

### 3.2.8. Air Quality and Noise

#### 3.2.8.1. Air Quality

EPA Region 6 describes areas along the U.S.-Mexican border that do not meet National Ambient Air Quality Standards (NAAQS). El Paso County is designated as non-attainment for PM-10 (dust). The project area is in an area that fails to meet or attain NAAQS for particulate matter or PM-10. High particulate levels have been attributed to the many unpaved streets and roads in the lower valley (Parkhill, Smith & Cooper, Inc. and CH2M Hill 1997).

#### 3.2.8.2. Noise

Typical noise levels in the Project area may normally range from 25 to 60 dBA (A-weighted decibels) and is caused by existing nearby industrial facilities.

## 4.0 Environmental Consequences

### 4.1. Introduction

This chapter discusses the scientific and analytical basis for the summary comparison of effects in section 2.4 of Chapter 2. Included in the chapter are predicted effects of each alternative on selected environmental resources.

### 4.2. Predicted Effects on Each Relevant Issue and Resources

#### 4.2.1. Wildlife

##### **No Action A**

Lining the Canal with concrete, replacement of leaky gates and check structures would not occur. As a result, wildlife such as the Pecos River Muskrat would not be affected.

##### **Proposed Action B**

The Service has stated in a letter (see attached Appendix A) that habitat for federally listed threatened and endangered wildlife species is not known to exist on or near the proposed Project.

The Pecos River Muskrat known to exist in canals similar to the Canal was listed by the TPW as a as a species of concern; but not a threatened and endangered species by the Service. A presence or absence survey was conducted by the TPW within the proposed Project area and the adjacent Park. The survey identified muskrat fecal matter in the Canal and the Park, however, the fecal matter was not specifically identified with the Pecos River Muskrat.

Construction activities would only temporarily displace muskrat within the proposed Project site. After construction, the species would return to areas of the Canal not lined with concrete or relocate to the adjacent Park, the Rio Grande or nearby unlined canals.

Although construction activities will temporarily displace existing wildlife (20 mammal and 216 bird species), most would be able to return after Project completion. Wildlife species habitat may only be affected by relining the canal; however, these species would relocate to other easily accessible habitat nearby in the Park, the Rio Grande or nearby unlined canals.

### **Secondary and Cumulative Effects**

Canal lining would exclude that area for the Pecos River Muskrat by preventing burrows in the banks. However, since only a small portion of the Canal would be lined with concrete, the proposed action would not permanently affect the muskrat in the area which can move to another unlined portion of the Canal.

#### **4.2.2. Cultural Resources**

##### **No Action A**

There would be no change to the existing conditions and cultural resources like the Canal and check structures would continue to age.

##### **Proposed Action B**

The proposed Project to line the Canal with concrete will affect its historical features. However, the Texas Historical Commission responded to a description of the proposed action in a letter to Mr. Allen Rhames of Axiom-Blair Engineering from Lawrence Oaks the State Historic Preservation Officer, determining that the proposed Improvements to the Canal would have no adverse effects with two conditions that would be required as follows:

- 4.2.2.1.** The section of the Canal proposed to be lined would be required to be the same width (or as close to the same width as possible) as the current historic canal.
- 4.2.2.2.** As any future improvements to the Canal are made, a representative section shall be maintained in its original appearance and condition.

In addition to the Canal, the Pueblo has designated the Park as a Traditional Cultural Resource. The resources are traditional plants that are necessary for the Pueblo to carry on their cultural events. The lining of the Canal would not affect the traditional resources in the Park; however, the District has made provisions to enhance the establishment of wetland species in the Park, which include drilling a well for year round use, providing a turnout at the Bustamante Wastewater Treatment Plant, and helping the Friends to

acquire water rights. Water rights will provide the Friends an opportunity to apply for an additional turnout for water during the irrigation season would benefit the Park.

### **Secondary and Cumulative Effects**

The purpose of the Canal would not change. However, the appearance of the Canal would change within the Project area; but would not change outside of the Project area and as a result the historical look of the Canal would be preserved.

#### **4.2.3. Water Resources**

##### **No Action A**

There would be no change to the existing conditions. Existing conditions regarding leaky gates, check structures, and inefficient delivery would continue.

##### **Proposed Action B**

The groundwater level of the area under the Park is controlled by the elevation of the bottom of the Rio Grande, the Riverside Intercepting Drainage Canal, and the River Intercepting Drainage Canal. Currently, the groundwater level is greater than the bottom elevation of the drainage canals, and therefore the groundwater level is not controlled by the amount of seepage from the Canal. As long as these drains have flow, the elevation of the bottom of the drains controls the groundwater level in the Park area.

Furthermore, when excess water is available, the District has voluntarily made treated effluent water available to UTEP for application on the lands of the Park. Typically, approximately 45 cfs of water is provided to the Park from October to February of each year. This equals a volume greater than 10,000 acre-feet per year which exceeds by several times the amount of water that recharges the alluvium aquifer as a result of seepage from the portion of the Canal adjacent to the Park. Any decrease in the seepage from the Canal is more than offset by the application of water in excess to the plant needs during the winter. Much of this excess water infiltrates into the alluvium aquifer and will offset any reduction in seepage.

The UTEP operates the Park. UTEP or any other entity has several options for obtaining water during the summer months to help address plant sustainability. The City owns the land and the associated water rights associated with the park. The City can on a temporary or permanent basis assign rights that would allow UTEP to order and receive irrigation water during the summer months. The construction of the proposed conservation project will have no effect or impact on the status of the water rights associated with the park. In addition to obtaining water or water rights from the City, UTEP has received donations towards construction and operation of an irrigation well in the alluvium aquifer. During the drought of 2003 and 2004 many of the alluvium wells were operated with little decline in the water levels in the alluvium aquifer. The proposed



project will have no impact on UTEP alternatives for obtain irrigation water for use in sustaining plant life during the summer.

As mentioned in the Axiom-Blair report (See Appendix B) and above, the groundwater level in the region of the Park is controlled by elevation of the water flowing in the nearby drainage canals and not by the amount of water that seeps from the Canal. The amount of water that recharges the Hueco must flow through the clay confining layer at the bottom of the alluvium aquifer, and varies from location to location. However, in general the amount of recharge to the Hueco from the alluvium aquifer in the flood plain of the Rio Grande is small. Furthermore, because of the fluvial origins of the alluvium aquifer, the vertical conductivity is estimated to be only 1 to 5% of the horizontal conductivity. Any decrease in the groundwater elevation in the Park will have minimal effect on recharge (vertical flow of water) and cause water to flow horizontally towards the Park from the surrounding portions of the alluvium aquifer. UTEP's recharging of the alluvium aquifer using treated effluent offsets any possible reduction in recharge to the Hueco by keeping the groundwater levels in the alluvium aquifer greater than the bottom elevation of the nearby drainage canals. The proposed conservation project will have no or negligible reduction in the recharge of the Hueco from the alluvium aquifer in the vicinity of the Park.

### **Secondary and Cumulative Effects**

Elimination of seepage within the boundaries of the Project site would occur. However, this would have negligible effect to the Rio Grande alluvial aquifer. The purpose of the project would be to conserve water and improve delivery efficiency. As a result, increased water in the Canal would be available for farmers downstream of the Project site. Improvements to the Canal would help the District reduce the need for pumping water from the Hueco to provide irrigation water and provide efficient delivery of water to the City and farmers downstream.

#### **4.2.4. Wetlands**

##### **No Action A**

There would be no change to the existing conditions and no effects to any wetland resources.

##### **Proposed Action B**

The emergent wetland and the Park was planted with riparian vegetation that is being enhanced by water donated by the District during the non-irrigation season from a wastewater treatment plant nearby. The Project has been identified as a source of water (contingent upon water rights) to enhance the establishment of the emergent wetland.

If seepage were to be eliminated or significantly reduced as a result of lining the canal with concrete, the Park would not be affected because the aquifers would maintain the groundwater level. Pump tests have shown that the rate of recovery from pumping wells installed within a few feet of the Canal is very high (Axiom-Blair, 2007). Since recovery rate of water is very high, this shows that the aquifers would rapidly replace any water lost from Canal seepage.

The emergent wetland and the Park was planted with riparian vegetation that is being enhanced by water donated by the District during the non-irrigation season. In addition, District has made provision to enhance the establishment of wetland species in the Park. These enhancements include a well, a turnout at the Bustamante Wastewater Treatment Plant, and provisions for the Friends to acquire water rights. Water rights would provide the Friends an opportunity to apply for an additional turnout for water during the irrigation season that would enhance riparian and emerging wetland species.

No jurisdictional wetlands exist along or near the canal in the Park.

### **Secondary and Cumulative Effects**

None

#### **4.2.5. Vegetation**

##### **No action A**

There would be no change to the existing conditions and no effects to Vegetation.

##### **Proposed Action B**

With in the proposed project site, little vegetation exists as a result of being disturbed from the operation of the Canal. Reconstruction and lining of the Canal with concrete would temporarily impact vegetation. However, after construction plants are expected to be rapidly reintroduced to open soil areas from adjacent undisturbed plants.

### **Secondary and Cumulative Effects**

Only the area of the concrete lining would prevent plant growth, while plants would be reintroduced to open soil areas.

#### **4.2.6. Environmental Justice**

##### **No Action A**

There would be no effects expected of any kind to the local population. No adverse effects to low-income or minority populations are anticipated.

### **Proposed Action B**

The Proposed Action would result in a variety of environmental effects that do not disproportionately affect minority populations or low-income communities. The Pueblo is concerned about potential effects that the Project may have on the Park, which is a Traditional Cultural Resource of special significance to the Pueblo. If the Project were to impact the Park, then that would be considered a disproportionate impact to a minority population. However, because water level within the Park is influenced by groundwater level which is not affected by canal seepage, the loss of seepage will have no effect on the Park. Thus, no environmental justice implications are anticipated.

### **Secondary and Cumulative Effects**

None

#### **4.2.7. Indian Trust Assets**

##### **No Action A**

There would be no effects to ITAs.

##### **Proposed Action B**

Although these are resources of special significance to the Pueblo, there are no ITAs (Assets held in trust by the Federal Government) within the Project area or within the vicinity to be affected.

### **Secondary and Cumulative Effects**

As a result of no effects to ITAs, there would be no cumulative effects.

#### **4.2.8. Air Quality and Noise**

##### **No Action A**

There would be no change to the existing conditions and no effects to air quality or noise.

##### **Proposed Action B**

During the reconstruction of the Canal and the placement of the new check structures, the construction equipment, as trucks and bulldozers, will cause an increase to the existing dust (PM10) and noise levels: dust from the unlined Canal and noise from nearby industrial facilities. Nearby houses and others will be impacted by this increase in dust and noise, which will return to normal levels after construction ends. During the Project, the times of construction will be restricted to avoid interfering with religious ceremonies of the Pueblo.

### **Secondary and Cumulative Effects**

Upon completing the Project, dust and noise from construction would be eliminated. As a result, no cumulative effects are expected in the future.

#### **4.3. Irreversible and Irretrievable Commitment of Resources.**

Seepage to the regional aquifer from the lined Canal would decrease. Vegetation currently existing on the banks of the Canal would be impacted but should return on open soil areas. Federal and District funds would be committed towards construction of the Project.

#### **5.0 Environmental Commitments**

**5.1.** Construction activities would be coordinated with the Pueblo so as not to interfere with their religious ceremonies.

**5.2.** Reclamation is committed to ongoing government to government relations with the Pueblo.

**5.3.** A letter from the THC can be found at Appendix A. The letter lists a few conditions if the project were to be implemented.

The THC requires that the section of the Canal that would be lined should be the same width (or as close to the same width as possible) as the current historic canal. In addition, the THC requires that a representative section of the canal shall be maintained in its original appearance and condition in the event of any future improvements to the Canal.

**5.4.** Should evidence of possible scientific, prehistorical, historical, or archeological data be discovered during the course of this action, work shall cease at that location and the Area archaeologist shall be notified by phone immediately, with the location and nature of the findings. Care shall be exercised so as not to disturb or damage artifacts or fossils uncovered during operations, and the proponents shall provide such cooperation and assistance as may be necessary to preserve the findings for removal or other disposition by the Government.

Any person who knows or has reason to know that he or she has inadvertently discovered human remains on Federal or tribal lands, must provide immediate telephone notification of the inadvertent discovery, with written confirmation, to the responsible Federal agency official with respect to Federal lands, and, with respect to tribal lands, to the responsible Indian tribe official. The requirement is prescribed under the Native American Graves Protection and Repatriation Act (P.L. 101-601; 104 Stat. 3042) of November 1990 and National Historic Preservation Act, Section 110(a)(2)(E)(iii) (P.L. 102-575, 106 Stat. 4753) of October 1992.