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***Environmental Assessment***  
***for the***  
***SANTAN Outfall Channel Project***

**Submitted to:  
Pima Agency  
Bureau of Indian Affairs**

**Submitted by:  
Arizona Department of Transportation  
Flood Control District of Maricopa County**

**April 24, 1998**



Prepared by:  
**ENTRANCO**

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Engineers . Planners . Surveyors . Scientists

# **Environmental Assessment**

For the

## **SANTAN Outfall Channel Project Easement Acquisition**

**Submitted to:**  
**Pima Agency**  
**Bureau of Indian Affairs**  
P.O. Box 8  
Sacaton, AZ 85247

**Submitted by:**  
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**April 24, 1998**

This Environmental Assessment follows the format established by the Bureau of Indian Affairs (30 BIAM Supplement 1) to comply with the National Environmental Policy Act of 1969.

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## CHAPTER ONE: INTRODUCTION

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### 1.1 Project Brief

The proposed SANTAN Outfall Channel project is located in Maricopa County, Arizona in the City of Chandler and on the Gila River Indian Community (GRIC) (Figure 1). The SANTAN Outfall Channel (Channel) would extend from the Southeast Valley Regional Drainage System (SEVRDS) detention basin in Chandler (located between Kyrene Road and 56<sup>th</sup> Street), west to the Interstate 10 Freeway (I-10) where it would pass under the freeway, and continue south along the west side of I-10 to outfall into the Gila Drain Floodway (Floodway) (Figure 2).

The Floodway is a shallow depression that was created by excavation of borrow material during the construction of I-10. The Floodway was excavated from a broad floodplain, now dominated by agriculture. Waters entering the Floodway disperse through percolation and evaporation or flow overland in dispersed patterns to the Gila River.

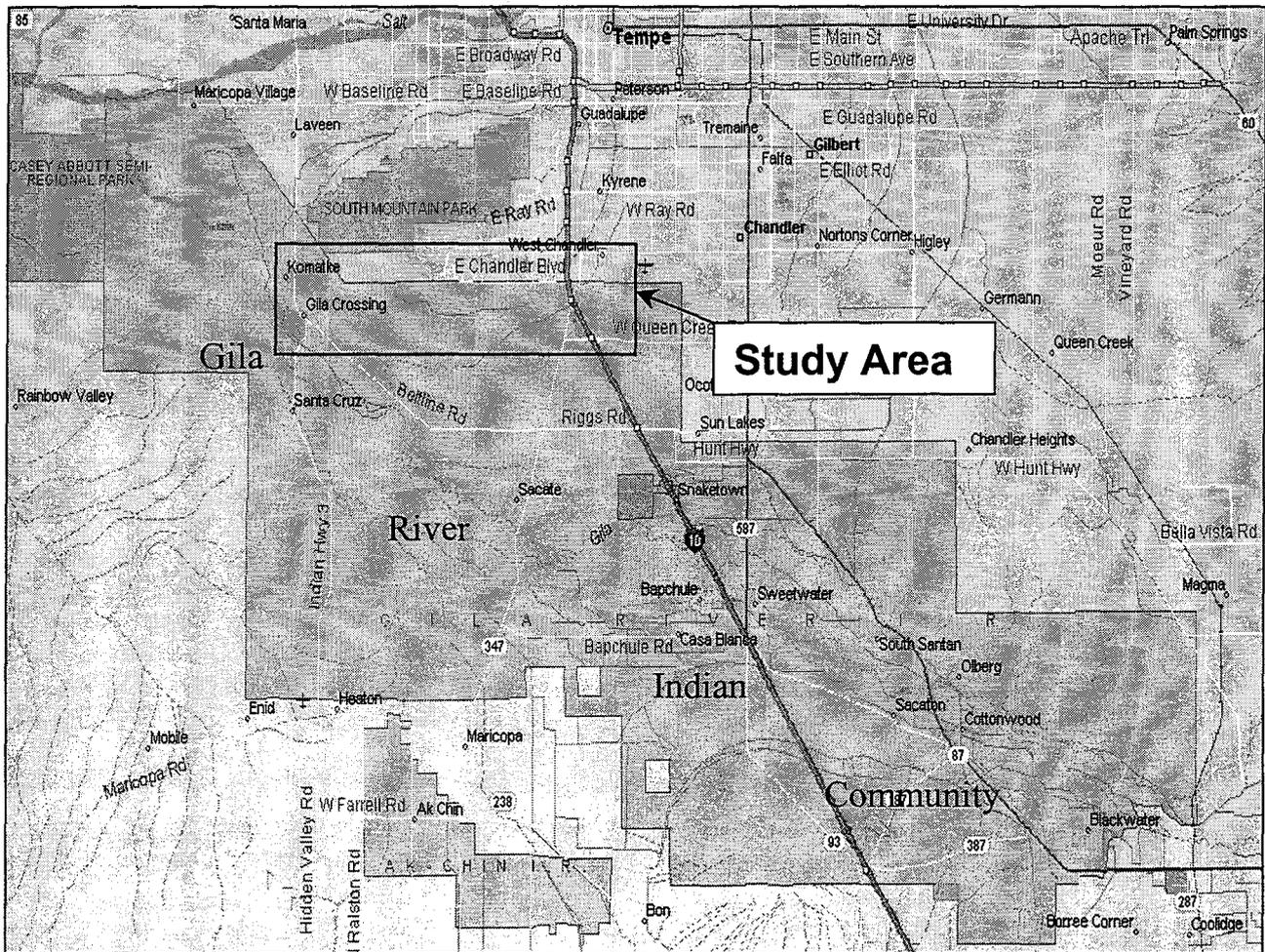
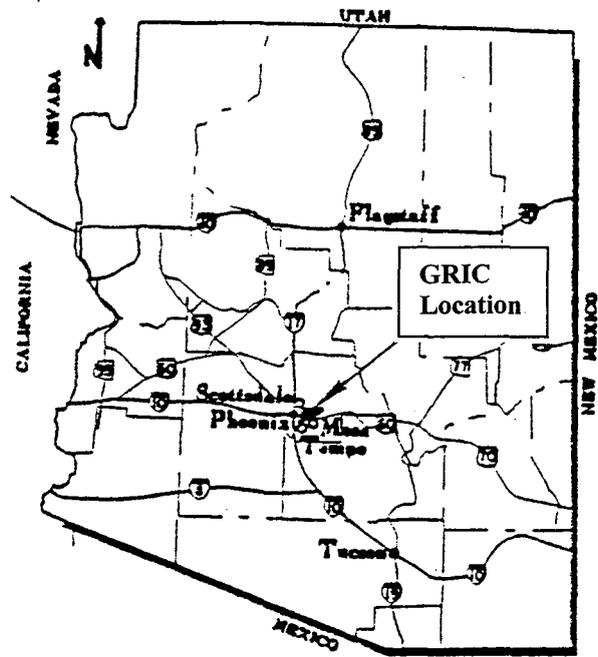
The primary function of the proposed Channel is to drain stormwater runoff and floodwaters from SEVRDS detention basins, a cooperative stormwater management system of the Flood Control District of Maricopa County (FCDMC), the Arizona Department of Transportation (ADOT), the Gila River Indian Community (GRIC), the Salt River Project (SRP) and cities of Phoenix, Chandler, Mesa and Tempe (DMJM 1996).

The concrete-lined Channel would be approximately 1.8 miles long and consist of three segments differing in cross-section. These cross sections would be:

- a relatively narrow, open channel from the SEVRDS basin to 56<sup>th</sup> Street,
- a pair of box culverts buried beneath the future paved Pecos Road (presently a dirt road) from 56<sup>th</sup> Street to the west side of the I-10 right-of-way (R/W), and
- a broader, open channel along the I-10 R/W to the terminus at the Floodway.

The proposed Channel would accommodate a flow of up to 950 cubic feet per second (cfs). This would include up to 800 cfs of stormwater runoff from the SEVRDS project and up to 150 cfs of water that may be diverted to the Channel by the Pima-Maricopa Irrigation Project (P-MIP) from the Gila Drain. The P-MIP is a concurrent irrigation project under development on the GRIC (GRIC 1997a). The City of Phoenix also is proposing a 48<sup>th</sup> Street Drainage System, which includes a detention basin that could possibly discharge stormwater into the channel. The 48<sup>th</sup> Street Drainage Systems discharges would only occur "post event" and, therefore, would not affect the design peak flow of the Channel (HDR 1997).

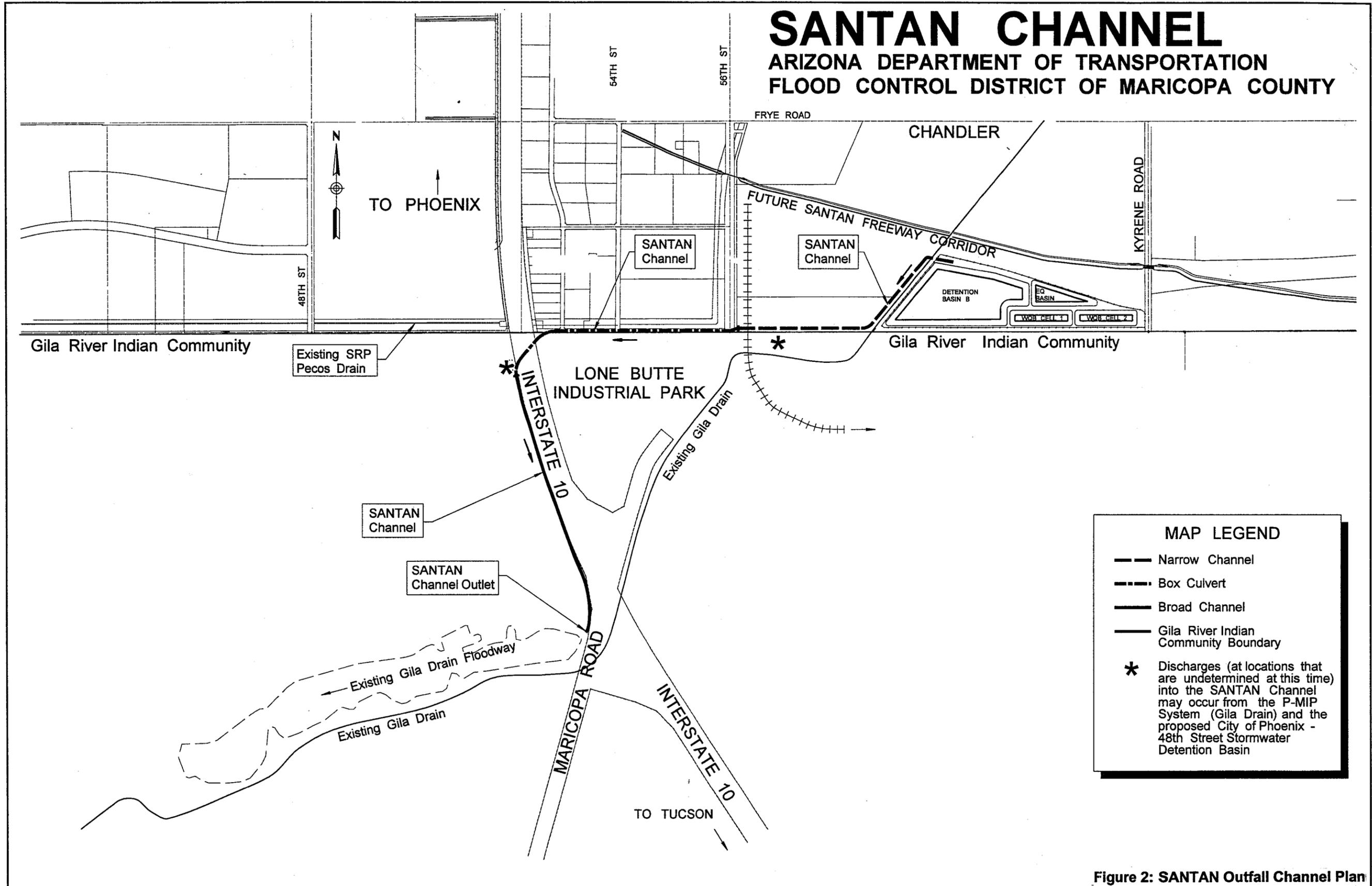
Both the P-MIP project and the City of Phoenix project are only proposals at this time and may not occur as outlined above. Prior to discharges into the Channel occurring from either the Gila Drain or the 48<sup>th</sup> Street Drainage System; agreements would have to be reached among the responsible parties (the landowners, the drainage facility owners, and the drainage facility operators). At this time, no such agreements are in place. Additionally, each project would require a separate environmental document and



**Figure 1: Location Map**

# SANTAN CHANNEL

ARIZONA DEPARTMENT OF TRANSPORTATION  
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY



**MAP LEGEND**

- Narrow Channel
- .... Box Culvert
- Broad Channel
- Gila River Indian Community Boundary
- \* Discharges (at locations that are undetermined at this time) into the SANTAN Channel may occur from the P-MIP System (Gila Drain) and the proposed City of Phoenix - 48th Street Stormwater Detention Basin

Figure 2: SANTAN Outfall Channel Plan

clearance, and water quality would need to be considered separately prior to discharge of these waters into the Channel and the Floodway.

The SEVRDS planning is proceeding consistent with a 1991 *Memorandum of Agreement* (MOA) between the GRIC and ADOT (GRIC 1991a – Appendix A). The operation of the Channel and discharges into the Floodway would meet the conditions of a water quality permit. The SEVRDS project would intercept all overland flow north of the Santan Freeway alignment that presently discharges onto the Gila River Indian Community. The purposes for SEVRDS are to:

- Provide a regional outfall for existing and future drainage systems in the area.
- Provide an on-site drainage system for the Santan Freeway.
- Reduce the flooding potential to the GRIC from I-10 to Price Road.
- Improve the quality of water discharging on the GRIC, allowing for multiple beneficial uses.
- Potentially provide an emergency diversion water from the Gila Drain and an outfall for the City of Phoenix's 48<sup>th</sup> Street drainage improvements.

SEVRDS stormwater would consist of municipal stormwater and stormwater from the Santan Freeway drainage system. Stormwater from the SEVRDS would flow to the Santan Freeway Collector Channel, which is parallel to the Santan Freeway alignment. From the Collector Channel the water would flow to an equalization basin, directly to the outfall channel or to Detention Basin "B", depending on the circumstances.

The basin system is designed to capture and treat the "first flush" of rainfall (the stormwater with the greatest potential to contain pollutants) and to provide a controlled outfall to the Gila Drain Floodway on GRIC.

The "first flush," the first 30 acre-feet from each storm event, would be captured in an equalization basin. "First flush" stormwater in the equalization basin would then be treated, at a constant flow rate, in the Wetlands Treatment System (also referred to as "Water Quality Basins") and released into a large retention basin (Retention Basin B). Runoff in excess of the 30 acre-feet "first flush" rainfall, that is not greater than a flow rate of 800 cfs, would flow directly into the Channel and to the Floodway.

If a storm event creates runoff flows that are greater than 800 cfs and the equalization basin has reached its capacity, the excess volume would flow into Retention Basin "B." Basin "B", which has a capacity of 450 acre-feet, is designed to attenuate the flows from a 100-year, 24-hour storm event. Following a major storm even, water that makes its way to Basin "B" would be pumped to the Channel.

All SEVRDS stormwater that is released to the Channel will be monitored to ensure it meets GRIC water quality permit requirements.

## **1.2 Purpose of and Need for the Project**

The purpose of this proposed project is to provide a gravity flow channel for the release of SEVRDS project stormwater. The SANTAN Outfall Channel would be large enough

to accommodate the maximum controlled release from the SEVRDS basins and deliver stormwater to the Floodway, consistent with other planned uses of the Floodway, as agreed to in the 1991 MOA between the GRIC and ADOT (GRIC 1991a).

Currently, the majority of municipal drainage and stormwater facilities in the project area have multiple, dispersed outfalls. Stormwater management is lacking and many storm drains and/or channels terminate in detention basins, irrigation drains, railroad embankments, or at municipal boundaries (DMJM 1996). The drainage pattern of the contributing watershed is westerly toward the GRIC, resulting in periodic flooding (HDR 1997).

Therefore, the need for the proposed project stems from a requirement to reduce and control local flooding in the project area. Stormwater runoff in the project area served by SEVRDS is expected to increase as a result of the construction of the Price and Santan freeways and urban runoff from the cities of Chandler, Phoenix, and Mesa (DMJM 1996).

### **1.3 Preparation of the Environmental Assessment**

The construction of the SANTAN Outfall Channel would require an easement across Indian trust lands of the GRIC. The easement will require approval by the GRIC and the Bureau of Indian Affairs (BIA). BIA action granting an easement is a federal action that requires an environmental assessment (EA), in accordance with the National Environmental Policy Act (NEPA) of 1969.

This EA has been prepared in accordance with the guidelines contained in the *Bureau of Indian Affairs Manual (BIAM) Release Number 9303, NEPA Handbook* (BIA 1982). The manual provides guidance for compliance with NEPA and its implementing regulations (40 CFR Parts 1500-1508).

The purpose of the EA is to provide sufficient analysis of the potential social, economic, and environmental impacts that may occur from the project, to determine whether or not the action will affect the quality of the human and natural environment. The goal of this document is to assist decision-makers in making informed decisions about the project.

## CHAPTER TWO: PROPOSED ACTION AND NO-ACTION ALTERNATIVE

---

### 2.1 Proposed Action Alternative

The proposed action is the construction of the SANTAN Outfall Channel between the SEVRDS basin on the east end, and the Floodway on the west end, as described above in Section 1.1, Project Brief. The FCDMC plans to begin construction in July of 1998, and it should be completed by October 1999.

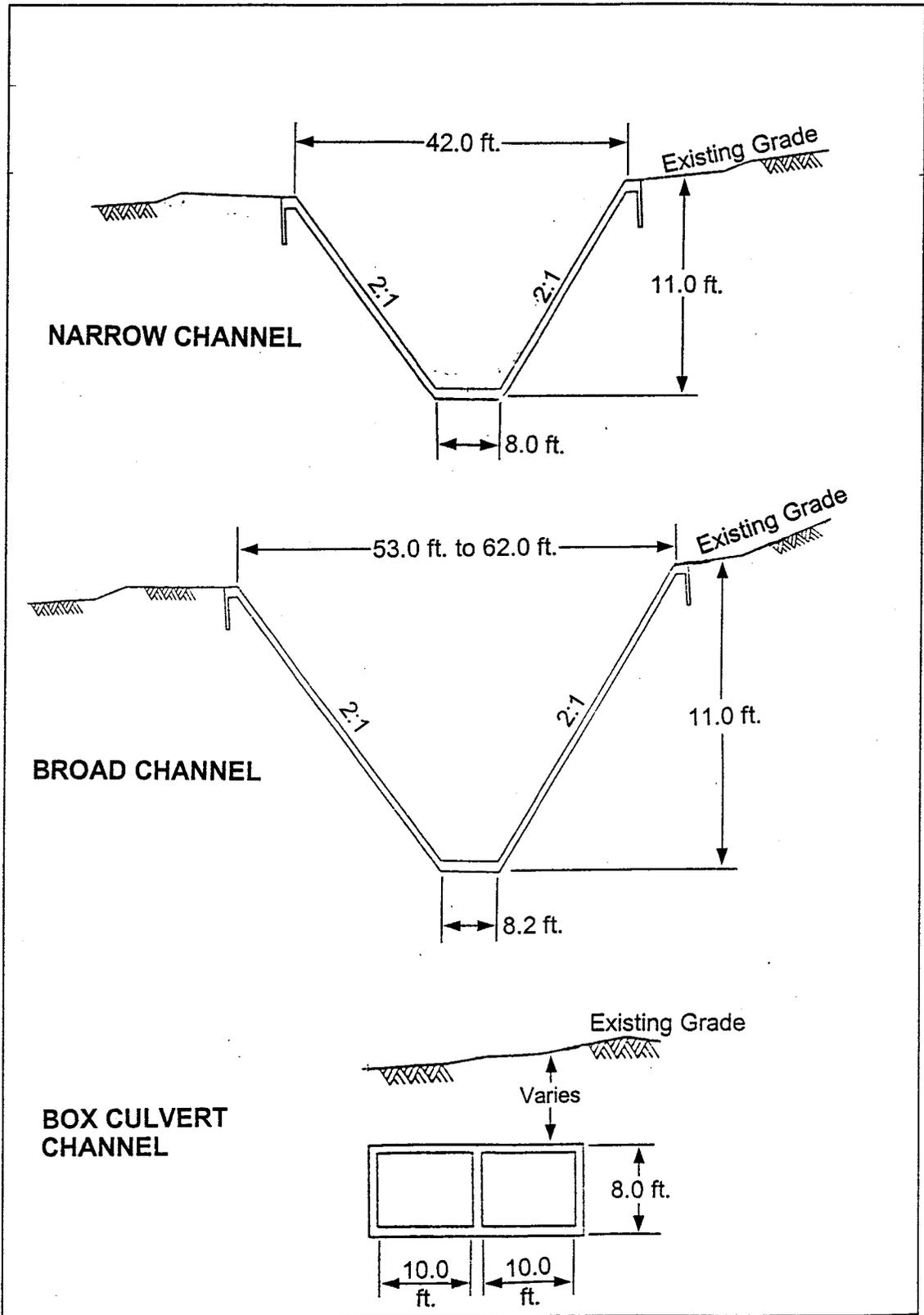
The proposed 1.8-mile, concrete-lined Channel would vary in cross-section along its length (Figure 3). To the east of I-10, the Channel would be trapezoidal, approximately 42.0 feet (ft.) wide at the top and 11.0 ft. deep. Through the middle section, to accommodate the future paved Pecos Road, and under I-10, the Channel would be two 10.0 ft. x 8.0 ft. box culverts which would allow the road to be built over the Channel. West of I-10, the Channel would again be trapezoidal, with a varying top width of 53.0 ft. to 62.0 ft. at the top, and a depth of up to 11.0 ft.

As discussed in Chapter One, the Channel would effectively accommodate potential discharges from the Gila Drain and from the 48<sup>th</sup> Street Stormwater Detention Basin, proposed by the City of Phoenix, located west of I-10 and north of Pecos Road (HDR 1997). The release of the 48<sup>th</sup> Street Stormwater Detention Basin water into the Channel would be post-event discharges and not occur simultaneous with large volumes from SEVRDS.

Throughout the proposed Channel, R/W width requirements would vary between approximately 75.0 ft. and 100.0 ft. Several temporary construction easements (TCEs) would also be needed, and utilities, including gas pipelines, telephone lines, ditches, storm ditches, sanitary sewers and overhead power lines would need to be relocated. Traffic detours will also be necessary on I-10 and 56<sup>th</sup> Street during project construction.

During construction of the SANTAN Outfall Channel along I-10, the portion of the P-MIP pipeline that is proposed to pass under the I-10 freeway would be built concurrently with the Channel (HDR 1997). Construction of this portion of the P-MIP would take advantage of the planned detour of I-10 and 56<sup>th</sup> Street traffic during SANTAN Outfall Channel construction, in order to avoid subsequent detours and traffic disruption. This document addresses the potential environmental impacts associated with the P-MIP project in the area of concurrent development to assure that traffic impacts are minimized and that documentation efforts are not duplicated. All other potential environmental impacts of the P-MIP pipeline project are addressed in the December 1997 *Draft Environmental Assessment for Price/Pecos Corridor of the Pima-Maricopa Irrigation Project* (P-MIP DEA) (GRIC 1997a).

A stormwater discharge permit from the GRIC will be necessary for operation of the Channel. The GRIC Department of Environmental Quality (GRIC-DEQ) is currently developing water quality permit standards and a permitting process. While the final



**Figure 3: Typical Channel Cross Sections**

Not to Scale  
Vertical Scale Exaggerated

GRIC Water Quality Permit is being developed, the SANTAN Outfall Channel would operate under a temporary permit from GRIC, pursuant to the MOA (GRIC 1991a). The GRIC Water Quality Permit and associated discharge standards will be open to public review and comment by the GRIC.

## **2.2 No-Action Alternative**

Under the No-Action Alternative, the SANTAN Outfall Channel would not be constructed, and an easement across Indian trust lands would not be obtained. Present drainage patterns would continue in the area, and the SEVRDS basins would attenuate the flows from a 100-year, 24-hour storm event. However, events exceeding the capacity of the SEVRDS basins could cause flooding downstream on GRIC lands, and the primary objective of the MOA would not be met (GRIC 1991a).

Additionally, provisions for the potential P-MIP releases from the Gila Drain and the possible future release of water from the 48<sup>th</sup> Street Drainage System may need to be accommodated by other facilities if the SEVRDS project is not completed.

## **2.3 Alternatives Considered but Rejected**

An alternative explored by the SEVRDS participants was the release of waters into the existing Gila Drain, an unlined drainage ditch which flows in a southwesterly direction terminating at the Gila River. The Gila Drain crosses onto the GRIC to the southeast of the proposed SANTAN Outfall Channel. However, this alternative is not acceptable to the GRIC, would not accommodate the required discharge volumes, and does not conform to the MOA (GRIC 1991a). For these reasons, this alternative was dropped from further consideration and is not evaluated in this document.

## **CHAPTER THREE: AFFECTED ENVIRONMENT**

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### **3.1 Land Resources**

#### **3.1.1 Project Setting and Topographical Features**

The proposed project is located within the lower Sonoran Desert of south-central Arizona, in Maricopa County. The project lies in the Queen Creek Floodplain, flanked by South Mountain to the north and the Gila River to the south. The floodplain is poorly drained, and has been substantially altered by extensive agriculture and, more recently, by increasing urbanization. Roads, railroads, agricultural ditches, drains and dikes have altered natural drainage patterns in the area.

#### **3.1.2 Geological Setting and Mineral Features**

The area's geology and mineral features have been described for the GRIC in the P-MIP DEA (GRIC 1997a). The project area is a floodplain with alluvial deposits, with no stone or mineral outcrops.

#### **3.1.3 Soil Types and Characteristics**

Project area soils are predominantly clay, clay-loams and silt-loams.

### **3.2 Existing Land Uses**

#### **3.2.1 Land Ownership**

A portion of the project, to the immediate north of the GRIC boundary and between I-10 and 56<sup>th</sup> Street, would be located on the existing Pecos Road R/W in the City of Chandler. Maricopa County owns the land to the north of the Pecos Road R/W, between I-10 and 56<sup>th</sup> Street. Land to the north of the GRIC boundary and between 56<sup>th</sup> Street and Kyrene Road is privately owned within the City of Chandler. Other areas of the project would be located on GRIC Indian trust lands.

Of the 372,929 acres comprising the GRIC Reservation, 275,537 acres are Indian trust lands owned by the community, and 97,392 acres are allotments owned by private community members (GRIC 1997a). According to the BIA, there are approximately 5,000 individual allotments on the GRIC. However, no allotted lands of the GRIC would be affected by this project.

Trust responsibility of the Federal Government for both allotted and Indian trust lands is administered by the BIA. All contracts, deeds and use of these trust resources require consent of the landowner and/or concurrence of Tribal Government and the BIA, and must follow federal regulations.

### **3.2.2 Developed Land Uses**

Existing, developed land uses in the immediate project area are limited to industrial and other business areas. The Lone Butte Industrial Park is located on GRIC land, immediately south of the project and east of I-10. This industrial park houses a number of small manufacturing and other businesses. To the west of I-10 on the GRIC, the land is predominantly undeveloped.

Several industrial and business uses are also located just north of the GRIC boundary, within the City of Chandler, from 56<sup>th</sup> Street west to I-10.

### **3.2.3 Agricultural and Rangeland Resources**

Agricultural resources in the project vicinity include irrigated row crops located north of Pecos Road, between Kyrene Road and 56<sup>th</sup> Street, within the City of Chandler. There are no GRIC agricultural areas in the project vicinity. No rangeland resources occur in the project vicinity.

The P-MIP irrigation pipeline would parallel the proposed SANTAN Outfall Channel from the Gila Drain to I-10. The P-MIP is designed to deliver surface, groundwater and Central Arizona Project water supplies to approximately 146,330 acres of agricultural lands on the GRIC, and to rehabilitate San Carlos Indian Irrigation Project (SCIIP) Joint Works facilities. Approximately 66,000 acres of land on the GRIC are currently developed for agricultural production.

### **3.2.4 Community Infrastructure**

There is no residential development or educational facilities in the project area. The Maricopa Road Station of the GRIC Fire Department is located about one mile southwest of the project area, near the Firebird International Raceway.

### **3.2.5 Recreational Facilities**

There are several recreational businesses located in the project vicinity. A privately owned golf driving range and the Lone Butte Casino is located at the Lone Butte Industrial Park, just north of Maricopa Road. The Firebird International Raceway is located just southwest of the Maricopa Road and I-10 interchange. The Wild Horse Pass Casino is located to the south of the project area, southwest of the Maricopa Road and I-10 juncture. There are currently no public recreational facilities in the project area.

### **3.2.6 Transportation**

The I-10 Freeway passes through the project area from north to south. Maricopa Road, 54<sup>th</sup> and 56<sup>th</sup> streets are also in the project area (see Figure 1). Pecos Road, part of the state highway system, follows the GRIC and City of Chandler boundary from I-10 east to 56<sup>th</sup> Street. The future Santan Freeway Corridor is also located near the proposed project, running in a northeastern-southwestern direction to the north of Pecos Road, between Kyrene Road and 54<sup>th</sup> Street.

A Union Pacific Railroad track and right-of-way would be crossed by the proposed project at Pecos Road, to the immediate east of 56<sup>th</sup> Street.

### 3.2.7 Utilities

Numerous utilities occur in the project vicinity, many of which would have to be relocated (ADOT 1997). Utilities are concentrated on the eastern half of the project, generally between Kyrene Road and I-10 (see Figure 2). Nearby utilities include:

- SRP and APS Overhead Electric Powerline [500, 230 kilovolts (KV) and 15 KV]
- SRP underground powerlines
- City of Chandler eight inch water pipeline
- Santa Fe Pipeline Company fuel pipeline
- City of Phoenix water pipelines
- City of Chandler 24.0 inch (in) and 15.0 in sanitary sewer lines
- U.S. West Communications underground telephone line
- El Paso Natural Gas Co. high pressure gas line (10.75 in to 24.0 in)
- SRP Gila Drain and irrigation canals
- GRIC irrigation canals

### 3.2.8 Projected Land Uses

Land use on private lands immediately north of the GRIC boundary would likely continue on its current trend toward business and industrial uses. Agricultural use in the area would likely decline as these uses increase. Completion of the planned Santan and Price Freeways in the project area would also hasten commercial development.

On the GRIC, the development of the proposed P-MIP would likely increase the amount of irrigated agriculture, with some farmland being developed west of the project area (GRIC 1997a). The intention for the Lone Butte Industrial Park area is to continue developing industrial and business land uses to the east of I-10.

Recreational business development would likely continue on the GRIC west of I-10 along Maricopa Road, following the trend demonstrated by the Firebird International Raceway and the Wild Horse Pass Casino. According to the *Gila Borderlands Conceptual Master Plan* (Plan) and the MOA, the Floodway is planned for use as a greenbelt (GRIC 1991b and 1991a, respectively). Other land uses proposed by the Plan include a golf course and a football stadium, as well as additional areas of commercial development (GRIC 1991b).

A small portion of the area immediately adjacent to the I-10 R/W, in the area of the proposed Channel, is identified on the Plan as agricultural. The majority of adjacent lands, however, are slated for commercial development on the Plan (GRIC 1991c).

### **3.3 Hydrological Resources**

#### **3.3.1 Surface Waters**

There are no surface waters in the project vicinity, and the Gila River, located far west and south of the project area, flows only in response to rain events. The contributing watershed is located in eastern Maricopa County between the Salt and Gila Rivers. The watershed's historic drainage is toward the Gila Drain. Near the Gila Drain, flows turn southwesterly and converge at the I-10/Maricopa Road interchange. The Gila Drain Floodway then routes runoff from the interchange to the Gila River (HDR 1997).

The SEVRDS drainage area contributing to this portion of the Santan Freeway drainage system is approximately 34.0 square miles. The drainage area is roughly bounded by the Southern Pacific Railroad embankment to the east, I-10 to the west, the Western Canal on the north, and the future SANTAN Freeway alignment to the south (HDR 1997). The majority of the watershed is urbanized with some substantial tracts of agricultural land present. Due to agricultural land leveling and the development of street networks, the drainage area has lost the majority of its natural drainage corridors.

Surface water flows are limited to periodic runoff from storms in the watershed. Flow volumes are determined by the magnitude of rainfall events. SEVRDS stormwater would consist of municipal stormwater and stormwater from the Santan Freeway drainage system. Stormwater from the SEVRDS would flow to the Santan Freeway Collector Channel, which is parallel to, and north of, the Santan Freeway alignment. From the Collector Channel the water would flow to an equalization basin, directly to the outfall channel, and/or to Detention Basin "B" depending on the magnitude of the rainfall event and basin capacities. Water would only flow into the Channel from the SEVRDS project during major storm events that generate flows of greater than 800 cfs and/or events that produce greater than 30 acre-feet of "first-flush" runoff. The GRIC water quality permit, currently under development, will mandate treatment of the "first flush" of stormwater in the SEVRDS system, and periodic water quality monitoring. The stormwater discharged into the SANTAN Outfall Channel will meet the requirements of the water quality permit.

#### **3.3.2 Groundwater**

Groundwater resources in the project area include a large aquifer in alluvial deposits beneath the GRIC and adjacent areas (GRIC 1997a). Depths to water vary, depending on distance from the Gila River, ranging from 25.0 ft. to over 150.0 ft. below the surface. Numerous wells in the project vicinity tap the aquifer, including agricultural irrigation wells for the GRIC and the Cities of Chandler and Phoenix, and domestic water supply wells for both cities (GRIC 1997a).

The existing groundwater quality in the project area would be taken into consideration during the development of requirements for the GRIC water quality permit. Periodic groundwater monitoring would also be required under the permit. As discussed above, "first flush" stormwater released into the Floodway by the proposed Channel would receive treatment in the SEVRDS wetland basins, and would also receive additional filtering and natural biological treatment before percolating into the underlying groundwater.

### 3.3.3 Floodplains and Flooding

According to Federal Emergency Management Agency (FEMA) National Flood Insurance Rate Maps (FEMA 1993) the entire project vicinity occurs in Zone X flood areas, that is, areas of 100-year flood with average depths of less than one foot. Riverine flooding, or inundation of floodplains by overflow from defined channels, occurs on the GRIC during flooding of the Gila River (GRIC 1997a).

### 3.3.4 Drainage

The estimated 100-year, 24-hour peak flood discharge for the SANTAN Outfall Channel is designed to be 800 cfs (HDR 1997). Rapid growth in the southeast valley in recent years has altered land use patterns in the watershed from agricultural to urbanized uses, decreasing percolation and increasing runoff (DMJM 1996).

As discussed earlier, the larger SEVRDS drainage area encompasses approximately 34.0 square miles, roughly bounded by the Southern Pacific Railroad embankment to the east, I-10 to the west, the Western Canal on the north, and the future SANTAN Freeway alignment to the south (HDR 1997). Prior to the development of SEVRDS, the majority of municipal drainage and stormwater facilities in the southeast valley had no outfall, with most drains and channels terminating at detention basins, irrigation drains or at municipal boundaries.

## 3.4 Air Quality

The project vicinity is located within the federally-designated Maricopa Association of Governments Urban Planning Area, which is a nonattainment area for carbon dioxide, ozone and PM<sub>10</sub>. The rural and agricultural nature of the GRIC and immediate surrounding area produces a substantial amount of particulate matter during wind and seasonal storms, contributing to the PM<sub>10</sub> affects.

## 3.5 Vegetation

Little native vegetation remains in the project vicinity, due to the effects of urbanization and agriculture (irrigated crops). North of the GRIC boundary, agricultural practices dominate the proposed R/W. Industrial development is rapidly encroaching on agricultural uses of land on either side of the GRIC boundary, east of I-10 to 46<sup>th</sup> Street. Only weeds, scattered seep-willow (*Baccharis* sp.) and four-winged saltbush (*Atriplex canescens*) shrubs are found along the field edges and on ditch banks in the agricultural areas. A few seep-willow and four-winged saltbush shrubs are found along pipeline and power-line R/W's, in the industrial portions adjacent to the proposed Channel. On the GRIC east of I-10, the land is cleared for the developing Lone Butte Industrial Park and contains no substantial native vegetation.

West of I-10, on the GRIC, the dominant vegetation is sparse four-winged saltbush and a few other species typical of alkaline soils. The four-winged saltbush association is typically found on fine-grained, alkaline soils, often with poor drainage. The presence of

this association may be indicative of past disturbance, perhaps for agriculture. The Floodway is vegetated with four-winged saltbush, similar to that of the surrounding uplands. Canopy cover in the salt-bush association is less than 30 percent, or very sparse.

No riparian habitat occurs in the project vicinity, or downstream along the Floodway. Farther downstream, cumulative drainage supports a desert wash riparian association, characterized by mesquite and palo verde trees. Drainage accumulating in the Gila River supports riparian vegetation dominated by Tamarisk (*Tamarix* sp.), an exotic species.

### **3.6 Fish and Wildlife**

Wildlife species commonly found along field edges, and in arid, open shrub-lands are typical of the project vicinity. These include: black-tailed jackrabbit (*Lepus californicus*), Mexican ground squirrel (*Spermophilous* sp.), deer mouse (*Peromyscus* sp.), Greater Roadrunner (*Geococcyx californianus*), Mourning Dove (*Zenaida macroura*), Gambel's Quail (*Lophortyx gambelli*), Starling (*Sterna vulgaris*), Brewer's Blackbird (*Euphagus cyanocephalus*), Turkey Vulture (*Cathartes aura*), Red-tailed Hawk (*Buteo jamaicensis*), and Swainson Hawk (*Buteo swainsoni*). None of the terrestrial habitats that would be affected by this project are considered especially valuable wildlife habitat by the Arizona Game and Fish Department (AGFD), GRIC-DEQ, or U.S. Fish and Wildlife Service (USFWS).

Aquatic habitats in the project vicinity are limited to agricultural drains. Agricultural drains are poor aquatic habitats due to continuous maintenance efforts to remove vegetation, and the water quality of agricultural seepage. The drains do contain a few fish, typically, mosquito fish (*Gambusia affinis*), and some exotic cichlids. Invertebrate fauna of the agricultural drains include fly larvae, dragon-fly larvae, and a few mollusks (e.g. Asian Clam [*Corbicula* sp.] were observed). None of the aquatic habitats that may be affected by this project are considered of high value to the AGFD, GRIC-DEQ, or USFWS.

### **3.7 Cultural Resources and Traditional Properties**

The GRIC Cultural Resource Management Program evaluated cultural resources of the project area in late 1997 (GRIC 1997c). The GRIC Cultural Resource Management Program (CRMP) maintains the results of the survey as sensitive information. Four previously recorded cultural sites are known to occur within a half-mile of the project area, identified during earlier survey investigations. These sites include sherd and artifact scatter, and an adobe structure. However, the GRIC CRMP determined that there are no significant historic, cultural, or archaeological resources in the project vicinity, and recommended archaeological clearance (GRIC 1997c). The State Historic Preservation Officer (SHPO) concurrence with this finding will be documented prior to completion of the Final Environmental Assessment.

If a previously unidentified cultural resource is identified during construction, work will cease at that location, and the GRIC CRMP officials will be notified immediately.

### **3.8 Socioeconomic Conditions**

As of the 1990 census, the GRIC population was 9,540, having grown 2.6% annually from a 1980 population of 7,380 (U.S. Census Bureau 1990). Comparatively, the state of Arizona population grew 3.0% each year of the 1980-1990 period. The estimated GRIC population was 11,550 in 1993, representing a 3.5% annual growth rate between 1980 and 1993. Comparatively, the state of Arizona annual growth rate between 1980 and 1993 was a lower 3.2%.

The GRIC can generally be described as an area of relatively low income, high unemployment, and high minority population, when compared to other areas of the state of Arizona. In 1990, the GRIC labor force was estimated at 2,800 workers, with an unemployment rate of 29.6 %. Comparatively, the 1990 state unemployment rate was 7.2 %, and the rates for Maricopa and Pinal Counties were 6.0% and 9.2%, respectively.

Approximately 60.0% of tribal families were living below the poverty level in 1990, compared to 19.0% in Pinal County, 9.0% in Maricopa County, and 11.0% for the state of Arizona. Per capita income in 1990 was \$3,354, substantially lower than the mean per capita income of \$13,461 for the state of Arizona. The 1990 GRIC median household income was \$12,917, only slightly higher than the 1989 federal poverty guideline for a family of four - \$12,674. Comparatively, the 1990 median household income was \$35,623 for Maricopa County, and \$21,301 for Pinal County. According to the 1995 Maricopa County Special Census, the median household income for the City of Chandler was \$46,096, substantially higher than the GRIC and both counties (Maricopa County 1995).

The GRIC is composed primarily of Pima and Maricopa Indians, with 86.0% of tribal members of American Indian descent, and 12.0% of Hispanic descent. The 1990 census revealed that the GRIC population is approximately 99.0% minority, as compared to a 28.1% minority population for Maricopa County, and a 40.8% minority population for Pinal County (U.S. Bureau of Census 1990). The 1995 Maricopa County Special Census revealed a 26.7% minority population for the City of Chandler (Maricopa County 1995).

Twenty-six percent of GRIC population is under ten years of age, compared to 16.0% for the state as a whole. Forty-four percent of the community is under the age of 20, while only 9.0% of the population is over 60 years of age. By comparison, for the state as a whole, 30.0% of the population is under 20 years of age, and 17.2% is over the age of 60.

### **3.9 Other Issues**

#### **3.9.1 Noise**

Due to the rural nature of the GRIC, ambient noise levels are relatively low throughout most of the GRIC. Levels are slightly higher in the project vicinity, due to proximity to the I-10 corridor and the Lone Butte and City of Chandler industrial areas.

### 3.9.2 Hazardous Materials

A preliminary site assessment for hazardous materials was conducted for the proposed SANTAN Outfall Channel (SA&B 1998). No evidence of hazardous waste generation, storage or disposal was found, and no chemical usage or storage was observed on any of the lands proposed for the Channel development. There was no evidence of drywells, groundwater wells, ponds or lagoons at the time of the assessment.

An interview with GRIC officials revealed that a pipeline located along the GRIC and City of Chandler boundary had released free petroleum product approximately 30.0 ft. – 50.0 ft. from the location of the proposed Channel in the past. The Santa Fe Pipeline Company, owner of the pipeline, has placed a petroleum product recovery unit just east of 56<sup>th</sup> Street and north of Pecos Road. According to Santa Fe Pipeline officials, the groundwater beneath the release point was contaminated with free-product petroleum (SA&B 1998).

Ed Green of ADOT Environmental Planning Section (EPS) made an inquiry to the Santa Fe Pipeline Company regarding this contamination. Santa Fe Pipeline Company officials informed Mr. Green that the petroleum had not reached the project limits for the proposed SANTAN Outfall Channel, and that construction activities for the project will not come into contact with the contamination.

ADOT officials determined that no additional investigation for hazardous materials is warranted at this time. However, if suspected hazardous materials are encountered during construction, work will cease at that location, and the FCDMC Project Engineer will be contacted to arrange for proper treatment of those materials.

## CHAPTER FOUR: ENVIRONMENTAL CONSEQUENCES

This chapter evaluates the potential impacts of the Action and No-Action Alternatives. In accordance with BIAM Release Number 9303, only those components which may be affected by the proposed action are discussed (BIA 1982). Table 1, *Environmental Consequences Checklist*, denotes the potential impacts of the Action and No-Action Alternatives with an 'X'. A more detailed discussion of these impacts follows.

<b>Table 1</b>		
<b>Environmental Consequences Checklist</b>		
<b>Resource Element</b>	<b>ALTERNATIVES</b>	
	<b>ACTION</b>	<b>NO-ACTION</b>
<b>Land Resources</b> (Topography, Soils, Geologic Setting and Mineral Resources)		
<b>Developed Land Uses</b> (Existing and Planned)	X	
<b>Projected Land Uses</b>	X	X
<b>Agricultural/Rangeland</b>	X	X
<b>Community Infrastructure</b> (Housing, Public and Educational Facilities)		
<b>Transportation</b>	X	
<b>Utilities</b>	X	
<b>Recreation</b>		X
<b>Surface Waters</b>	X	X
<b>Floodplains and Flooding</b>		X
<b>Drainage</b>		X
<b>Air</b> (Quality, visibility)		
<b>Vegetation and wildlife</b>	X	
<b>Cultural Resources</b>		
<b>Socioeconomic Conditions</b> (Income and Employment, Demographics)		X
<b>Environmental Justice Issues</b>		X
<b>Noise</b>		
<b>Hazardous Materials</b>		
<b>Cumulative Impacts</b>		X
'X': Potential Impact Note: The temporary construction impacts associated with the Action Alternative are detailed in the following sections.		

## 4.1 Land Resources and Land Use

New R/W would be required for construction of the Channel. Permanent R/W acquired from the GRIC would include approximately 6.4 acres west of I-10, adjacent to the existing ADOT I-10 R/W, and 0.3 acre east of I-10. As discussed earlier, R/W easements across Indian trust lands requires approval of the BIA and the affected Indian Community.

Only minor new R/W is necessary to the north of the existing Pecos Road R/W, from I-10 east to 56<sup>th</sup> Street, because the Channel would be placed beneath the grade and within the existing R/W. East of 56<sup>th</sup> Street, new R/W would be required in a strip just north of the GRIC boundary and northeast along the Gila Drain to the existing SEVRDS Basins.

The total area of new permanent R/W required north of the GRIC boundary is approximately 6.0 acres, the majority of which would be located to the east of 56<sup>th</sup> Street on private lands within the City of Chandler. According to the City of Chandler Zoning Map, the land that would be acquired is currently designated as Planned Area Development. The R/W for this project is being acquired by ADOT pursuant to ADOT R/W procedures.

A number of TCEs are also necessary for utility relocations, both on and off GRIC land. TCEs provide for limited access and specific, limited use of the easement. Most of the TCEs have been negotiated for this project. TCEs totaling 1.5 acres are required on GRIC land to the west of I-10, and 4.0 acres of TCE are required on GRIC land east of I-10. All land required for TCEs would be returned to pre-construction standards when the project is complete.

Coordination with the GRIC and the MOA indicate that the proposed project is consistent with planned land uses on this portion of the GRIC (GRIC 1991a). Relief from local flooding, provided in part by this project, may benefit planned land uses. The No-Action Alternative would not provide such protection, and flooding potentials would not be minimized and could worsen with continued development in the region.

## 4.2 Transportation

Construction of the Channel may temporarily interfere with traffic movement in the project area due to construction detours. Traffic on the I-10 and nearby Maricopa Road may be slowed or otherwise impeded during excavation and construction activities along the I-10 corridor. During the construction phase, access to the Lone Butte Industrial Park would be maintained through the use of detours on Maricopa Road and 56<sup>th</sup> Street. Traffic detours will conform to the ADOT Traffic Control Manual (ADOT 1989), and will be coordinated with ADOT.

### **4.3 Utilities**

The construction of the Channel is expected to affect utilities in the project area. However, disruptions to utility service, if necessary, would be short-term and localized. Several gas pipelines, US West telephone lines, and Gila River Telecom Inc. (GRTI) telephone lines currently located along Pecos Road and I-10 alignment would be abandoned and relocated prior to the onset of construction activities (ADOT 1997). Many electrical poles would be protected in place during the construction phase, while others would be relocated. A number of sanitary sewer lines and powerlines will also need to be relocated, and others protected during construction activities.

Prior to construction, an existing City of Chandler storm drain will be temporarily diverted to the Pecos drain. This drain is planned for reconstruction, in its present location, as a lined ditch after the SANTAN Outfall Channel is installed. Several City of Chandler domestic water lines would be protected in place, with shut-off valves installed at both ends during the construction phase. An Arizona Department of Environmental Quality Air Quality Monitoring Station near the proposed Channel location would remain in place throughout project construction (ADOT 1997).

ADOT and the FCDMC will coordinate with utility providers during final project design and construction, to identify any potential conflicts and provide opportunities for resolution prior to project construction. Emergency response procedures will be formulated in consultation with the local utility providers, to ensure quick and effective repair of any inadvertent disruptions in service.

### **4.4 Recreation**

The Action Alternative would benefit the surrounding area of the GRIC by contributing to the development of the floodway as a greenbelt, as described by the MOA and the Gila Borderlands Conceptual Master Plan (GRIC 1991a and 1991b, respectively).

### **4.5 Hydrological Resources**

#### **4.5.1 Surface Waters**

The controlled release of stormwater, to be provided by the proposed Channel, would contribute to reducing the severity of flooding in the watershed, potentially improving riparian vegetation with simultaneous improvements in surface water quality. Reduction in the frequency of scouring floods is expected to promote development of riparian vegetation and stabilized stream banks.

The No-Action Alternative would allow continued scouring floods in the watershed, and potential destruction of riparian vegetation.

## **4.5.2 Floodplains and Drainage Patterns**

Natural drainage patterns may be slightly altered during the construction phase. Once completed, however, the Channel would improve existing drainage patterns in the area. As described earlier, the Channel would convey stormwater from the SEVRDS drainage basins to the Floodway. This would minimize the potential for flooding of GRIC lands during rain events, and effectively contribute to regional stormwater management efforts.

The No-Action Alternative would not affect existing drainage patterns, the flow of the Floodway, or the Gila River. As stated earlier, however, continued potential flooding of GRIC lands and lack of regional stormwater management could pose a substantial drainage problem with the anticipated continued development in the area.

## **4.5.3 Water Quality**

As discussed in detail in Chapter One, the known source of the water that will be released into the Channel will come from the SEVRDS project. The other possible sources of discharge are the Gila Drain and the City of Phoenix 48<sup>th</sup> Street Drainage System. The typical contaminants of concern for water quality that can be found in these types of water sources include: metals; biological and chemical oxygen demand; bacteria; pesticides and pesticide residues; chlorinated hydrocarbons; grease; and nutrients including nitrogen and phosphates (DMJM 1996).

As stated in Section 3.3.1, Surface Waters, a GRIC water quality permit will mandate treatment of the "first flush" of stormwater in the SEVRDS system, and periodic water quality monitoring. The stormwater discharged from the SEVRDS project into the SANTAN Outfall Channel will meet this requirement, as well as all other conditions of the water quality permit.

At this time, there are no agreements to allow discharge of water into the Channel from the other potential sources (i.e., the Gila Drain and/or the 48<sup>th</sup> Street Drainage System). Prior to the release of water into the Channel from either of these sources, agreements would need to be in place between the responsible parties. These agreements will, in part, consider the environmental documentation, water quality, and the related permitting requirements. The project proponents would be required to complete environmental analyses addressing the potential social, economic, and environmental impacts associated with construction of those connecting facilities, and the effects of water discharged from those sources.

The No-Action Alternative would not address water quality for any SEVRDS project discharges. Additionally, provisions for the possible P-MIP releases from the Gila Drain, and the possible release of water from the 48<sup>th</sup> Street Drainage System would not be considered.

## **4.6 Air Quality**

The construction phase associated with the Action Alternative may result in a localized, temporary increase in PM<sub>10</sub> in the project area. This increase would be the result of fugitive dust generated by earth-moving vehicles and other equipment operated near the

construction area. The expected carbon monoxide emissions generated by construction equipment would be minimal. Generation of dust and any other air pollutants associated with construction would cease with the completion of construction activities.

Dust generation during the construction phase may also pose a temporary, slight degradation of visibility in the project area. Control of dust during project construction will follow local regulations for construction projects.

#### **4.7 Vegetation**

The project would directly affect approximately 20.0 acres of land during construction, in the form of trenching, temporary roads, and utility relocations. West of I-10, on the GRIC, approximately 8.4 acres of four-winged saltbush association would be converted to drainage structures and unvegetated land by the project. Northeast of I-10, the project would convert approximately 6.0 acres of land from predominantly bare or agricultural land to concrete structures or unvegetated soil. Because of the relatively small area of sparse vegetation disturbed, there would be little environmental consequence to native vegetation or plant communities.

Because the project would not alter drainage patterns in the vicinity of the Floodway, it would not substantially alter the flood regime of the floodplain. Further, because the project would reduce peak flood flows, distributing them over a longer time period, it would prevent scouring floods from sweeping through the floodplain. Moderated flooding in the floodplain, tributary to the Gila River, may benefit riparian vegetation by allowing a longer period of plant succession (growth and development) between major flood events.

#### **4.8 Fish and Wildlife**

A qualified biologist reviewed the federal list of threatened or endangered species for Maricopa County provided by USFWS, in accordance with Section 7 of the Endangered Species Act (USFWS 1997). No suitable habitat for any of the listed species occurs in the project vicinity. Therefore, no federally listed threatened or endangered species would be affected by this project. No designated critical habitat for any federally listed species occurs in the project vicinity. Therefore, no critical habitat would be affected by this project.

Wildlife in the immediate vicinity of the project would be affected by habitat loss. Because of the relatively small area (approximately 20.0 acres) directly affected by project construction and the sparse nature of the terrestrial habitats disturbed, the project would have no substantial impact on wildlife resources, directly or indirectly.

There are no other aquatic habitats in the vicinity of the project, including downstream along the Floodway, thus, none would be adversely affected. Because the project attenuates severe storm floods in a portion of the drainage of the Gila River, there may be some protection provided from major floods downstream of the Floodway. These effects would be minor, considering other unregulated contributions of floodwaters in the drainage.

Floodwaters from the project may infrequently reach the Gila River during large storm events. These must travel overland some distance before reaching the river, losing volume to percolation and evaporation. Because the area served by the project presently drains into the Gila River via similar routes, the project would not substantially alter the water budget of this portion of the Gila River. Further, because the volume or frequency of flooding that reaches the Gila River would not be appreciably altered by the project, except to moderate the most severe flood peak volumes, wildlife associated with the Gila River would not be adversely affected.

#### **4.9 Environmental Justice and Protection of Indian Trust Assets**

Department of Interior Secretarial Order No. 3175, as amended requires that any anticipated impacts to Indian trust resources from a proposed project be explicitly addressed in environmental documents. The Order is issued under the authority of Section 2 of Reorganization Plan No. 3 of 1950 (64 Stat. 1262). As stated earlier, construction of the proposed SANTAN Outfall Channel would require permanent acquisition of approximately 6.7 acres of GRIC Indian trust lands. However, the proposed construction of the SANTAN Outfall Channel is consistent with the Department of Interior's trust responsibilities, as well as the MOA (1991a).

Title VI of the Civil Rights Act of 1964 states that any proposed federal action should not create undue hardship to elderly, handicapped, or minority populations. The basic tenets of Title VI require agencies to ensure that their projects and programs do not have the effect of excluding or denying persons and populations from participation in the benefits of such programs based on race, color, or national origin.

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, takes Title VI one step further by including low-income and minority populations in the previously described groups afforded protection. The tenets of EO 12898 require agencies to ensure that their projects do not have disproportionately high and adverse effects on minority and low-income populations.

As discussed above, the GRIC is generally a community of low-income and high unemployment, consisting largely of minority residents. However, there is no residential development in the vicinity of the proposed project. No residents would be relocated, and no low-income or minority neighborhoods would be affected as a result of this project. Therefore, the Action Alternative would not have any disproportionately high or adverse effects on the minority, low-income populations in the GRIC, or the neighboring City of Chandler area.

The No-Action Alternative, however, may negatively affect the minority and low-income populations in the area by not addressing the flooding conditions currently experienced during major rainfall events. Under the No-Action Alternative, increased run-off from the proposed SANTAN Freeway may increase the local flood hazard.

## 4.10 Noise

During the construction phase for the Action Alternative, ambient noise levels in the project area would be slightly higher than normal, due to construction vehicle and equipment operation. The GRIC Lone Butte Industrial Park, located south of Pecos Road, and some industrial land uses north of the Pecos Road in Chandler, are the only developed areas that could be affected by construction noise from this project.

However, since the existing ambient noise levels at these industrial areas, and along the transportation corridors of I-10 and Maricopa Road are high due to existing I-10 traffic, the additional noise impact posed by this project would be minimal. As with other impacts associated with construction, elevated noise levels would be localized and temporary in nature, and would cease upon completion of the project.

## CHAPTER FIVE: ENVIRONMENTAL COMMITMENTS

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The construction and use of the proposed SANTAN Outfall Channel would involve a commitment of resources related to construction, including materials, labor and financial assets. The use of construction materials and financial assets would be irreversible and irretrievable upon completion of the project. However, this commitment would not have an adverse effect upon the continued availability of these resources.

The construction of this project would not inhibit the eventual paving of Pecos Road above the proposed Channel culverts. Construction of the Channel would prevent other uses of the land along the I-10 freeway corridor. The relocation of selected utilities could also limit the use of other land parcels along the project, both above and below ground.

The proposed Channel would also require the conversion of approximately 6.0 acres of privately owned land. This would prohibit the current owners' usage of these lands in the future.

The project would commit the Floodway to accepting an increased flow during major stormwater events. As discussed earlier, however, this is the objective presented by the GRIC in the MOA (GRIC 1991a). Therefore, the irreversible commitment of the Floodway to the purpose of stormwater runoff management would be consistent with GRIC land use planning.

## **CHAPTER SIX: CONSULTATION AND COORDINATION**

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### **6.1 Public Involvement Activities**

Public comments regarding this project were solicited in a newspaper advertisement published in a locally circulated newspaper, and by posted notice at various public places on the GRIC. An open-house was held on December 19, 1997 in Sacaton, Arizona to provide the public with an opportunity to review preliminary plans and comment on the project. There were no public attendees at the meeting. In addition to the open-house, written information and comment sheets were made available at a Public Hearing held December 20, 1997 in Sacaton for the P-MIP project. No written comments regarding the project were received.

ADOT and MCFDC Officials, and other project proponents, have provided briefings to the GRIC Tribal Council and the GRIC Natural Resources Committee concerning the project. In addition, there has been project-related correspondence from ADOT to the GRIC Office of the Governor (Appendix C).

State and Federal resource agencies were contacted by letter and asked to provide comments or concerns in the scoping process for this EA. In addition, an agency scoping meeting was held for all agency staff on November 6, 1997 in Sacaton, Arizona to review the project and receive comments. A list of agencies attending the scoping meeting are attached (Appendix D).

### **6.2 Related Laws and Regulations**

The following environmental regulations have been reviewed in the preparation of the documentation contained in this report, and/or will be applied to various aspects of the project:

#### **Federal**

- National Environmental Policy Act of 1969
- 36 CFR 800 - Protection of Historical Cultural Properties
- 23 CFR 771 - Environmental Impact and Related Procedures
- FHPM 7-7-3 - Procedures for the Abatement of Highway Traffic and Construction Noise
- FHPM 7-79 - Air Quality Guidelines
- Endangered Species Act of 1973, and supplements
- Executive Order 11990 (Protection of Wetlands)
- Executive Order 11988 (Floodplain Management)
- Executive Order 12898 (Environmental Justice)
- National Historic Preservation Act of 1966
- Section 4(f) of the Department of Transportation Act
- Wild and Scenic Rivers Act of 1969
- Section 402 (NPDES) and Section 404 of the Clean Water Act
- Federal Farmlands Protection Policy Act of 1981

- Section 1424(e) of the Safe Drinking Water Act (Sole Source Aquifer Review)
- 36 CFR 60 - Determinations of Eligibility for Inclusion in the National Register of Historic Places
- Public Law 91-646 - Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970
- Wilderness Act of 1964, Public Law 88-577
- Arizona Desert Wilderness Act of 1990, Public Law 101-628
- Resource Conservation and Recovery Act (RCRA)
- Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA)
- Superfund Amendments and Reauthorization Act (SARA)
- American Indian Religious Freedom Act
- Safe Drinking Water Act
- Clean Air Act
- Fish and Wildlife Coordination Act
- Toxic Substances Control Act

#### **State**

- Arizona Native Plant Law
- Arizona Historic Preservation Law
- State Water Quality Law
- ADOT Action Plan for State-Funded Projects
- ADOT Highways Division Policy and Implementation Memorandum 89-05, "Preservation of Arizona's Wetlands," August 1, 1989
- Noise Abatement Policy for State-Funded Projects
- State of Arizona Water Control Policy
- Arizona Environmental Quality Act (EQA)
- Hazardous Waste Management Act (HWMA)
- Underground Storage Tank Act of 1986
- ADOT Relocation and Assistance Program

#### **Local**

Local codes and ordinances relating to:

- Air quality
- Noise
- Dust abatement

### **6.3 List of Preparers**

This document was prepared by Todd Ligon, Sarah Lebednik and Joe Gillis of ENTRANCO, Inc. Support in developing the document came from Ed Green (ADOT Environmental Planning Section); Scott Grant (SA&B); Michael S. Foster, Ph.D. (GRIC Cultural Resources Management Program); and Owen Lindaeur, Ph.D. (ADOT Environmental Planning Section).

Coordination letters were sent to the following:

**Table 2**  
**Agency Coordination**

<b>Name</b>	<b>Agency</b>
Ron Christofferson	Arizona Game and Fish Department
Alan Downer	Historic Preservation Department, Navajo Nation
Bruce Ellis	Bureau of Reclamation
Larry Flatau	US Army Corps of Engineers
Lloyd Harrell	City of Chandler
Carol Heathington	State Historic Preservation Office, Arizona State Parks
Amy Heuslein	Bureau of Indian Affairs
Terry Johnson	Maricopa Association of Governments
Mark Keller	Arizona State Lands Department
Dr. Patricia Mariella	Gila River Indian Community
Dr. Richard Meyerhoff	Arizona Department of Environmental Quality
Craig Seppelfrick	Maricopa County DOT
Sam Spiller	US Fish and Wildlife Service
Laurie Sundstrom	City of Phoenix
Kevin Wanttaja	Salt River Project
Dr. Nancy Wrona	Arizona Department of Air Quality

Written responses received are attached in Appendix D.

## **6.4 Acknowledgments**

We appreciate the helpful and constructive comments provided on the Draft EA by:

Glen Stark (GRIC Department of Environmental Quality); Harry Millsaps (GRIC Department of Land & Water Resources); Tom Monchak (DMJM); Bud Reyes (DMJM); Jerry Zovne (HDR); and Robert Stevens (FCDMC).

**APPENDIX A**  
**Memorandum of Agreement Between the**  
**State of Arizona and the Gila River Indian Community**

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ECS File: JPA-90-138  
Project: H 2222 01D  
Section: L-202 S. Mountain Fwy.

MEMORANDUM OF AGREEMENT  
BETWEEN  
THE STATE OF ARIZONA  
AND  
THE GILA RIVER INDIAN COMMUNITY

THIS AGREEMENT is entered into 03 July, 1991,  
between the STATE OF ARIZONA, acting by and through its  
DEPARTMENT OF TRANSPORTATION (the "State") and the GILA RIVER  
INDIAN COMMUNITY, acting by and through its TRIBAL COUNCIL (the  
"GRIC").

I. RECITALS

1. The State is empowered by Arizona Revised Statutes Section 28-108 to enter into this agreement and has by resolution, a copy of which is attached hereto and made a part hereof, resolved to enter into this agreement and has delegated to the undersigned the authority to execute this agreement on behalf of the State.
  2. The GRIC is empowered to enter into this agreement and has by resolution, a copy of which is attached hereto and made a part hereof, resolved to enter into this agreement and has authorized the undersigned to execute this agreement on behalf of the GRIC.
  3. The GRIC desires to create a floodway/greenbelt in the historic floodplain of Queen Creek in accordance with its adopted Gila Borderlands Conceptual Master Plan. Creation of the floodway will require extensive excavation.
  4. The State desires to discharge stormwater intercepted by the future Santan Freeway (SR 202L) and Price Expressway (SR 101L) into a gravity flow outfall utilizing the proposed floodway. The State further desires to secure a source for approximately 5.5 million cubic yards of borrow material for embankment construction of the South Mountain Freeway (SR 202L).
  5. The parties hereto desire the Santan and South Mountain Freeways implementation as soon as possible for the benefit of the Maricopa County community.
  6. Implementing this agreement will substantially reduce the overall drainage system costs associated with the Price and Santan Freeways and will allow for construction of the Santan Freeway independent of the Price Freeway. This will provide the opportunity for early construction of the Santan Freeway at a lower initial cost.
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THEREFORE, in consideration of the mutual agreements expressed herein, it is agreed as follows:

## II. SCOPE OF WORK

### 1. The GRIC will:

a. Agree the State may utilize the floodway as a borrow source to the extent that the State needs borrow material.

b. Grant to the State a perpetual drainage easement to discharge stormwater runoff from the watershed intercepted and collected by the Price and Santan Freeways storm drainage system into the floodway.

c. Review and approve design plans for the floodway. Facilitate and coordinate inter-agency cooperation in design and implementation of the floodway.

d. At its sole discretion, sell borrow excavation from the floodway to any purchaser.

### 2. The State will:

a. Improve the existing Gila Drain off GRIC lands along the Santan Freeway alignment for a distance of approximately 1.6 miles to the beginning of the floodway channel on GRIC lands. Coordinate with the Salt River Project and Flood Control District of Maricopa County for improvement, operation and maintenance of the improved Gila Drain and floodway on and off GRIC lands.

b. At its sole expense, and within twelve (12) months of the execution of this agreement, commence design of a floodway on the Gila River Indian Reservation. The floodway will generally be in the location indicated on the GRIC Gila Borderlands Conceptual Master Plan, attached hereto and made a part hereof, subject to necessary adjustments to meet hydraulic criteria. Excavation of the floodway will conform to the approved plan; the amount and timing of excavation will be determined by the extent to which the State needs borrow material.

c. Agree that reduced system costs realized by using a gravity flow stormwater disposal system through GRIC lands rather than constructing a pump disposal system on non-Indian lands, may be considered in any proposals for accelerating construction of the Santan and South Mountain Freeways.

d. Compensate GRIC for all borrow removed by the State at the rate of twenty (20) cents per cubic yard. This price will be adjusted at intervals of five (5) years beginning at the fifth year following the execution of this agreement, applying the per cent rate of inflation or deflation of the Consumer Price Index to the base price per cubic yard, but in no instance will compensation to GRIC be less than twenty (20) cents per cubic yard.

e. Obtain any necessary federal approvals and permits before commencement of excavation.

f. Meet any State of Arizona, Federal and GRIC water quality standards and requirements which are now or may be in place in the future, including development of a water quality monitoring plan approved by the respective agencies.

g. At its sole expense, prepare necessary environmental statements, including archaeological surveys, prior to excavation and acquire necessary GRIC permits and approvals required by GRIC regulations and policies. Further, the State agrees to pay the GRIC at the rate of \$10.00 (Ten Dollars) per hour for periodic GRIC monitoring of excavation.

h. Revegetate, according to plans developed by the State and approved by GRIC, all areas during the first planting season after removal of borrow material. Topsoil in the excavation areas will be removed and stockpiled for reuse in areas to be revegetated.

i. Abandon any claims to stormwater released into the floodway and assign all rights to stormwater entering the floodway to GRIC.

j. Maintain accurate cost records of design, excavation and revegetation expenses and the costs so accounted for may be used by GRIC as a credit toward local cash matching requirements of federal flood control projects on GRIC lands.

k. Cooperate with the U. S. Army Corps of Engineers, the Flood Control District of Maricopa County, the U. S. Bureau of Reclamation and other government agencies which may have an interest in the design and implementation of the floodway.

l. Coordinate with the GRIC throughout the development process for the South Mountain and Santan Freeways. The Governor of the GRIC will be notified of any freeway related actions, proposed or approved, which will affect GRIC lands, and will be coordinated with during the decision making process for such actions.

m. Provide, at its own expense, road access to GRIC lands at the locations shown in the approved general plans for the Santan and South Mountain Freeways, as construction of the freeways or associated interim facilities occurs.

n. Provide for storage volume within the new floodway sufficient to contain the stormwater runoff volume from the Price and Santan Freeways, prior to outfalling said runoff into the new floodway. Said storage volume will include the volume excavated under the agreement in Resolution GR-100-90.

o. After July 1, 1991 but no later than July 5, 1991, and upon execution of this agreement, pay to the Gila River Indian Community, \$360,000 to secure a perpetual drainage easement to outfall stormwater from the Price and Santan Freeways into the new Gila Drain Floodway.

### III. MISCELLANEOUS PROVISIONS

1. This agreement shall remain in force and effect until completion of said excavation and payment; provided, however, that this agreement, except for the operation of the outfall which shall be perpetual, may be cancelled at any time prior to the commencement of excavation, upon thirty (30) days written notice to the other party.

2. This agreement shall become effective upon execution by the parties hereto.

3. This agreement may be cancelled in accordance with Arizona Revised Statutes Section 38-511.

4. The provisions of Arizona Revised Statutes Section 35-214 are applicable to this contract.

5. In the event of any controversy which may arise out of this agreement, the parties hereto agree to abide by required arbitration as is set forth for public works contracts in Arizona Revised Statutes Section 12-1518 (B) and (C).

6. All notices or demands upon any party to this agreement shall be in writing and shall be delivered in person or sent by mail addressed as follows:

Arizona Department of Transportation  
Joint Project Administration  
205 South 17 Avenue, Rm. 222E/M.D. 616E  
Phoenix, AZ 85007

Gila River Indian Community  
Tribal Governor  
PO Box 397  
Sacaton, AZ 85247

IN WITNESS WHEREOF, the parties have executed this agreement the day and year first above written.

GILA RIVER INDIAN COMMUNITY

STATE OF ARIZONA  
Department of Transportation

By Mary V. Thomas for  
THOMAS R. WHITE 6.25.91  
Governor

By Gary W. Robinson  
GARY W. ROBINSON  
State Engineer

GILA RIVER INDIAN COMMUNITY  
RESOLUTION GR-95-91

A RESOLUTION TO ENTER INTO AN AGREEMENT TO SELL BORROW MATERIAL FOR CONSTRUCTION OF THE PLANNED SOUTH MOUNTAIN FREEWAY (STATE ROUTE 101L) AND ALLOWING STORM WATER RUNOFF FROM THE PRICE AND SANTAN FREEWAYS TO BE OUTFALLED INTO THE GILA DRAIN FLOODWAY.

WHEREAS, the Gila River Indian Community desires to develop a "greenbelt" channel in the Gila Drain Floodway to advance its adopted land use plans for the Gila Border Lands and to implement goals for the Tribal Water Policy; and

WHEREAS, Reach 1 of the "greenbelt" has been implemented under resolution GR-100-90 as a borrow source for roadway construction; and

WHEREAS, the State of Arizona will require substantial borrow material for construction of the planned South Mountain Freeway (State Route 101L).

WHEREAS, the State of Arizona desires to outfall storm water runoff collected by the planned Price and Santan Freeways into its historic course in the Gila Drain floodway; and

WHEREAS, the attached Memorandum of Agreement (JPA 90-138) sets forth the mutually agreeable terms and conditions providing for the State of Arizona to purchase borrow material, to implement the design, construction and revegetation of portions of the "greenbelt" channel, and to outfall storm water runoff to the "greenbelt" channel.

BE IT RESOLVED, that the Gila River Indian Community Tribal Council hereby grants approval for the Gila River Indian Community to enter into the attached Memorandum of Agreement (JPA 90-138) with the State of Arizona.

CERTIFICATION

Pursuant to Authority contained in Article XV, Section 1, (a), (9), (12), (13), (18), and Section 4 of the amended Constitution and Bylaws of the Gila River Indian Community ratified by the Tribe, January 22, 1960, and approved by the Secretary of the Interior on March 17, 1960, the foregoing RESOLUTION was adopted this 19th day of JUNE 1991, at a Regular Council meeting held in District #3, Sacaton, Arizona, at which a quorum of 12 members were present by a vote of 9 FOR; 3 OPPOSE; 0 ABSTAIN; 5 ABSENT; 0 VACANCY.

GILA RIVER INDIAN COMMUNITY

*Mary V. Thomas*  
\_\_\_\_\_  
LT. GOVERNOR 6-25-91

ATTEST:

*Janice J. Askew*  
\_\_\_\_\_  
TRIBAL COUNCIL SECRETARY

RECEIVED

JUN 26 1991

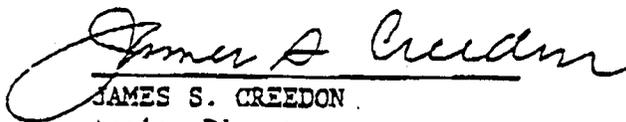
FIMA AGENCY  
SACATON

JPA 90-138

RESOLUTION

BE IT RESOLVED on this 17th day of October 1990, that I, JAMES S. CREEDON, as Acting Director of the Arizona Department of Transportation, have determined that it is in the best interests of the State of Arizona that the Department of Transportation, acting by and through the Highways Division, to enter into an agreement with the Gila River Indian Community for the purpose of defining responsibilities for obtaining "borrow material" for the embankment construction of the South Mountain Freeway.

Therefore, authorization is hereby granted to draft said agreements which, upon completion, shall be submitted for approval and execution by the Chief Deputy State Engineer.



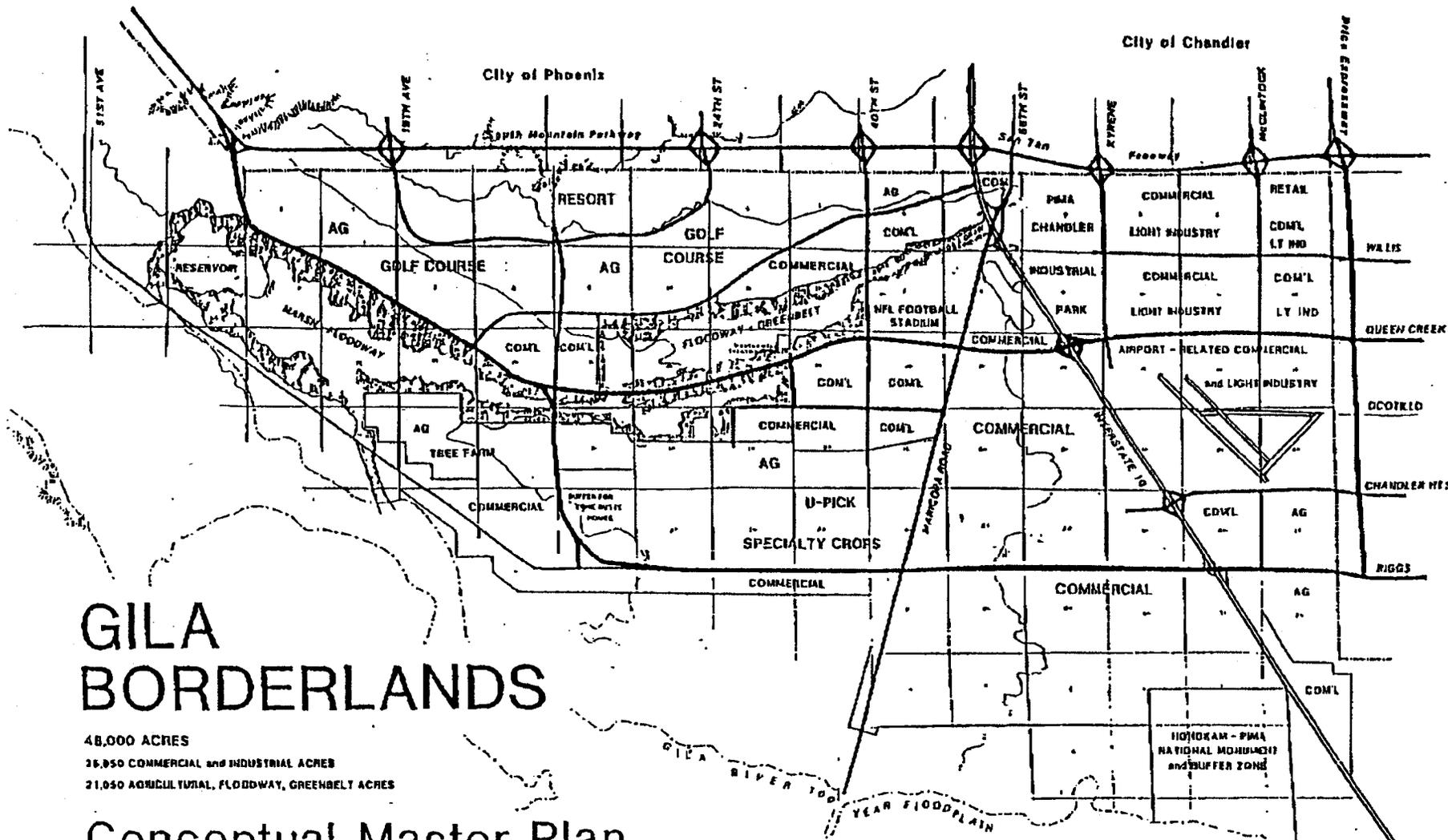
JAMES S. CREEDON  
Acting Director  
Arizona Department of  
Transportation

**APPENDIX B**  
**Gila Borderlands Conceptual Master Plan**

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01/20/86 10:41

01/20/86 10:41



# GILA BORDERLANDS

48,000 ACRES  
 28,850 COMMERCIAL and INDUSTRIAL ACRES  
 21,050 AGRICULTURAL, FLOODWAY, GREENBELT ACRES

## Conceptual Master Plan

30 Year Projected Land Use Subject To Change

### LEGEND

- 7 LANE
- 6 LANE
- 5 LANE



# GILA RIVER INDIAN COMMUNITY

Prepared By Dorothy W. Roberts, FIBA AICP. Times Dates 07/19/86 and 08/12/86

**APPENDIX C**  
**Agency and Public Correspondence**

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JANE DEE HULL  
GOVERNOR

Arizona  
State Land Department

1616 WEST ADAMS  
PHOENIX, ARIZONA 85007



J. DENNIS WELLS  
STATE LAND COMMISSIONER

RIGHTS OF WAY SECTION

TO: Rex Wahl, Project Manager  
FROM: Mark Keller  
SUBJECT: Santan Stormwater Drainage Channel  
DATE: October 29, 1997

The above referenced project:

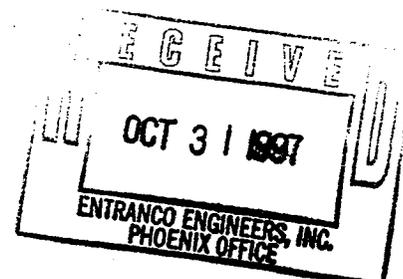
- Will not impact State Trust Land (*NO FURTHER ACTION REQUIRED*)
- Will impact State Trust Land (*FURTHER ACTION REQUIRED*)

Should the proposed project impact State Trust land, a Right of Way application is enclosed for your convenience. Please direct all questions and correspondence to:

*Mark Keller*  
*Rights of Way Administrator*  
*Arizona State Land Department*  
*1616 West Adams*  
*Phoenix, Az. 85007*  
*(602)542-2134*

Thank you for your attention to this matter.

ACTION.MEM





DEPARTMENT OF THE ARMY  
LOS ANGELES DISTRICT, CORPS OF ENGINEERS  
ARIZONA-NEVADA AREA OFFICE  
3636 NORTH CENTRAL AVENUE, SUITE 760  
PHOENIX, ARIZONA 85012-1936

REPLY TO  
ATTENTION OF:

October 20, 1997

Office of the Chief  
Regulatory Branch

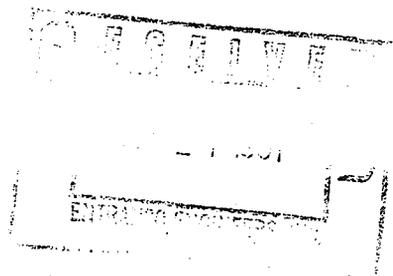
Arizona Department of Transportation  
Environmental Planning Section  
ATTN: Mr. Richard M. Duarte  
205 S. 17th Avenue, Mail Drop 619E  
Phoenix, Arizona 85007-3213

File Number: 984-0037-LSF

Dear Mr. Duarte:

This is in response to the October 15, 1997 request of your agent, Mr. Rex Wahl of Entranco Engineers, Inc., to attend an agency scoping meeting on November 6, 1997, regarding your plan to construct the SANTAN Channel, a 1.74 mile long concrete-lined stormwater drainage channel of varying cross-sections for the proposed SANTAN freeway in the Gila Drain Floodway at (Sections 4, & 5, T2S, R4E; and Section 33, T1S, R4E), Gila River Indian Community, Maricopa County, Arizona.

The channelization activity may require a Department of the Army permit issued under Section 404 of the Clean Water Act. A Section 404 permit is required for the discharge of dredged or fill material into the "waters of the United States," including adjacent wetlands. Examples of activities requiring a permit are placing bank protection, temporary or permanent stock-piling of excavated material, grading roads, grading (including vegetative clearing operations) that involves the filling of low areas or leveling the land, constructing weirs or diversion dikes, constructing approach fills, and discharging dredged or fill material as part of any other activity.



Unfortunately, this project is not included on your September 30, 1997 ADOT priority list. Therefore, no action will be taken regarding this project until it has been coordinated through your office. Enclosed you will find a permit application form and a pamphlet that describes our regulatory program. If you have questions, please contact Larry S. Flataũ at (602) 640-5385 x 225. Please refer to file number 984-0037-LSF in your reply.

Sincerely,

**"ORIGINAL SIGNED BY "**

Cindy Lester  
Chief, Arizona Section  
Regulatory Branch

Enclosure(s)

Copies Furnished:

~~Entranco Engineers, Inc.~~

ATTN: Mr. Rex Wahl

2400 W. Dunlap Avenue, Suite 100

Phoenix, Arizona 85021-2813



Arizona  
State Parks

Jane Dee Hull  
Governor

STATE PARKS  
BOARD MEMBERS

Chairman  
Joseph H. Holmwood  
Mesa

Members  
Ruth U. Patterson  
St. Johns

Sheri J. Graham  
Sedona

Vernon Roudebush  
Safford

Walter D. Armer, Jr.  
Benson

William G. Roe  
Tucson

J. Dennis Wells  
State Land  
Commissioner

Kenneth E. Travous  
Executive Director

Charles R. Eatherly  
Deputy Director

1300 West Washington  
Phoenix, Arizona 85007

Phone & TTY: 602-542-4174  
1-800-285-3703

from (520) area code

<http://www.pr.state.az.us>

General Fax:  
602-542-4180

Director's Office Fax:  
602-542-4188

November 10, 1997

Mr. Rex Wahl, Project Manager  
Entranco  
2400 W. Dunlap Avenue, Ste 100  
Phoenix, Arizona 85007

RE: Proposed Santan Stormwater Drainage Channel Environmental  
Assessment

Dear Mr. Wahl:

Thank you for your letter concerning the above-referenced project. We understand that the project is related to the proposed Santan Freeway and that the right-of-way involves Indian Trust Lands. As a result, the Bureau of Indian Affairs will be handling the federal lead for the project. We also have been advised that ADOT is currently having archaeological surveys completed for the project area.

We will look forward to receiving for our review, copies of the Environmental Assessment and the cultural resource reports.

If you have any questions, please do not hesitate to phone either Ms. Carol Heathington at 542-7137, or myself at 542-4009.

Sincerely,

Judy Brunson-Hadley, Ph.D.  
Archaeologist  
State Historic Preservation Office

cc: G. Cantley, BIA  
M. Foster, GRIC  
R. Gasser, ADOT  
J. Keane, SRP  
R. Stevens, FCDMC

**APPENDIX D**  
**List of Agencies Attending the Scoping Meeting**

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**LIST OF ATTENDEES**  
**11/6/97 SANTAN CHANNEL PROJECT SCOPING MEETING**

<b>Name</b>	<b>Organization</b>
Randy Shaw	Pima Agency, Bureau of Indian Affairs (BIA)
Bob Howard	Pima Agency, BIA
Robert Wilson	Arizona Department of Environmental Quality
Fred Ringlero	Gila River Indian Community (GRIC) Land Use Planning and Zoning Program (LUPZ)
Dale Gutenson	GRIC LUPZ
Lee Thompson	GRIC
John Rauchalk	GRIC
George Barrales	Environmental Consultant/LSWR
Bobbie Okler	Pima Agency, BIA
Bryan Patterson	City of Chandler
Robert Kuchard	Arizona Transportation Group
Ray Hedrick	Salt River Project
Diane Douglas	Logan Simpson & Dye
Diane Simpson-Colebank	Logan Simpson & Dye
Harry Millsaps	GRIC/Pima-Maricopa Irrigation Project
Rex Wahl	ENTRANCO