

3.0 Affected Environment

3.1. Introduction

The relevant resources described in this chapter are those that would have the potential to be affected by the alternatives if they were implemented. The effects (impacts or issues) to these resources created by the alternatives if implemented are discussed in Chapter 4.

3.2. Description of Relevant Resources (see issues from 1.6 of Chapter 1)

3.2.1. Wildlife

Approximately 20 mammal and 216 bird species occur on or near the proposed project site. No known federal Threatened and Endangered species occur on or near the proposed project site. However, the Pecos River Muskrat (Muskrat) which is on the State of Texas Parks and Wildlife Threatened list has been sighted 3 to 4 miles southeast in irrigation ditches. In addition, the Muskrat is also known to live in canal systems and around hydraulic structures (Prevention and Control of Animal Damage to Hydraulic Structures, Hegdal and Harbour USDA, BOR, US Government Printing Office, April 1991. page 51.).

3.2.2. Cultural Resources (Issue #2 Historic Features of the Riverside Canal)

The proposed project takes place entirely within the El Paso County Water Improvement District No.1, which is included on the National Register of Historic Places. Three hydraulic structures in excess of 50 years of age would be replaced in the proposed project area. These structures include the Franklin, Partidor, and Wasteway One Check structures. In addition, the width of the Canal in the project area will be modified. Pages 12 and 13 show pictures of the existing structures on the National Register of Historic Places:

View of the upstream side of Franklin Check Structure (on the left) and the Partidor Check Structure (on the right).



View of the existing Wasteway One and Check Structure on the left.



Typical view of the width of the Riverside Canal as it currently exists



3.2.3. Wetlands

The Rio Bosque Wetlands Park (Park) which exists by name only near the project site does not fit the US Army Corps of Engineer's definition of a wetlands. The following is the definition from 33 CFR § 328.3(b):

The term wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

In addition to the previous definition, the US Army Corps of Engineers Wetlands Delineation Manual requires that one of each of the following criteria for a wetland must exist:

1. Vegetation that has the ability to grow in anaerobic soil conditions (prevalent saturated soil).
2. Soils that have been classified as hydric (saturated conditions that persist for at least 30 consecutive days or more and destroy aerobic bacteria conditions).
3. The area is inundated either permanently or periodically. In addition, surface observation as well as observation within the first 12 to 16 inches of the soil surface showing saturated soil conditions.

The Park may have some of the criteria listed above but not all and as a result would not be considered a wetland.

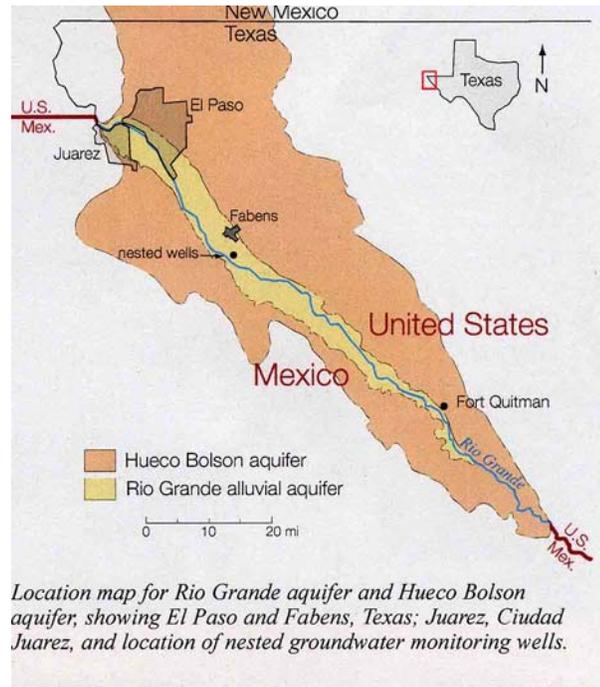
3.2.4. Water Resources (groundwater)

The Aquifer that may be affected by the proposed project is called the Rio Grande Alluvium (Alluvium). This aquifer is located unconfined on top of the Hueco Bolson aquifer and hydraulically connected (IBWC 1993). The Hueco Bolson is the principal aquifer for the Lower El Paso Valley and the Juarez areas. It occupies the majority of El Paso County (see Figure 7, page 15).

The water table of the Alluvium in 1993 was approximately 12 feet. During an aquifer test in 2007 (Axiom-Blair 2007), the Alluvium water table was about 16 feet as compared to 15 feet measured by Alvarez (Alvarez 1980).

Axiom-Blair refers to the shallow unconfined water table during a pump test of a well (CW6) located on the access road of the Riverside Canal. The table on page 15, following Figure 7, is additional data regarding the depth to ground water at other wells along the access road (Figure 8, page 16) adjacent to the Rio Bosque Park:

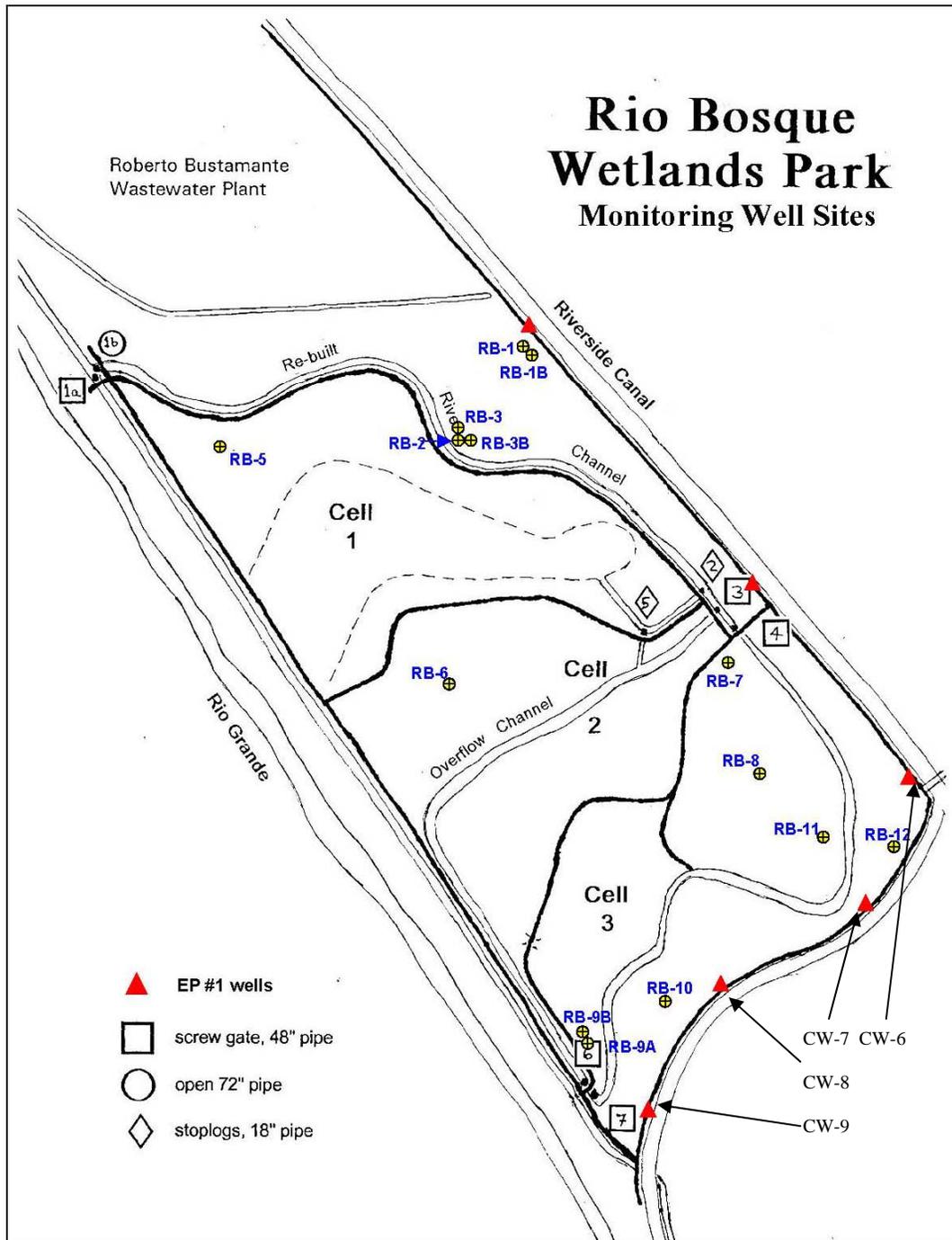
Figure 7.



WELL MEASUREMENTS ALONG THE CANAL REPRESENTING THE ALLUVIUM WATER TABLE		
Well Number	April 11, 2007	April 30, 2007
CW-3	16.3	16.4
CW-4	16.8	17
CW-5	15.8	16
CW-6	17.6	17.4
CW-7	20	19.7
CW-8	17.5	17.1
CW-9	19.6	18.2
Socorro Pond Well	16.1	No measurement

WELL MEASUREMENTS IN THE BOSQUE PARK NEXT TO THE CANAL	
RB-1	9.3
RB-3	8
RB-5	10.2
RB-6	10.4
RB-7	10.4
RB-8	10
RB-9A	15.3
RB-9B	15.4
RB-10	11.5
RB-11	10.9

Figure 8.



Notice in the table, on page 15, wells labeled “RB”. These are groundwater measurement wells in the Bosque Park next to the canal (Figure 8). RB-11 (water table at 10.9 feet) is close to CW-6 (water table at 16 feet) used as the well for the pump test (Axiom-Blair). However, the groundwater table in either case is at the same elevation of 3650 feet above sea level.

The pump test of CW-6, referred to in the previous paragraph, was conducted by Axiom-Blair in July of 2007. Results indicate that after 15 hours of pumping, the CW-6 and CW-7 recovered from the pumping to near the original elevation 6 hours after the pumping stopped. Since wells RB-10 and 11 in the Bosque Park are adjacent to the test wells, recovery of water in those wells are expected to be the same.

Sources of water in the shallow alluvium comes from nearby irrigation, canals systems, and as a result of the hydrologic connection to the deeper Aquifer known as the Hueco Bolson.

3.2.5. Vegetation (Ysleta del Sur Pueblo affected resources)

The following is a table listing traditional plants of the Ysleta del Sur Pueblo in or near the proposed Riverside Canal lining project:

Common Name	Scientific Name (Genus)	Existing in the Riverside Canal
Cottonwood	Populus	No
Grass	Poaceae	Yes
Jaras	Salix	Yes
Jaria	Asteraceae	Yes
Jimson Weed	Datura	No
La lengua de vaca	Rumex/Rheum	No
Quelites	Chenopodium	No
Quelites	Amaranthus	No
Sunflower	Helianthus	No
Te de abuela	Polygonum	No
Tornillo	Prosopis	No
Toritos	Tribulus	No
Trompillo	Solanum	No
Varas	Salix	Yes

Only four plants from this list were found in the canal and proposed project area. The rest of the plants listed are known to exist near the proposed project. (See chapter 4 consequences of the project on traditional and sacred plants)

3.2.6. Environmental Justice

Federal agencies are required to identify and address disproportionately high and adverse human health or environmental effects of its activities on minority and low-income populations. The proposed project site was selected based on the need to reduce seepage and evaporation from the canal. The project would therefore provide additional water through conservation to the farmers of the district. If the proposed project was implemented, additional water would be available for agriculture and, therefore, enhance the possibility of low income families to obtain employment. This project would not have any disproportionate effects on minority or low-income populations.

3.2.7. Indian Trust Assets

Indian trust assets (ITAs) are legal interests in property held in trust by the U.S. for Indian tribes or individuals. For example, ITAs include land, minerals, hunting and finishing rights, and water rights. The proposed project is not anticipated to have any effect on ITAs. The Ysleta del Sur |Pueblo was formally consulted with regarding identification of potential effects on ITAs, traditional cultural properties, sacred sites and other resources important to the Pueblo. No potential concerns related to ITAs have been identified.

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).