drive - retrofit, sidewalks, landscaping
- 30 • Patagonia Lake/Sonoita Creek - design planning
- 31 • State Route-82 between Mileposts 38 and 39.5 - slope flattening
- 32 • State Route-189 at Milepost 0.095 - drainage improvements
- 33 • Mariposa POE - parking lot and road improvements
- 34



1 In addition, projects are currently being planned by other Federal entities which could  
2 affect areas in use by USBP. CBP/USBP should maintain close coordination with these  
3 agencies to ensure that CBP/USBP activities do not conflict with other agencies'  
4 policies or management plans. CBP would consult with applicable state and Federal  
5 agencies prior to performing any construction activities and would coordinate operations  
6 so that they do not inappropriately impact the mission of other agencies. The 2007  
7 Road EA provided an extensive list of past or foreseeable Federal projects within the  
8 region. These projects are also incorporated herein by reference (CBP 2007b). Other  
9 agencies, such as BLM, U.S. Air Force, U.S. Marine Corps, NPS, and USFS, routinely  
10 prepare or update Resource Management Plans for the resources they manage. USFS  
11 has the responsibility of managing approximately half of all lands within Santa Cruz  
12 County. In addition to general rangeland management, the types of projects conducted  
13 by USFS include:

- 14
- 15 • lake maintenance projects;
- 16 • pasture divisions and grazing allotment management plans;
- 17 • fuelwood/hazardous fuel reduction plans;
- 18 • specific habitat improvement projects;
- 19 • facility planning;
- 20 • invasive exotic plant management programs;
- 21 • land exchanges;
- 22 • pipeline/transmission ROWs; and
- 23 • mechanical brush control plans
- 24

25 The City of Nogales is the designated gateway from and to Mexico on the CANAMEX  
26 Trade Corridor. The name "CANAMEX" is derived from the country names of Canada,  
27 America, and Mexico, where a western trade corridor of 1,700 miles of existing highway  
28 and interstate systems connects the three countries. The CANAMEX corridor would  
29 likely become one of the most important north/south trade corridors in North America.  
30 The state governments of Arizona and Nevada are committed to obtaining funds to  
31 construct a four-lane divided highway in anticipation of the CANAMEX Trade Corridor.  
32 The completion of these projects would create an uninterrupted north/south highway  
33 system down the spine of the CANAMEX Trade Corridor. This project is in the planning  
34 stage, and potential impacts are unknown at this time.

Many positive cumulative impacts have been realized through CBP activities. For example, construction and maintenance activities have had cumulative positive impacts on socioeconomic resources within the border area through reductions in illegal drug smuggling activities. INS (now CBP) activities completed from 1994 to 1999 have provided information on over 100 new cultural resources sites potentially eligible for NRHP listing.

A summary of the anticipated cumulative impacts relative to the Proposed Action Alternative (*i.e.*, construction of 7.6 miles of TI east of the DeConcini POE) is presented below. Discussions are presented for each of the resources described previously.

#### **4.1 LAND USE**

A significant impact would result occur if any action is inconsistent with adopted land use plans, or the action would substantially alter those resources required for supporting, or benefiting, the current use. The Proposed Action Alternative would only affect 55 acres permanently. While an additional 26 acres of equipment staging areas would be temporarily affected, these areas would return to the current use upon completion of construction. Land that is primarily used for cattle grazing and USBP patrol activities would be acquired through lease, easement, or fee title to the government and would become part of the TI system that provides improved border enforcement. Therefore, this action would not be expected to result in a significant cumulative adverse effect.

#### **4.2 SOILS**

A significant impact would result if the action exacerbates or promotes long-term erosion, if the soils are inappropriate for the proposed construction, if the action would create a risk to life or property, or if there would be a substantial reduction in agricultural production or loss of prime farmland soils. The Proposed Action Alternative and other USBP actions have not reduced prime farmland soils or agricultural production. Pre-

and post-construction SWPPP measures would be implemented to control erosion. No inappropriate soil types are located at the project site that would present a safety risk. The impact to 55 acres of permanently altered and 26 acres of temporarily disturbed soils, when combined with past and proposed projects in the region, would not be considered to have a significant cumulative adverse impact.

### 4.3 HYDROLOGY AND GROUNDWATER

The significance threshold for water resources includes any action that substantially depletes groundwater supplies or interferes with groundwater recharge. There would be no significant impact on groundwater resources as a result of the withdrawal of 7.6 acre-feet of water for the construction and maintenance of the proposed fence and road. When combined with past and proposed projects in the region, the Proposed Action Alternative would not be considered to have a significant cumulative adverse impact.

### 4.4 SURFACE WATERS AND WATERS OF THE U.S

Coordination with USACE Los Angeles District would occur prior to construction within potential jurisdictional WUS to ensure no net loss of the functions of these sensitive resources. The required SWPPP measures would reduce erosion and sedimentation during construction to negligible levels and would eliminate post-construction erosion and sedimentation from the site. The same measures would be implemented for other construction projects; therefore, the cumulative impact would not be significant.

### 4.5 FLOODPLAINS

The significance threshold for adverse effects on floodplains would be any action or combination of actions that result in direct or indirect flood losses, affecting human safety, health, and welfare. No significant impact on floodplains would occur as a result of the Proposed Action Alternative. Fences and roads would be designed to ensure that floodwater conveyance is not impeded and that flood elevations, frequencies, and

1 durations would not be increased. Compliance with EO 11988 and the local floodplain  
2 regulations would also ensure that any potential adverse impact on the floodplain is  
3 offset. The Santa Cruz Floodplain and Erosion Hazard Management Ordinance, No.  
4 2001-03, bases its statutory authorization, in part, on analysis of the cumulative effects  
5 of obstructions within floodplains. Therefore, when combined with other existing and  
6 proposed projects in the region, any adverse impacts on floodplains would be  
7 insignificant.

#### 8 9 **4.6 VEGETATIVE HABITAT**

10  
11 The significance threshold for vegetative habitat includes a substantial reduction in  
12 ecological processes, communities, or populations that would threaten the long-term  
13 viability of a species or result in the substantial loss of a sensitive community that could  
14 not be offset or otherwise compensated for. Removal of Scrub-Grassland and Riparian  
15 Deciduous Forest and Woodland communities (as identified in the Proposed Action  
16 Alternative), would not result in a significant cumulative impact on vegetation, due to  
17 the vast amount of similar habitat contained within and surrounding the project corridor  
18 and the juxtaposition of the project corridor with other disturbed and developed areas.  
19 Without compensatory mitigation to offset potential impacts, the loss of 3 acres of  
20 Cottonwood-Willow community would result in a moderate cumulative impact, due to its  
21 importance to many riparian wildlife and aquatic species. However, prior to construction  
22 of any proposed project, mitigation measures as deemed appropriate would offset  
23 potential effects.

24  
25 Other USBP projects, including vegetation clearing and additional lighting, would result  
26 in cumulative adverse impacts. The extent of these impacts is not known, since the  
27 actions are not planned or defined to date. However, the long-term viability of  
28 vegetation communities in the ROI would not be threatened. This loss of vegetative  
29 habitat, when combined with other ground-disturbing or development projects in the  
30 ROI, would not result in a significant cumulative impact on the region's vegetation  
31 communities.

## 4.7 WILDLIFE AND AQUATIC RESOURCES

The significance threshold for wildlife and aquatic resources include a substantial reduction in ecological processes or populations that threaten the long-term viability of a species or result in the substantial loss of a sensitive habitat that could not be offset or otherwise compensated for. Removal of wildlife habitat would result in insignificant cumulative impacts due to the vast amount of similar habitat contained within and surrounding the project corridor. As described in Section 4.6, the cumulative loss of 0.3 acre of aquatic habitat and 3 acres of riparian habitat in a desert environment would likely be moderate.

As a result of past and planned projects within the Tucson Sector, cumulative impacts due to fragmentation of habitat would be considered moderate to substantial. Most all of the border within the Tucson Sector would have physical barriers installed once all proposed and planned projects are completed. Many segments of these barriers would be vehicle fence rather than primary pedestrian fence. In addition, even future primary pedestrian fence that is constructed within arroyos or washes would be designed and constructed to allow conveyance of flood flows, which would require some small gaps in the fence panels. Thus, there would still be opportunities for transboundary migration.

Due to the vast amount of similar habitat contained within and surrounding the project corridor, the juxtaposition of the project corridor with other disturbed and developed areas, and the fact that there will be gaps in the barriers, the long-term viability of species and communities in the project region would not be threatened. In addition, prior to construction, site surveys for migratory species and appropriate mitigation measures, as deemed necessary, would be implemented. This loss, when combined with other ground-disturbing or development projects in the project region, would not result in a significant cumulative negative impact on the region's biological resources.

#### 4.8 THREATENED AND ENDANGERED SPECIES

Impact on threatened and endangered species would be significant if any action results in jeopardizing the continued existence of any endangered, threatened, or rare species. USBP would complete ESA Section 7 consultation with USFWS for Federally-protected species, specifically for the jaguar, lesser long-nosed bat, and Pima pineapple cactus, prior to initiation of the Proposed Action Alternative. As part of the consultation process, conservation measures would be developed, as appropriate, to minimize cumulative impacts on protected species. Therefore, this action, when combined with other existing and proposed projects in the ROI, would not result in a significant cumulative impact on endangered, threatened, or rare species, or jeopardize the continued existence of any species.

#### 4.9 CULTURAL, HISTORICAL, AND ARCHEOLOGICAL RESOURCES

With no site-specific data, it is difficult to accurately assess the potential for the Proposed Action Alternative to adversely affect historic properties. However, it is anticipated that the Proposed Action Alternative would not result in significant cumulative effects on any known cultural resources sites, provided that appropriate mitigation is identified through the Section 106 process and is implemented by CBP/USBP. Therefore, this action, when combined with other existing and proposed projects in the region, would not be expected to result in a significant cumulative impact on historical properties.

#### 4.10 AIR QUALITY

Impact on air quality would be considered significant if the action results in a violation of air quality standards, obstructs implementation of an air quality plan, or exposes sensitive receptors to substantial pollutant concentrations. The emissions generated during and after the construction of the fence would be short-term and minor. Although maintenance of the fence and associated maintenance road would result in cumulative



impacts on the region's airshed, these impacts would not be considered significant. No violation of air quality standards, obstruction of air quality plans, or exposure of sensitive receptors would occur. Deterrence of and improved response time to IAs created by the construction of the fence and road would reduce off-road enforcement actions that are currently required by USBP agents, benefiting air quality.

#### **4.11 NOISE**

Actions would be considered to cause significant impacts if they permanently increase ambient noise levels over 65 dBA. Most of the noise generated by the Proposed Action Alternative would occur during construction and thus would not contribute to cumulative impacts on ambient noise levels. Routine maintenance of the fence and road would result in slight temporary and sporadic increases in noise levels that would continue to occur over the long-term. Potential sources of noise from other projects in combination with routine maintenance are not enough (temporal or spatial) to increase ambient noise levels above the 65 dBA range in the ROI. Thus, the noise generated by the construction and maintenance of the fence and road, when considered with the other existing and proposed projects in the region, would not have a significant cumulative adverse impact.

#### **4.12 AESTHETIC AND VISUAL RESOURCES**

Actions that cause a substantial permanent loss of the characteristics that make an area visually unique or sensitive would be considered to cause a significant impact. There would be no major impact on visual resources from implementing the Proposed Action Alternative, due in part to the surrounding development and the existing border TI. Construction and maintenance of the primary pedestrian fence, when considered with existing and proposed developments in the surrounding area, including other USBP-proposed TI components (e.g., relocation of 55 permanent lights adjacent to the project corridor [CBP 2007a]) would not result in a significant cumulative adverse impact on the visual quality of the region. Areas north of the border would experience beneficial,

indirect cumulative effects from the reduction of trash, soil erosion, and wildfires produced by IAs.

#### **4.13 HAZARDOUS MATERIALS**

There would be significant impact if an action creates a public hazard, the site is considered a hazardous waste site that poses health risks, or the action would impair the implementation of an adopted emergency response or evacuation plan. Only minor increases in the use of hazardous substances (e.g., POLs) would occur as a result of the construction and maintenance of the fence and road. No health or safety risks would be created by the Proposed Action Alternative. Once confirmation of any existing hazards that may exist within the project corridor is complete, and if any discovered hazards are removed, the Proposed Action Alternative, when combined with other on-going and proposed projects in the region, would not be considered to have a significant cumulative impact.

#### **4.14 ROADWAYS AND TRAFFIC**

The significance threshold for effects on roadways and traffic conditions includes major traffic delays and/or detours that affect the current transportation patterns to a degree that is above the current management capabilities of the Santa Cruz County Public Works Department-Transportation. The potential for delays and disruption of traffic would not occur on a daily basis, as heavy equipment transport would occur intermittently and equipment would be stockpiled at one of the temporary staging areas. Therefore, impacts would be insignificant on the local and regional level, and roadways and traffic would return to normal conditions following the construction period. The Proposed Action Alternative, when combined with other currently proposed or on-going projects within the region, would not have a significant cumulative impact.

**4.15 SOCIOECONOMICS**

The significance threshold for socioeconomic conditions includes displacement or relocation of residences or commercial buildings, increases in long-term demands for public services in excess of existing and projected capacities, and disproportionate impacts on minority and low-income families. Construction of the Proposed Action Alternative would result in a temporary, minor and beneficial impact on the region's economy. There would be no significant impact on residential areas, populations, or minority or low-income families. The Proposed Action Alternative, when combined with the other currently proposed or on-going projects within the region, would not have a significant cumulative impact.

***SECTION 5.0***  
***MITIGATION MEASURES***

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## 5.0 MITIGATION MEASURES

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This chapter describes those measures that will be implemented to reduce or eliminate potential adverse impacts on the human and natural environment. Many of these measures have been incorporated as standard operating procedures by CBP on past projects. Environmental design measures are presented for each resource category that will be potentially affected. It should be emphasized that these are general mitigation measures and development of specific mitigation measures will be required for certain activities implemented under the action alternatives. The proposed mitigation measures will be coordinated through the appropriate agencies and land managers or administrators, as required.

It is CBP's policy to reduce impacts through the sequence of avoidance, minimization, mitigation, and finally, compensation. Mitigation varies, and includes activities such as restoration of habitat in other areas, acquisition of lands, and implementation of BMPs and will be coordinated with CNF, USFWS, and other appropriate Federal and state resource agencies.

### 5.1 GENERAL CONSTRUCTION ACTIVITIES

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



pillow, sock, *etc.*) will be used to absorb and contain the spill. Furthermore, spillage of any petroleum liquids (*e.g.*, fuel) or material listed in 40 CFR 302 Table 302.4 of a reportable quantity must be cleaned up and reported to the appropriate Federal and state agencies. Reportable quantities of those substances listed on 40 CFR 302 Table 302.4 will be included as part of the SPCCP. A SPCCP will be in place prior to the start of construction, and all personnel will be briefed on the implementation and responsibilities of this plan.

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

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

## **5.2 SOILS**

Vehicular traffic associated with the construction activities will remain on established roads to the maximum extent practicable. Upon completion of the construction activities, rehabilitation of the staging areas will include loosening compacted soils, re-vegetating, or distributing of geological materials (*i.e.*, boulders and rocks) over the disturbed area to reduce erosion while allowing the area to naturally vegetate. In addition, erosion control measures and appropriate BMPs, as required and promulgated through the SWPPP, will be implemented before, during, and after construction activities.

Road construction and maintenance will avoid, to the extent practicable, making wind rows with the soils once grading activities are completed. Any excess soils not used

during construction of the proposed infrastructure will be distributed throughout the project corridor.

### **5.3 GROUND/SURFACE WATER RESOURCES AND WATERS OF THE U.S.**

Verification of the location of potential jurisdictional WUS will be required. As appropriate, applicable Department of the Army Section 404 permit procedures, including Section 401 Water Quality Certifications, will be completed prior to initiation of the construction activities within drainages. Mitigation and compensation measures will be implemented, as appropriate, through the permit process to ensure no net loss of WUS functions and that surface water conveyance is not impeded.

Early coordination between CBP/USBP and USACE Los Angeles District, Regulatory Branch has been initiated. The proposed construction activities will require a SWPPP, which will be prepared and submitted to ADWR as part of the NPDES permit process. The SWPPP will identify BMPs that will be implemented before, during, and after construction. These BMPs will ensure that erosion and sedimentation in the waterways are minimized.

### **5.4 FLOODPLAINS**

In order to ensure compliance with EO 11988 and local floodplain regulations, coordination with the Santa Cruz Public Works Department and USIBWC will be required so that construction activities do not adversely impact floodplains. The bid/build contractor will be required to acquire the appropriate floodplain permits to ensure fence and road design remain in compliance with the local floodplain regulation (*Santa Cruz Floodplain and Erosion Hazard Management Ordinance, No. 2001-03*). Information required for submittal of floodplain permit applications includes but is not limited to: specific site plans; an engineering hydrology and hydrologic analysis that incorporates fence and road designs; and a debris clearing maintenance plan. As deemed necessary to ensure that the provisions of the local floodplain management

ordinance are met, the fence and road design may require subsequent alterations prior to construction. In addition to local permit requirements, the NEPA process would be used as a tool to ensure compliance with the floodplain management planning process.

## **5.5 VEGETATION**

Native seeds or plants, which are compatible with the enhancement of protected species, will be used to the extent feasible, as required under Section 7(a)(1) of the ESA, to revegetate staging areas and turnarounds. In addition, organic material will be collected and stockpiled during construction to be used for erosion control after construction while the areas naturally revegetate.

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

## **5.6 WILDLIFE AND AQUATIC RESOURCES**

In compliance with the MBTA, migratory bird nesting surveys will be conducted prior to construction if clearing and grubbing activities take place during the breeding/nesting season (typically March 1 through September 1). This will ensure that construction activities do not result in the take of nesting migratory birds. Nighttime construction activities will be conducted only when absolutely necessary for adequate concrete pours or, in the case of an accelerated construction schedule, to meet Federal mandates. Conservation measures addressed in Sections 5.1 and 5.3 will further minimize impacts on water resources, terrestrial habitats, and aquatic habitats.

## **5.7 THREATENED AND ENDANGERED SPECIES**

CBP/USBP are currently conducting Section 7 consultation with the USFWS to determine the effects to the jaguar, lesser long-nosed bat, and Pima pineapple cactus.

1 Through early and ongoing coordination with USFWS, a more definitive list of protected  
2 species with the potential to occur within the project corridor will be developed. Surveys  
3 will be completed in order to confirm or refute the presence or absence of these species  
4 or suitable habitat that could support these species. If such surveys reveal evidence of  
5 the presence of protected species, appropriate BMPs (as presented in Appendix D) will  
6 be implemented. As appropriate, CBP/USBP will implement any conservation  
7 recommendations identified as a result of the consultation process.

8  
9 Coordination with AGFD staff regarding avoidance and/or conservation measures to  
10 minimize adverse impact on state-protected species will occur as appropriate prior to  
11 the start of construction.

## 12 13 **5.8 CULTURAL RESOURCES**

14  
15 Pedestrian surveys and completion of the Section 106 process with Arizona SHPO, as  
16 well as coordination with USIBWC, will be completed prior to construction in order to  
17 document the presence or absence of historic properties. Upon completion of the  
18 Section 106 process and implementation of any requirements identified in that  
19 coordination, all construction and construction activities will be kept within previously  
20 surveyed areas.

21  
22 A temporary barrier will be placed around the monuments during construction activities.  
23 If any cultural material is discovered during the construction efforts, the Arizona SHPO  
24 will be notified immediately and all activities halted until a qualified archaeologist  
25 assesses the cultural remains. USIBWC will be provided maintenance access to the  
26 monuments, and the line of sight view from monument to monument will not be  
27 obstructed.

## **5.9 AIR QUALITY**

Standard construction BMPs, such as routine watering of the construction and access roads, will be used to control fugitive dust during the construction phases of the proposed project. Additionally, all construction equipment and vehicles will be required to be kept in good operating condition to minimize exhaust emissions.

## **5.10 NOISE**

Standard noise attenuation equipment, such as mufflers, shall be used on all construction equipment and vehicles and will be maintained in good operating condition, free from leaks. Because of the increased noise sensitivity along transport routes, transport operations will be limited to daylight hours and weekdays for transportation of heavy equipment and materials. Deviations will be coordinated with the Santa Cruz County Public Works Department-Transportation Division on a case by case basis.

## **5.11 HAZARDOUS MATERIALS**

Prior to acquisition (easement or fee title) of the project corridor, a site survey or Phase 1 environmental site assessment of the project corridor will be conducted to determine the presence of existing hazardous material. As appropriate, any *Recognized Environmental Conditions* will be avoided or removed and the site cleaned as appropriate.

## **5.12 ROADWAYS AND TRAFFIC**

Prior to the start of construction activities, the bid/build contractor will coordinate and comply with transportation requirements and safety measures identified by the Santa Cruz County Public Works Department-Transportation Division to ensure safe and efficient movement of equipment and materials to the project corridor.

***SECTION 6.0***  
***REFERENCES***





## 6.0 REFERENCES

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***SECTION 7.0***  
***LIST OF PREPARERS***





## 7.0 LIST OF PREPARERS

Name	Agency/Organization	Discipline/Expertise	Experience	Role In Preparing EA
Charles McGregor	USACE, Ft. Worth District	Chemistry and Environmental Sciences	17 years geotechnical and environmental related studies	Environmental Manager, ECSO
Suna Adam Knaus	Gulf South Research Corporation	Forestry/Wildlife	18 years natural resources	EA Technical Review
Chris Ingram	Gulf South Research Corporation	Biology/Ecology	31 years EA/EIS studies	Project Manager Technical Review
Eric Webb, Ph.D.	Gulf South Research Corporation	Ecology/Wetlands	18 years natural resources and NEPA studies	Technical Review
Stephen Oivanki, P.G.	Gulf South Research Corporation	Geology, Environmental Assessment	20 years environmental assessment and remediation experience	Technical Review
Josh McEnany	Gulf South Research Corporation	Biology	7 years natural resources and NEPA studies	Technical Review
John P. Mire	Gulf South Research Corporation	Natural Resources	15 years NEPA and natural resources studies	Co Project Manager EA Preparation
Shanna McCarty	Gulf South Research Corporation	Forestry	2 years natural resources	EA Preparation
Chris Cothron	Gulf South Research Corporation	GIS/graphics	1 year GIS/graphics experience	GIS/graphics
Ticia Bullion	Gulf South Research Corporation	Report Coordinator	1 year word processing	Editing/graphics

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*APPENDIX A*  
*AGENCY COORDINATION AND PUBLIC REVIEW*

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U.S. Department of Homeland Security  
Washington, DC 20229



U.S. Customs and  
Border Protection

Deputy Commissioner

Ms. Terri Raml  
District Manager  
Bureau of Land Management  
Phoenix District  
21605 N. 7<sup>th</sup> Avenue  
Phoenix, AZ 85027-2929

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Ms. Raml:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, maintain, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 2 segments along the U.S./Mexico international border. Individual segments would range from approximately 2.23 miles to 5.40 miles in length. Maps presenting the proposed project sites are enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 7.63 miles of tactical infrastructure will be installed within USBP Tucson Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.


Page 2

Ms. Teri Raml

Your agency has been identified as a Federal authority with responsibilities for resources that may be affected by the Proposed Action. In accordance with the Council on Environmental Quality (CEQ) regulations addressing cooperating agencies (40 CFR 1501.6 and 1508.5) and CEQ's January 30, 2002, guidance, CBP is inviting you to participate in the development of the EA as a cooperating agency. Please contact Mr. Charles McGregor of the USACE, Fort Worth District, Engineering Construction Support Office by mail at P.O Box 17300, Fort Worth, Texas 76102-0300 if your agency would like to be a cooperating agency.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please call Mr. Charles McGregor at (817) 886-1585 or Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. Janson", is positioned above the printed name.

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure

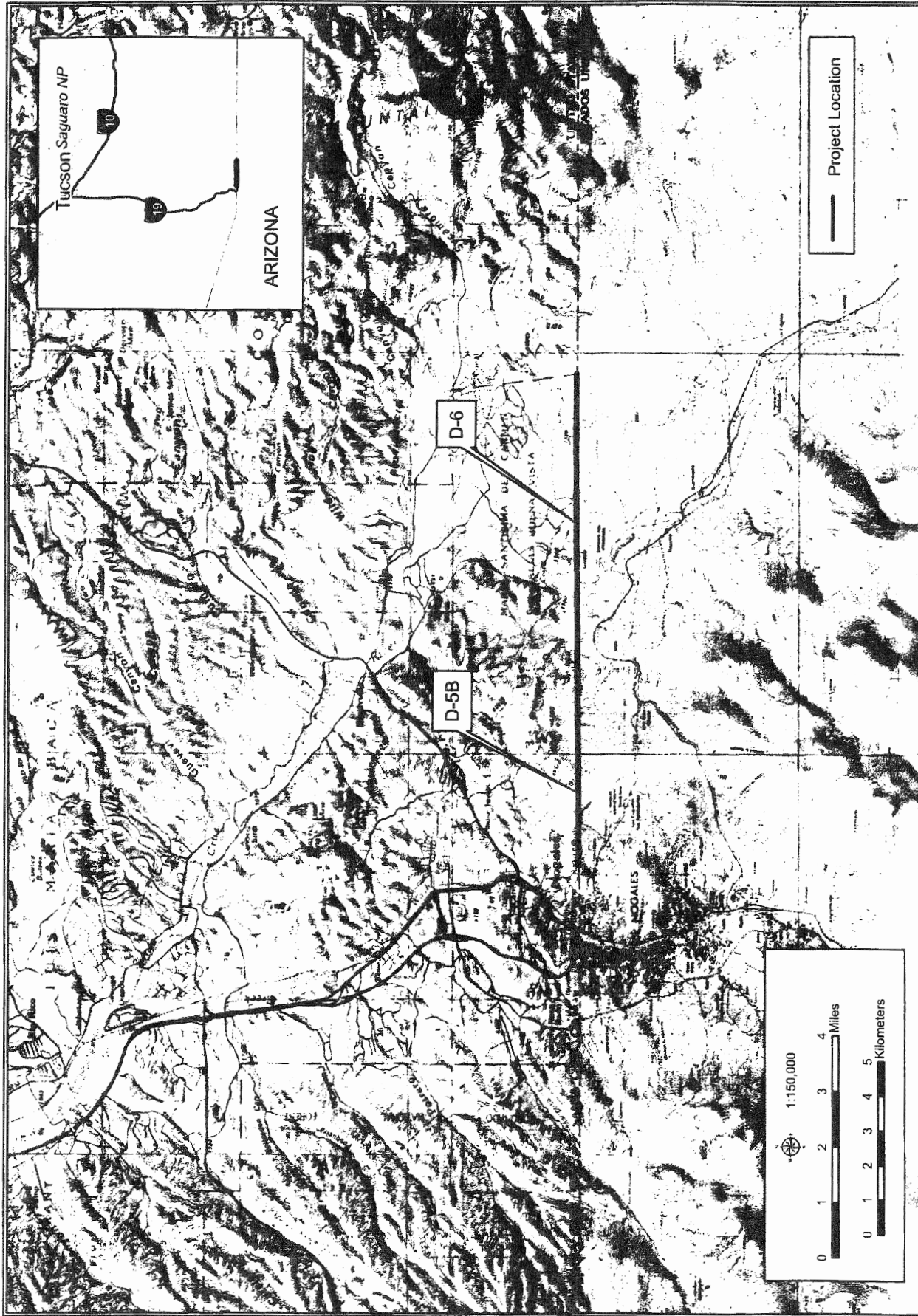


Figure 1-1: Project Location

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U.S. Customs and  
Border Protection

Deputy Commissioner

Mr. Keith Graves, Supervisor  
U.S. Department of Agriculture  
Coronado National Forest  
303 Old Tucson Road  
Nogales, AZ 85621

OCT 18 2007

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Mr. Graves:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, maintain, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 2 segments along the U.S./Mexico international border. Individual segments would range from approximately 2.23 miles to 5.40 miles in length. Maps presenting the proposed project sites are enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 7.63 miles of tactical infrastructure will be installed within USBP Tucson Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.

Page 2  
Mr. Keith Graves

Your agency has been identified as a Federal authority with responsibilities for resources that may be affected by the Proposed Action. In accordance with the Council on Environmental Quality (CEQ) regulations addressing cooperating agencies (40 CFR 1501.6 and 1508.5) and CEQ's January 30, 2002, guidance, CBP is inviting you to participate in the development of the EA as a cooperating agency. Please contact Mr. Charles McGregor of the USACE, Fort Worth District, Engineering Construction Support Office by mail at P.O Box 17300, Fort Worth, Texas 76102-0300 if your agency would like to be a cooperating agency.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please call Mr. Charles McGregor at (817) 886-1585 or Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,



Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

Mr. Wayne Natri  
Regional Administrator, Region 9  
U.S. Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

OCT 18 2007

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Mr. Natri:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, maintain, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 2 segments along the U.S./Mexico international border. Individual segments would range from approximately 2.23 miles to 5.40 miles in length. Maps presenting the proposed project sites are enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 7.63 miles of tactical infrastructure will be installed within USBP Tucson Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.




Page 2  
Mr. Wayne Nastri

Your agency has been identified as a Federal authority with responsibilities for resources that may be affected by the Proposed Action. In accordance with the Council on Environmental Quality (CEQ) regulations addressing cooperating agencies (40 CFR 1501.6 and 1508.5) and CEQ's January 30, 2002, guidance, CBP is inviting you to participate in the development of the EA as a cooperating agency. Please contact Mr. Charles McGregor of the USACE, Fort Worth District, Engineering Construction Support Office by mail at P.O Box 17300, Fort Worth, Texas 76102-0300 if your agency would like to be a cooperating agency.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please call Mr. Charles McGregor at (817) 886-1585 or Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,

  
Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

COL Thomas H. Magness, IV  
US Army Corps of Engineers  
Los Angeles District  
915 Wilshire Blvd., Suite 980  
Los Angeles, CA 90017

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and  
Operation of Tactical Infrastructure, U.S. Department of Homeland Security,  
U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear COL Magness:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, maintain, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 2 segments along the U.S./Mexico international border. Individual segments would range from approximately 2.23 miles to 5.40 miles in length. Maps presenting the proposed project sites are enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 7.63 miles of tactical infrastructure will be installed within USBP Tucson Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.


Page 2

COL Thomas H. Magness, IV

Your agency has been identified as a Federal authority with responsibilities for resources that may be affected by the Proposed Action. In accordance with the Council on Environmental Quality (CEQ) regulations addressing cooperating agencies (40 CFR 1501.6 and 1508.5) and CEQ's January 30, 2002, guidance, CBP is inviting you to participate in the development of the EA as a cooperating agency. Please contact Mr. Charles McGregor of the USACE, Fort Worth District, Engineering Construction Support Office by mail at P.O Box 17300, Fort Worth, Texas 76102-0300 if your agency would like to be a cooperating agency.

Your prompt attention to this request would be greatly appreciated. If you have any questions, please call Mr. Charles McGregor at (817) 886-1585 or Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,



Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

Dr. Benjamin Tuggle  
Regional Director  
U.S. Fish and Wildlife Service  
Southwest Regional  
P.O. Box 1306  
Albuquerque, NM 87103-1306

OCT 18 2007

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Dr. Tuggle:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, maintain, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 2 segments along the U.S./Mexico international border. Individual segments would range from approximately 2.23 miles to 5.40 miles in length. Maps presenting the proposed project sites are enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 7.63 miles of tactical infrastructure will be installed within USBP Tucson Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.

Page 2

Dr. Benjamin Tuggle

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Your prompt attention to this request would be greatly appreciated. If you have any questions, please call Mr. Charles McGregor at (817) 886-1585 or Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,



Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure

Cc: Mike Horton



**U.S. Customs and  
Border Protection**

OCT 25 2007

Honorable Benjamin H. Nuvamsa, Chairman  
**Attn: Mr. Leigh J. Kuwanwisiwma**  
Hopi Tribal Council  
P.O. Box 123  
Kykotsmovi, Arizona 86039

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and  
Operation of Tactical Infrastructure, U.S. Department of Homeland Security,  
U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Mr. Nuvamsa:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP. At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, maintain, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 2 segments along the U.S./Mexico international border. Individual segments would range from approximately 2.23 miles to 5.40 miles in length. A map presenting the proposed project sites is enclosed.

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Honorable Benjamin H. Nuvamsa  
Page 2

We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding known sacred sites or other traditional cultural properties within the proposed project area. A cultural resources survey is currently being conducted on the project corridor, and we will provide you a copy of the cultural resources report for your review and comment once it has been prepared. We will also provide a copy of the EA for your review and comment. If you have any questions, please contact Mr. Charles McGregor by mail at USACE, Fort Worth District, Engineering Construction Support Office, P.O Box 17300, Fort Worth, Texas 76102-0300 or by telephone at (817) 886-1585 or by contacting Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,

A handwritten signature in black ink, appearing to read "R. F. Janson", with a large, stylized flourish above the name.

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

OCT 25 2007

Honorable Ronnie Lupe, Chairman  
**Attn: Mr. Mark Atalha**  
White Mountain Apache Tribal Council  
202 East Walnut Street  
Whiteriver, Arizona 85941

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and  
Operation of Tactical Infrastructure, U.S. Department of Homeland Security,  
U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Mr. Lupe:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP. At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

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Honorable Ronnie Lupe

Page 2

We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding known sacred sites or other traditional cultural properties within the proposed project area. A cultural resources survey is currently being conducted on the project corridor, and we will provide you a copy of the cultural resources report for your review and comment once it has been prepared. We will also provide a copy of the EA for your review and comment. If you have any questions, please contact Mr. Charles McGregor by mail at USACE, Fort Worth District, Engineering Construction Support Office, P.O Box 17300, Fort Worth, Texas 76102-0300 or by telephone at (817) 886-1585 or by contacting Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,

  
*For Janson*

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

OCT 25 2007

Honorable Delia Carlisle, Chairperson  
**Attn: Ms. Nancy Nelson**  
Ak Chin Indian Community  
47685 N. Eco Museum Rd.  
Maricopa, Arizona 85239

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Ms. Carlisle:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP. At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

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Honorable Delia Carlisle

Page 2

We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding known sacred sites or other traditional cultural properties within the proposed project area. A cultural resources survey is currently being conducted on the project corridor, and we will provide you a copy of the cultural resources report for your review and comment once it has been prepared. We will also provide a copy of the EA for your review and comment. If you have any questions, please contact Mr. Charles McGregor by mail at USACE, Fort Worth District, Engineering Construction Support Office, P.O Box 17300, Fort Worth, Texas 76102-0300 or by telephone at (817) 886-1585 or by contacting Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,



For R. Janson

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

**OCT 25 2007**

Honorable William Rhodes, Governor  
**Attn: Mr. Barnaby Lewis**  
Gila River Indian Community  
315 W. Casa Blanco Road  
Sacaton, Arizona 85247

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Mr. Rhodes:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP. At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

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Honorable William Rhodes

Page 2

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Sincerely,

  
*For R. Janson*

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

OCT 25 2007

Ms. Jill McCormick  
Cocopah Tribe Museum  
County 15th & Avenue G  
Somerton, Arizona 85350

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Ms. McCormick:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP. At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

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Ms. Jill McCormick  
Page 2

We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding known sacred sites or other traditional cultural properties within the proposed project area. A cultural resources survey is currently being conducted on the project corridor, and we will provide you a copy of the cultural resources report for your review and comment once it has been prepared. We will also provide a copy of the EA for your review and comment. If you have any questions, please contact Mr. Charles McGregor by mail at USACE, Fort Worth District, Engineering Construction Support Office, P.O Box 17300, Fort Worth, Texas 76102-0300 or by telephone at (817) 886-1585 or by contacting Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Janson', with a long horizontal stroke extending to the right.

*For R. Janson*

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

OCT 25 2007

Honorable Joni M. Ramos, President  
**Attn: Ms. Dezbah Hatahli**  
Salt River Pima-Maricopa Indian Community  
10005 E. Osburn  
Scottsdale, Arizona 85256

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and  
Operation of Tactical Infrastructure, U.S. Department of Homeland Security,  
U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Ms. Ramos:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP. At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

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Honorable Joni M. Ramos

Page 2

We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding known sacred sites or other traditional cultural properties within the proposed project area. A cultural resources survey is currently being conducted on the project corridor, and we will provide you a copy of the cultural resources report for your review and comment once it has been prepared. We will also provide a copy of the EA for your review and comment. If you have any questions, please contact Mr. Charles McGregor by mail at USACE, Fort Worth District, Engineering Construction Support Office, P.O Box 17300, Fort Worth, Texas 76102-0300 or by telephone at (817) 886-1585 or by contacting Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,

  
For R. Janson

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

Honorable Ned Norris, Jr., Chairman  
**Attn: Mr. Peter Steere, Cultural Resources Manager**  
Tohono O'odham Nation  
Cultural Affairs Department  
P.O. Box 837  
Sells, Arizona 85634

OCT 25 2007

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and  
Operation of Tactical Infrastructure, U.S. Department of Homeland Security,  
U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Mr. Norris:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP. At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

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Honorable Ned Norris, Jr.

Page 2

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Sincerely,



For R. Janson

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

State Historic Preservation Office  
Attn: JoAnne Medley  
1300 West Washington  
Phoenix, Arizona 85007

OCT 25 2007

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Ms. Medley:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP. At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate consultation with your office.


To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, maintain, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 2 segments along the U.S./Mexico international border. Individual segments would range from approximately 2.23 miles to 5.40 miles in length. A map presenting the proposed project sites is enclosed.

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State Historic Preservation Office  
Page 2

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Sincerely,



For R. Janson

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

**OCT 25 2007**

Honorable Wendler Nosie, Chairman  
**Attn: Ms. Vernelda Grant, THPO**  
San Carlos Apache Tribe  
Historic Preservation & Archaeology Department  
P.O. Box 0  
San Carlos, Arizona 85550

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and  
Operation of Tactical Infrastructure, U.S. Department of Homeland Security,  
U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Mr. Nosie:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP. At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

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Honorable Wendler Nosie

Page 2

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Sincerely,



For R. Janson

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



**U.S. Customs and  
Border Protection**

Honorable Herminia Frias  
**Attn: Ms. Amalia Reyes**  
Pascua Yaqui Tribe  
7474 S Camino de Oeste  
Tucson, Arizona 85746

OCT 25 2007

**Subject: Environmental Assessment (EA) for Proposed Construction, Maintenance, and Operation of Tactical Infrastructure, U.S. Department of Homeland Security, U.S. Customs and Border Protection, U.S. Border Patrol Tucson Sector**

Dear Ms. Frias:

While no final decisions on the fence locations have been made, U.S. Customs and Border Protection (CBP), U.S. Border Patrol (USBP), a component of the Department of Homeland Security, is preparing a Supplemental Environmental Assessment (EA) to address the potential environmental impacts and feasibility of constructing, maintaining, and operating tactical infrastructure in segments totaling approximately 7.63 miles in length within USBP Tucson Sector, Arizona. In preparing the EA, CBP will be working directly with the United States Army Corps of Engineers, Fort Worth District (USACE), who will provide technical expertise and other support to CBP. At this time, in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, CBP wishes to initiate its consultation process with appropriate federally-recognized tribes who historically used this region and/or continue to use the area.

To assist USBP in gaining and maintaining operational control of the border, CBP proposes to construct, maintain, and operate tactical infrastructure to include primary pedestrian fence and access and patrol roads in 2 segments along the U.S./Mexico international border. Individual segments would range from approximately 2.23 miles to 5.40 miles in length. A map presenting the proposed project sites is enclosed.

Based on Congressional and Executive mandates, CBP and USBP are assessing operational requirements and land issues along the entire Southwest border. Preparing the EA does not necessarily mean the 7.63 miles of tactical infrastructure will be installed within USBP Tucson Sector. Rather, this effort is a prudent part of the planning process needed to assess any environmental concerns in accordance with the National Environmental Policy Act of 1969 (NEPA), the National Historic Preservation Act (NHPA), the Clean Water Act (CWA), and other applicable environmental laws and regulations.




Honorable Herminia Frias

Page 2

We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding known sacred sites or other traditional cultural properties within the proposed project area. A cultural resources survey is currently being conducted on the project corridor, and we will provide you a copy of the cultural resources report for your review and comment once it has been prepared. We will also provide a copy of the EA for your review and comment. If you have any questions, please contact Mr. Charles McGregor by mail at USACE, Fort Worth District, Engineering Construction Support Office, P.O Box 17300, Fort Worth, Texas 76102-0300 or by telephone at (817) 886-1585 or by contacting Assistant Chief Patrol Agent Craig Weinbrenner, USBP Tucson Sector at (520) 670-6871.

Sincerely,



For R. Janson.

Robert F. Janson  
Acting Executive Director  
Asset Management  
U.S. Customs and Border Protection

Enclosure



United States  
Department of  
Agriculture

Forest  
Service

Coronado National Forest  
Nogales Ranger District

303 Old Tucson Road  
Nogales, Arizona 85621  
Phone (520) 281-2296  
FAX (520) 281-2396

File Code: 1950-4/1500

Date: October 30, 2007

Charles McGregor  
USACE, Fort Worth District, Engineering Construction  
Support Office  
P.O. Box 17300  
Fort Worth, TX 76102-0300

Dear Mr. McGregor:

This is in response to a letter received from Robert F. Janson, Acting Executive Director, Asset Management, U.S. Customs and Border Protection. Mr. Janson discussed the Tactical Infrastructure NEPA process and needs for preparing an Environmental Assessment to address 7.63 miles of tactical infrastructure east of Nogales, Arizona. The base map provided does not indicate activities occurring on National Forest System lands managed by the Coronado National Forest. The map shows that proposed activities would stop at the eastern boundary of the "*Maria Santisma Del Carmen*" private lands, also known as the "*Buena Vista*" private lands.

The Coronado National Forest is prepared to offer assistance in accomplishing your agency's objectives for this proposal by providing a Right of Entry to access National Forest System lands as necessary to meet the intent of the proposed action; and providing natural resource specialist information and Engineering guidance upon request. I am attaching a copy of the Right of Entry sent to the Executive Director, Asset Management, C&BP, September 20, 2007, which you may also utilize for this proposal.

Please contact me directly with any further needs or clarifications. I may be reached at 520.761.6000 and [klgraves@fs.fed.us](mailto:klgraves@fs.fed.us).

Sincerely,



KEITH L. GRAVES  
District Ranger

Attachment

cc: Jeanine Derby, Forest Supervisor



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United States  
Department of  
Agriculture

Forest  
Service

Coronado National Forest  
Supervisor's Office

300 W. Congress  
Tucson, Arizona 85701  
Phone (520) 388-8300  
FAX (520) 388-8305  
TTY (520) 388-8304

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File Code: 1500/1950-4/2710

Date: September 20, 2007

Renee Smoot  
Executive Director  
Asset Management, ☐ ☐ Office of Finance, ☐ ☐ Customs  
and Border Protection  
1700 Pennsylvania Avenue, NW  
Suite 7.3-A  
Washington, DC 20229

Dear Renee:

I reviewed the request for a Right of Entry (RoE) for the purpose of conducting various site evaluations and investigations on National Forest System lands administered by the Coronado National Forest. This letter serves as your Right of Entry to perform the requested surveys within these boundaries, designated as the Nogales and Sierra Vista Ranger Districts. By this letter, I am authorizing your Right of Entry for site surveys necessary to address the National Environmental Policy Act processes to design security infrastructure along the international boundary with the Republic of Mexico. This authorization is in effect for three (3) years from the date of this letter to meet your project needs.

The environmental surveys will comply with the following items:

- All vehicular travel will be confined to existing Forest Service Road systems;
- No new roads will be constructed;
- No improvements to existing roadways will be performed;
- No lasting impacts on the lands being surveyed will be performed;
- No animal life will be removed or displaced by the survey activity;
- No plant materials will be removed;
- Locations of hazardous materials, illegal dumping/trash accumulation sites located during the surveys will be provided to the Nogales Ranger District;
- The targeted information gathered during the survey will be provided to District Ranger Keith Graves at: Nogales Ranger District, 303 Old Tucson Road, Nogales, Arizona 85621.



To reduce redundancy, the Nogales District will act as lead for the Coronado National Forest. All correspondence should be addressed to Keith L. Graves, District Ranger.

Thank you for keeping us informed. I look forward to assisting in meeting our mutual management goals and objectives.

Sincerely,

JEANINE A. DERBY  
Forest Supervisor

**White Mountain Apache Tribe Heritage Program  
PO Box 507 Fort Apache, AZ 85926**

**To:** Craig Weinbrenner, USBP Assistance Chief Patrol Agent  
**Date:** December 06, 2007  
**Proposed Project:** Proposed construction, maintenance, and operation of Tactical Infrastructure, U.S. Dept of Homeland Security, U.S. CBP, U.S. Border Patrol, Tucson Sector.

.....

The White Mountain Apache Historic Preservation Office (THPO) appreciates receiving information on the proposed project, dated October 25, 07. In regards to this, please attend to the checked items below;

► There is no need to send additional information unless project planning or implementation results in the discovery of sites and/or items having known or suspected Apache Cultural affiliation.

☐ The proposed project is located within an area of probable cultural or historical importance to the White Mountain Apache Tribe (WMAT). As part of the effort to identify historical properties that maybe affected by the project we recommend an ethnohistorical study and interviews with Apache Elders. The Cultural Resource Director, *Mr. Ramon Riley* would be the contact person at (928) 338-4625 should this become necessary.

☐ The proposed project is located within or adjacent to a known historic property of cultural concern and/or historical importance to the White Mountain Apache Tribe and will most likely result in adverse affect to said property. Considering this, please refrain from further steps in project planning and/or implementation.

☐ Please refer to the attached additional notes in regards to the proposed project:

We have received and reviewed the information regarding the proposed construction, maintenance, and operation of Tactical Infrastructure in segments totaling approximately 7.63 miles within the USBP Tucson Sector, AZ, and we have determined the proposed project *will not have an effect* on the tribe's Traditional Cultural Properties (TCPs) and/or historic properties. The project may proceed with the understanding that all ground disturbance be monitored and in the event subsurface materials or human remains are encountered all construction activities are to be stopped and the proper authorities and/or affiliated tribe(s) be notified to evaluate the situation.

We look forward to continued collaborations in the protection and preservation of places of cultural and historical significance.

Sincerely,

Mark T. Altaha  
White Mountain Apache Tribe  
Historic Preservation Officer  
1 (928) 338-3033 Fax: 338-6055

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**RESERVED FOR  
PUBLIC REVIEW PERIOD**

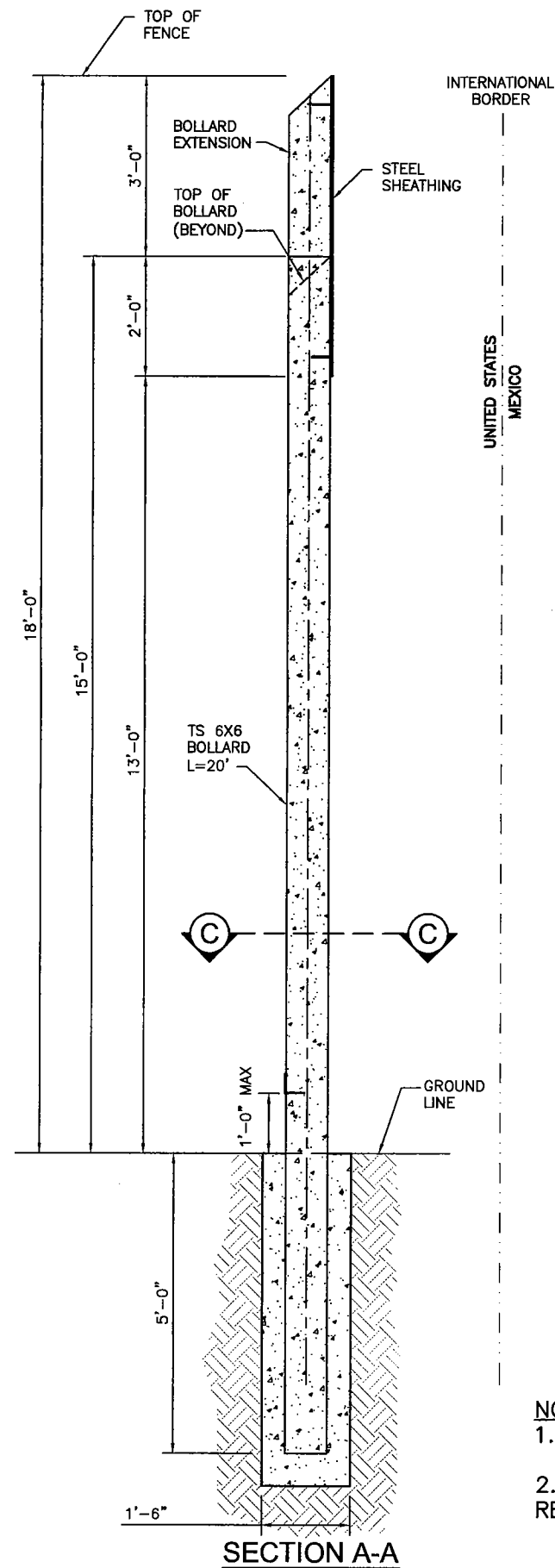


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*APPENDIX B*  
*PROPOSED PRIMARY PEDESTRIAN FENCE DESIGN SCHEMATICS*

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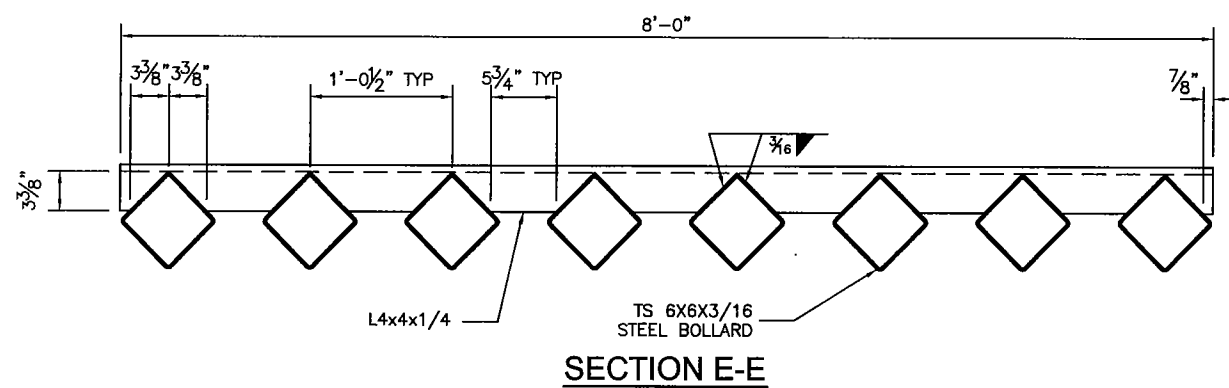
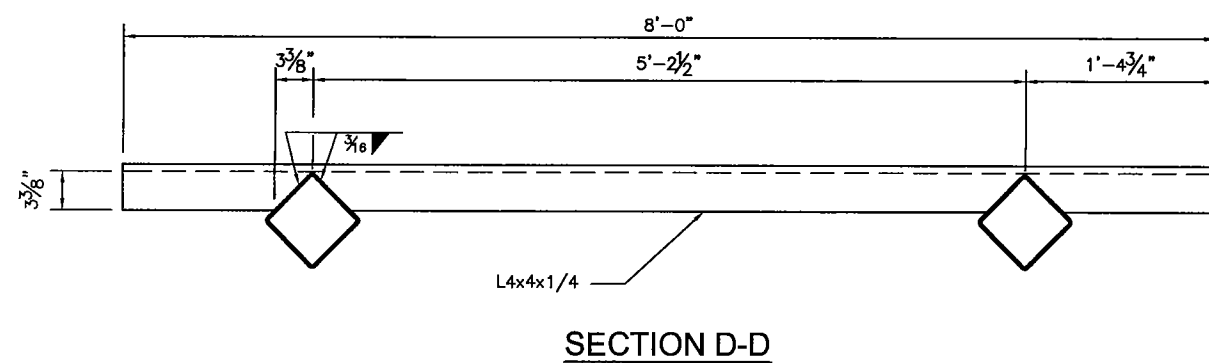
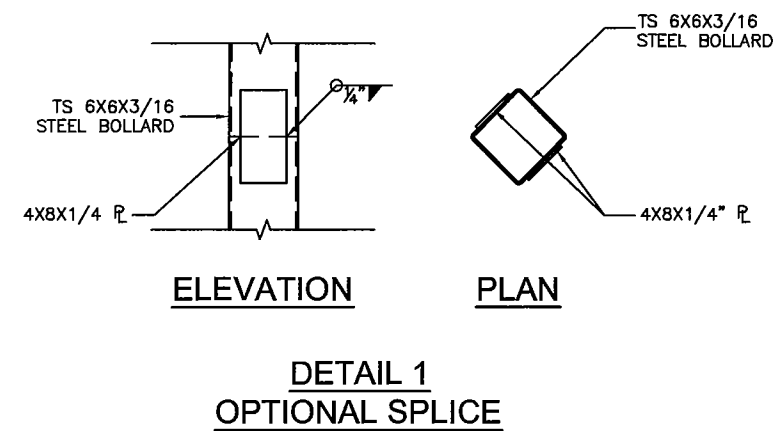
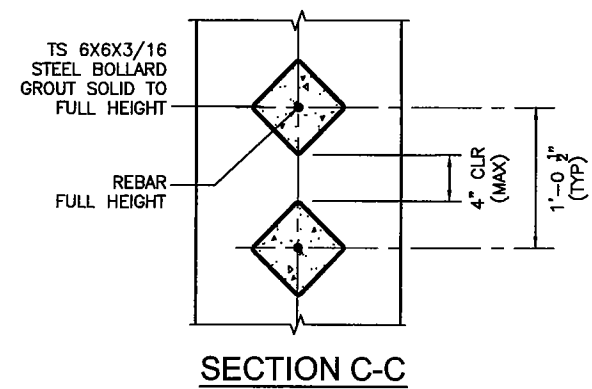




2. FOUNDATION DETAILS SHOWN REPRESENT MINIMUM DIMENSIONAL REQUIREMENTS AND MAY NEED TO BE INCREASED BASED ON FINAL DESIGN.



SHEET  
REFERENCE  
NUMBER:  
**PV-1**

[illegible]

SCHEMATIC  
NOT FOR  
CONSTRUCTION

**Baker**  
MICHAEL BAKER JR., INC  
2020 NORTH CENTRAL AVENUE  
SUITE 600  
PHOENIX, AZ 85012

Designed by: KAS	Date:	Rev.
Drawn by: MC	Ckd by: JWB	Submitted by: Michael Baker Jr., Inc.
Reviewed by:	Plot date: Baker Project No: 11/18/07 112310	

**PF225  
CONCEPTUAL  
FENCE  
DESIGNS**

PERSONNEL -

SHEET  
REFERENCE  
NUMBER:  
**PV-1**

*APPENDIX C*  
*STATE PROTECTED SPECIES LISTS*

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**Special Status Species Santa Cruz County, Arizona**

**Arizona Game and Fish Department, Heritage Data Management System**

**Updated: June 28, 2007**

**Accessed November 21,2007**

**[http://www.azgfd.gov/w\\_c/edits/documents/ssspecies\\_bycounty.pdf](http://www.azgfd.gov/w_c/edits/documents/ssspecies_bycounty.pdf)**

COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	STATE	GRANK	S RANK
Santa Cruz	AMPHIBIAN	Ambystoma tigrinum stebbinsi	Sonora Tiger Salamander	WSC	G5T1T2	S1
Santa Cruz	AMPHIBIAN	Eleutherodactylus augusti cactorum	Western Barking Frog	WSC	G5T5	S2
Santa Cruz	AMPHIBIAN	Gastrophryne olivacea	Great Plains Narrow-mouthed Toad	WSC	G5	S3
Santa Cruz	AMPHIBIAN	Rana chiricahuensis	Chiricahua Leopard Frog	WSC	G3	S2
Santa Cruz	AMPHIBIAN	Rana tarahumarae	Tarahumara Frog	WSC	G3	SXS1
Santa Cruz	AMPHIBIAN	Rana yavapaiensis	Lowland Leopard Frog	WSC	G4	S3
Santa Cruz	BIRD	Accipiter gentilis	Northern Goshawk	WSC	G5	S3
Santa Cruz	BIRD	Amazilia violiceps	Violet-crowned Hummingbird	WSC	G5	S3
Santa Cruz	BIRD	Ammodramus bairdii	Baird's Sparrow	WSC	G4	S2N
Santa Cruz	BIRD	Anthus spragueii	Sprague's Pipit	WSC	G4	S2N
Santa Cruz	BIRD	Athene cunicularia hypugaea	Western Burrowing Owl		G4T4	S3
Santa Cruz	BIRD	Buteo nitidus maxima	Northern Gray Hawk	WSC	G5T4Q	S3
Santa Cruz	BIRD	Buteogallus anthracinus	Common Black-Hawk	WSC	G4G5	S3
Santa Cruz	BIRD	Coccyzus americanus occidentalis	Western Yellow-billed Cuckoo	WSC	G5T3Q	S3
Santa Cruz	BIRD	Dendrocygna autumnalis	Black-bellied Whistling-Duck	WSC	G5	S3
Santa Cruz	BIRD	Empidonax traillii extimus	Southwestern Willow Flycatcher	WSC	G5T1T2	S1
Santa Cruz	BIRD	Falco peregrinus anatum	American Peregrine Falcon	WSC	G4T4	S4
Santa Cruz	BIRD	Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl	WSC	G5T3	S1
Santa Cruz	BIRD	Haliaeetus leucocephalus (wintering p	Bald Eagle	WSC	G5	S4N
Santa Cruz	BIRD	Pachyramphus aglaiae	Rose-throated Becard	WSC	G4G5	S1
Santa Cruz	BIRD	Pandion haliaetus	Osprey	WSC	G5	S2B,S4N
Santa Cruz	BIRD	Polioptila nigriceps	Black-capped Gnatcatcher	WSC	G5	S1
Santa Cruz	BIRD	Strix occidentalis lucida	Mexican Spotted Owl	WSC	G3T3	S3S4
Santa Cruz	BIRD	Trogon elegans	Elegant Trogon	WSC	G5	S3
Santa Cruz	BIRD	Tyrannus crassirostris	Thick-billed Kingbird	WSC	G5	S2
Santa Cruz	BIRD	Tyrannus melancholicus	Tropical Kingbird	WSC	G5	S3
Santa Cruz	FISH	Agosia chrysogaster chrysogaster	Gila Longfin Dace		G4T3T4	S3S4
Santa Cruz	FISH	Catostomus clarki	Desert Sucker		G3G4	S3S4
Santa Cruz	FISH	Catostomus insignis	Sonora Sucker		G3	S3
Santa Cruz	FISH	Cyprinodon macularius	Desert Pupfish	WSC	G1	S1
Santa Cruz	FISH	Gila ditaenia	Sonora Chub	WSC	G2	S1



COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	STATE	GRANK	S RANK
Santa Cruz	FISH	<i>Gila intermedia</i>	Gila Chub	WSC	G2	S2
Santa Cruz	FISH	<i>Poeciliopsis occidentalis occidentalis</i>	Gila Topminnow	WSC	G3T3	S1S2
Santa Cruz	FISH	<i>Rhinichthys osculus</i>	Speckled Dace		G5	S3S4
Santa Cruz	INVERTEBRATE	<i>Agathymus aryxna</i>	Arizona Giant Skipper		G4G5	S?
Santa Cruz	INVERTEBRATE	<i>Argia sabino</i>	Sabino Canyon Damselfly		G1G2	S?
Santa Cruz	INVERTEBRATE	<i>Calephelis rawsoni arizonensis</i>	Arizona Metalmark		G3G4	S2
Santa Cruz	INVERTEBRATE	<i>Heterelmis stephani</i>	Stephan's Heterelmis Riffle Beetle		G1	S1
Santa Cruz	INVERTEBRATE	<i>Limenitis archippus obsoleta</i>	Obsolete Viceroy Butterfly		G5T3T4	S?
Santa Cruz	INVERTEBRATE	<i>Neophasia terlooii</i>	Chiricahua Pine White		G3G4	S2?
Santa Cruz	INVERTEBRATE	<i>Pyrgulopsis thompsoni</i>	Huachuca Springsnail		G2	S2
Santa Cruz	INVERTEBRATE	<i>Stygobromus arizonensis</i>	Arizona Cave Amphipod		G2G3	S1?
Santa Cruz	INVERTEBRATE	<i>Sympetrum signiferum</i>	Mexican Meadowfly		G2G3	S?
Santa Cruz	MAMMAL	<i>Choeronycteris mexicana</i>	Mexican Long-tongued Bat	WSC	G4	S3
Santa Cruz	MAMMAL	<i>Corynorhinus townsendii pallescens</i>	Pale Townsend's Big-eared Bat		G4T4	S3S4
Santa Cruz	MAMMAL	<i>Lasiurus blossevillii</i>	Western Red Bat	WSC	G5	S3
Santa Cruz	MAMMAL	<i>Leptonycteris curasoae yerbabuenae</i>	Lesser Long-nosed Bat	WSC	G4	S2S3
Santa Cruz	MAMMAL	<i>Macrotus californicus</i>	California Leaf-nosed Bat	WSC	G4	S3
Santa Cruz	MAMMAL	<i>Myotis velifer</i>	Cave Myotis		G5	S3S4
Santa Cruz	MAMMAL	<i>Panthera onca</i>	Jaguar	WSC	G3	S1
Santa Cruz	MAMMAL	<i>Sigmodon ochrognathus</i>	Yellow-nosed Cotton Rat		G4G5	S4
Santa Cruz	MAMMAL	<i>Sorex arizonae</i>	Arizona Shrew	WSC	G3	S2
Santa Cruz	MAMMAL	<i>Thomomys umbrinus intermedius</i>	Southern Pocket Gopher		G5T3	S3
Santa Cruz	PLANT	<i>Abutilon parishii</i>	Pima Indian Mallow	SR	G2	S2
Santa Cruz	PLANT	<i>Acacia farnesiana</i>	Sweet Acacia		G5	S1S2
Santa Cruz	PLANT	<i>Agave parviflora ssp. parviflora</i>	Santa Cruz Striped Agave	HS	G3T3	S3
Santa Cruz	PLANT	<i>Allium rhizomatum</i>	Redflower Onion	SR	G3?Q	S1
Santa Cruz	PLANT	<i>Amoreuxia gonzalezii</i>	Saiya	HS	G1	S1
Santa Cruz	PLANT	<i>Amsonia grandiflora</i>	Large-flowered Blue Star		G2	S2
Santa Cruz	PLANT	<i>Arabis tricornuta</i>	Chiricahua Rock Cress		G1?	S1?
Santa Cruz	PLANT	<i>Asclepias lemmonii</i>	Lemmon Milkweed		G4?	S2
Santa Cruz	PLANT	<i>Asclepias uncialis</i>	Greene Milkweed		G3G4	S1?
Santa Cruz	PLANT	<i>Astragalus hypoxylus</i>	Huachuca Milk-vetch	SR	G1	S1
Santa Cruz	PLANT	<i>Browallia eludens</i>	Elusive New Browallia Species		G2?	S1
Santa Cruz	PLANT	<i>Capsicum annuum var. glabriusculum</i>	Chiltepin		G5T5	S2
Santa Cruz	PLANT	<i>Carex chihuahuensis</i>	A Sedge		G3G4	S2S3
Santa Cruz	PLANT	<i>Carex ultra</i>	Arizona Giant Sedge		G3?	S2

COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	STATE	GRANK	S RANK
Santa Cruz	PLANT	Choisya mollis	Santa Cruz Star Leaf		G5?T2?	S2
Santa Cruz	PLANT	Conioselinum mexicanum	Mexican Hemlock Parsley		G2?	S1
Santa Cruz	PLANT	Coryphantha recurvata	Santa Cruz Beehive Cactus	HS	G3	S3
Santa Cruz	PLANT	Coryphantha scheeri var. robustispina	Pima Pineapple Cactus	HS	G4T2	S2
Santa Cruz	PLANT	Coursetia glabella			G3?	S1
Santa Cruz	PLANT	Dalea tentaculoides	Gentry Indigo Bush	HS	G1	S1
Santa Cruz	PLANT	Erigeron arisolius			G2	S2
Santa Cruz	PLANT	Euphorbia macropus	Woodland Spurge	SR	G4	S2
Santa Cruz	PLANT	Graptopetalum bartramii	Bartram Stonecrop	SR	G3	S3
Santa Cruz	PLANT	Hedeoma dentatum	Mock-pennyroyal		G3	S3
Santa Cruz	PLANT	Heterotheca rutteri	Huachuca Golden Aster		G2	S2
Santa Cruz	PLANT	Hexalectris revoluta	Chisos Coral-root	SR	G1G2	S1
Santa Cruz	PLANT	Hexalectris spicata	Crested Coral Root	SR	G5	S3S4
Santa Cruz	PLANT	Hieracium pringlei	Pringle Hawkweed		G2Q	S1
Santa Cruz	PLANT	Ipomoea plummerae var. cuneifolia	Huachuca Morning Glory		G4T3	S3
Santa Cruz	PLANT	Ipomoea thurberi	Thurber's Morning-glory		G3	S1
Santa Cruz	PLANT	Laennecia eriophylla	Woolly Fleabane		G3	S2
Santa Cruz	PLANT	Lilaeopsis schaffneriana var. recurva	Huachuca Water Umbel	HS	G4T2	S2
Santa Cruz	PLANT	Lilium parryi	Lemmon Lily	SR	G3	S2
Santa Cruz	PLANT	Lobelia fenestralis	Leafy Lobelia	SR	G4	S1
Santa Cruz	PLANT	Lobelia laxiflora	Mexican Lobelia	SR	G4	S1
Santa Cruz	PLANT	Lotus alamosanus	Alamos Deer Vetch		G3G4	S1
Santa Cruz	PLANT	Lupinus huachucanus	Huachuca Mountain Lupine		G2	S2
Santa Cruz	PLANT	Macroptilium supinum	Supine Bean	SR	G2	S1
Santa Cruz	PLANT	Malaxis corymbosa	Madrean Adders Mouth	SR	G4	S3S4
Santa Cruz	PLANT	Malaxis porphyrea	Purple Adder's Mouth	SR	G4	S2
Santa Cruz	PLANT	Mammillaria wrightii var. wilcoxii	Wilcox Fishhook Cactus	SR	G4T4	S4
Santa Cruz	PLANT	Manihot davisiae	Arizona Manihot		G4	S2
Santa Cruz	PLANT	Marina diffusa	Escoba		G5?	S1
Santa Cruz	PLANT	Metastelma mexicanum	Wiggins Milkweed Vine		G3G4	S1S2
Santa Cruz	PLANT	Muhlenbergia dubioides	Box Canyon Muhly		G1Q	S1
Santa Cruz	PLANT	Muhlenbergia xerophila	Weeping Muhly		G3	S1
Santa Cruz	PLANT	Notholaena lemmonii	Lemmon Cloak Fern		G3?	S1S2
Santa Cruz	PLANT	Opuntia versicolor	Stag-horn Cholla	SR	G4	S2S3
Santa Cruz	PLANT	Paspalum virletii	Virlet Paspalum		G3?	S1
Santa Cruz	PLANT	Passiflora arizonica	Arizona Passionflower		G5T3T5	S2

COUNTY	TAXON	SCIENTIFIC NAME	COMMON NAME	STATE	GRANK	S RANK
Santa Cruz	PLANT	Pectis imberbis	Beardless Chinch Weed		G3	S1
Santa Cruz	PLANT	Penstemon discolor	Catalina Beardtongue	HS	G2	S2
Santa Cruz	PLANT	Penstemon superbus	Superb Beardtongue		G3?	S2?
Santa Cruz	PLANT	Physalis latiphysa	Broad-leaf Ground-cherry		G1	S1
Santa Cruz	PLANT	Psilotum nudum	Whisk Fern	HS	G5	S1
Santa Cruz	PLANT	Samolus vagans	Chiricahua Mountain Brookweed		G2?	S2
Santa Cruz	PLANT	Schiedeella arizonica	Fallen Ladies'-tresses	SR	GNR	S4
Santa Cruz	PLANT	Senecio carlomasonii	Seemann Groundsel		G4?Q	S2S3
Santa Cruz	PLANT	Senecio multidentatus var. huachucan	Huachuca Groundsel	HS	G2G4T2	S2
Santa Cruz	PLANT	Sisyrinchium cernuum	Nodding Blue-eyed Grass		G5	S2
Santa Cruz	PLANT	Solanum lumholtzianum	Lumholtz Nightshade		G3G4	S3
Santa Cruz	PLANT	Spiranthes delitescens	Madrean Ladies'-tresses	HS	G1	S1
Santa Cruz	PLANT	Stenorrhynchos michuacanum	Michoacan Ladies'-tresses	SR	G4	S3
Santa Cruz	PLANT	Stevia lemmonii	Lemmon's Stevia		G3G4	S2
Santa Cruz	PLANT	Talinum humile	Pinos Altos Flame Flower	SR	G2	S1
Santa Cruz	PLANT	Talinum marginatum	Tepic Flame Flower	SR	G2	S1
Santa Cruz	PLANT	Tephrosia thurberi	Thurber Hoary Pea		G4G5	S3
Santa Cruz	PLANT	Tragia laciniata	Sonoran Noseburn		G3G4	S3?
Santa Cruz	PLANT	Viola umbraticola	Shade Violet		G3G4	S2?
Santa Cruz	REPTILE	Aspidoscelis burti stictogrammus	Giant Spotted Whiptail		G4T4	S2
Santa Cruz	REPTILE	Crotalus willardi willardi	Arizona Ridge-nosed Rattlesnake	WSC	G5T4	S1S2
Santa Cruz	REPTILE	Gopherus agassizii (Sonoran Populatio	Sonoran Desert Tortoise	WSC	G4T4	S4
Santa Cruz	REPTILE	Lampropeltis getula nigrita	Western Black Kingsnake		G5T3T4Q	S1S2
Santa Cruz	REPTILE	Oxybelis aeneus	Brown Vinesnake	WSC	G5	S1
Santa Cruz	REPTILE	Thamnophis eques megalops	Northern Mexican Gartersnake	WSC	G5T5	S1

*APPENDIX D*  
*LIST OF BEST MANAGEMENT PRACTICES FOR PROTECTED SPECIES*

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## LIST OF BEST MANAGEMENT PRACTICES FOR PROTECTED SPECIES

**COORDINATION:** U.S. Fish and Wildlife Service/ U.S. Border Patrol Tucson Sector

**COMMITMENT:** To be implemented as deemed appropriate through Section 7 Consultation

Protected Species	Best Management Practice (BMP) Recommended by U.S. Fish and Wildlife Service	BMP Type
Jaguar	CBP should actively participate in Jaguar Conservation Team meetings and activities. This should also include provision of funds to support the monitoring program, such as funding for additional trip cameras at potential jaguar locations and radio telemetry. Camera monitoring currently costs \$48,000.00 per year. Radio telemetry would also assist in refining the location of travel corridors used by jaguars, which could assist in landscape-level planning.	Species Specific - Mitigation
Lesser long-nosed bat	When planning activities, avoid areas containing columnar cacti (saguaro, organ pipe) or agaves that provide the forage base for the bat. If they cannot be avoided, columnar cacti and agaves should be salvaged and transplanted. When salvage is not possible, columnar cacti and agaves should be purchased and planted. Salvage, transplantation, and container planting should be done in accordance with a restoration plan that includes success criteria and monitoring.	Species Specific - Modifications
Lesser long-nosed bat	Funding for surveys to locate bat roosts within the project area, particularly in coordination with /managers would facilitate avoidance.	Species Specific - Mitigation
Lesser long-nosed bat	Funding for continued monitoring of maternity and summer roost sites would assist in documenting the status of the species. Infra-red cameras could also be purchased to document bats at roosts.	Species Specific - Mitigation
Lesser long-nosed bat	Plant Palmer's agave in suitable areas as part of revegetation and erosion control actions. This will enhance foraging opportunities.	Species Specific - Mitigation
Lesser long-nosed bat	Placement of fences, barriers, or other means to deter IAs from using bat roosts for shelter would significantly reduce the risk of roost abandonment.	Species Specific - Mitigation

Continued.

Protected Species	Best Management Practice (BMP) Recommended by U.S. Fish and Wildlife Service	BMP Type
Pima pineapple cactus	Maintenance activities in cactus habitat should not increase the existing disturbed areas.	Species Specific - Modifications
Pima pineapple cactus	Use of existing roads and trails should be maximized in areas of suitable habitat for the cactus. Maps of suitable habitat areas should be available and protection of the cactus stressed in environmental education for CBP personnel and contractors involved in construction or maintenance of facilities.	Species Specific - Modifications
Pima pineapple cactus	A method to define the amount of ongoing disturbance from CBP activities is especially important to the cactus because of the large area of habitat that is affected, particularly by patrol operations. This method should be developed and implemented.	Species Specific - Mitigation
Pima pineapple cactus	Compensation for habitat degradation or loss should be provided on a 1 acre: 1 acre basis in either an established conservation bank or a new one set up for CBP purposes.	Species Specific - Mitigation
Pima pineapple cactus	Salvage of Pima pineapple cactus has shown very limited success with transplanted individuals experiencing high first-year mortality. Salvage of individual cacti will be considered only when on-site or off-site habitat conservation is not possible and death of the cacti is unavoidable.	Species Specific - Mitigation

*APPENDIX E*  
*AIR EMISSION CALCULATIONS*

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CALCULATION SHEET-COMBUSTABLE EMISSIONS-PROPOSED ACTION

Assumptions for Combustable Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	1	300	12	150	540000
Diesel Road Compactors	0	100	12	150	0
Diesel Dump Truck	0	300	12	150	0
Diesel Excavator	0	300	12	150	0
Diesel Hole Cleaners/Trenchers	2	175	12	150	630000
Diesel Bore/Drill Rigs	2	300	12	150	1080000
Diesel Cement & Mortar Mixers	3	300	12	150	1620000
Diesel Cranes	2	175	12	150	630000
Diesel Graders	0	300	12	150	0
Diesel Tractors/Loaders/Backhoes	2	100	12	150	360000
Diesel Bull Dozers	2	300	12	150	1080000
Diesel Front End Loaders	2	300	12	150	1080000
Diesel Fork Lifts	3	100	12	150	540000
Diesel Generator Set	3	40	12	150	216000

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

# CALCULATION SHEET-COMBUSTABLE EMISSIONS-PROPOSED ACTION

Emission factors (EF) were generated from the NONROAD2005 model for the 2006 calendar year. The VOC EFs includes exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2005 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2005 model is based on the population in U.S. for the 2006 calendar year.

Emission Calculations							
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO2 tons/yr	CO2 tons/yr
Water Truck	0.262	1.232	3.267	0.244	0.238	0.440	318.963
Diesel Road Paver	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Dump Truck	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Excavator	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Hole Cleaners\Trenchers	0.354	1.694	4.034	0.319	0.305	0.514	371.985
Diesel Bore/Drill Rigs	0.714	2.725	8.510	0.595	0.583	0.869	630.428
Diesel Cement & Mortar Mixers	1.089	4.142	12.997	0.857	0.839	1.303	945.642
Diesel Cranes	0.305	0.903	3.971	0.236	0.229	0.507	368.097
Diesel Graders	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Tractors/Loaders/Backhoes	0.734	3.257	2.864	0.544	0.528	0.377	274.173
Diesel Bull Dozers	0.428	1.642	5.665	0.393	0.381	0.881	638.283
Diesel Front End Loaders	0.452	1.845	5.951	0.417	0.405	0.881	638.164
Diesel Aerial Lifts	1.178	4.618	5.094	0.827	0.803	0.565	411.081
Diesel Generator Set	0.288	0.895	1.421	0.174	0.169	0.193	139.796
<b>Total Emissions</b>	<b>5.805</b>	<b>22.953</b>	<b>53.773</b>	<b>4.605</b>	<b>4.480</b>	<b>6.529</b>	<b>4736.611</b>

Conversion factors	
Grams to tons	1.102E-06

CALCULATION SHEET-SUMMARY OF EMISSIONS-PROPOSED ACTION

Proposed Action Construction Emissions for Criteria Pollutants (tons per year)						
Emission source	VOC	CO	NOx	PM-10	PM-2.5	SO <sub>2</sub>
Combustable Emissions	5.81	22.95	53.77	4.61	4.48	6.53
Construction Site-fugitive PM-10	NA	NA	NA	9.60	1.92	NA
Construction Workers Commuter & Trucking	0.61	5.66	0.78	0.01	0.01	NA
Total emissions	6.41	28.62	54.55	14.22	6.41	6.53
De minimis threshold	NA	NA	NA	100.00	NA	NA

CALCULATION SHEET-TRANSPORTATION COMBUSTABLE EMISSIONS-PROPOSED ACTION

Construction WorkerPersonal Vehicle Commuting to Construction Sight-Passenger and Light Duty Trucks									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	120	150	10	10	0.27	0.32	0.59
CO	12.4	15.7	120	150	10	10	2.46	3.11	5.57
NOx	0.95	1.22	120	150	10	10	0.19	0.24	0.43
PM-10	0.0052	0.0065	120	150	10	10	0.00	0.00	0.00
PM 2.5	0.0049	0.006	120	150	10	10	0.00	0.00	0.00

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Heavy Duty Trucks Delivery Supply Trucks to Construction Sight									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	10,000-19,500 lb Delivery Truck	33,000-60,000 lb semi trailer rig	Mile/day	Day/yr	Number of trucks	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	0.55	60	150	2	2	0.01	0.01	0.02
CO	1.32	3.21	60	150	2	2	0.03	0.06	0.09
NOx	4.97	12.6	60	150	2	2	0.10	0.25	0.35
PM-10	0.12	0.33	60	150	2	2	0.00	0.01	0.01
PM 2.5	0.13	0.36	60	150	2	2	0.00	0.01	0.01

OBP Commute to New Site									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	60	0	0	0	-	0.00	-
CO	12.4	15.7	60	0	0	0	-	0.00	-
NOx	0.95	1.22	60	0	0	0	-	0.00	-
PM-10	0.0052	0.0065	60	0	0	0	-	0.00	-
PM 2.5	0.0049	0.006	60	0	0	0	-	0.00	-

POV Source: USEPA 2005 Emission Facts: Average annual emissions and fuel consumption for gasoline-fueled passenger cars and light trucks. EPA 420-F-05-022 August 2005. Emission rates were generated using MOBILE.6 highway vehicle emission factor model.

Fleet Charactorization: 20 POVs commuting to work were 50% are pick up trucks and 50% passenger cars

# CALCULATION SHEET-FUGITIVE DUST-PROPOSED ACTION

Fugitive Dust Emissions at New Construction Site.					
Construction Site	Emission Factor tons/acre/month (1)	Total Area- Construction Site/month	Months/yr	Total PM-10 Emissions tns/yr	Total PM-2.5 (2)
Fugitive Dust Emissions	0.11	7.27	12	9.60	1.92

1. Mid-Atlantic Regional Air Management Association (MARAMA). Fugitive Dust-Construction Calculation Sheet can be found online at: [http://www.marama.org/visibility/Calculation\\_Sheets/](http://www.marama.org/visibility/Calculation_Sheets/). MRI= Midwest Research Institute, Inventory of Agricultural Tiling, Unpaved Roads, Airstrips and construction Sites., prepared for the U.S. EPA, PB 238-929, Contract 68-02-1437 (November 1977)

2. 20% of the total PM-10 emissions are PM-2.5 (EPA 2006).

Coastruction Site Area	Demension (ft)			
Proposed Prioject	Length	Width	Units	Total Acres
New Construction Area	5,280	60	1	7.27
New Construction Area	20	20	0	0.00
<b>Total</b>				<b>7.27</b>

Conversion Factors	Miles to feet	Acres to sq ft	Sq ft to acres	Sq ft in 0.5 acres
	5280	0.000022957	43560	21780

Assumptions	Sections/day	Length of Section (ft)	Length/day (ft)	Days/Month	Length/Month (ft)	Miles/Month
Fencing installed per day (ft)	22	10	220	24	5280	1.00
Length of fence/month (miles) (1)	1.00					

1. OBP reported that construction crew completes approximately 22 sections of fence per day and about 1 mile per month.

CALCULATION SHEET-COMBUSTABLE EMISSIONS-ALTERNATIVE 3

Assumptions for Combustable Emissions					
Type of Construction Equipment	Num. of Units	HP Rated	Hrs/day	Days/yr	Total hp-hrs
Water Truck	1	300	12	240	864000
Diesel Road Compactors	0	100	12	240	0
Diesel Dump Truck	0	300	12	240	0
Diesel Excavator	0	300	12	240	0
Diesel Hole Cleaners/Trenchers	2	175	12	240	1008000
Diesel Bore/Drill Rigs	2	300	12	240	1728000
Diesel Cement & Mortar Mixers	3	300	12	240	2592000
Diesel Cranes	2	175	12	240	1008000
Diesel Graders	0	300	12	240	0
Diesel Tractors/Loaders/Backhoes	2	100	12	240	576000
Diesel Bull Dozers	2	300	12	240	1728000
Diesel Front End Loaders	2	300	12	240	1728000
Diesel Fork Lifts	3	100	12	240	864000
Diesel Generator Set	3	40	12	240	345600

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

# CALCULATION SHEET-COMBUSTABLE EMISSIONS-ALTERNATIVE 3

Emission factors (EF) were generated from the NONROAD2005 model for the 2006 calendar year. The VOC EFs includes exhaust and evaporative emissions. The VOC evaporative components included in the NONROAD2005 model are diurnal, hotsoak, running loss, tank permeation, hose permeation, displacement, and spillage. The construction equipment age distribution in the NONROAD2005 model is based on the population in U.S. for the 2006 calendar year.

Emission Calculations							
Type of Construction Equipment	VOC tons/yr	CO tons/yr	NOx tons/yr	PM-10 tons/yr	PM-2.5 tons/yr	SO2 tons/yr	CO2 tons/yr
Water Truck	0.419	1.971	5.227	0.390	0.381	0.705	510.341
Diesel Road Paver	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Dump Truck	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Excavator	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Hole Cleaners\Trenchers	0.567	2.710	6.454	0.511	0.489	0.822	595.175
Diesel Bore/Drill Rigs	1.143	4.361	13.615	0.952	0.933	1.390	1008.684
Diesel Cement & Mortar Mixers	1.742	6.627	20.794	1.371	1.343	2.085	1513.027
Diesel Cranes	0.489	1.444	6.354	0.378	0.367	0.811	588.955
Diesel Graders	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Diesel Tractors/Loaders/Backhoes	1.174	5.211	4.583	0.870	0.844	0.603	438.677
Diesel Bull Dozers	0.686	2.628	9.064	0.628	0.609	1.409	1021.252
Diesel Front End Loaders	0.724	2.952	9.521	0.666	0.647	1.409	1021.062
Diesel Aerial Lifts	1.885	7.389	8.150	1.323	1.285	0.905	657.730
Diesel Generator Set	0.461	1.432	2.274	0.278	0.270	0.308	223.674
<b>Total Emissions</b>	<b>9.289</b>	<b>36.724</b>	<b>86.037</b>	<b>7.368</b>	<b>7.169</b>	<b>10.447</b>	<b>7578.577</b>

Conversion factors	
Grams to tons	1.102E-06



CALCULATION SHEET-SUMMARY OF EMISSIONS-ALTERNATIVE 3

Proposed Action Construction Emissions for Criteria Pollutants (tons per year)						
Emission source	VOC	CO	NOx	PM-10	PM-2.5	SO <sub>2</sub>
Combustable Emissions	9.29	36.72	86.04	7.37	7.17	10.45
Construction Site-fugitive PM-10	NA	NA	NA	10.40	2.08	NA
Construction Workers Commuter & Trucking	0.97	9.06	1.25	0.02	0.02	NA
Total emissions	10.26	45.79	87.28	17.79	9.27	10.45
De minimis threshold	NA	NA	NA	100.00	NA	NA

CALCULATION SHEET-TRANSPORTATION COMBUSTABLE EMISSIONS-ALTERNATIVE 3

Construction WorkerPersonal Vehicle Commuting to Construction Sight-Passenger and Light Duty Trucks									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	120	240	10	10	0.43	0.51	0.94
CO	12.4	15.7	120	240	10	10	3.94	4.98	8.92
NOx	0.95	1.22	120	240	10	10	0.30	0.39	0.69
PM-10	0.0052	0.0065	120	240	10	10	0.00	0.00	0.00
PM 2.5	0.0049	0.006	120	240	10	10	0.00	0.00	0.00

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Heavy Duty Trucks Delivery Supply Trucks to Construction Sight									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	10,000-19,500 lb Delivery Truck	33,000-60,000 lb semi trailer rig	Mile/day	Day/yr	Number of trucks	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	0.29	0.55	60	240	2	2	0.01	0.02	0.03
CO	1.32	3.21	60	240	2	2	0.04	0.10	0.14
NOx	4.97	12.6	60	240	2	2	0.16	0.40	0.56
PM-10	0.12	0.33	60	240	2	2	0.00	0.01	0.01
PM 2.5	0.13	0.36	60	240	2	2	0.00	0.01	0.02

OBP Commute to New Site									
	Emission Factors		Assumptions				Results by Pollutant		
Pollutants	Passenger Cars g/mile	Pick-up Trucks, SUVs g/mile	Mile/day	Day/yr	Number of cars	Number of trucks	Total Emissions Cars tns/yr	Total Emissions Trucks tns/yr	Total tns/yr
VOCs	1.36	1.61	60	0	0	0	-	0.00	-
CO	12.4	15.7	60	0	0	0	-	0.00	-
NOx	0.95	1.22	60	0	0	0	-	0.00	-
PM-10	0.0052	0.0065	60	0	0	0	-	0.00	-
PM 2.5	0.0049	0.006	60	0	0	0	-	0.00	-

POV Source: USEPA 2005 Emission Facts: Average annual emissions and fuel consumption for gasoline-fueled passenger cars and light trucks. EPA 420-F-05-022 August 2005. Emission rates were generated using MOBILE.6 highway vehicle emission factor model.

Fleet Charactorization: 20 POVs commuting to work were 50% are pick up trucks and 50% passenger cars

# CALCULATION SHEET-FUGITIVE DUST-ALTERNATIVE 3

Fugitive Dust Emissions at New Construction Site.					
Construction Site	Emission Factor tons/acre/month (1)	Total Area- Construction Site/month	Months/yr	Total PM-10 Emissions tns/yr	Total PM-2.5 (2)
Fugitive Dust Emissions	0.11	7.88	12	10.40	2.08

1. Mid-Atlantic Regional Air Management Association (MARAMA). Fugitive Dust-Construction Calculation Sheet can be found online at: [http://www.marama.org/visibility/Calculation\\_Sheets/](http://www.marama.org/visibility/Calculation_Sheets/). MRI= Midwest Research Institute, Inventory of Agricultural Tiling, Unpaved Roads, Airstrips and construction Sites., prepared for the U.S. EPA, PB 238-929, Contract 68-02-1437 (November 1977)

2. 20% of the total PM-10 emissions are PM-2.5 (EPA 2006).

Coastruction Site Area	Demension (ft)			
Proposed Prioject	Length	Width	Units	Total Acres
New Construction Area	2,640	130	1	7.88
New Construction Area		20	0	0.00
<b>Total</b>				<b>7.88</b>

Conversion Factors	Miles to feet	Acres to sq ft	Sq ft to acres	Sq ft in 0.5 acres
	5280	0.000022957	43560	21780

Assumptions	Sections/day	Length of Section (ft)	Length/day (ft)	Days/Month	Length/Month (ft)	Miles/Month
Fencing installed per day (1)	11	10	110	24	2640	0.50
Length of fence/month (miles)	0.50					

1. OBP reported that construction crew complete 22 sections of fence per day. Alternative 3 requires 2 fences to be built per section and therefore will take twice as long to complete per section. Therefore, instead of assuming that 22 sections of fence will be completed per day, we are assuming that 11 sections of fence will be completed per day.

## ABBREVIATIONS AND ACRONYMS

← *continued from front cover*

POE	Port-Of-Entry
POL	Petroleum, oil and lubricants
ROI	Region of Influence
ROW	Right-of-way
SFA	Secure Fence Act
SHPO	State Historic Preservation Officer
SPCCP	Spill Prevention, Containment and Countermeasures Plan
SWPPP	Storm Water Pollution Prevention Plan
TI	Tactical infrastructure
TVB	Temporary Vehicle Barrier
UES	Unisource Energy Services
U.S.	United States
USACE	U.S. Army Corps of Engineers
USBP	U.S. Border Patrol
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USIBWC	U.S. Section, International Boundary and Water Commission
WUS	Waters of the U.S

