

**ENGINEERING REPORT  
FOR BOND AUTHORIZATION**

**REUNION RANCH  
WATER CONTROL AND  
IMPROVEMENT DISTRICT**

**FEBRUARY 2006**

Prepared by:

Urban Design Group  
3660 Stoneridge Road, Suite E101  
Austin, TX 78746  
(512) 347-0040  
Fax (512) 347-1311



## SECTION I - INTRODUCTION

### PURPOSE AND SCOPE

This report presents the results of an engineering study to determine the amount of the first bond authorization for the Reunion Ranch Water Control and Improvement District (District). The purpose of the study is to present cost estimates and other relevant data to support the authorization.

The proposed improvements contemplated herein will benefit all of the land to be included in the District. The projects are required to ensure orderly development of the land and the protection of public health and safety.

## SECTION II - PROJECT DESCRIPTION

### EXISTING AREA, CONDITIONS, & TOPOGRAPHY

The Reunion Ranch Water Control and Improvement District includes approximately 491 acres in northern Hays County, Texas. The District is located approximately 16 miles southwest of Austin and 6 miles from Highway 290 West off of FM1826. Access to the tract is provided from FM1826. See the attached vicinity map (Exhibit No. 1).

The District presently consists mainly of rangeland and dense woodlands with gently rolling to steep grades ranging in slope from 2 percent to very steep. Elevations range from 872 to 1006 feet mean sea level. The District is located within the Bear Creek watershed, with Bear Creek running west to east near the middle of the District.

There are no existing public roads within the District's boundaries. Exhibit No. 2 shows the 100-year floodplain areas in the District.

### LAND USE PLAN

Exhibit Nos. 2, 3 & 4 show the planned street pattern, land use, and proposed water, wastewater and drainage facilities. The plan of development for the area within the District calls for 462 single family homes.

In this report, utility system demands and capacities are expressed in living unit equivalents

(LUE). A LUE is defined as the water or wastewater demand from a typical single family residential connection. A single-family connection is assumed to consist of 3.5 people using an average of 245 gallons of water per person per day. Projected utility system demands based on 462 single family homes is 462 LUEs.

## PROPOSED IMPROVEMENTS

### General

This section of the report describes the proposed facilities necessary to serve the District based on the development plan and land uses described above. The proposed water, wastewater, and drainage systems as well as the land uses are illustrated by Exhibit Nos. 2, 3, and 4 of this report.

### Design Considerations

The District is not located in the corporate limits of any City. All water, wastewater, and storm drainage projects for the District will be designed and constructed in accordance with the Texas Commission on Environmental Quality (TCEQ) and Hays County rules. Plans will be submitted to the Texas Commission on Environmental Quality Commission as required for review and approval prior to construction.

### Water Supply and Distribution

The water supply and distribution system required to serve the District area is shown on Exhibit No. 3 and is designed for the land uses and development plan described above. The distribution system consists of a network of arterial and connecting loop mains with treated water supplied by the LCRA under raw and treated water agreements. Offsite water lines to supply the District will be designed and constructed by the developer for LCRA under agreements between Reunion Ranch W.C.I.D., Cypress Creek Development, Pulte Homes, and the LCRA.

No entity holds a Certificate of Convenience and Necessity (CCN) for land within the proposed District. The District will be applying for a CCN for the area encompassing the District with TCEQ.

The design of a water supply and distribution system is based on a projection of the water demand conditions based on service connections, and the pressure at which it must be supplied. The proposed system design will meet or exceed the minimum standards established by TCEQ.

### Wastewater Collection and Treatment

The proposed wastewater collection and treatment system is shown on Exhibit 3. Wastewater treatment will be provided at two on-site wastewater treatment plants with adjoining effluent storage/dosing tanks. Wastewater effluent disposal will occur on-site at subsurface drip irrigation facilities. Municipal Wastewater System Permits have been applied for thru TCEQ. The permit for the Phase 1 plant was issued May 17, 2005 (Permit # WQ0014480001). The permit for the Phase 2 plant is forthcoming (Permit # WQ0014480002).

The wastewater system required to serve the District area is shown on Exhibit No. 4, and will be designed to meet or exceed the minimum state requirements for the land uses and development plan described above.

### Storm Drainage System

The proposed District is located in the Bear Creek watershed, with Bear Creek running west to east near the middle of the District. The proposed storm drainage system is shown in Exhibit No. 4. Conveyance of stormwater to proposed water quality facilities will occur in channels, pipes and as overland flow. Design of the drainage system will be based on Hays County requirements.

### 100 YEAR FLOODPLAIN

Both Bear Creek and its tributary to the north (just north of the District boundaries) are FEMA designated waterways. There will not be any homes or other improvements, except for roadway crossings, constructed in the 100-year flood plain.

### EXISTING AND PROJECTED POPULATION

Projections of future population are shown in Table No. 2:

**TABLE NO. 2**  
**Buildout Schedule and Population Projections**

Year	Homes Added	Cumulative Homes	Population (Cumulative)
2007	100	100	350
2008	95	195	1225
2009	90	285	997.5
2010	90	375	1312.5
2011	87	462	1617

All units in the above projections are single family homes. Population is calculated using an average of 3.5 persons per unit.

SECTION III - FINANCIAL INFORMATION

COST SUMMARY

A cost summary which indicates the estimated costs of the proposed District facilities plus the total bond issue requirement is given in Table No. 3.

**TABLE NO. 3  
Bond Issue Requirement**

	<b>AMOUNT</b>	<b>DISTRICT SHARE 100%</b>
<b>CONSTRUCTION COSTS</b>		
Water System	3,066,912	3,066,912
Wastewater System	7,054,098	7,054,098
Drainage Improvements	1,926,805	1,926,805
Erosion/Sed Control for above	75,132	75,132
Contingencies (15% of above)	1,818,442	1,818,442
Engineering & Surveying (12% of above)	1,672,967	1,672,967
Impact Fees	1,986,600	1,986,600
Endangered Species Mitigation	600,000	600,000
<b>TOTAL CONSTRUCTION COSTS</b>	<b>18,200,956</b>	<b>18,200,956</b>
<b>NON-CONSTRUCTION COSTS</b>		
Bond Counsel Fees (2% BIR)		524,590
Fiscal Agent Fees (2% BIR)		524,590
Interest Costs		
Capitalized Interest (2 yrs @ 6.5%)		3,409,835
Developer Interest (2 yrs on Constr Cost)		2,366,124
Underwriter's Discount (3% BIR)		786,885
Bond Issuance Expense		90,000
Bond Engineering Report		110,000
TCEQ Fee (.25% BIR + \$500)		66,074
Creation, Organizational & Operational		150,946
<b>TOTAL NON-CONSTRUCTION COSTS</b>		<b>8,029,044</b>
<b>TOTAL BOND ISSUE REQUIREMENT (BIR)</b>		<b>26,230,000</b>







