FINDING OF NO SIGNIFICANT IMPACT

1.0 NAME OF ACTION

Environmental Assessment for the U.S. Border Patrol Station, Yuma, Arizona.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

A new U.S. Border Patrol Station (BPS) adjacent to the Yuma Sector Headquarters Complex on the southern edge of Yuma, Arizona is being proposed. The purpose of the new facility complex is to integrate and increase the efficiency of current operations, and to provide infrastructure for projected growth. After construction of the new facilities, the staffing would increase from 190 to 350 people. The selected site would be purchased by the U.S. Government to support the U.S. Border Patrol (USBP).

One of two possible alternative sites would be selected under the Proposed Action. The new BPS would cover approximately 50,000 square feet and would include such facilities as the main station, sally port, dog kennels, parking, seized vehicle temporary storage, fuel island, wash station, communication towers, and a two-bay vehicle maintenance shop. Two alternative sites are under consideration for construction of the BPS. Site 1 consists of twenty acres located immediately south of the Border Patrol Headquarters Complex, with its western boundary along Avenue A. Site 2 is a twenty-acre parcel located just south of Site 1, also bounded on the west by Avenue A. Both Sites 1 and 2 are within the city limits of Yuma. The construction is planned to be completed within approximately twelve to sixteen months.

No Action Alternative

Under this alternative, construction of the new BPS facility would not occur. Currently there is not enough room at the existing station to support the growth of future Border Patrol operations. While not moving to a new site would have few environmental impacts, the improved effectiveness and efficiency that would be provided by a new facility would not occur. The strategic objective of improving infrastructure to support the U.S. Immigration and Naturalization Service (USINS) mission and to retain qualified USBP employees would not be met.

3.0 ENVIRONMENTAL IMPACTS

3.1 Land Use

Land use and transportation in the local area would not be significantly affected as a result of the Proposed Action. Although the proposed facility is located within an area zoned for agriculture, the surrounding land uses include commercial and light industrial areas. Under the doctrine of federal supremacy, the federal government is not subject to local or state land use or zoning regulations unless specifically consented to by Congress. Under the Federal Farmland Policy Protection Act, a Farmland Conversion Impact Rating form would need to be completed because the proposed sites are currently in farmland. Due to the proximity of the proposed sites to urban land and utilities, it is expected that there would be no concern related to converting either site to urban land.

3.2 Biological Resources

The proposed sites are currently in alfalfa production and desert shrubland vegetation and do not provide significant habitat for any threatened or endangered species or other important plants and wildlife. No significant impact to biological resources would be expected under the Proposed Action.

3.3 Geology and Soils

There would be no significant long-term effects on soil and geology. Impacts to soil would be temporary, during construction. The soil and geology have few limitations for construction of buildings. The susceptibility of the soil to wind erosion necessitates the installation of temporary erosion control measures during construction and permanent stabilization after completion of building construction. Stormwater detention basins would be used to intercept sediment during construction, according to the Stormwater Pollution Prevention Plan (SWPPP) that would be developed for the selected site.

3.4 Water Resources

The USBP facilities would use the city water and sewer system, which has adequate capacity. Offsite discharge of stormwater would be stored in detention basins, meeting requirements for onsite stormwater detention by the city and state. This would be included in the site-specific SWPPP to be developed prior to start of construction. Potentially polluted water would be kept and handled separately from stormwater. No significant impacts to water resources are expected as a result of the Proposed Action. No impacts to wetlands or waters of the U.S. would occur.

3.5 Air Quality

Yuma County is classified as being in non-attainment for PM_{10} and in attainment for CO, NO_2, SO_2, ozone, and lead. During construction, the Proposed Action would result in a very slight increase in wind-blown dust but, due to the soil characteristics, this amount would be insignificant and would be minimized with the use of best management practices. No significant impacts would affect air quality as a result of the implementation of the Proposed Action.

3.6 Socioeconomics

The proposed construction activities may provide a minor benefit to the local economy by creating a demand for goods and services during construction. No significant or adverse effects would result from the Proposed Action.

3.7 Environmental Justice

No disproportionately high or adverse impacts on minority or low-income populations would occur, nor would there be any adverse impacts to children.

3.8 Noise

The proposed sites are located within the city limits, so urban noises are common. Because of current land use patterns and human activity associated with vehicular traffic and airport operations, the construction, maintenance, and operations under the Proposed Action would not constitute a significant change from the baseline noise conditions. Since the Proposed Action does not involve construction in or near a residential area, no impact is expected. Noise attenuation would be needed in the proposed structures.

3.9 Cultural Resources

None of the remains found, artifacts or features, exhibit characteristics consistent with criteria needed for inclusion on the National Register of Historic Places, and no recorded sites are documented. Therefore, the Proposed Action is unlikely to affect cultural resources. However, due to the extensive ground cover

on the sites during the field surface survey, it is recommended that monitoring of the selected site be conducted at the time of construction.

3.10 Aesthetics

Impacts to aesthetics would be minimal as a result of the Proposed Action. It is expected that over time, industrial development would fill in areas to the west of the airport. While the selected site would change from agricultural to one of urban development, the proximity to the airport, other buildings, and development in the area would not create a stark contrast to the surrounding area.

4.0 CONCLUSION

On the basis of the findings of the environmental assessment, no significant impact is anticipated from the proposed project on human health or the natural environment. A Finding of No Significant Impact is warranted and an Environmental Impact Statement is not required for this action.

4/17/02

Mr. Rufus Johnson
Acting Director of Facilities
U.S. Immigration and Naturalization Service

Date

Environmental Assessment for the U.S. Border Patrol Station, Yuma, Arizona

DRAFT

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NOVEMBER 2001

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No Action Alternative

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4.0 CONCLUSION

On the basis of the findings of the environmental assessment, no significant impact is anticipated from the proposed project on human health or the natural environment. A Finding of No Significant Impact is warranted and an Environmental Impact Statement is not required for this action.

_____

Mr. Rufus Johnson
Acting Director of Facilities
U.S. Immigration and Naturalization Service

_____

Date:

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1.0 Introduction

The United States Immigration and Naturalization Service (USINS) has the responsibility to regulate and control immigration. In 1924, the U.S. Congress created the U.S. Border Patrol (USBP) to be the USINS enforcement agency. The USBP's mission is the detection and prevention of smuggling and illegal entry of aliens into the United States, with primary responsibility between ports-of-entry. Patrol Agents perform their duties along, and in the vicinity of, the 8,000 miles of United States boundaries. Agents patrol by means of automobile, boat, aircraft, horseback, snowmobile, motorcycle, bicycle and on foot. The USBP uses various facilities in their daily operations for the deterrence and detection of illegal trafficking and for processing aliens once an apprehension is made (U.S. Department of Justice 2000).

1.1 Purpose and Need for the Proposed Action

During fiscal years 1994 through 2000, the USINS has experienced an increase in workload and budget. To handle this increased workload, the agency has increased its workforce by 50 percent. The USINS requires additional Border Patrol Station (BPS) facility capacity to meet its goal of providing "adequate physical and technological environment, support and equipment" for its workforce and the people it serves (U.S. Department of Justice 2000).

The purpose of this Environmental Assessment (EA) is to evaluate the potential environmental impacts of constructing a new BPS in Yuma, Arizona. The current station is located at 12122 South Avenue A, across the street from the new USBP Sector Headquarters complex now under construction. The existing BPS facility does not provide sufficient space for current and future Border Patrol operations. Remodeling the existing facility would not be practical because the site does not have enough space to accommodate new construction without adversely affecting the operational readiness, effectiveness, and security of the station and its employees. The cost of remodeling would be considerable and the results marginal. To increase efficiency, make the best use of available funds, and provide for future growth, the USBP needs to move to a larger complex and the USINS has engaged the Corps of Engineers to design these facilities.

1.2 Description of the Proposed Project

1.2.1 Project Location

The City of Yuma is the seat of government for Yuma County with a population of approximately 65,000. Yuma County, with a population of approximately 135,000, borders California, Sonora, Mexico, and Baja California, Mexico. Located about 200 miles southwest of Phoenix and 180 miles east of San Diego, the City of Yuma is the financial, service, and retail center for the region. **Figure 1-1** shows the regional location of Yuma.

1.2.2 Project Description

The new BPS would cover approximately 50,000 square feet and would include such facilities as the main station, sally port, dog kennels, parking, seized vehicle temporary storage, fuel island, wash station, communication towers, and a two-bay vehicle maintenance shop. Two alternative sites are under consideration for construction of the BPS (**Figure 1-2**). Site 1 consists of twenty acres located immediately south of the new Border Patrol Sector Headquarters Complex, with its western boundary along Avenue A. Site 2 is a twenty-acre parcel located just south of Site 1, also bounded on the west by Avenue A. Both Sites 1 and 2 are within the city limits of Yuma.

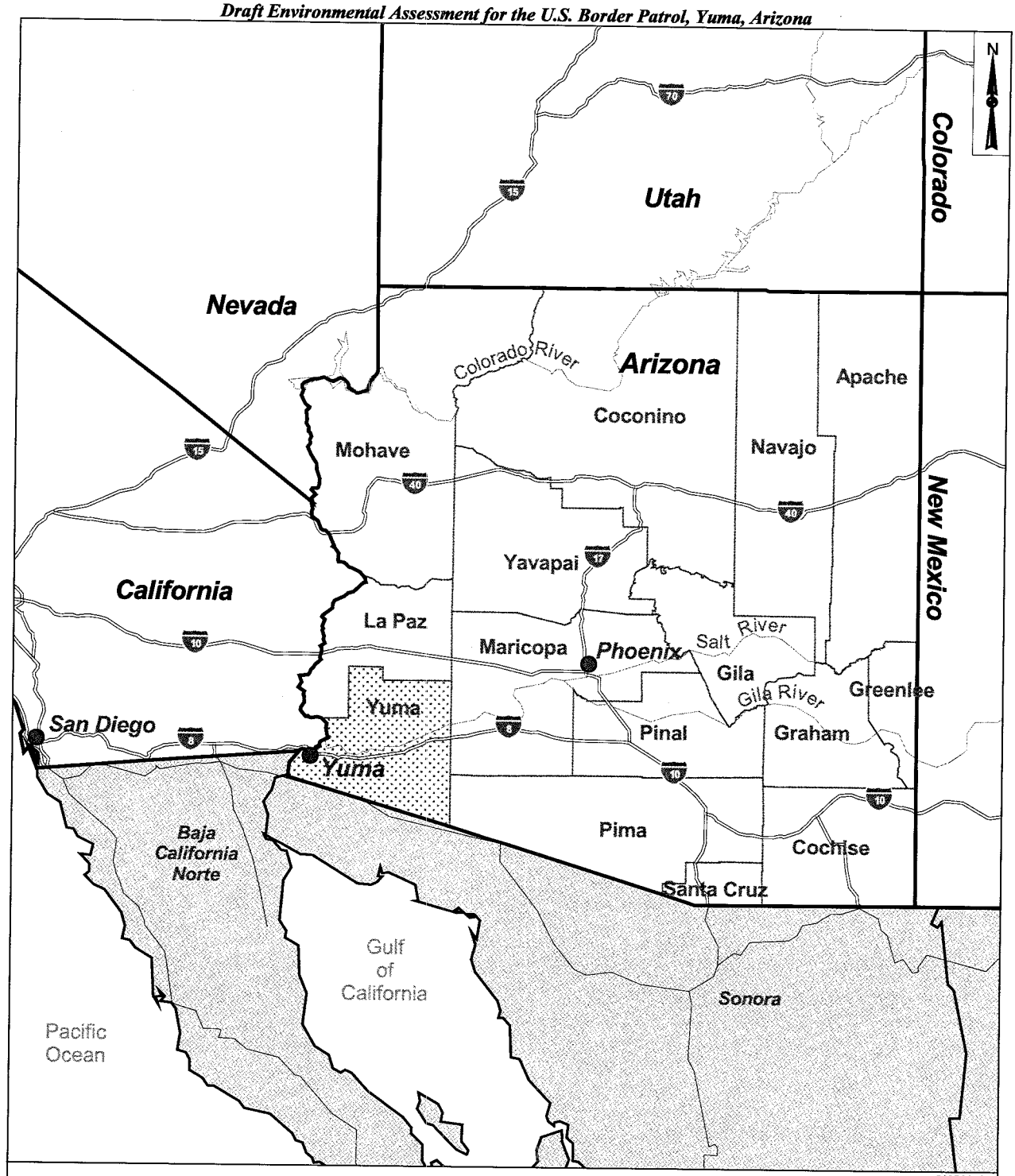

Figure 1-1:
Regional Location Map
Yuma, Arizona

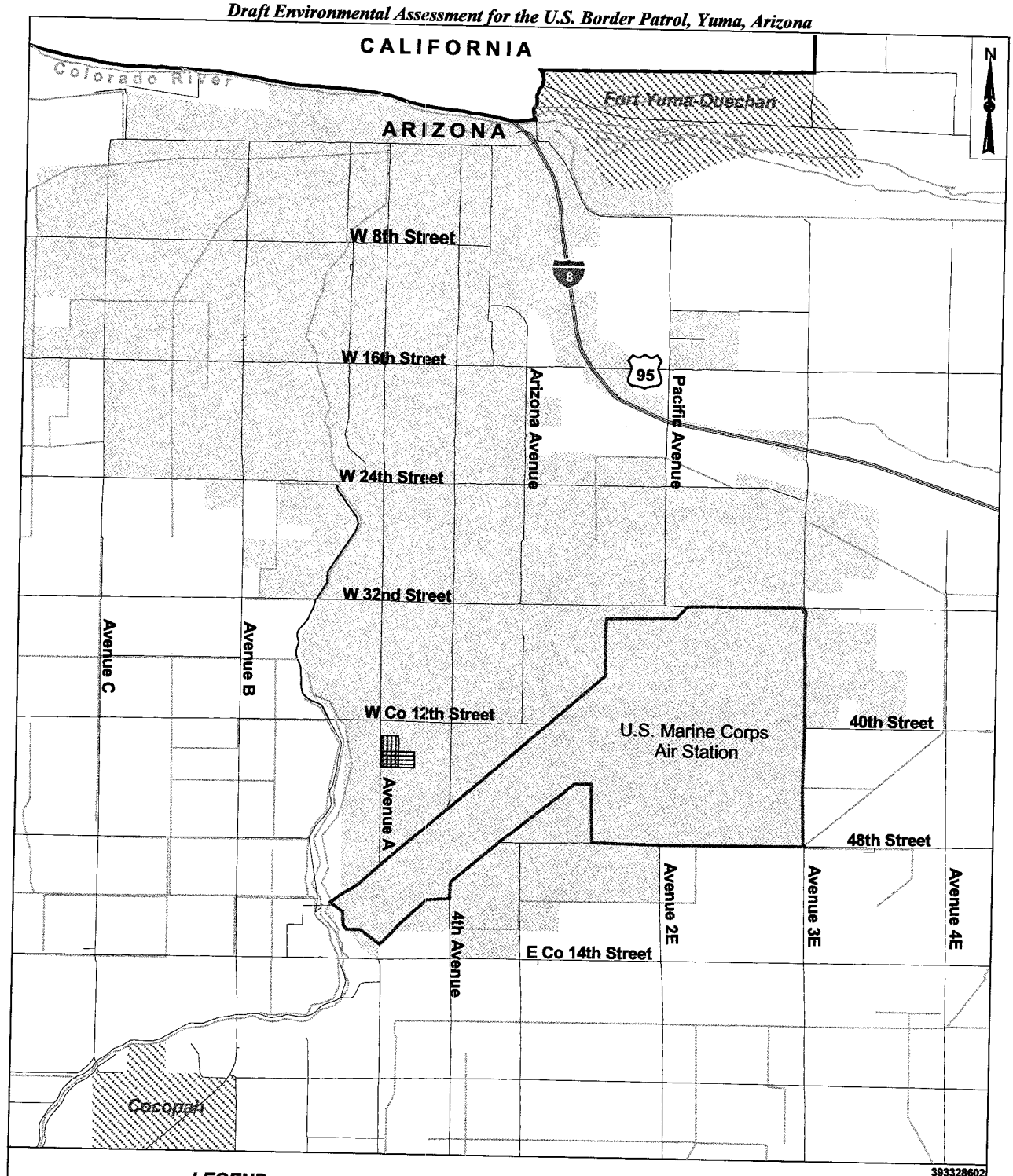

Figure 1-2:
Location Map of Alternative Sites Proposed for Border Patrol Station

1.3 REGULATORY COMPLIANCE

This EA is being prepared to analyze the proposed project alternatives to ensure compliance with the National Environmental Policy Act (NEPA) and USINS Procedures Relating to the Implementation of NEPA (28 Code of Federal Regulations [CFR] Part 61, Appendix C). This document will be sent to federal, state, and local agencies in accordance with the Interagency and Intergovernmental Coordination for Environmental Planning process. This review process is conducted to comply with the Intergovernmental Coordination Act of 1968 and Executive Order 12372, which requires federal agencies to obtain and consider state and local views in implementing a proposal. A list of the agencies participating in this process and the distribution list for this EA are provided in Appendix B.

In addition to NEPA and those laws listed above, numerous federal environmental statutes, regulations, and Executive Orders may apply to the Proposed Action. Adherence to these federal requirements, as well as state and local regulations, is part of this EA. The following is a list of these regulatory guidelines.

- American Indian Religious Freedom Act of 1978
- Archaeological Resources Protection Act
- Arizona Air Quality Standards
- Arizona Native Plant Law
- Arizona Statutes: Title 49, Chapter 2, Article 3, Section 245—Stormwater General Permit
- Bald Eagle Protection Act (Public Law 90-535)
- Clean Air Act
- Clean Water Act
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act
- Endangered Species Act
- Executive Order 11514, Protection and Enhancement of Environment Quality
- Executive Order 11988, Floodplain Management
- Executive Order 11990, Protection of Wetlands
- Executive Order 12372, Intergovernmental Review of Federal Programs
- Executive Order 12898, Environmental Justice
- Executive Order 13007, Indian Sacred Sites
- Farmland Policy Protection Act
- Federal Facilities Compliance Act
- Fish and Wildlife Coordination Act, as amended
- Intergovernmental Coordination Act
- National Historic Preservation Act
- Native American Graves Protection and Repatriation Act
- Resource Conservation and Recovery Act
- Safe Drinking Water Act
- Toxic Substances Control Act
- Watershed Protection and Flood Protection Act

1.4 ORGANIZATION OF DOCUMENT

This EA is arranged in six major chapters.

- Chapter 1 provides the purpose and need of the Proposed Action.
- Chapter 2 provides a description of the proposed alternatives.
- Chapter 3 describes the existing conditions of the affected environment at the two alternative sites proposed for the location of the BPS. This section addresses nine specific resource categories.
- Chapter 4 provides the analysis of potential impacts to the resources and community characteristics as a result of the implementation of the Proposed Action and the No Action alternatives.
- Chapter 5 provides the references cited.
- Chapter 6 provides a list of the preparers of this document.

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2.0 Description of the Proposed Alternatives

2.1 PROPOSED ACTION

A new U.S. Border Patrol Station adjacent to the Yuma Sector Headquarters Complex (COE 1999a) on the southern edge of Yuma, Arizona, is being proposed. One of two possible alternative sites would be selected under the Proposed Action.

The purpose of the new facility complex is to integrate and increase the efficiency of current operations, and to provide infrastructure for projected growth. After construction of the new facilities, the staffing would increase from 190 to 350 people. The selected land would be purchased by the U.S. Government to support the USBP.

The construction is planned to be completed within approximately twelve to sixteen months. The analysis in this EA focuses on the worst case scenario of construction occurring on the entire site over a 12-month period.

2.1.1 Facility Description

No matter which site is selected, the station would comprise approximately 50,000 square feet of new construction plus parking areas, typically including the facilities listed below with their approximate size.

- Main station, providing administrative office space and public facilities—approximately 4,100 square feet.
- Special operations building—1,800 square feet.
- Patrol command, squad/muster room, and field support and communications facilities—6,600 square feet.
- Training rooms and exercise areas—4,900 square feet.
- Alien processing and detention space—5,700 square feet.
- Facility maintenance shop and physical plant support building—2,700 square feet.
- Vehicle service and maintenance facilities—6,200 square feet.
- Dog kennels—800 square feet.
- Miscellaneous areas including trash and fuel storage—17,000 square feet.
- Parking areas—97,000 square feet.

Landscaping would implement a xeriscape design, using native and low water-using plants, to minimize the amount of water needed for maintenance and to fit in with the local landscape. A preliminary site plan is shown in **Figure 2-1**.

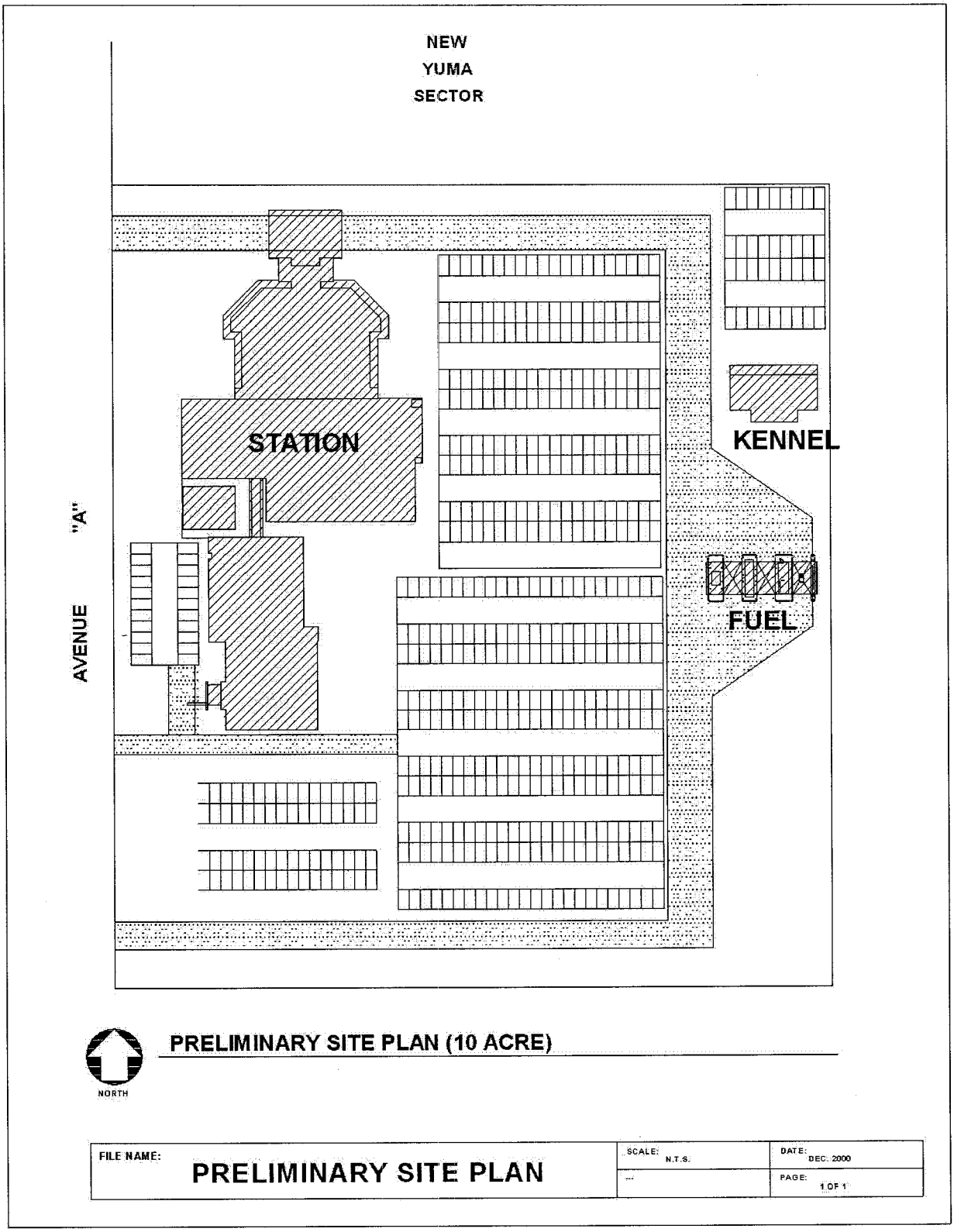


Figure 2-1. Preliminary Site Plan for Border Patrol Station

2.1.2 Preferred Alternative: Site 1

Site 1 is the preferred site. A rectangular parcel located just south of the new USBP Sector Headquarters Complex, it is 20 acres in size and currently half in alfalfa and half on desert shrub. It is part of a 58.7-acre parcel that also contains a borrow pit to the east and Site 2 to the south. The alfalfa field in the north half is irrigated by flooding from ditches to the east and north. The ditch to the east separates the site from a large borrow pit to the east. The field has been leveled to prepare it for irrigation, with field borders or berms constructed to distribute the water. Water is supplied by the Yuma Mesa Irrigation and Drainage District. Although there is road frontage along Avenue A, if this site is selected, access to the BPS would be through the Sector Headquarters Complex, eliminating the need for a street entrance. Utilities would also be extended from the Sector Headquarters Complex, and the BPS would consider sharing some facilities, such as fuel storage and vehicle maintenance.

2.1.3 Site 2

Site 2 is a rectangular parcel oriented east-west that includes the south half of Site 1, and is divided in half by an irrigation ditch. It has road frontage along Avenue A, which would be used for vehicle access, should this site be selected. The site is 20 acres in size, the western half of which is currently covered with naturalized vegetation, primarily shrubs. The eastern half consists of alfalfa, and is sometimes used for grazing sheep. Irrigation water is supplied by the Yuma Mesa Irrigation and Drainage District. Sharing facilities and utilities with the Sector Headquarters Complex would not be likely because the site would not be adjacent.

2.2 NO ACTION ALTERNATIVE

Under this alternative, construction of the new BPS facility would not occur. Currently there is not enough room at the existing station to support the growth of future border patrol operations.

2.3 SUMMARY OF IMPACTS

2.3.1 No Action

While not moving to a new site would have few environmental impacts, the improved effectiveness and efficiency that would be provided by a new facility would not occur. The strategic objective of improving infrastructure to support the USINS mission would not be met.

2.3.2 Proposed Action

No significant environmental impacts were identified during analysis of the Proposed Action. A summary of the impacts for each resource are listed below in the order they are discussed in Chapter 4, which also addresses mitigation of these impacts, if necessary.

Land Use	Removal of land from agricultural production. Slight increase in commuter traffic.
Biological Resources	Loss of alfalfa and desert shrubs would cause slight loss of wildlife habitat.
Geology and Soils	Short-term potential for wind erosion during construction.
Water	Potential increase in surface water runoff.
Air Quality	Potential short-term increase in particulate matter during construction.

Socioeconomics	Potential short-term increase in services and employment during construction.
Environmental Justice	No impacts.
Noise	No impacts.
Cultural Resources	No impacts.
Aesthetics	Change from agricultural to urban would correspond with long-range plans and surrounding area.

2.4 ALTERNATIVES CONSIDERED BUT NOT SELECTED

A third site that was considered is located at the southeast corner of the intersection of East County 14th Street and Avenue 3E, south of the airport and east of the other sites, approximately four miles southeast of the new Sector Headquarters Complex. City water and sewer are not available at this site; the closest access to these utilities is 40th Street and Avenue 3E, almost 2 miles away (City of Yuma Planning and Zoning Department 2000). A well could be drilled to provide water, but would add to the cost of development. According to the county soil survey (USDA 1980), the site would not be likely to support a large septic system. For these reasons, in conjunction with current USBP policy that encourages co-location with other units to take advantage of shared services and facilities, this site was eliminated from further consideration.

3.0 Baseline Conditions

Chapter 3 describes the existing environmental conditions for nine resource categories. The affected environment is the baseline against which potential impacts caused by the Proposed Action are assessed. This chapter focuses on resources specific to the region and immediate areas that have the potential to be affected by the construction of the Border Patrol Station facility.

3.1 Land Use and Transportation

This section reviews the existing land uses of the proposed project sites and surrounding area. It reviews applicable city ordinances for compatibility and a discussion of transportation. While no hazardous materials are expected, the land use section also provides the baseline conditions for hazardous materials/waste that could be found on the proposed project sites.

3.1.1 Land Use

The area surrounding Site 1 is mostly a mixture of agricultural land and undeveloped desert shrubland with some industrial/commercial operations and scattered residences on large lots. The current BPS is located at the southwest corner of the intersection of Avenue A and West 40th Street, across the street from the new Sector Headquarters Complex. The Desert Hills Golf Course owned by the City of Yuma is located on the northwest corner of the intersection. Adjacent to Site 1 is an existing active borrow pit. East of Site 1 and the new USINS Headquarters Complex is a commercially zoned parcel used for greyhound racing and a flea market. The closest residential area is located less than a quarter mile north of the site.

Sites 1 and 2, and most of the surrounding land, is zoned for agriculture and designated for industrial use in the Joint Land Use Plan developed by the City and County of Yuma to guide future development (City and County of Yuma 1996). The sites are in the Airport District, with noise exposure ranging from about 72 to 81 decibels (dB). Both Sites 1 and 2 were cultivated at some time in the past. The southern half of Site 1 and the western half of Site 2 are the same parcel because the sites overlap. This parcel is not currently farmed, so its land use is classified as idle farmland. The other parcels are active cropland, planted to alfalfa. The land uses on and surrounding Sites 1 and 2 are shown in **Figure 3-1**, with the noise levels.

The Yuma International Airport Authority has recently completed its Master Plan, which identifies approximately 120 acres on the west side of the airfield, south of 40th Street and east of Avenue A, for future aviation and industrial development. The airport's plan is consistent with the Joint Land Use Plan (Gaines 2000). Sites 1 and 2 fall within these 120 acres planned for industrial-type development in the airport area segment plan.

The City of Yuma has designated an airport district surrounding the Marine Corps Air Station (MCAS) and Yuma International Airport that takes into account the noise and accident potential of aircraft overflights. Ordinances have been developed which address acceptable noise levels within certain types of development (Yuma Code of Ordinances, Title 15, Land Usage [§150-120 through 128]). The purpose of the building code amendment is to establish standards that are compatible with existing and planned land uses in the vicinity of the airport and MCAS, where the exterior day-night average sound level (L_{dn}) exceeds 65 dB. According to the current zoning map, average noise levels on either site ranges between about 71 and 73 dB. Land use restrictions apply for areas exposed to these noise levels. Specifically, there can be no new residential development and no schools, and noise level reduction methods must be incorporated into the design and construction of facilities.

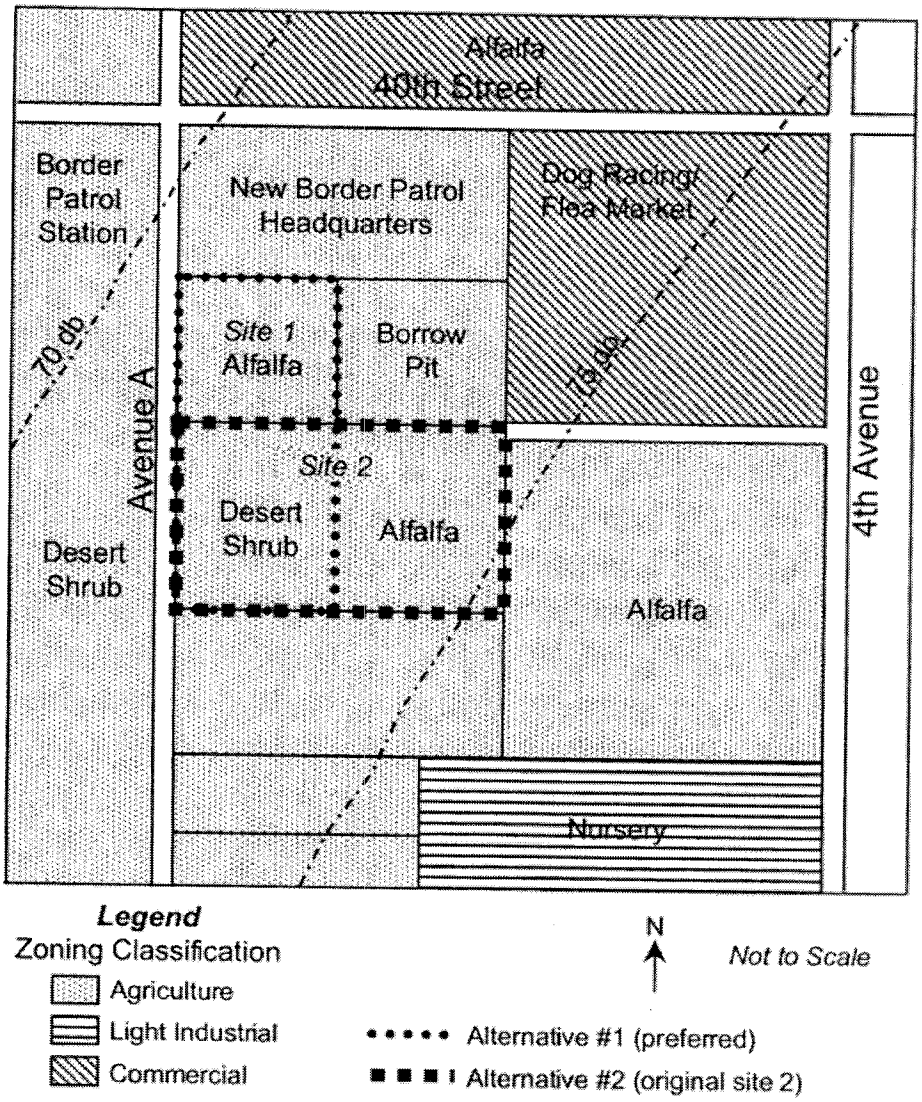


Figure 3-1. City of Yuma Zoning and Current Land Uses Surrounding the Alternative Sites

3.1.2 Transportation

Sites 1 and 2 are bordered on the west side by Avenue A, with the nearest intersection at Avenue A and 40th Street. Both roadways are two-lane and asphalt-paved. In 1999, traffic on Avenue A just north of the intersection averaged 5,248 trips per day (YMPO 1999). Avenue A and 40th Street are planned for future development as multilane arterial streets. A four-way stop sign controls the Avenue A and 40th Street intersection. The level of service (LOS) at this corner is considered "C" (traffic flow is average with some waiting). Construction of the new roadway is not anticipated, however, for several years. The plans include signalization of the Avenue A and 40th Street intersection (COE 1999a). With planned improvements, projected LOS for these roadways would remain at level C or better by the year 2023 (Hunt 2000).

3.1.3 Hazardous Materials/Waste

Both sites are in an area that is currently or has been previously used for agricultural purposes. It is therefore unlikely that the sites would contain hazardous materials or wastes. During a recent site visit there was no visible evidence, such as areas void of typical vegetation, indicating a potential for concentrated pesticides or some other type of chemical spill. There is a National Priority List Superfund site at MCAS, but the two alternative sites are not within the remediation area (EPA 1999).

3.2 BIOLOGICAL RESOURCES

The description of biological resources at and in the vicinity of Sites 1 and 2 is based on observations at the sites on November 30 and December 1, 2000, on information obtained from state and federal agencies (USFWS 2000), and other sources.

3.2.1 Vegetation

The proposed project sites are located within the Lower Colorado River Valley subdivision of the Sonoran Desert (Brown 1994, Shreve and Wiggins 1964). The Sonoran Desert is considered a subtropical desert and experiences bimodal rainfall that promotes the existence of a high diversity of plant species. Among these are plant species characteristic of well-drained bajadas, coarse valley floors, and alluvial lowlands. The bajadas are often composed of a wide range of plant species, including blue palo verde (*Cercidium floridum*), saguaro (*Cereus giganteus*), ocotillo (*Fouqueria splendens*), agaves (*Agave* spp.), and chollas (*Opuntia* spp.). Alluvial lowlands are frequently dominated by desert saltbush (*Atriplex* sp.), bursage (*Ambrosia* sp.), mesquite (*Prosopis velutina*), and wolfberry (*Lycium* sp.). Large stretches of coarse, rocky soils in valley floors are comprised of regularly spaced creosote bush (*Larrea tridentata*) and bursage.

Site 1 consists of degraded Sonoran Desert shrubland in the southern half. The northern half contains alfalfa with two large clumps of tamarisk trees (*Tamarix* sp.) at the southeast and southwest corners of the alfalfa field, and two orange trees at water distribution structures along the eastern boundary. The site is bordered by degraded creosote-bursage shrubland to the south and west, buildings to the north, and an active gravel-sand borrow pit to the east. The shrubland west of the site across Avenue A is dominated by creosotebush and bursage, with other species such as Mormon tea (*Ephedra* sp.) being less common. The shrub vegetation has been degraded by off-road vehicle use.

Site 2 is approximately half in alfalfa (east) and half in degraded desert shrubland (west). Large clumps of tamarisk (15 to 35 feet high) also occur around the periphery of this site. The desert shrubland is dominated by bursage with widely scattered creosotebush. Wind-blown sand has accumulated around many of the shrubs. There was little ground cover and evidence of a past fire was noted. Signs of off-road vehicle use were also observed, although they were much less than in the desert shrubland across Avenue A.

3.2.2 Wildlife

The Sonoran Desert and other habitats in southwestern Arizona support a high diversity of wildlife species including about 70 species of reptiles and amphibians such as the leopard lizard (*Gambelia wislizenii*), desert horned lizard (*Phrynosoma platyrhinos*), side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), western shovel nosed snake (*Chionactis occipitalis*), mojave rattlesnake (*Crotalus scutulatus*) and spadefoot toads (*Scaphiopus* sp.). An estimated 225 species of birds occur in southwestern Arizona. Common desert nesting species are the western meadowlark (*Sturnella neglecta*), greater roadrunner (*Geococcyx californianus*), house finch (*Carpodacus mexicanus*), mourning

dove (*Zenaida macroura*), northern mockingbird (*Mimus polygolottos*), black-throated sparrow (*Amphispiza bilineata*), and verdin (*Auriparus flaviceps*). Characteristic mammal species of the Sonoran Desert include coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), and numerous small mammals.

All of the sections of both sites were cultivated at some time in the past. Therefore, the wildlife species diversity at these sites is likely to be much less than in natural Sonoran Desert habitat. No reptiles or amphibians were observed during the field surveys. A total of 31 killdeer (*Charadrius vociferus*) were observed foraging in the alfalfa fields in Sites 1 and 2. Other common bird species observed were the mourning dove, meadowlarks, great-tailed grackles (*Quiscalus mexicanus*), starlings (*Sturnis vulgaris*), white-crowned sparrows (*Zonotrichia leucophrys*), house finch, verdin, common ground doves (*Columbina passerina*), and black phoebe (*Sayornis nigricans*). Birds-of-prey observed foraging over the alfalfa fields were the American kestrel (*Falco sparverius*), northern harrier (*Circus cyaneus*), and ferruginous hawk (*Buteo regalis*). The western burrowing owl (*Athene cunicularia*) has been reported at Site 2. The black-tailed jackrabbit was the only mammal observed; four were recorded in the desert shrubland section of Site 2 and one was observed in the alfalfa field in Site 2.

3.2.3 Threatened and Endangered Species

Information received from the U.S. Fish and Wildlife Service (USFWS 2000—see Appendix A) indicates that seven listed and one proposed species may occur in the area of the proposed sites (**Table 3.2-1**). The typical habitats of sensitive species found in Yuma County are described in this section. None were found during field investigations.

Table 3.2-1. Federal Listed and Proposed Species Potentially Occurring in the Area of the Proposed Sites

Common Name	*Scientific Name*	*Status*
Sonoran Pronghorn	*Antilocapra americana sonoriensis*	Endangered
Razorback sucker	*Xyrauchen texanus*	Endangered
Bald eagle	*Haliaeetus leucocephalus*	Threatened
Brown pelican	*Pelecanus occidentalis*	Endangered
Cactus ferruginous pygmy-owl	*Glaucidium brasilianum cactorum*	Endangered
Southwestern willow flycatcher	*Epidonax trallii extimus*	Endangered
Yuma clapper rail	*Rallus longirostris yumanensis*	Endangered
Mountain plover	*Charadrius montanus*	Proposed threatened

Source: USFWS 2000

The Sonoran pronghorn inhabits broad intermountain alluvial valleys composed of creosote-bursage and paloverde-mixed cacti vegetation associations. The razorback sucker is a fish species found in both riverine and lacustrine areas within the Colorado River Basin. The brown pelican is a species that prefers coastal land and islands. No pelican breeding occurs in Arizona but occasional transients are sometimes detected on the lower Colorado River. The cactus ferruginous pygmy-owl is known to occur in mature cottonwood-willow stands, mesquite bosques, and Sonoran Desert shrubland. The southwestern willow flycatcher inhabits areas composed of cottonwood-willow associations and tamarisk dominated riparian vegetation. The Yuma clapper rail occupies freshwater and brackish marshes comprised of dense

emergent vegetation, such as cattails and bulrushes. The mountain plover is known to winter in southwestern Arizona as well as in southern California.

Information from the Arizona Natural Heritage Program indicates that additional state sensitive species occur in the area of the proposed sites (Arizona Game and Fish 2000). The desert rosy boa (*Lichanura trivirgata*) occurs in rocky shrublands and canyons, while the desert tortoise occurs in various habitats in the Sonoran Desert. The flat-tailed horned lizard (*Phrynosoma mcallii*), for which there is a conservation agreement with the state (USFWS 2000), and the Cowles fringed-toed lizard (*Uma notata*) occur in sandy areas in the desert, often with sparse vegetation. The great egret (*Casmerodius albu*), snowy egret (*Egretta thula*), California black rail (*Laterallus jamaicensis*), and yellow-billed cuckoo (*Coccyzus americanus*) are birds associated with aquatic or riparian habitats. Five species of bats, which are state sensitive species, occur in Yuma County. The Yuma hispid cotton rat (*Sigmodon hispidus eremicus*) occurs principally along water courses of the Colorado River (New Mexico Department of Game and Fish 2000).

3.3 GEOLOGY AND SOILS

This section describes the geology in the area and the soils on the proposed project sites. Erodibility, permeability, slope, suitability for construction, and other soil characteristics that might be affected or might affect implementation of the Proposed Action are discussed. The information on geology provides background to evaluate the sites.

Yuma is located in the Yuma Basin, which covers approximately 750 square miles of southwestern Arizona, and is within the Basin and Range Physiographic Province. Elevations range from 3,156 feet above mean sea level (MSL) in the Gila Mountains to about 80 feet above MSL where the Colorado River flows into Mexico. It is in the Sonoran Desert and most of its topography consists of gently sloping old river terraces, valleys, and broad alluvial fans (USDA 1980).

3.3.1 Geology

The surficial geology in the area around the City of Yuma consists primarily of recent (Quaternary) alluvium sediments deposited by present-day rivers. Yuma has the highest earthquake risk of any city in Arizona because it is close to active faults in southern California (Fellows 1997). The Algodones Fault trends northwest to southeast across the Yuma Basin south of the City of Yuma. This fault is a barrier to groundwater movement, which causes groundwater elevations on the northeast side of the fault to be at least 40 feet higher than on the southwest side (State of Arizona 1997).

Gold was mined in the area to the west of the Colorado River. Other minerals found in Yuma County that have economic value include calcite, malachite, gypsum, galena, fluorite, chrysocolla, pyrite, quartz, and azurite (Richard and Spencer 1997).

3.3.2 Soils

Both alternative sites are entirely within a single soil mapping unit, Superstition Sand, which is a deep, somewhat excessively drained soil formed in sandy alluvium on old terraces of the Colorado River. Slopes in this soil mapping unit are nearly level, ranging from 0 to 3 percent. There are almost 44,000 acres of this soil type in Yuma County (USDA 1997).

The surface and subsurface horizons are moderately alkaline and the subsoil has accumulations of calcium carbonates, increasing in concentration with depth. Permeability is rapid, available water capacity

for plants is low to moderate, and surface water runoff is very slow. Salinity is low, the potential for corrosion of steel is moderate and of concrete is low (USDA–Soil Conservation Service 1997).

Superstition Sand is suited to urban development but severely limited for septic systems due to its rapid permeability and poor filtering capability. Limitations for construction of buildings and roads are slight with the exception of a severe limitation for shallow excavations due to the potential for collapsing side slopes in excavated areas. Because the soil is droughty, landscaping has moderate limitations and must be irrigated. It is poorly suited to construction of embankments due to the likelihood of piping and seepage. It is highly erodible due to wind erosion, with an average annual erosion rate of 220 tons/acre/year on unprotected soils (USDA 1997).

3.4 WATER

Surface and groundwater quality and quantity, and floodplains are discussed in this section, in addition to any wetlands and waters of the U.S. or other special sites.

The Yuma Basin is bounded by the Gila and Laguna Mountains to the east, the Colorado and Gila Rivers to the north and west, and the Arizona-Mexico Boundary to the south (State of Arizona 1997).

3.4.1 Groundwater

Groundwater is located in the Basin and Range Aquifers. The principal water producing layers of the aquifer are composed of unconsolidated sand and gravel which are geologically recent alluvial deposits from the Colorado and Gila Rivers (EPA 2000). Within these deposits, the coarse-gravel zone, intermediate between the fine-grained sediments and the transition zone, is the primary water bearing area (State of Arizona 1997).

Regional groundwater flow is to the southwest, recharged by outflow from the Colorado and Gila Rivers and infiltration of irrigation water. Groundwater levels are locally controlled by water from upstream reservoir releases and pumpage from irrigation and drainage ditches. Depth to groundwater in the basin ranges from two to over 500 feet below the land surface. In many agricultural areas, the groundwater averages less than twenty feet below the surface (State of Arizona 1997). Drilling logs from the adjacent Sector Headquarters Complex indicate that no groundwater was encountered down to 35 feet below the surface (COE 1999b).

The groundwater quality is saline, but varies with depth and location. Groundwater contamination by agricultural pesticides, nitrates, and volatile organic compound contamination was identified in 1990 (State of Arizona 1997).

3.4.2 Surface Water

The Colorado River is one of the few perennial streams in the area. It receives most of its water from the Rocky Mountains in Colorado and is regulated by upstream dams. The Gila River was perennial before irrigation diversions reduced its flow to intermittent (State of Arizona 1999). The alternative sites are approximately 10 miles southeast of the confluence of the Gila and Colorado Rivers.

Site 2 is bisected by a north-south oriented irrigation ditch that carries water from the B Canal located southeast of the sites. The same irrigation ditch that bisects Site 2 forms the eastern edge of Site 1. Irrigation water is supplied by the Yuma Mesa Irrigation and Drainage District (Martin 2000).

Surface water runoff from the proposed USINS facility would flow to the Colorado River, if it does not infiltrate the highly permeable soils first. Surface water quality problems in the Colorado River are significant. High salinity levels caused the federal government to construct a desalting plant near Yuma in 1993 to help provide acceptable water quality for Mexico (State of Arizona 1999).

The City of Yuma has rights to water derived from the Colorado River and has an allocation of 50,000 acre-feet (City of Yuma 1999). Competition for Colorado River water from other water users is high and water conservation and measurement is encouraged by state and federal water management agencies.

No wetlands or waters of the U.S. are located within or adjacent to the alternative sites.

3.4.3 Floodplains

The minimum standard established for consideration of floodplain management is any area subject to a 1 percent or greater chance of flooding in a given year. This standard is otherwise referred to as the base floodplain or the 100-year floodplain. None of the alternative sites are located within the limits of the 100-year floodplain.

3.5 AIR QUALITY

Air resources describe the existing concentrations of various pollutants, and the climatic and meteorological conditions that influence the quality of the air. Precipitation, wind direction, wind speed, and atmospheric stability are factors that determine the extent of pollutant dispersion.

3.5.1 Climate and Meteorology

Yuma County, Arizona is located in the Sonoran Desert region that is known for its scorching hot summers and warm winters. Summer daytime temperatures reach upwards of 120 degrees Fahrenheit (F), but are mostly in the upper 110 to 115 degree range during late June to early September. The average yearly daily maximum temperature is 87.3 degrees F and the average daily minimum temperature is 53.5 degrees F. The average monthly temperature is 75.2 degrees F and the average yearly rainfall is 2.94 inches. The annual percent of sunshine (based on 4,400 hours per year) is 4,133 hours, or 90 percent. The average relative humidity at approximately 11:00 am in July is 32 percent (COE 1999a).

3.5.2 Air Quality

The Clean Air Act (CAA) delegates authority to state and local agencies to enforce the National Ambient Air Quality Standards (NAAQS) and to establish air quality standards and regulations of their own. The adopted state standards must be at least as restrictive as the federal requirements. **Table 3.5-1** shows the federal and state air quality standards.

Airborne particulates are a problem in the study area. Yuma County is considered in attainment for all criteria pollutants except particulate matter measuring 10 microns or less in diameter (PM_{10}). The greatest source of PM_{10} is from fugitive dust. Natural erosion processes in the surrounding arid lands and road dust raised by vehicular traffic create fugitive dust, as well as dust generated by ongoing construction activities. A State Implementation Plan has been developed to manage the pollutant. For the last eight years, the county has not exceeded the NAAQS for PM_{10} (Hunt 2000) and should be removed from non-attainment status in the near future.

The Clean Air Act, Section 169A, established the Prevention of Significant Deterioration (PSD) regulations to protect the air quality in regions that already meet the NAAQS. The primary purpose of the PSD regulations is to ensure that impacts from new or modified sources, in combination with other sources, do not exceed the maximum allowable incremental increases for those pollutants in attainment. Certain national parks, monuments, and wilderness areas have been designated as PSD Class I areas, where appreciable deterioration in air quality is considered significant. There are no PSD Class I areas located within Yuma County.

Table 3.5-1. Arizona and Federal Ambient Air Quality Standards

Air Pollutant	*Averaging Time*	*Arizona AAQS*	*Federal (NAAQS)*	
			Primary[1]	*Secondary*[2]
Carbon monoxide (CO)	1-hour 8-hour	13.1 ppm 8.7 ppm	35 ppm 9 ppm	-- --
Nitrogen dioxide (NO_2)	24-hour AAM	0.10 ppm 0.05 ppm	-- 0.053 ppm	-- 0.053 ppm
Sulfur dioxide (SO_2)	3-hour 24-hour AAM	-- 0.10 ppm 0.02 ppm	-- 0.14 ppm 0.03 ppm	0.50 ppm -- --
Total Suspended Particulates (TSP)	24-hour AGM	150 $\mu g/m^3$ 60 $\mu g/m^3$	-- --	-- --
$PM_{2.5}$[4]	24-hour AAM	-- --	65 $\mu g/m^3$ 15 $\mu g/m^3$	150 $\mu g/m^3$ 50 $\mu g/m^3$
PM_{10}	24-hour AAM	-- --	150 $\mu g/m^3$ 50 $\mu g/m^3$	150 $\mu g/m^3$ 50 $\mu g/m^3$
Ozone (O_3)	1-hour[3] 8-hour[4]	-- --	0.12 ppm 0.08 ppm	0.12 ppm 0.08 ppm
Lead (Pb)	Quarterly Average	--	1.5 $\mu g/m^3$	1.5 $\mu g/m^3$

Notes:
[1] Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly.
[2] Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.
[3] The ozone 1-hour standard applies only to designated nonattainment areas.
[4] New NAAQS for PM2.5 and 8-hour O_3 concentrations were established August 4, 1997; implementing guidelines have not been adopted.

AGM = Annual Geometric Mean
ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter
AAM = Annual Arithmetic Mean

3.6 SOCIOECONOMICS

Socioeconomic resources are defined as the basic attributes associated with the human environment, particularly population and economic activity. Population is described by the change in magnitude, characteristics, and distribution of people. Economic activity is typically composed of employment distribution, personal income, and business growth. Any impact on these two fundamental socioeconomic indicators can have ramifications for secondary considerations, like housing availability and public service provision.

The City of Yuma is regarded as the financial, service, and retail center for the region, so the economic trends will be addressed for Yuma County. All but population growth are comparable for the city and the county, so the region of influence (ROI) for most resources in this section is Yuma County.

3.6.1 Population Growth

Table 3.6-1 shows the growth of the City of Yuma relative to the county, state, and nation. It is apparent that over a ten-year period, the city has experienced relatively low population growth in comparison to the other regions, while the county has experienced growth comparable to the state level. Although the county has experienced tremendous growth comparable to the state trend, the city lags behind the moderate national growth.

Table 3.6-1. Comparison of Population Growth

Area	*7/1/99*	*4/1/90*	*Numeric Change*	*% Change*
City of Yuma	63,059	59,932	3,127	5.2
Yuma County	135,614	106,895	28,719	26.9
Arizona	4,778,332	3,665,339	1,112,993	30.4
U.S.	272,690,813	248,790,925	23,899,888	9.6

Source: U.S. Census Bureau n.d.a.

3.6.2 Employment

Table 3.6-2 shows the breakdown of both full- and part-time jobs for Yuma County, as well as per capita income (PCI) for various levels. Over a four-year period for which these statistics were reported, the county experienced a 17 percent growth in total jobs, while the state grew 21 percent and the nation increased ten percent. The increase in jobs within the county has increased significantly compared to the national trend, while it lags behind the growth that characterizes the rest of the state. The PCI within the county has increased 17 percent, while increasing by 22 percent and 20 percent for the state and nation, respectively. This per capita personal income is ranked 8th in the state, or 76 percent of the state average, and 67 percent of the national average. In 1988, the PCI of Yuma County was $14,113 and ranked 4th in the state. The average annual growth rate of PCI between 1988 and 1998 was 2.6 percent. The average annual growth rate during the same period for the state was 4.4 percent and for the nation was 4.6 percent (U.S. Bureau of Economic Analysis 2000a).

Within Yuma County, agricultural services compose the largest part of private sector jobs, followed by services and retail trade. Government provides the second largest amount of total jobs. The BPS currently has 190 employees; the Proposed Action would raise that to 350, providing 160 new jobs.

Table 3.6-2. Employment Information, Yuma County, State of Arizona, and United States, 1994 versus 1998

Location	*1994*	*1998*
Yuma County		
Total Jobs	57,777	67,505
Farm Employment	4,031	3,657
Agricultural services, forestry, fishing, & other	9,019	14,185
Mining	65	N/A
Construction	2,325	3,236
Manufacturing	1,994	2,147
Transportation and public utilities	1,923	2,101
Wholesale trade	2,941	2,971
Retail trade	9,744	10,141
Finance, insurance, and real estate	2,059	N/A
Services	10,859	12,682
Government	12,817	13,422
Per capita personal income (dollars)	15,523	18,277
Average earnings per job (dollars)	23,299	26,242
Arizona		
Total Jobs	2,163,256	2,613,862
Per capita personal income	19,774	24,206
Average earnings per job (dollars)	25,860	30,283
United States		
Total Jobs	145,571,600	160,198,700
Per capita personal income	22,581	27,203
Average earnings per job	28,937	33,097

Source: U.S. Bureau of Economic Analysis 2000b

3.7 ENVIRONMENTAL JUSTICE

To ensure that environmental justice issues are addressed by the government, federal agencies are required to conduct their programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that no person is excluded from participation therein, denied the benefit thereof, or subjected to discrimination due to their race, color, or national origin.

Baseline trends for the city and county are analyzed in comparison to those at the state and national scale. Consequently, various data in this section are presented for the city, county, state, and national levels. Existing conditions for environmental justice were analyzed through demographic characterization, particularly ethnicity and poverty status for Yuma County.

Data from the U.S. Census Bureau is displayed in **Figure 3-2**, which compares the percentage of persons living in poverty. In 1997, the Census Bureau considered the poverty threshold for a two-person household to be $10,473 (U.S. Census Bureau 1997). Based on these data, Yuma County can be considered to have a disproportionately high number of persons living in poverty, with 25.3 percent below the threshold, compared to the state and national levels shown in the graph.

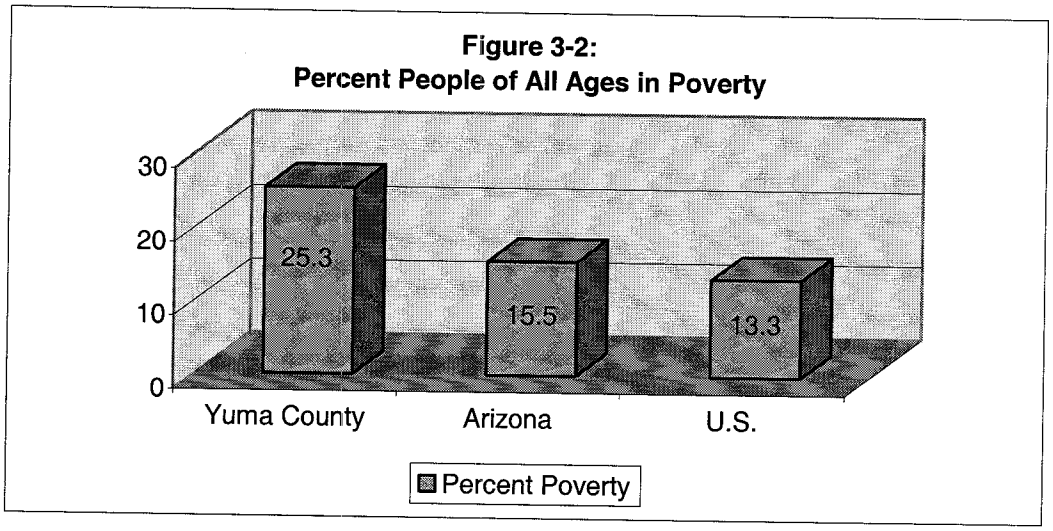


Figure 3-2. Percentage of People in Poverty

Yuma County differs significantly from both the state and the nation in unemployment. The Bureau of Labor Statistics (U.S. Bureau of Labor Statistics 1999a; U.S. Bureau of Labor Statistics 1999b) reported that in 1999, 29.9 percent of the county's workforce was unemployed, while Arizona and the nation had 4.4 and 4.2 percent, respectively.

Table 3.7-3 shows the demographic breakdown of the population of Yuma County in comparison to other governmental levels. Yuma County has a higher percentage of both Hispanic and Native American residents, when compared to the nation. Based on the data of the surrounding area, the Proposed Action is located in an area with a significantly high number of minorities.

Table 3.7-3. Demographic Data Relevant to Environmental Justice

Area	% White, Non-Hispanic	% Black	% American Indian & Alaskan Native	% Asian & Pacific Islander	% Hispanic
Yuma County	49.4	3.5	1.6	1.9	45.7
Arizona	68.1	3.6	5.5	2.1	22.2
USA	71.4	12.6	0.9	3.7	10.7

Source: U.S. Census Bureau n.d.a.; U.S. Census Bureau n.d.b.

The nearest residential area is a trailer park approximately 0.6 mile northeast of Site 1. The closest school is 1.4 miles north of Site 1.

3.8 NOISE

Noise is generally considered to be "unwanted" sound that interferes with normal activities and diminishes environmental quality. It can be defined as a sound or acoustical signal that interferes with or influences some normal behavioral or biological processes or systems that may affect humans and animals. This definition includes both human (anthropogenic) and natural sources. Natural sources are many and would include such things as riffle or rapids in streams or rivers, abrading of vegetation surfaces, non-laminar air movement over vegetation, or rain. Many animals temporally or spatially partition activity patterns to avoid natural noise. Anthropogenic noise sources are many and, in most acoustical environments where it is present, overwhelms natural noise sources.

Diminishment of environmental quality is often subjective and difficult to quantify because of various factors. Noise can vary in spectral characteristics (power across frequencies). It can elicit a variety of responses in humans or animals. Perception of noise is influenced by distance, duration, periodicity, topography, weather, and time of day, as well as the baseline acoustical environment.

The alternative sites being considered are agricultural lands, surrounded by both cultivated lands and disturbed desert shrubby vegetation. They are bordered on one or two sides by arterial streets with moderate levels of vehicle traffic. Sites 1 and 2 are adjacent to the Yuma International Airport and MCAS and located less than 0.5 mile from the center of the airfield. Both sites experience noise related to aircraft overflights, take-offs, and landings, and are exposed to average noise levels ranging from 71 to 73 decibels (dB) at Site 1 and 72 to 76 dB at Site 2 (City and County of Yuma 1996). Both sites currently experience limited noise from traffic. During a recent site visit it was noted that noise from aircraft during take-offs and landings was noticeably loud at both sites.

3.9 CULTURAL RESOURCES

Cultural resources are significant prehistoric or historic sites, districts, buildings, structures, objects, and other evidence of human activity. These resources can be grouped into three major categories: archaeological (both prehistoric and historic), architectural resources (including landscapes), and traditional cultural.

Archaeological resources are locations where human activity has altered the earth or left deposits of physical remains (e.g., stone tools, bottles, structure ruins). For archaeologists, prehistoric archaeological resources pre-date the beginning of written records, and historic resources post-date written records.

Architectural resources include standing buildings, dams, canals, bridges, and roads. Buildings generally must be 50 years or older, although newer features can be considered significant if they are of exceptional importance.

Traditional cultural resources are associated with the practices and beliefs of a living community, rooted in its history, and important in maintaining the continuing cultural identity of the community. These can include archaeological sites, buildings, plants, and the locations of significant events or traditional use areas.

3.9.1 Historic Setting

This brief summary of the historic setting in the area of the Proposed Action is based on that provided in the archaeological survey report in Appendix B.

The floodplains and adjacent bluffs overlooking the lower Colorado River in the vicinity of the city of Yuma have not been subject to systematic archaeological surveys or excavations. As a result, the prehistory of the region is largely unknown. Tribal designations are not particularly clear from early narratives. In 1540, Alarcón suggested that there were two tribes of unspecified size situated in the lower reach of the Colorado River (Spicer 1986). By 1605, Oñate mentions five tribes, including the Cocopa, situated in much the same stretch of the river.

The late prehistoric and early historic period appears to have been characterized by considerable population displacements into and out of the region as a whole. Based on Spanish chronicles from Alarcón's trip of 1540 and Oñate's expedition of 1605, Spicer has concluded that the Cocopa arrived in the river valley from the desert regions of southern California some time in the 1500s and early 1600s (1986). Their movement into the Colorado River valley, in turn, contributed to the simultaneous displacement of Mohave elements into the northern reaches of the Colorado River and the eastward displacement of the Coco-Maricopa into the middle reaches of the Gila River (Spicer 1986; Spier 1978).

The earliest accounts indicate that the Cocopa were located toward the mouth of the Colorado River, while Quechans tended to be found most often northward at its confluence with the Gila River. Further upstream above the Gila's confluence were Mojave (Amacava) elements (Spicer 1986).

Although the region was visited time and again by successions of Spanish, Mexican, and Anglo-European travelers, it nevertheless remained somewhat removed from major routes of travel throughout the eighteenth and first half of the nineteenth centuries (Spicer 1986).

Despite relatively limited face-to-face contact, indigenous peoples were affected, both positively and negatively, by European contact. Contact with Spaniards beginning as early as 1540 contributed to the introduction of new crops, notably wheat, admirably suited to cultivation along the Colorado River. At the same time, warfare between Europeans and indigenous peoples, in conjunction with the introduction of a succession of new diseases, combined to decimate indigenous populations. By 1900, their numbers were markedly reduced. Today, the Yumans and Cocopas control but a fraction of their earlier homelands.

3.9.2 Cultural Resources

The two alternative sites consist of fields that were cultivated at some time. Both have been leveled and all exhibit berms needed for flood irrigation. Both sites have been terraced, a process of preparing fields that usually entails cut-and-fill operations that would destroy surface and near-surface archaeological remains.

A systematic Class III surface inspection of these sites did not locate any prehistoric or historic sites. This conclusion is tentative given that most of the sites were covered with alfalfa and exhibited ground cover exceeding 90 percent at the time of the field survey. The only artifacts observed during the survey were located in southern half of Site 1 and the western half of Site 2 in what appears to be a long-abandoned "old field." Most of these artifacts are of recent vintage and their general character is consistent with casual discard of household refuse, as well as cartridge casings, bullet shells, and other metal pieces left after target shooting.

The only features encountered during this survey were active irrigation ditches. Inspection of the distribution canals indicates they were constructed in the late 1950s or later.

None of these remains, either artifacts or features, such as canals, exhibit characteristics necessary or sufficient for inclusion on the National Register of Historic Places (NRHP).

3.10 AESTHETICS

Visual resources constitute the natural and manmade features that give a particular environment its aesthetic qualities. A visual impression of an area is derived from the type, arrangement, and contrast between these features. Although each viewer's perception may differ slightly, an overall landscape character can be assigned to an area and impacts to that character can be assessed. The following provides a description of the aesthetic qualities of the proposed project area.

The two alternative sites are surrounded by flat, sandy, beige-colored terrain. Without large geologic features, the vegetation and manmade structures define the visual character. The flat sites are bisected and surrounded by canals and berms that define an agricultural landscape. Planted areas have a visual uniformity and green coloration, such as the regularity of alfalfa ground cover, that contrast with the predominant earth tones of desert shrubs and disturbed areas. The spacing of vegetation in these areas is less patterned in the foreground, but creates a regular texture at greater distances. Isolated clumps of woody vegetation and trees are prominent between fields in the otherwise flat terrain. Manmade or urban structures in the vicinity include the existing border patrol facility to the west, and the borrow area and race track/swap meet area to the east. A bermed canal runs along the east boundary of Site 1 and bisects Site 2. The Yuma International Airport and Marine Corps Air Station are located less than 0.5 mile from the site. Aircraft and airport support facilities are readily visible from the site. A residential area is also visible to the north of the site. New construction of the U.S. Border Patrol Sector Headquarters Complex immediately north of Site 1 is evident, but not inconsistent with facilities for other commercial operations in the area. Other manmade structures include streets, streetlights, roads, power lines and signage.

4.0 Environmental Impacts

For this environmental assessment, potential impacts are evaluated for the proposed construction projects within the ROI.

4.1 Land Use and Transportation

Land use was assessed for compatibility with current and projected land uses and the existing land management plan for the City of Yuma.

Impacts to transportation stem from a change in traffic flow. A major change in the traffic level of service of the existing streets could cause an adverse impact.

4.1.1 Proposed Action

Land use in the local area would not likely be affected if Site 1 or Site 2 were selected for a new BPS. Although proposed facilities would be located within an area zoned for agriculture, the surrounding land is designated for industrial development in the Joint Land Use Plan, and future land use in this area would be guided by an Airport Area Specific Plan. The area already has quasi-commercial and office retail uses in proximity to both sites and the new USBP Sector Headquarters Complex is under construction. Proposed activities at the site including maintenance, administrative, and processing of aliens, would be similar to ongoing border patrol functions in the area and compatible with Airport District zoning and land use restrictions. Because Site 1 is contiguous with the new Border Patrol Sector Headquarters Complex, it would avoid fragmenting the development of the surrounding land and therefore would be more compatible with future development of airport-related industries in this area (Gaines 2000).

The active borrow pit to the east of Site 1 has not affected the Sector Headquarters Complex and would not affect the construction and use of a BPS.

Under the doctrine of federal supremacy, the federal government is not subject to local or state land use or zoning regulations unless specifically consented to by Congress. The government takes land use plans, guidelines and ordinances into consideration and cooperates with state and local agencies to avoid conflicts when possible. The federal government is subject to federal and state regulations controlling environmental impacts and management of federal lands. Notwithstanding, the facilities would be constructed in a manner that complies with federal and state laws and local ordinances. For example, outdoor lighting would meet all standards for lighting in the City of Yuma ordinances.

The preferred alternative involves taking land out of agricultural production. The Farmland Protection Policy Act identifies procedures which federal agencies must follow to take into account the effects of their programs on the preservation of farmland. An agency may determine whether or not a site is farmland as defined in Sec 658.2(a) or the agency may request that USDA–Natural Resources Conservation Service (NRCS) make such a determination. If an agency elects not to make its own determination, it should make a request to NRCS on Form AD-1006, the Farmland Conversion Impact Rating Form (Appendix C) for determination of whether the site is farmland subject to the Act (also refer to Section 4.3). Recent urban expansion and the location of the airport facilities have reduced the farmland value of both sites and surrounding lands.

The Proposed Action would result in a slight increase in the number of commuters using Avenue A and 40th Street. Once completed, the employees at the existing BPS, plus an additional 160 employees would be commuting to the new station. Increased employment would account for about 300 additional trips per day (spread over three 8-hour shifts). This would increase traffic during shift changes by about 100 trips.

For Site 1, employees for the new station would use the same access as the headquarters facility off 40th Street. If Site 2 were selected, access to the new station on the east side of Avenue A would replace the current access on the west side of Avenue A. Based on traffic volume counts for locations on these roadways near the project site, these additional trips could increase peak hour traffic on segments of Avenue A and 40th Street that would serve Site 2 or Site 1. An estimated increase of peak-hour traffic from 25 to 30 percent could affect the service level of the roadways at peak hours near the sites, depending on the timing of BPS shift changes. The USBP could mitigate potential short term impacts by staggering staff shift changes to lessen peak traffic congestion if this becomes a problem. In the long term, future improvements for these roadways, based on anticipated demands of industrial activities and commuters in the local area, would easily absorb this increase in traffic without loss of service.

Maintenance of vehicles and future fuel dispensing could generate hazardous waste. Appropriate plans would describe methods to be used for storing, handling and disposing of hazardous substances and for responding to accidental spills or discharges. Procedures would be developed to meet all federal, state and local requirements. A Stormwater Pollution Prevention Plan (SWPPP) would be developed to prevent offsite discharges of surface water to stormwater drainages. The preferred alternative, Site 1, offers advantages to Site 2 because adjacency to the Sector Headquarters site would allow more efficient coordination of maintenance and operational functions with less duplication of resources.

4.1.2 No Action

The No Action alternative involves leaving the sites available for agricultural production. This would cause no new impacts to land use, hazardous materials/waste, and transportation.

4.2 BIOLOGICAL RESOURCES

This section analyzes the potential impacts to biological resources from the use of Site 1, Site 2, and under the No Action Alternative.

4.2.1 Proposed Action

The impacts of construction on vegetation, wildlife, and sensitive species would be similar on both sites. Construction of the proposed BPS would result in the loss of alfalfa plants and desert shrubs. Because the desert shrub vegetation is already degraded, no significant impacts to native vegetation in the area would occur.

Although wildlife species diversity is low in Site 1 relative to native habitat, some habitat for nesting and foraging wildlife would be lost. The avifauna is particularly conspicuous in these fields and some common species, listed in section 3.2.2, would be displaced. Species such as the starling, house sparrow (*Passer domesticus*), and rock dove (*Columba livia*) may become more common if construction were to take place at this site.

Construction on Sites 1 and 2 would disturb about ten acres of desert shrubland, which is likely to support more species of reptiles and mammals than the adjacent alfalfa fields. The mountain plover could occur very sporadically in the alfalfa fields of Sites 1 and 2, but not in the desert shrubland portion of both sites. Due to the sporadic nature of mountain plover use of these alfalfa fields, construction on either site would not jeopardize the continued existence of this species. Species such as the killdeer, great-tailed grackle, and northern mockingbird would be likely to return to either site in reduced numbers after completion of construction. Because of the general state of development and degradation of desert shrubland surrounding the proposed project area, wildlife populations in the vicinity of Sites 1 and 2 are not expected to receive significant impacts from construction or BPS operations.

None of the federally listed species or state sensitive species would be significantly affected by the construction at either site, with the possible exception of some of the bat species that may occasionally forage over the area. According to a letter received from the Arizona Game and Fish Department (2000) and the results of the field survey, no significant adverse impacts to special status species would result from implementation of the Proposed Action. While there is a potential for construction in the desert shrubland to affect the habitat of the flat-tailed horned lizard, compliance with the state conservation agreement would minimize these impacts.

4.2.2 No Action

There would be no change in baseline conditions under this alternative. Both sites would continue to be cultivated for agriculture and half of Sites 1 and 2 would continue to be degraded desert shrubland. Therefore, there would be no change in the vegetation types at these sites and the current wildlife use would continue. The sites may continue to provide foraging habitat for some bats and sensitive species such as the mountain plover.

4.3 GEOLOGY AND SOILS

Since the proposed construction activities primarily involve surface alterations and do not involve any major subsurface excavation, drilling, or blasting, the major earth resource element of concern is soil. Exposed surface materials are prone to erosion by wind and water, which would be the main impact of the Proposed Action on soil resources.

4.3.1 Proposed Action

There would be no significant long-term effects on soil and geology as a result of implementing the Proposed Action. The soil and geology at the location of the proposed USINS facility have few limitations for construction of buildings and roads. Construction is planned to occur over a twelve to sixteen month period, so the entire site would not be disturbed at once.

Impacts to soil and effects of earthmoving would be of concern primarily during construction. The instability of soil side slopes during excavation necessitates that safety precautions be taken while trenches remain open. The susceptibility of the soil to wind erosion means that temporary erosion control measures must be installed during construction.

Title 15: §154-445 of the Yuma Code of Ordinances provides minimum standards for landscaping, in part to stabilize the soil and minimize erosion. The soil is planned to be permanently stabilized by construction of paved and gravel roads, buildings, and xeriscape using ground cover and native plants. This would reduce the potential for degradation of soil productivity and air pollution caused by blowing sand once the construction has been completed.

All of the sites are currently farmland, although none of them are classified as prime or important farmland based on the soil type. The developer or the USINS must follow the procedures outlined in the Farmland Protection Policy Act to determine whether the site is farmland subject to the Act. This can be accomplished by submitting the Farmland Conversion Impact Rating (Form AD-1006) (see Appendix C) to the NRCS. Due to the proximity of Sites 1 and 2 to urban land and utilities, and the limitations of the soil for agricultural use, it is expected that there would be little concern for converting these sites to urban land.

4.3.2 No Action

The No Action alternative involves leaving the sites in agricultural production. This would cause no new impacts to the soil and geologic resources because there would be no change in use.

4.4 WATER RESOURCES

The sensitivity of water resources to the Proposed Action is based on water availability, water use, water quality, water rights, and applicable regulations. If the Proposed Action reduces, endangers, or violates these criteria, then the impacts would be considered significant.

4.4.1 Proposed Action

The USINS facility would use the city water and sewer system. Sites 1 and 2 have water and sewer utilities available onsite. The current capacity of the water and sewer system is adequate to handle the additional staff and detainees at the new BPS facility.

According to the typical site plan for a BPS, there would be approximately 3.4 acres of impervious surface from buildings and parking areas, once construction is complete. Because there is no impervious surface now on these parcels and the soils are very permeable, little stormwater runoff leaves the site. There would be an increase in impervious area that would increase the potential for stormwater runoff to flow offsite.

To comply with state law and city ordinance, onsite detention of stormwater would be required. Yuma city ordinance (Title 19, Chapter 192, Yuma Code of Ordinances) requires that the developer of each lot within the city limits provide storage of sufficient volume to hold the total runoff from a 100-year, two-hour storm falling on that lot.

To be in compliance with state and federal regulations if offsite discharge does occur, the Arizona Department of Environmental Quality under Arizona statute (Title 49, Chapter 2, Article 3, Section 245) requires obtaining authorization under the Construction General Permit of the National Pollution Discharge Elimination System section of the Clean Water Act by submitting a Notice of Intent and developing a SWPPP. The SWPPP, developed prior to earthmoving, would describe site-specific erosion control practices, and the location, design, and scheduling of surface water control structures. Stormwater detention basins should be constructed first, before any building or road construction, on the perimeter of the site. These detention basins would intercept sediment in surface water from construction, thereby reducing offsite sedimentation and reducing the amount of stormwater runoff leaving the site.

No offsite discharge of stormwater is anticipated during normal storm events, due to infiltration of stormwater into the highly permeable soil on the sites and after detention in excavated ponds. There is the possibility of some offsite discharge of stormwater from the detention ponds during extreme storm events, especially during construction, and from areas such as driveways where it may be impossible to divert all surface water runoff to the detention ponds.

The final site design for either of the sites would include facilities for keeping potentially polluted water from the fuel storage and vehicle maintenance areas separate from the stormwater runoff. It will be important to prevent offsite discharges of surface water runoff, comply with state regulations for stormwater pollution control, and keep potentially polluted water from facilities like the car wash separate from stormwater. This potentially polluted water would be treated or diverted to the sanitary sewer system.

There would be no significant impact to surface water and groundwater as a result of the Proposed Action. No impacts would occur to wetlands or waters of the U.S. because there are none on either alternative sites.

4.4.2 No Action

The No Action alternative would cause no new impacts to the water resources because there would be no change in the use of the sites.

4.5 AIR QUALITY

Criteria for evaluating air quality impacts are based on federal, state, and local air pollution standards and regulations. Impacts would require further analysis if the emissions from the preferred alternative (1) increase ambient air pollution concentrations from below to above any NAAQS, (2) interfere with, or delay timely attainment of any NAAQS, or (3) impair visibility within federally mandated PSD Class I areas.

Under the General Conformity Rule of the Clean Air Act, Section 176 (c), activities must not cause or contribute to any new violation, increase the frequency or severity of any existing violation, or delay timely attainment of any standard, interim emission reductions or milestones in conformity to a state implementation plan's purpose of eliminating or reducing the severity and number of violations of the NAAQS or achieving attainment of NAAQS. The final conformity rule (40 CFR Part 51 Subpart W and 40 CFR Part 93 Subpart B), as applicable to federal agencies, explicitly exempts certain actions from preparing determinations, while others are assumed to be in conformity if total project emissions are below *de minimis* levels.

4.5.1 Proposed Action

Yuma County is considered in attainment for CO, NO_2, SO_2, ozone, and lead. It is in non-attainment for PM_{10}. Potential short-term air quality impacts associated with construction would occur from ground-disturbing activities unless mitigated.

Based on the particle size distribution of Superstition Sand (USDA 1997), wind erosion generated from the unprotected soil at both sites occurs at an average rate of 220 tons/acre/year (or an average of 18.3 tons/acre/month). Less than 1 percent of the soil profile is composed of particles of 10 microns or less in diameter. Therefore, it is estimated that an average of 0.183 ton of PM_{10} would be generated per acre per month of disturbance, or 1.8 tons of PM_{10} would be generated over the one-year construction period. These levels can be decreased through application of best management practices during construction.

Within nonattainment areas, the *de minimis* exemption level of an area in moderate nonattainment for PM_{10} is 100 tons per year, so project-related emissions are well within this allowance, resulting in no significant impact.

4.5.2 No Action

The No Action alternative would cause no new impacts to the air quality because there would be no change in its use.

4.6 SOCIOECONOMICS

Construction impacts are assessed in terms of direct effects on the local economy. Related effects to secondary socioeconomic resources (e.g., public services) are not evaluated because this action would not cause significant changes in population. The magnitude of potential impacts can vary greatly, depending on the geographic location and social environment of a Proposed Action. For example, implementation of an action that creates ten employment positions may not be noticeable in an urban area, but would be significant to a rural region. If potential socioeconomic changes were to result in substantial shifts in population trends or in adverse effects to regional spending and earning patterns, they would be considered significant.

4.6.1 Proposed Action

Implementation of the Proposed Action on either site would benefit the local and regional economies if the construction companies purchase materials locally and use labor from the regional workforce. However, there would be no significant long term changes to socioeconomic patterns or trends. The proposed construction activities would be beneficial by creating a demand for goods and services, resulting in a brief temporary increase in income for local businesses. Employment of construction workers, although temporary, may provide additional job opportunities and income for area laborers.

Direct employment associated with the proposed facility is expected to increase, although the new jobs represent only a small percentage of the available employment in the county. All persons, including minority groups, may benefit from both the increase in employment offered by the USBP and by the temporary enhancement in services created by the construction activities. Construction expenditures represent a small percentage of the regional economy, so impacts to socioeconomic resources would be negligible.

4.6.2 No Action

None of the proposed projects would occur under the No Action Alternative. Therefore, there would be no change in the existing socioeconomic conditions. The USBP would continue to contribute both payroll and operations and maintenance expenditures. Consequently, there would be no significant impact to socioeconomic resources.

4.7 ENVIRONMENTAL JUSTICE

To comply with NEPA, the planning and decision making process for actions proposed by federal agencies involves a study of other relevant environmental statutes and regulations, including Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which was issued by President Clinton on February 11, 1994. The essential purpose of EO 12898 is to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, tribal, and local programs and policies. Also included with environmental justice are concerns pursuant to EO 13045, Protection of Children from Environmental Health Risks and Safety Risks. This EO directs federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children under the age of 18. These risks are defined as "risks to health or to safety that are attributable to products or substances that the child is likely to come in contact with or ingest."

Baseline trends for this region are analyzed in comparison to those at the state and national scale. Existing conditions for environmental justice were analyzed through demographic characterization, particularly ethnicity and poverty status for the ROI.

4.7.1 Proposed Action

To comply with EO 12898, ethnicity and poverty status in the county were examined and compared to state and national statistics to determine if any minority or low-income groups could be disproportionately affected by the Proposed Action. Because Yuma County has a greater portion of minority and low-income persons than the state and national average, short-term socioeconomic benefits may occur in these groups with the increase of construction jobs under the Proposed Action. There is no potential to impact on minority or low-income neighborhoods because there are no housing developments and few residences within the surrounding area. Further analysis of environmental justice issues is not required due to the minimal environmental impacts associated with the Proposed Action.

Protection of Children. The Proposed Action would not involve activities that pose any disproportionate environmental health risks to children. The presence of children is minimal in the areas associated with the action. No housing areas or schools are in the immediate location, so no children would be directly affected.

4.7.2 No Action

No change in the existing land use would result in no environmental justice impacts.

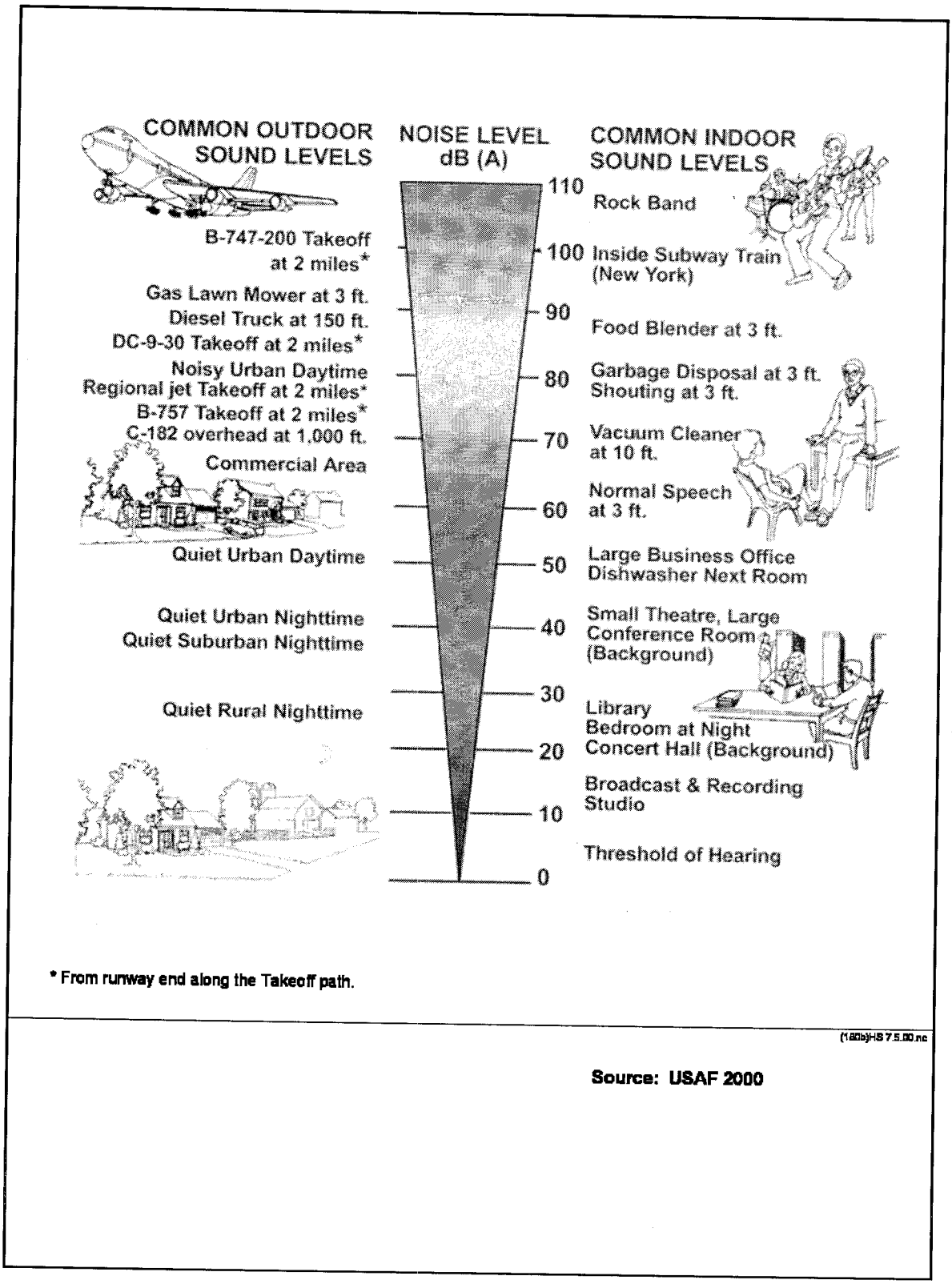
4.8 NOISE

The Federal Interagency Committee on Urban Noise (FICON) guidelines has established compatibility guidelines for specific types of land uses. Noise levels equal to or greater than 65 dB are marginally compatible to incompatible with commercial and business categories.

4.8.1 Proposed Action

The proposed sites are located within the city limits, so urban noises are common. Because of current land use patterns and human activity associated with vehicular traffic and airport operations, construction, maintenance, and operations under the preferred alternative would not constitute a significant change from the baseline noise conditions. Baseline conditions establish Site 1 as occurring within the L_{dn} 70-75 dB noise contour associated with the airport, and Site 2 within the 72 to 76 dB noise contours. **Figure 4-1** depicts common sound levels. Areas experiencing L_{dn} 70-75 dB noise levels generally are not recommended for residential housing by HUD. The Department of Development Services of Yuma County (2000) recommends that interior noise levels of the buildings on either site should be kept below 40 dB L_{dn}.

The Federal Interagency Committee on Urban Noise (FICON) guidelines has established that noise levels less than 65 dB are compatible for most residential land uses, and noise levels equal to or greater than 65 dB are marginally compatible to incompatible with commercial and business categories. Between L_{dn} 70 and 80, noise attenuation should be included in building design and construction. Due to high noise levels at both sites, appropriate noise reduction construction would be used to protect employees and other users of the facilities from high noise levels in interior spaces. Proposed activities would have little effect on average noise levels in surrounding areas, therefore, any noise sensitive receptors such as churches and schools in the local region would not be affected.



Source: USAF 2000

Figure 4-1. Typical A-Weighted Sound Levels of Common Sounds

Since the Proposed Action does not involve construction in or near a residential area, no impact is expected. Noise attenuation would be needed in the proposed structures.

4.8.2 No Action

Under the No Action alternative, no construction would take place and, therefore, no significant or adverse noise impacts would be expected.

4.9 CULTURAL RESOURCES

The impact assessment process for cultural resources centers on the concept of significance. Under federal law, cultural resources can be affected by an action if they are significant. Significant resources are generally those eligible for inclusion in the NRHP (36 CFR 60.4), or those that are important to traditional groups as outlined in the American Indian Religious Freedom Act (AIRFA), the Native American Graves Protection and Repatriation Act (NAGPRA), and EO 13007. A cultural resource that is eligible for inclusion in the NRHP is called an historic property.

To be considered eligible for the NRHP, archaeological resources, architectural resources, and traditional cultural resources must possess integrity and meet one or more of the criteria outlined in 36 CFR 60. NRHP-eligible resources are those:

a) that are associated with events or have made a significant contribution to the broad patterns of our history; or

b) that are associated with lives of persons significant in our past; or

c) that embody the distinctive characteristics of a type, period, or method of construction, that represent the work of a master, that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d) that have yielded, or may be likely to yield, information important in prehistory or history.

An action affects a cultural resource eligible for listing on the NRHP when it alters the resource's characteristics, including relevant features of its environment or use, in such a way that it no longer qualifies for inclusion in the NRHP (36 CFR 800.9[b]). Effects can include physical destruction, damage, or alteration of all or part of the property; or introduction of visual, audible, or atmospheric elements that are out of character with the property or alter its setting.

4.9.1 Proposed Action

As discussed in the Cultural Resources Survey Report (Appendix B), none of the remains found, either artifacts or features (i.e., canals), exhibit characteristics consistent with criteria needed for inclusion on the NRHP, and no recorded sites are documented. Therefore, the Proposed Action is unlikely to affect cultural resources. However, due to the extensive ground cover on the sites during the field surface survey, it is recommended that monitoring of the selected site be conducted at the time of construction. If indicators of archaeological sites are found during construction, work would be stopped until further investigations are completed.

4.9.2 No Action

Under this alternative, facility construction would not occur, so no cultural resources would be affected.

4.10 AESTHETICS

Impacts to aesthetic resources would be considered adverse if the proposed structure appeared to detract from the natural setting. However, since the structures would be located within the City of Yuma, specific visual guidelines set by the city were also reviewed.

4.10.1 Proposed Action

Impacts to aesthetics would be minimal as a result of the Proposed Action. It is expected that over time, industrial development would fill in areas to the west of the airport. The new U.S. Border Patrol Sector Headquarters Complex is already under construction immediately adjacent to the proposed sites and other industrial and commercial facilities are found in the surrounding area. While the selected site would change from agricultural to one of urban development, the proximity to the airport, other buildings, and development in the area would not create a stark contrast to the surrounding area.

Lighting could also have an effect on the visual resources of the area. Illumination levels would be in accordance with recommended illumination levels and would comply with state and local lighting ordinances (COE 1999a).

4.10.2 No Action

The No Action alternative would cause no new impacts to aesthetics because there would be no change in the land use.

4.11 CUMULATIVE AND INDIRECT IMPACTS

Cumulative environmental impacts are most likely to arise when a relationship exists between a Proposed Action and other actions expected to occur in the ROI in a similar time period. Projects in close proximity to the Proposed Action could have a greater potential for a relationship that would result in potential cumulative impacts than those more geographically separated. Various agencies (federal, state, or local) or persons can propose and implement these projects.

Past and present actions associated with USBP activities and other public and private entities are addressed in either Chapter 3, Baseline Conditions, or Chapter 4, Environmental Impacts. Under this Proposed Action, no projects are anticipated to cause significant cumulative environmental impacts. Potential impacts related to changes in traffic on local streets due to USBP and other future development in the area are anticipated in the Yuma Metropolitan Planning Office's future projections. These projections are the basis for existing long-range plans for road improvement, as well as the planned conversion of agricultural land to commercial and industrial uses, in the vicinity of the Proposed Action.

Indirect effects are caused by the action and occur later in time or are further removed in distance, but must be reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air, water, and other natural systems (40 CFR 1508[b]). Minor indirect effects have been documented in Chapter 4 related to possible short-term employment and business increases during construction of the BPS. No significant indirect effects have been identified in this EA.

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U.S. Bureau of Economic Analysis 2000a	U.S. Bureau of Economic Analysis. 2000. Regional Accounts Data: BEARFACTS. Web site: *http://www.bea.doc.gov/bea/regional/bearfacts/index.htm.* December 4.
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U.S. Census Bureau n.d.a.	U.S. Census Bureau. No date. Population Estimates Program, Population Division. Web site: *http://www.census.gov/population/www/estimates/popest.html*
U.S. Census Bureau n.d.b.	U.S. Census Bureau. No date. Statistical Abstract of the United States. Web site: *http://www.census.gov/prod/www/statistical-abstract-us.html*
U.S. Census Bureau 1997	U.S. Census Bureau. 1997. Poverty Thresholds. Web site: *http://www.census.gov/hhes/poverty/threshld/thresh97.html.*
USDA 1980	USDA—Soil Conservation Service. 1980. Soil Survey of Yuma-Wellton Area.. December.
USDA 1997	USDA—Natural Resources Conservation Service. 1997. Map Unit Interpretations Record (MUIR). Soil Data from Soil Survey Area AZ649. Web site: *http://www.statlab.iastate.edu/soils/muir/download.html.* January 13.
U.S. Department of Justice 2000	U.S. Department of Justice. 2000. "Goal Four: Fairly and Effectively Administer the Immigration and Naturalization Laws of the United States." Fiscal Years 2000-2005 Strategic Plan. U.S. Department of Justice. September.
USFWS 2000	U.S. Fish and Wildlife Service. 2000. Letter from David L. Harlow, Field Supervisor, USFWS Phoenix Arizona to Ellen Dietrich, Project Manager, SAIC, Albuquerque, New Mexico. November 8.
YMPO 1999	Yuma Metropolitan Planning Organization. 1999. 24-Hour Quarterly Traffic Count Program. Count Periods: February, May, July, November.

6.0 List of Preparers

Ellen Dietrich, Project Manager, Resource Specialist, SAIC

B.A. Anthropology, 1971
Years of Experience: 25

Susan M. Goodan, Environmental Planner, SAIC

M. Architecture, 1988
B.A., Ethics/Archaeology, 1974
Years of Experience: 12

Charles J. Burt, Senior Biologist, SAIC

M.S., Forest Zoology, 1973
B.S., Biology, 1968
Years of Experience:15

Heather Gordon, GIS Technician, SAIC

B.A., Environmental Studies and Planning/Liberal Studies, 1991
Years of Experience: 4

Neal Ackerly, Senior Archaeologist, Dos Rios Consultants, Inc.

Ph.D., Anthropology, Arizona State University, Tempe, 1986
M.A., Anthropology, University of Arizona Tucson, 1978
B.A., International Relations, Florida State University, Tallahassee, 1973
Years of Experience: 23

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Appendix A
Scoping Letters and Responses

SCOPING LETTER DISTRIBUTION LIST

1. Mr. Kevin Feeney
   Headquarters USINS
   425 Eye Street NW, Room 2060
   Washington, D.C. 20536

2. Mr. Eric Verwers
   Attn: CESWF-PM-INS
   P.O. Box 17300
   Fort Worth, TX 76102

3. Mr. David L. Harlow
   U.S. Fish and Wildlife Service
   2321 W. Royal Palm Road, Suite 103
   Phoenix, AZ 85021-4951

4. Ms. Alexis Strauss
   Environmental Protection Agency,
   Region 9
   75 Hawthorne Street
   San Francisco, CA 94105

5. Ms. Nancy Olson
   Arizona Department of Game and Fish
   Habitat Branch
   2221 West Greenway Road
   Phoenix, AZ 85023-4399

6. Mr. Monty M. Stansbury, AICP
   County of Yuma
   Department of Development Services
   2703 S. Avenue B
   Yuma, AZ 85364

7. Mr. Roger Brooks, Building Official
   City of Yuma
   Department of Community Development
   3 West Third Street
   Yuma, AZ 85364

8. Mr. Mathew Spriggs, Preservation
   Planner
   City of Yuma
   Department of Community Development
   3 West Third Street
   Yuma, AZ 85364

9. Cocopah Tribe
   Lisa Wanstall, Museum Director
   Cocopah Museum
   County 15th & Avenue G
   Somerton, AZ 85350

10. Fort Yuma-Quechan Tribe
    Pauline Owl
    Quechan Cultural Committee
    P.O. Box 1899
    Yuma, AZ 85366

SAMPLE SCOPING LETTER

Dear _____:

The U.S. Immigration and Naturalization Service (USINS) is preparing an environmental assessment (EA) for proposed construction of a new U.S. Border Patrol Station on the southern edge of Yuma, Arizona. The EA for the Proposed Action is being conducted by the USINS in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act (NEPA) of 1969 and USINS Procedures Relating to the Implementation of NEPA (28 CFR Part 61, Appendix C). In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, we request your participation by reviewing the brief description of the project in the next paragraph and the enclosed location map of the three sites under consideration (Attachment 1), and providing your comments concerning the proposal and any potential environmental consequences of construction at any of the proposed sites. Your input will be used to focus analysis in the environmental assessment on relevant issues. Please note that this correspondence is not part of any formal consultation that could be required under specific laws and regulations.

The new facility would consolidate Border Patrol operational functions while supporting present and future growth. Currently, U.S. Border Patrol Field Office facilities are located at 12122 South Avenue A in Yuma. These facilities do not provide sufficient space for current or future Border Patrol operations. The new facility complex would integrate and increase the efficiency of current operations and provide infrastructure for projected growth. The station would be approximately 50,000 square feet and would include such facilities as the main station, sally port, dog kennels, parking, seized vehicle temporary storage, fuel island, wash station, communication towers, and a two-bay vehicle maintenance shop.

The proposed complex would be constructed on a twenty-acre site located on one of three proposed sites in the Yuma area (Attachment 1). The site, after analysis is complete, would be purchased by the U.S. Government. The USINS is working with the U.S. Army Corps of Engineers, Albuquerque District, to design this project. The EA, prepared by Science Applications International Corporation (SAIC), will evaluate the potential environmental impacts of each alternative site.

Please provide any comments on this project and the alternative sites within 30 days (by December 1, 2000). A listing of federal and state agencies that have been contacted is attached (Attachment 2). If there are any additional agencies that you feel should review and comment on the proposal, please feel free to include them in your distribution of this letter and attached materials. You will also receive a copy of the Draft EA, once it is completed.

Any questions concerning the proposal should be directed to me at (505) 842-7945. Please forward your written comments me at SAIC, 2109 Air Park Road SE, Albuquerque, New Mexico 87106. Thank you for your assistance.

Sincerely,

Science Applications International Corporation

Ellen R. Dietrich
SAIC Project Manager

Attachments:

1. Location map
2. Distribution list

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
2221 WEST GREENWAY ROAD, PHOENIX, AZ 85023-4399
(602) 942-3000 • WWW.AZGFD.COM
Yuma Office, 9140 E 28th Street, Yuma, AZ 85365-3596 (520) 342-0091

GOVERNOR
JANE DEE HULL
COMMISSIONERS
CHAIRMAN, W. HAYS GILSTRAP, PHOENIX
DENNIS D. MANNING, ALPINE
MICHAEL M. GOLIGHTLY, FLAGSTAFF
JOE CARTER, SAFFORD
WILLIAM BERLAT, TUCSON
DIRECTOR
DUANE L. SHROUFE
DEPUTY DIRECTOR
STEVE K. FERRELL

December 1, 2000

Ellen R. Dietrich
Science Applications International Corporation
2109 Air Park Road, S.E.
Albuquerque, New Mexico 87106

Re: Environmental Assessment in Preparation for U.S. Border Patrol Stations, Yuma County

Dear Ms. Dietrich:

The Arizona Game and Fish Department (Department) has reviewed the your letter dated November 1, 2000 requesting scoping comments on the above-referenced environmental assessment (EA) in preparation for a U.S. Border Patrol Station located in Township 9 South, Range 23 West, Section 16 and Township 9 South, Range 23 West, Section 25. The following comments are provided for your consideration.

The Department's Heritage Data Management System has been accessed and current records show that the special status species listed below have been documented as occurring in the project vicinity.

Sites 1 & 2 T9S, R23W, S16

COMMON NAME	SCIENTIFIC NAME	STATUS
Cowles fringe-toed lizard	*Uma notata rufopunctata*	**WC,S[1],S[2]**
flat-tail horned lizard	*Phrynosoma mcallii*	**WC**
great egret	*Ardea alba*	**WC**
snowy egret	*Egretta thula*	**WC**

Site 3 T9S, R23W, S25

COMMON NAME	SCIENTIFIC NAME	STATUS
Cowles fringe-toed lizard	*Uma notata rufopunctata*	**WC,S[1],S[2]**
flat-tail horned lizard	*Phrynosoma mcallii*	**WC**
great egret	*Ardea alba*	**WC**
snowy egret	*Egretta thula*	**WC**

STATUS DEFINITIONS

WC - **Wildlife of Special Concern in Arizona.** Species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines, as described by the Department's listing of **Wildlife of Special Concern in Arizona** (WSCA, in prep.). Species included in WSCA are currently the same as those in **Threatened Native Wildlife in Arizona** (1988).

S^1 - **Sensitive.** Species classified as "**sensitive**" by the Regional Forester when occurring on lands managed by the U.S.D.A. Forest Service.

S^2 - **Sensitive.** Those taxa occurring on Bureau of Land Management (BLM) Field Office Lands in Arizona which are considered **"sensitive"** by the Arizona State Office of the BLM.

The Department understands that this EA is to evaluate three potential sites for a new Border Patrol station that would include the main station, sally port, dog kennels, parking and vehicle storage. The Department notes that all three sites are in developed areas in the vicinity of the airport and does not include riparian/ wetland or flat-tailed horned lizard habitats. For these reasons, the Department does not anticipate any significant adverse impacts to the special status species listed above, or other wildlife species, resulting from this proposed project.

Thank you for the opportunity to provide these preliminary comments. Please send me a copy of the draft EA when it becomes available. If you have any questions, please contact me at 520-342-0091.

Sincerely,

William C. Knowles

William C. Knowles
Habitat Specialist
Region IV, Yuma

cc: Russell Engel, Habitat Program Manager, Region IV
Larry Voyles, Regional Supervisor, Region IV
Bob Broscheid, Proj. Eval. Prog. Supervisor, Habitat Branch

AGFD 11-06-00 (06)

United States Department of the Interior

U.S. Fish and Wildlife Service
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 640-2720 FAX: (602) 640-2730

In Reply Refer To:
AESO/SE
2-21-99-I-211

November 8, 2000

Ms. Ellen R. Dietrich, Project Manager
Science Applications International Corporation
2109 Air Park Road, SE
Albuquerque, New Mexico 87106

RE: EA for Proposed Construction of a new US Border Patrol Station on the Southern edge of Yuma, Arizona

Dear Ms. Dietrich:

This letter responds to your November 1, 2000, request for an inventory of threatened or endangered species, or those that are proposed to be listed as such under the Endangered Species Act of 1973, as amended (Act), which may potentially occur in your project area (Yuma County). The enclosed list may include candidate species as well. We hope the enclosed county list of species will be helpful. In future communications regarding this project, please refer to consultation number 2-21-99-I-211.

The enclosed list of the endangered, threatened, proposed, and candidate species includes all those potentially occurring anywhere in the county, or counties, where your project occurs. Please note that your project area may not necessarily include all or any of these species. The information provided includes general descriptions, habitat requirements, and other information for each species on the list. Also on the enclosed list is the Code of Federal Regulations (CFR) citation for each list and is available at most public libraries. This information should assist you in determining which species may or may not occur within your project area. Site-specific surveys could also be helpful and may be needed to verify the presence or absence of a species or its habitat as required for the evaluation of proposed project-related impacts.

Endangered and threatened species are protected by Federal law and must be considered prior to project development. If the action agency determines that listed species or critical habitat may be adversely affected by a federally funded, permitted, or authorized activity, the action agency must request formal consultation with the Service. If the action agency determines that the planned action may jeopardize a proposed species or destroy or adversely modify proposed critical habitat, the action agency must enter into a section 7 conference with the Service. Candidate species are those which are being considered for addition to the list of threatened or endangered species. Candidate species are those for which there is sufficient information to support a proposal for

listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event that they become listed or proposed for listing prior to project completion.

If any proposed action occurs in or near areas with trees and shrubs growing along watercourses, known as riparian habitat, the Service recommends the protection of these areas. Riparian areas are critical to biological community diversity and provide linear corridors important to migratory species. In addition, if the project will result in the deposition of dredged or fill materials into waterways or excavation in waterways, we recommend you contact the Army Corps of Engineers which regulates these activities under Section 404 of the Clean Water Act.

The State of Arizona protects some plant and animal species not protected by Federal law. We recommend you contact the Arizona Game and Fish Department and the Arizona Department of Agriculture for State-listed or sensitive species in your project area.

The Service appreciates your efforts to identify and avoid impacts to listed and sensitive species in your project area. If we may be of further assistance, please feel free to contact Tom Gatz.

Sincerely,

Jacqueline D Hanson

for David L. Harlow
Field Supervisor

Enclosure

cc: John Kennedy, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: YUMA

10/25/2000

1) LISTED

TOTAL= 7

NAME: **SONORAN PRONGHORN** *ANTILOCAPRA AMERICANA SONORIENSIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67

DESCRIPTION: BUFF ON BACK AND WHITE BELOW, HOOFED WITH SLIGHTLY CURVED BLACK HORNS HAVING A SINGLE PRONG. SMALLEST AND PALEST OF THE PRONGHORN SUBSPECIES.

ELEVATION RANGE: 2000-4000 FT.

COUNTIES: PIMA, YUMA, MARICOPA

HABITAT: BROAD, INTERMOUNTAIN ALLUVIAL VALLEYS WITH CREOSOTE-BURSAGE & PALO VERDE-MIXED CACTI ASSOCIATIONS

TYPICALLY, BAJADAS ARE USED AS FAWNING AREAS AND SANDY DUNE AREAS PROVIDE FOOD SEASONALLY. HISTORIC RANGE WAS PROBABLY LARGER THAN EXISTS TODAY. THIS SUBSPECIES ALSO OCCURS IN MEXICO.

NAME: **RAZORBACK SUCKER** *XYRAUCHEN TEXANUS*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: Yes CFR: 55 FR 21154, 05-22-1990; 59 FR 13374, 03-21-1994

DESCRIPTION: LARGE (UP TO 3 FEET AND UP TO 16 POUNDS) LONG, HIGH SHARP-EDGED KEEL-LIKE HUMP BEHIND THE HEAD. HEAD FLATTENED ON TOP. OLIVE-BROWN ABOVE TO YELLOWISH BELOW.

ELEVATION RANGE: <6000 FT.

COUNTIES: GREENLEE, MOHAVE, PINAL, YAVAPAI, YUMA, LA PAZ, MARICOPA (REFUGIA), GILA, COCONINO, GRAHAM

HABITAT: RIVERINE & LACUSTRINE AREAS, GENERALLY NOT IN FAST MOVING WATER AND MAY USE BACKWATERS

SPECIES IS ALSO FOUND IN HORSESHOE RESERVOIR (MARICOPA COUNTY).CRITICAL HABITAT INCLUDES THE 100-YEAR FLOODPLAIN OF THE RIVER THROUGH GRAND CANYON FROM CONFLUENCE WITH PARIA RIVER TO HOOVER DAM; HOOVER DAM TO DAVIS DAM; PARKER DAM TO IMPERIAL DAM. ALSO GILA RIVER FROM AZ/NM BORDER TO COOLIDGE DAM; AND SALT RIVER FROM HWY 60/SR 77 BRIDGE TO ROOSEVELT DAM; VERDE RIVER FROM FS BOUNDARY TO HORSESHOE LAKE.

NAME: **BALD EAGLE** *HALIAEETUS LEUCOCEPHALUS*

STATUS: THREATENED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 60 FR 35999, 07-12-95

DESCRIPTION: LARGE, ADULTS HAVE WHITE HEAD AND TAIL. HEIGHT 28 - 38"; WINGSPAN 66 - 96". 1-4 YRS DARK WITH VARYING DEGREES OF MOTTLED BROWN PLUMAGE. FEET BARE OF FEATHERS.

ELEVATION RANGE: VARIES FT.

COUNTIES: YUMA, LA PAZ, MOHAVE, YAVAPAI, MARICOPA, PINAL, COCONINO, NAVAJO, APACHE, SANTA CRUZ, PIMA, GILA, GRAHAM, COCHISE

HABITAT: LARGE TREES OR CLIFFS NEAR WATER (RESERVOIRS, RIVERS AND STREAMS) WITH ABUNDANT PREY

SOME BIRDS ARE NESTING RESIDENTS WHILE A LARGER NUMBER WINTERS ALONG RIVERS AND RESERVOIRS. AN ESTIMATED 200 TO 300 BIRDS WINTER IN ARIZONA. ONCE ENDANGERED (32 FR 4001, 03-11-1967; 43 FR 6233, 02-14-78) BECAUSE OF REPRODUCTIVE FAILURES FROM PESTICIDE POISONING AND LOSS OF HABITAT, THIS SPECIES WAS DOWN LISTED TO THREATENED ON AUGUST 11, 1995. ILLEGAL SHOOTING, DISTURBANCE, LOSS OF HABITAT CONTINUES TO BE A PROBLEM. SPECIES HAS BEEN PROPOSED FOR DELISTING (64 FR 36454) BUT STILL RECEIVES FULL PROTECTION UNDER ESA.

NAME: **BROWN PELICAN** *PELECANUS OCCIDENTALIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 35 FR 16047, 10-13-70; 35 FR 18320, 12-02-70

DESCRIPTION: LARGE DARK GRAY-BROWN WATER BIRD WITH A POUCH UNDERNEATH LONG BILL AND WEBBED FEET. ADULTS HAVE A WHITE HEAD AND NECK, BROWNISH BLACK BREAST, AND SILVER GRAY UPPER PARTS.

ELEVATION RANGE: VARIES FT.

COUNTIES: LA PAZ YUMA

HABITAT: COASTAL LAND AND ISLANDS

SUBSPECIES IS FOUND ON PACIFIC COAST AND IS ENDANGERED DUE TO PESTICIDES. IT IS AN UNCOMMON TRANSIENT IN ARIZONA ON LOWER COLORADO RIVER. INDIVIDUALS WANDER UP FROM MEXICO IN SUMMER AND FALL. NO BREEDING RECORDS IN ARIZONA.

NAME: **CACTUS FERRUGINOUS PYGMY-OWL** *GLAUCIDIUM BRASILIANUM CACTORUM*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: No CFR: 62 FR 10730, 3-10-97

DESCRIPTION: SMALL (APPROX. 7"), DIURNAL OWL REDDISH BROWN OVERALL WITH CREAM-COLORED BELLY STREAKED WITH REDDISH BROWN. SOME INDIVIDUALS ARE GRAYISH BROWN

ELEVATION RANGE: <4000 FT.

COUNTIES: MARICOPA, YUMA, SANTA CRUZ, GRAHAM, GREENLEE, PIMA, PINAL, GILA, COCHISE

HABITAT: MATURE COTTONWOOD/WILLOW, MESQUITE BOSQUES, AND SONORAN DESERTSCRUB

RANGE LIMIT IN ARIZONA IS FROM NEW RIVER (NORTH) TO GILA BOX (EAST) TO CABEZA PRIETA MOUNTAINS (WEST). ONLY A FEW DOCUMENTED SITES WHERE THIS SPECIES PERSISTS ARE KNOWN, ADDITIONAL SURVEYS ARE NEEDED. CRITICAL HABITAT IN PIMA, COCHISE, PINAL, AND MARICOPA COUNTIES (64 FR 37419).

NAME: **SOUTHWESTERN WILLOW FLYCATCHER** *EMPIDONAX TRAILLII EXTIMUS*

STATUS: ENDANGERED CRITICAL HAB Yes RECOVERY PLAN: No CFR: 60 FR 10694, 02-27-95

DESCRIPTION: SMALL PASSERINE (ABOUT 6") GRAYISH-GREEN BACK AND WINGS, WHITISH THROAT, LIGHT OLIVE-GRAY BREAST AND PALE YELLOWISH BELLY. TWO WINGBARS VISIBLE. EYE-RING FAINT OR ABSENT.

ELEVATION RANGE: <8500 FT.

COUNTIES: YAVAPAI, GILA, MARICOPA, MOHAVE, COCONINO, NAVAJO, APACHE, PINAL, LA PAZ, GREENLEE, GRAHAM, YUMA, PIMA, COCHISE, SANTA CRUZ

HABITAT: COTTONWOOD/WILLOW & TAMARISK VEGETATION COMMUNITIES ALONG RIVERS & STREAMS

MIGRATORY RIPARIAN OBLIGATE SPECIES THAT OCCUPIES BREEDING HABITAT FROM LATE APRIL TO SEPTEMBER. DISTRIBUTION WITHIN ITS RANGE IS RESTRICTED TO RIPARIAN CORRIDORS. DIFFICULT TO DISTINGUISH FROM OTHER MEMBERS OF THE EMPIDONAX COMPLEX BY SIGHT ALONE. TRAINING SEMINAR REQUIRED FOR THOSE CONDUCTING FLYCATCHER SURVEYS. CRITICAL HABITAT ON PORTIONS OF THE 100-YEAR FLOODPLAIN ON SAN PEDRO AND VERDE RIVERS; WET BEAVER AND WEST CLEAR CREEKS, INCLUDING TAVASCI MARSH AND ISTER FLAT; THE COLORADO RIVER, THE LITTLE COLORADO RIVER, AND THE WEST, EAST, AND SOUTH FORKS OF THE LITTLE COLORADO RIVER, REFERENCE 60 CFR:62 FR 39129, 7/22/97.

LISTED, PROPOSED, AND CANDIDATE SPECIES FOR THE FOLLOWING COUNTY: YUMA

10/25/2000

NAME: YUMA CLAPPER RAIL *RALLUS LONGIROSTRIS YUMANENSIS*

STATUS: ENDANGERED CRITICAL HAB No RECOVERY PLAN: Yes CFR: 32 FR 4001, 03-11-67; 48 FR 34182, 07-27-83

DESCRIPTION: WATER BIRD WITH LONG LEGS AND SHORT TAIL. LONG SLENDER DECURVED BILL. MOTTLED BROWN ON GRAY ON ITS RUMP. FLANKS AND UNDERSIDES ARE DARK GRAY WITH NARROW VERTICAL STRIPES PRODUCING A BARRING EFFECT.

ELEVATION RANGE: <4500 FT.

COUNTIES: YUMA, LA PAZ, MARICOPA, PINAL, MOHAVE

HABITAT: FRESH WATER AND BRACKISH MARSHES

SPECIES IS ASSOCIATED WITH DENSE EMERGENT RIPARIAN VEGETATION. REQUIRES WET SUBSTRATE (MUDFLAT, SANDBAR) WITH DENSE HERBACEOUS OR WOODY VEGETATION FOR NESTING AND FORAGING. CHANNELIZATION AND MARSH DEVELOPMENT ARE PRIMARY SOURCES OF HABITAT LOSS.

2) PROPOSED

TOTAL= 1

NAME: **MOUNTAIN PLOVER** *CHARADRIUS MONTANUS*

STATUS: PROPOSED THREATENED CRITICAL HAB No RECOVERY PLAN: No CFR: 64 FR 7587; 02-16-1999

DESCRIPTION: IN BREEDING SEASON WITH WHITE FOREHEAD AND LINE OVER THE EYE; CONTRASTING WITH DARK CROWN; NONDESCRIPT IN WINTER. VOICE IS LOW, VARIABLE WHISTLE.

ELEVATION RANGE: VARIABLE FT.

COUNTIES: YUMA, PIMA, COCHISE, PINAL, APACHE

HABITAT: OPEN ARID PLAINS, SHORT-GRASS PRAIRIES, AND CULTIVATED FORMS.

SPECIES PRIMARILY FOUND IN ROCKY MOUNTAIN STATES FROM CANADA TO MEXICO. AZ PRIMARILY PROVIDES WITNERING HABITAT. BREEDING HAS BEEN DOCUMENTED, BUT IS RARE, AND IS LIKELY RESTRICTED TO TRIBAL AND STATE LANDS IN APACHE COUNTY.

CONSERVATION AGREEMENT

TOTAL= 1

NAME: **FLAT-TAILED HORNED LIZARD** *PHRYNOSOMA MCALLII*

STATUS: CONSERVATION AGREEMENT CRITICAL HAB No RECOVERY PLAN: No CFR:

DESCRIPTION: TYPICAL FLATTENED BODY SHAPE OF HORNED LIZARDS; DARK VERTEBRAL STRIPE; LACKS EXTERNAL EAR OPENINGS; COLOR IS CRYPTIC RANGING FROM PALE GRAY TO LIGHT RUST BROWN; HAS TWO ROWS OF FRINGED SCALES ON EACH SIDE OF BODY

ELEVATION RANGE: 500 FT. FT.

COUNTIES: YUMA

HABITAT: SANDY FLATS OR AREAS WITH FINE, WINDBLOWN SAND; CREOSOT-WHITE BURSAGE SERIES OF SONORAN DESERT

CONSERVATION AGREEMENT FINALIZED IN MAY 1997. SPECIES ALSO FOUND IN PORTIONS OF SAN DIEGO COUNTY, CENTRAL RIVERSIDE COUNTY, AND IMPERIAL COUNTY, CALIFORNIA; ALSO SONORA AND BAJA CALIFORNIA, MEXICO

City of YUMA

Riverfront Development
rtment of Community Development
200 W First Street
Yuma, AZ 85364

(520) 376-6127
TDD (520) 343-8877
FAX (520) 782-5040

Monday, November 27, 2000

SAIC
2109 Air Park Road SE
Albuquerque, NM 87106
Attn: Ellen Dietrich, Project Manager

RE: Environmental Assessment for the Relocation of Border Patrol Operations in Yuma

Dear Ms. Dietrich,

Of the three possible locations, sites 1 and 2 would most likely be the most suitable for the Border Patrol. Site 3 appears to create a large separation between the existing facilities and future facilities. Relocation of the Border Patrol to any of these sites is not believed to be injurious to any known historical sites. Furthermore, the City is actively supporting the relocation of the Border Patrol Sector Headquarters from its current location north of First Street to a site in conjunction with or near locations 1 and 2. The First Street property is located in the heart of the City of Yuma's redevelopment district in Historic Downtown and the relocation of their Headquarters facility will enhance the City's redevelopment efforts.

Sincerely,

Matthew Spriggs
Assistant Planner

cc: Charles Flynn, Riverfront Development Manager

Yuma County, Arizona
DEPARTMENT OF DEVELOPMENT SERVICES
2703 S. Avenue B • Yuma, Arizona 85364

Harold Aldrich
Director
(520) 329-2300
FAX: (520) 726-5626

December 1, 2000

Ms. Ellen Dietrich
SAIC Project Manager
2109 Air Park Road, S.E.
Albuquerque, NM 87106

Re: Proposed new U.S. Border Patrol Station, Yuma Arizona

Dear Ms. Dietrich,

Yuma County has no objections to either site 1 or site 2 proposed for the new U.S. Border Patrol Station, Yuma Arizona. Yuma County has the following comments:

- Soils are superstition soils and should be suitable for buildings of this type. See US Department of Agriculture Soil Survey of Yuma-Wellton Area issued December 1980. (Note: these maps are currently available as a Geographic Information System compatible file).

- These parcels are in the 70-75 DNL noise zone for the airport and efforts should be made to ensure that interior noise levels are kept below 40DNL.

- Avenue A is proposed to be improved to a five lane standard in the Yuma Metropolitan Area Planning Organizations 2023 Plan.

- The nearest Fire Station is the City of Yuma Station #2 at 3284 South Avenue A.

We appreciate the opportunity to review this proposal.

Sincerely,

Monty Stansbury, A.I.C.P.
Planning & Zoning Director

Monty M. Stansbury
Planning Director
Planning & Zoning
(520) 329-2300
FAX (520) 317-8302

Curtis Cansler
Chief Building Official
Building Safety
(520) 329-2292
FAX (520) 726-5801

TDD
(520) 329-2304

Roger A. Patterson, P.E.
County Engineer/FCD
Engineering Division
(520) 329-2300
FAX (520) 726-5626

Flood Control District
(520) 329-2302
FAX (520) 726-5626

Appendix B
Cultural Resources Survey Report

An Archaeological Survey of Two Proposed Alternative Construction Sites for U.S. Border Patrol Station Facilities Near Yuma, Arizona

By

Neal W. Ackerly, Ph.D.
Dos Rios Consultants, Inc.
P.O. Box 1247
Silver City, NM 88062

ABSTRACT

Two alternative Immigration and Naturalization Service construction sites aggregating 30 acres were subjected to a Class III (100%) archaeological survey. All parcels consist of cultivated agricultural fields that have been leveled and, in some cases, terraced. The surface examination did not locate any prehistoric or historic sites. Isolated occurrences were limited to part of one parcel, but most are of recent vintage and are consistent with casual discard of household refuse. Active canals, all dating to the mid-1950s or later, were present in all parcels. None of these remains, either artifacts or features (i.e., canals), exhibit characteristics consistent with criteria needed for inclusion on the National Register of Historic Places. Dos Rios Consultants, Inc., recommends clearance for each of the two parcels subject to monitoring at the time of construction.

1.0 INTRODUCTION

This report summarizes the results of a Class III (100%) archaeological survey of two (2) alternative construction sites for a proposed Immigration and Naturalization Service (INS) facility near Yuma, Arizona. The survey was conducted between 13-16 November 2000 by Dos Rios Consultants, Inc., P.O. Box 1247, Silver City, NM, 88062 under subcontract to Science Applications International Corporation (SAIC), 2109 Air Park Road, SE, Albuquerque, New Mexico, 87106 at the request of the U.S. Army Corps of Engineers, Albuquerque District.

The remainder of this report contains six (6) sections. Section 2 summarizes the prehistory and history of the project area, with particular emphasis on the history of the Cocopa and Quechan tribes. Section 3 presents the results of a records check at the Arizona State Museum. Section 4 provides a detailed description of the two alternative construction sites (parcels). Section 5 focuses on field methods used during this Class III survey. Sections 6 and 7 present the results of the survey and recommendations, respectively.

To anticipate more detailed discussions, no prehistoric or historic archaeological sites were encountered in the two alternate construction parcels. Isolated occurrences were found in portions of one parcel, but most appear to date to the 1950s and reflect the casual discard of household refuse. Given extremely high ground cover, conditional clearances are recommended for the alternative construction sites, subject to monitoring during the initial construction (i.e., earth moving) phase.

2.0 PREHISTORY AND HISTORY OF THE PROJECT AREA

The following discussion summarizes the prehistory and history of the Lower Colorado River basin. The primary focus is on the region bounded on the north by the confluence with the Gila River southward to where the river crosses the International Boundary south of Yuma, Arizona.

The flood plains and adjacent bluffs overlooking the lower Colorado River in the vicinity of Yuma, AZ, have not been subject to systematic archaeological surveys or excavations. As a result, the prehistory of the region is largely unknown. Some studies indicate that a drought between A.D. 1400 and 1500 was the catalyst for the movement of Yuman groups into the Colorado River valley (de Williams 1979:100). This, in turn, precipitated continuing clashes between former residents (e.g., Cocopa) and more recent arrivals (e.g. Yumans).

Tribal designations are not particularly clear from early narratives. In 1540, Alarcón suggested that there were two tribes of unspecified size situated in the lower reach of the Colorado (Spicer 1986:262). By 1605, Oñate mentions five tribes, including the Cocopa, situated in much the same stretch of the river.

The late prehistoric and early historic period appears to have been characterized by considerable population displacements into and out of the region as a whole. Based on Spanish chronicles from Alarcón's trip of 1540 and Oñate's expedition of 1605, Spicer, has concluded that the Cocopa arrived in the river valley from the desert regions of southern California sometime in the 1500s and early 1600s (1986:265). Their movement into the Colorado River valley, in turn, contributed to the simultaneous displacement of Mohave elements into the northern reaches of the Colorado and the eastward displacement of the Coco-Maricopa into the middle reaches of the Gila River (Spicer 1986:262; Spier 1978:2, 10-11). Warfare generally accompanied such large-scale incursions and, according to Spanish and, later, Anglo accounts, was almost pandemic throughout the Lower Colorado basin as groups jockeyed back and forth for control of productive agricultural lands (Bartlett 1965:179, Kroeber 1976:803, Spicer 1986:267, Spier 1978:11).

The earliest accounts indicate that the Cocopa were located toward the mouth of the Colorado River, while Quechans tended to be found most often northward along the Colorado at its confluence with the Gila River. Further upstream above the Gila's confluence were Mojave (Amacava) elements (Spicer 1986:263).

Spanish efforts to missionize native peoples along the Colorado did not occur until 1779 and were limited to Yumans situated near the Gila-Colorado confluence (Spicer 1986:264). In 1781, the Yumans revolted against the Franciscan priests and soldiers stationed at the mission, burning the structure to the ground and killing all the Europeans residing there (Bee 1981:2, Kroeber 1976:783, Spicer 1986:264). No subsequent missionization efforts took place (Bartlett 1965:161).

Despite linguistic and cultural differences, many scholars have concluded that these groups shared numerous characteristics (Kroeber 1976:782). Yumans, Mohaves, and Cocopas all exhibited characteristics consistent with a mix of agriculture and wild plant gathering; the importance of hunting varied depending on the contribution of cultivated crops, but nevertheless does not appear to have been as important an activity as was the case for other non-riverine groups in the region (Bee 1981:3; 1979:86; Forde 1931:107).

All these tribes relied on overbank flooding of the Colorado during the spring months to provide both nutrients and water for fields normally situated in flood plains; irrigation systems were not used (Bee 1979:86, de Williams 1979:99, Forde 1931:90, Gifford 1933:260). Descriptions from 1776 describe the process in its entirety (Forde 1931:97):

> ...but they are content with what is sufficient to provide themselves with plenty to eat, which, since the soil is so fertile from the watering by the river, they obtain with little trouble. This consists solely in the following: before the river rises, they clear a piece of land which they wish to plant, leaving the rubbish there. The river rises and carries off the rubbish, and as soon as the water goes down and recedes, with a stick they make holes in the earth, plant their seeds, and do nothing else to it.

The relative importance of cultivated crops in the overall subsistence intake of Colorado River tribes varied from 30 percent for the Cocopa to as much as 50 percent for the Mojave (Castetter and Bell 1951:77-78, 238). Mesquite and screw-bean comprised the most important of the wild plant resources used by these groups (Bee 1981:4, 1979:87; Castetter and Bell 1951:179, de Williams 1979:104, Forde 1931:116, Gifford 1933:267-268).

Regular flooding of the Colorado caused settlements to conform to biseasonal patterns. Specifically, rancherias were located along the bluffs overlooking flood plains during the winter and spring flood season (Forde 1931:101, Spier 1978:22). These typically were located on prominent ridges or spurs overlooking, but unaffected by flooding of, the Colorado (Forde 1931:102). As flood waters receded, settlements were moved down into the flood plain to facilitate cultivation (Bee 1979:88, Gifford 1933:260, 263; Spier 1978:22). Consequently, settlements situated on bluffs were occupied during the winter and spring months, while those situated in the flood plain were occupied during the summer and fall months.

One consequence of biseasonal settlement patterns was a pronounced alternation in the character of structures. The winter-spring structures situated on the bluffs overlooking flood plain environments tended to be more substantial in character, occupied as they were over many years. Indeed, early accounts describe Yuma/Quechan structures as rectangular in plan, constructed of post and sticks, closed on three sides, and covered with earth (Forde 1931:120, Gifford 1933:271, Spier 1978:83). Cocopa winter

structures were quite similar, again rectangular in plan, of two- or four-post construction, and covered with arrowweed and earth (de Williams 1979:105). In both instances, winter structures appear to be larger and more consolidated (i.e., clustered) relative to summer residences (Spier 1978:22).

In contrast, summer-fall structures located in the flood plain itself tended to be relatively ephemeral in nature, particularly since they were likely to be damaged or destroyed each year during spring floods. Early descriptions suggest that Yumans relied on ramadas or relatively small dome-shaped structures built of arrowweed (Forde 1931:105, 120; Gifford 1933:271). Descriptions of Cocopa summer structures were quite similar (de Williams 1979:95). Summer structures were smaller and generally more dispersed compared to winter structures (Spier 1978:22).

Associated with both winter and summer residences were below- and above-ground granaries (Gifford 1933:Plate 33c, Spier 1978:89-90). Below-ground granaries consisted of a gabled roof constructed of arrowweed placed over a shallow pit and covered with earth (Spier 1978:89). Above-ground granaries, ranging between 14 cubic feet and 32 cubic feet in capacity, were constructed of coiled arrowweed and resembled a large basket intertwined onto a series of four posts with an open bottom to permit air circulation (Forde 1931:116, Spier 1978:90-91). Unlike residences, granaries remained in use even after associated structures were abandoned and burned.

Both Yumans and Cocopas routinely abandoned and burned structures, as well as the remains of the deceased, upon the death of one of its residents (Forde 1931:207-212, Spier 1978:83). This practice inhibits the likelihood of recovering archaeological indications of the presence of such structures since almost all evidence will have been destroyed. Nevertheless, concentrations of household remains (e.g., pottery) and remains of foodstuffs (e.g., rinds, seeds, etc.) might provide at least some indirect evidence of the presence of residential structures and granaries.

Population estimates for tribes residing in the project area vary substantially from one period to another (**Table 1**). The Yuma are reported to have varied in size from 1,500 to upwards of 4,000 individuals in 1700 to less than a thousand in 1900. Similarly, Cocopa populations varied between 5,000-6,000 in the 1820s to slightly over a thousand by 1900.

Table 1. Population Estimates by Tribe and Time Period

Time	*Cocopa*	*Quechan/Yuma*
1604	1,500 (de Williams 1979:100)	
1700		4,000 (Forbes 1965:343)
1774		3,500 (Castetter and Bell 1951:51)
1775-76	3000 (de Williams 1979:104)	2,400 (Castetter and Bell 1951:51, Kroeber 1976:782)
1799		3,000 (Spicer 1986:265)
1820s	5,000-6,000 (de Williams 1979:101)	
1850s		1,000 (Castetter and Bell 1951:51)
1870s	2,300-3,000 (de Williams 1979:104)	
1880s		1,137 (Castetter and Bell 1951:51)
1900-10	1,200 (de Williams 1979:104)	834 (Castetter and Bell 1951:51, Kroeber 1976:782)

Although the region was visited time and again by successions of Spanish, Mexican, and Anglo-European travelers, it nevertheless remained somewhat removed from major routes of travel throughout the eighteenth and first half of the nineteenth centuries (Spicer 1986:267). It might incorrectly be assumed that native peoples were largely unaffected by outsiders.

Despite relatively limited face-to-face contact, indigenous peoples were affected, both positively and negatively, by European contact. Contact with Spaniards beginning as early as 1540 contributed to the introduction of new crops, notably wheat, admirably suited to cultivation along the Colorado. At the same time, warfare between Europeans and indigenous peoples, in conjunction with the introduction of a succession of new diseases, combined to decimate indigenous populations. By 1900, their numbers were markedly reduced. Today, the Yumans and Cocopas control but a fraction of their earlier homelands.

3.0 SITE FILE CHECK

Per State of Arizona requirements, a records check was conducted by the Arizona State Museum to identify prior surveys and/or known archaeological sites in the project area. The records check focused on:

1. the NW 1/4 of the NW 1/4 of Section 16, Township 9 South, Range 23 West (USGS Yuma West 7.5' quadrangle) - INS Parcel #1 aggregating 10 acres
2. the NW 1/4 of the NW 1/4 of Section 16, Township 9 South, Range 23 West (USGS Yuma West 7.5' quadrangle) - INS Parcel #2 aggregating 20 acres

The records check indicates that (a) no prior surveys have been conducted in the general vicinity of these two alternative construction parcels and (b) no archaeological sites were known in the general vicinity of these two parcels (Sharon Urban, pers. comm., 12/6/00).

4.0 DESCRIPTION OF THE PROJECT AREA

The proposed project focused on the examination of two (2) alternate sites proposed for construction of an Immigration and Naturalization Service (INS) facility within the city limits of Yuma, Arizona. All of the alternate construction sites are now located on private lands. Legal descriptions of each parcel as follows:

1. INS Parcel #1 - a 20 acre parcel situated in the NW 1/4 of the NW 1/4 of Section 16, Township 9 South, Range 23 West (Plate 1)
2. INS Parcel #2 - a 20 acre parcel situated in the NW 1/4 of the NW 1/4 of Section 16, Township 9 South, Range 23 West (Plates 2-3)

Parcels #1 and #2 are situated adjacent to each other and are located immediately south and east of the intersection of 12th Street and Avenue A in Yuma, AZ (**Figure 1**).

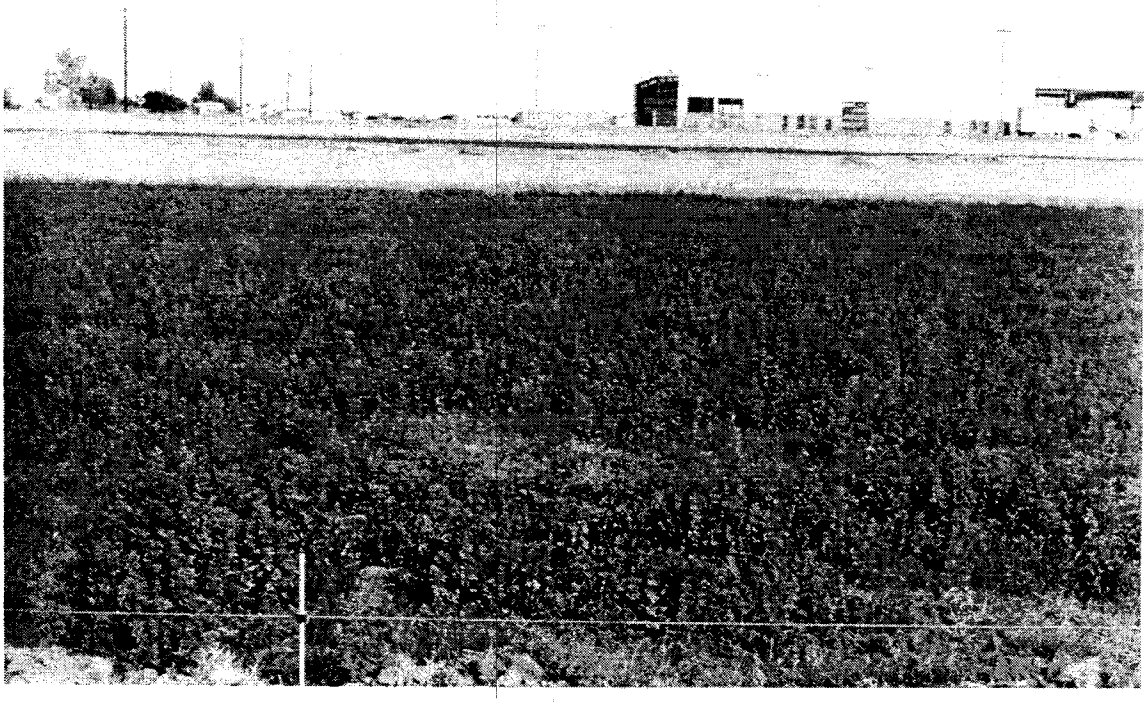


Plate 1. INS Parcel #1 Looking North from the South Edge (2000).

Plate 2 INS Parcel #2, West Half, Looking South from North Edge (2000).

Plate 3. INS Parcel #2, East Half, Looking South.

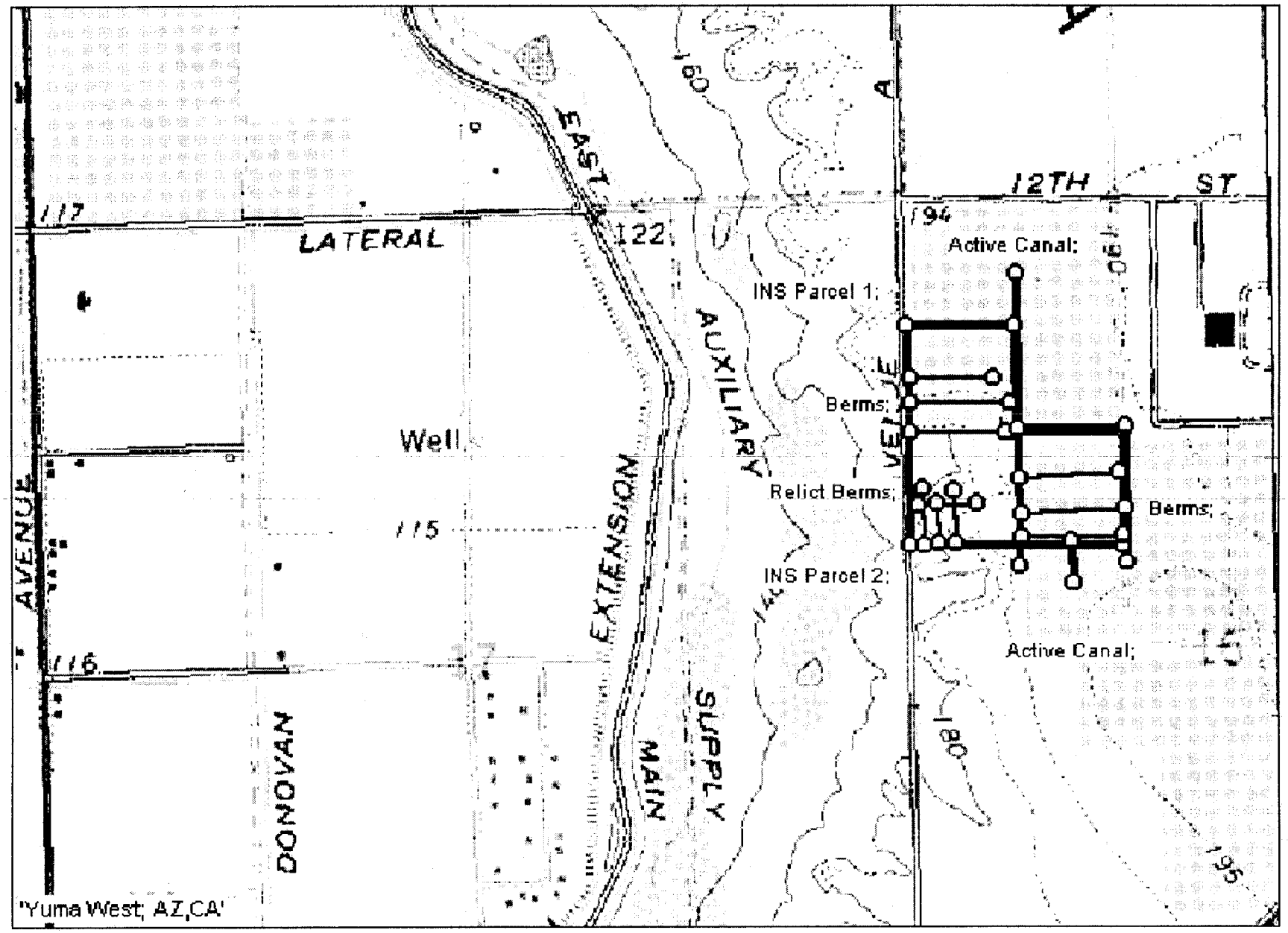


Figure 1. Location of INS Parcels #1 and #2 South of Yuma, AZ.

5.0 FIELD METHODS

Field methods conformed to State of Arizona guidelines. Crew spacing did not exceed 15 meters and all isolated occurrences greater than 50 years in age were recorded. Parcel corner locations were determined by averaging 50 independent geopositional coordinates obtained using a Trimble Scoutmaster® receiver. The endpoints of internal features such as berms and canals were obtained using the same approach.

Parcel #1 was currently under cultivation, as was the east half of Parcel #2. The west half of Parcel #2 exhibited surface evidence consistent with "old fields" that had been cultivated in the past. Further, with the exception of the west half of Parcel #2, all of the parcels currently under cultivation were terraced and appear to have been laser-leveled at some time in the past.

A major impediment to the survey was the presence of crops in the north half of Parcel #1 and the east half of Parcel #2. Ground cover in cropped fields varied between 90-95 percent. Accordingly, only plowed surfaces of field margins, internal berms separating terraced fields, and "patchy" areas within cropped fields could be examined.

6.0 RESULTS

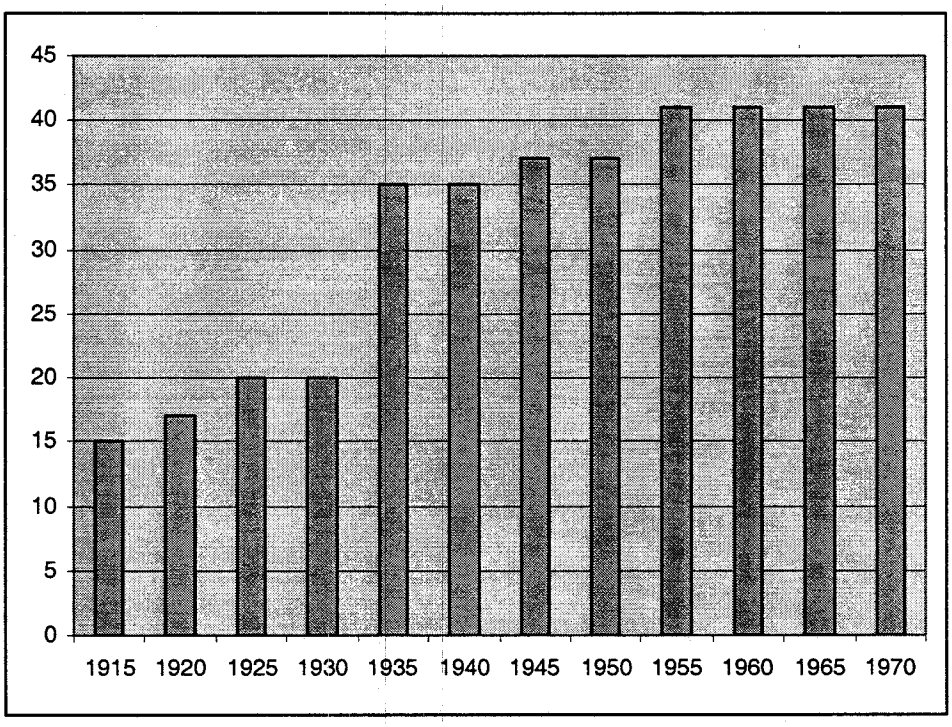
Given the high percentage of ground cover, it is not surprising that visible surface evidence of prehistoric or historic remains was absent in each of the two alternate parcels. Indeed, no prehistoric or historic sites or isolated occurrences were observed in the north half of Parcel #1.

Similarly, no surface evidence of prehistoric or historic sites or isolated occurrences were found in the east half of Parcel #2. The west half of Parcel #2, also the south half of Parcel #1, an "old field," did, however, contain surface evidence of recent historic artifacts. The refuse consisted of large numbers of "pull-tab" beer cans and plastic-hulled shotshells, as well as unmarked ceramics and clear glass. Other artifacts with identifiable maker's marks included:

1. "N-in-a-square" - Obear-Nester Glass Co., produced 1915-1971 (Toulouse 1971:374; 12 examples);
2. "B-in-a-circle" - Brockway Glass Co., produced 1925-1971 (Toulouse 1971:59; 33 examples);
3. "AHK" - Alexander H. Kerr & Co., produced 1944-1971 (Toulouse 1971:44, 2 examples);
4. "I-in-a-circle" - Owens-Illinois Glass Co., produced 1954-1971 (Toulouse 1971:403; 2 examples);
5. "R-P/380 Auto" - Remington-Peters Ammunition, produced 1934-present (15 examples);
6. "FC/30-30 Win" - Federal Cartridge Co., produced 1922-present (White and Munhall 1977:77; 2 examples);
7. "Western Auto/Made in USA" (12 Gauge shotshell) - Western Auto, produced 1955-present (Iverson 1989:163; 1 example);
8. Rem-UMC/30-30 Win" - Remington-Union Metallic Cartridge Co., produced 1911-1934 (White and Munhall 1977:126; 1 example);
9. "Winchester/12/Ga./RANGER" - Winchester Cartridge Co., produced 1894-1940 (Iverson 1989:172; 2 examples)
10. "SEARS/12/Ga./Ted Williams" - Sears-Roebuck and Co., produced ca. 1955-1971 (Iverson 1989:133; 1 example)

All these remains are consistent with casual discard of domestic trash, as well as plinking. Plastic-hulled shotshells become progressively more common after about 1960, while pull-tab beverage containers generally do not appear until after about 1963. Artifacts with identifiable maker's marks generally post-date 1920, but are more commonly assigned to the period 1955-1965 (**Figure 2**). Assuming that most of these items were deposited after the fields were abandoned, this implies that the "old fields" evident in the western half of Parcel #2, also the south half of Parcel #1, were in operation sometime prior to ca. 1955.

Figure 2. Cumulative Frequency of Artifacts by Age: West Half, Parcel #2.



Active irrigation canals were observed in each of the two parcels under consideration for construction of an INS facility. A concrete-lined irrigation canal extending north-south forms the eastern boundary of Parcel #1 and bisects Parcel #2 (Plate 4). Etched into the concrete lining of the canal was the phrase "LCV Junior/12/1958," indicating that this canal was constructed sometime prior to December of 1958.

Similarly, the northern and eastern edges of the east half of Parcel #2 were bounded by a concrete-lined irrigation canal (Plates 5 and 6). Etched into the concrete of the canal along the eastern edge of Parcel #2 was the date "10/28/1957," indicating that this canal was constructed sometime during 1957.

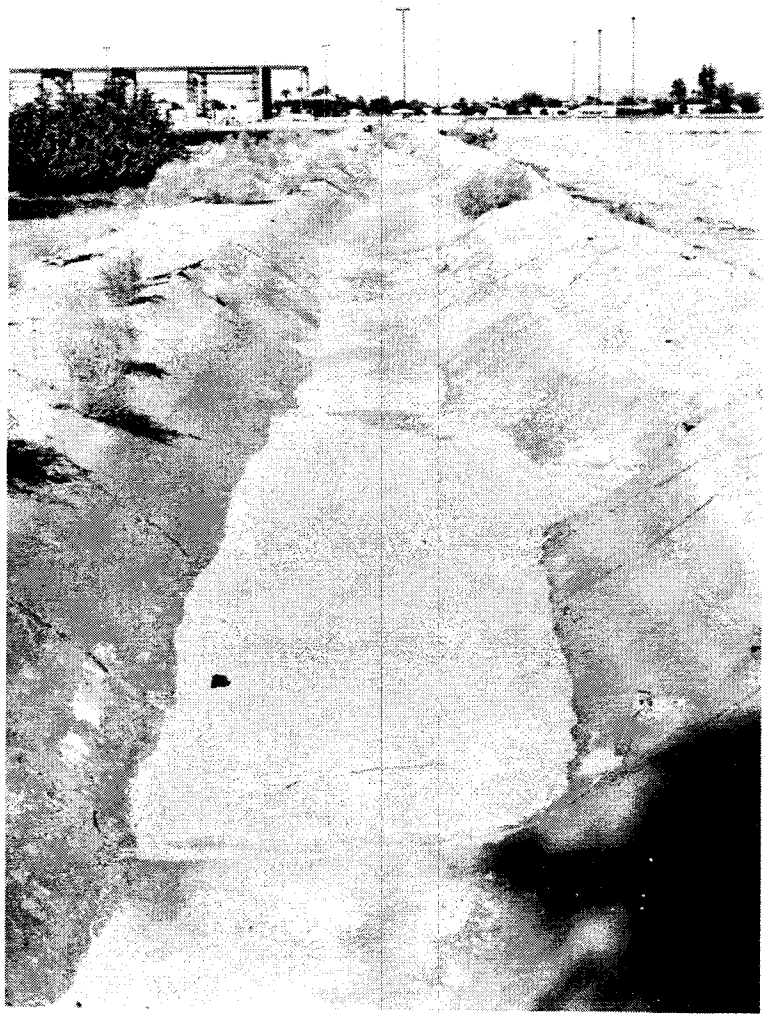


Plate 4. Modern Irrigation Canal, Parcel #1 (2000).

Plate 5. Modern Irrigation Canal, North Edge of East Half of Parcel #2.

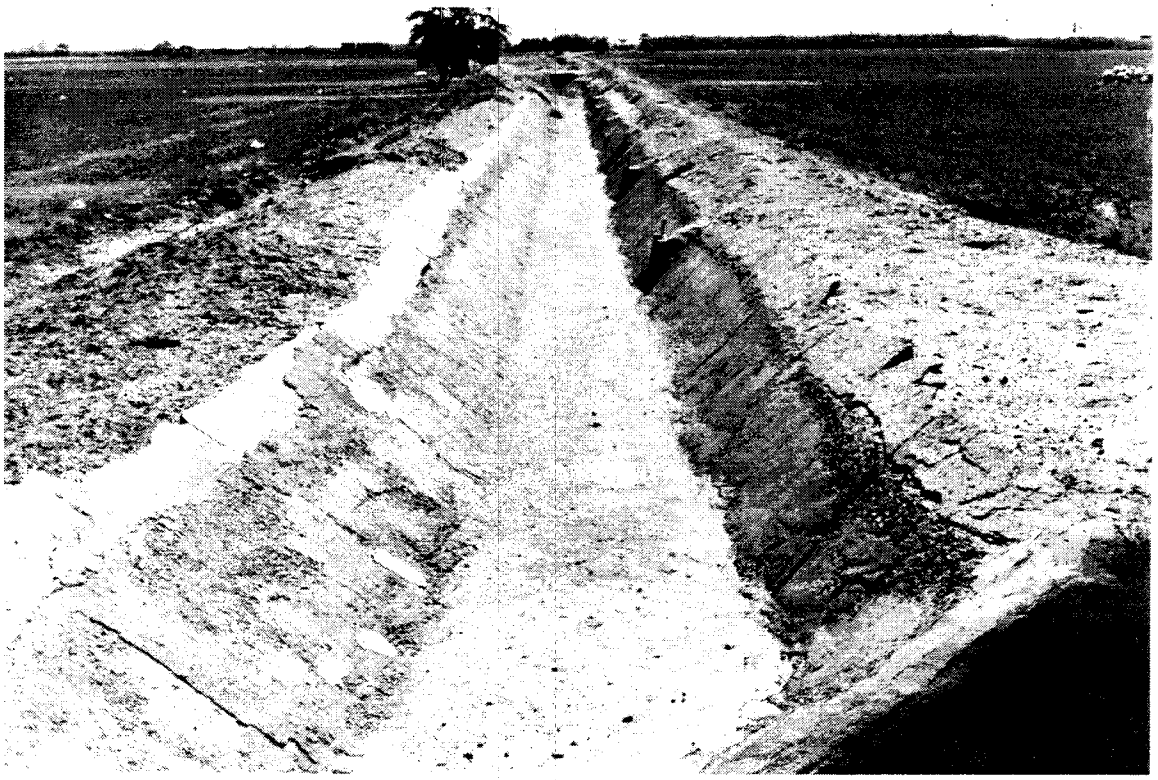


Plate 6. Modern Irrigation Canal, East Edge of East Half of Parcel #2.

7.0 SUMMARY

In summary, the two alternate INS construction sites consist of cultivated agricultural fields. All have been leveled and all exhibit berms needed for flood ("border") irrigation. Parcels #1 and #2 are clearly terraced, a process of preparing fields that usually entails cut-and-fill operations that would destroy surface and near-surface archaeological remains.

A systematic Class III (100%) surface inspection of these two localities did not locate any prehistoric or historic sites. This conclusion is tentative given that most of the parcels exhibited ground cover exceeding 90 percent.

The only artifacts observed during the survey were located in the west half of Parcel #2 in what appears to be a long-abandoned "old field." Most of these artifacts are of recent vintage and their general character is consistent with casual discard of household refuse, as well as plinking.

The only features encountered during this survey were active irrigation ditches. Inspection of the distribution canals indicates they were constructed in the late 1950s or even later.

None of these remains, either artifacts or features (i.e., canals), exhibit characteristics necessary or sufficient for inclusion on the National Register of Historic Places. Accordingly, Dos Rios Consultants, Inc., recommends clearance for each parcel subject to monitoring at the time of construction.

8.0 REFERENCES

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Appendix C
Form AD-1006,
Farmland Conversion Impact Rating Form

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*		Date Of Land Evaluation Request	
Name Of Project		Federal Agency Involved	
Proposed Land Use		County And State	
PART II *(To be completed by SCS)*		Date Request Received By SCS	
Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply – do not complete additional parts of this form).*	Yes ☐ No ☐	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount Of Farmland As Defined in FPPA Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By SCS	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site				
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*				

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160				
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100				
Total Site Assessment *(From Part VI above or a local site assessment)*	160				
TOTAL POINTS *(Total of above 2 lines)*	260				

Site Selected: | Date Of Selection | Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection

(See Instructions on reverse side) Form AD-1006 (10-83)