Resolution No. 2010-
Exhibit "A"

Water Conservation Plan for
City of League City
September 2010

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Water Conservation Plan for City of League City

1. OBJECTIVES

Recognizing the need for efficient use of existing water supplies, the Texas Commission on Environmental Quality (TCEQ) has developed guidelines and requirements governing the development of water conservation plans for public water suppliers.

The objectives of this water conservation plan are as follows:

- To reduce water consumption from the levels that would prevail without conservation efforts
- To reduce the loss and waste of water
- To improve efficiency in the use of water
- To document the level of recycling and reuse in the water supply
- To extend the life of current water supplies by reducing the rate of growth in demand

The water conservation plan presented in this document includes all of the elements required by TCEQ. It includes the following:

- A water utility profile
- Five and ten year goals per capita water use
- A continuous program of leak protection, repair, and water loss accounting
- A program of continuing education and information regarding water conservation
- An ordinance approving the plan

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

2.1 Conservation Plans

The TCEQ rules governing development of water conservation plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a water conservation plan is defined as "A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water[1]." The elements in the TCEQ water conservation rules covered in this conservation plan are listed below.

Minimum Conservation Plan Requirements

The minimum requirements in the Texas Administrative Code for Water Conservation Plans for Public Water Suppliers are covered in this report as follows:

- 288.2(a)(1)(A) – Utility Profile – Section 3 and Appendix C
- 288.2(a)(1)(B) – Specification of Goals – Section 4
- 288.2(a)(1)(C) – Five and Ten Year Goals for Water Savings – Section 4.1
- 288.2(a)(1)(D) – Accurate Metering – Section 5.1
- 288.2(a)(1)(E) – Universal Metering – Section 5.1
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- 288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 7
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Section 8.2
- 288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 9
- 288.2(a)(1)(K) – Coordination with Regional Water Planning Group – Section 8.5

Conservation Additional Requirements (Population over 5,000)

The Texas Administrative Code includes additional requirements for water conservation plans for cities with a population over 5,000:

- 288.2(a)(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Sections 5.3, 5.4, and 5.5
- 288.2(a)(2)(B) – Record Management System – Section 5.2
- 288.2(a)(2)(C) – Requirement for Water Conservation Plans by Wholesale Customers - Section 8.4

Additional Conservation Strategies

TCEQ rules also list additional optional but not required conservation strategies, which may be adopted by suppliers. The following optional strategies are included in this plan:

- 288.2(a)(3)(A) – Conservation Oriented Water Rates – Section 7
- 288.2(a)(3)(B) – Ordinances, Plumbing Codes or rules on Water Conserving Fixtures – Section 8.1
- 288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 8.3
- 288.2(a)(3)(G) – Monitoring Method – Section 5.5

3. WATER UTILITY PROFILE

Appendix C to this water conservation plan is a City of League City water utility profile based on the format recommended by the TCEQ.

[1] Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, rules 288.1 and 288.2, and Subchapter B, Rules 228.20, downloaded from http://www.tnrcc.state.tx.us/oprd/rules/pdflib/288.2.pdf, November 2003.

4. SPECIFICATIONS OF WATER CONSERVATION GOALS

The goals for this water conservation plan include the following:

- Strive to attain the per capita municipal water use below the specified amount in gallons per capita per day shown on Table C-1 using a 5-year rolling average calculation. (See 5-year and 10-year goals in Appendix C)
- Conduct water audits as required by the TCEQ and maintain unaccounted for water to 5% of the total water used through existing and new maintenance programs.
- Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program, as discussed in Section 6.

4.1 QUANTITATIVE FIVE AND TEN YEAR GOALS

Effective May 1, 2005 Water Conservation plans must include quantitative five and ten year goals for water savings to include goals for water loss programs and goals for "municipal use in gallons per capita per day."

The City's current 5-year average Per Capita Municipal Use is 127.89 gpcd. The 5-year goal is 121.49 gpcd, reflecting a 5% projected reduction due to elements in this plan and our water conservation goal of 6.40 gpcd. The 10-year goal is 115.41 gpcd, reflecting an additional 5% projected reduction, again due to the elements in this plan and our water conservation goal of 6.08 gpcd.

The City's current average water loss is 50 gpcd, which is 5%. The 5-year goal is 47.50 gpcd, which is 5%, and the 10-year goal is 45.12 gpcd, which is 5%

5. METERING, WATER USE RECORDS, CONTROL OF UNACCOUNTED WATER, AND LEAK DETECTION AND REPAIR

One of the key elements in water conservation is careful tracking of water use and control of losses through illegal diversions and leaks. Careful metering of water deliveries and water use, detection and repair of leaks in the distribution system and regular monitoring of unaccounted water are important in controlling losses.

5.1 Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement

All customers of the City of League City are metered.

The City tests and replaces their customer meters on a regular basis. All customer meters are replaced on a 10-year cycle.

Beginning in 2011, the City will begin a capital meter replacement program having three phases. Phase One (2011) will replace 6,963 meters; Phase Two (2012) will replace 11,489 meters, and Phase Three (2013) will replace 2,176 meters. This will further our efforts to correct inaccuracies in customer meters and help to decrease unaccounted water.

5.2 Record Management System

Within the next five years, as required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), the record management system will allow for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information will be included in an annual water conservation report, as described in Section 5.5 below.

The present record management system does separate water sales and uses by category.

5.3 Determination and Control of Unaccounted Water

Unaccounted water is the difference between water delivered to customers and metered deliveries to customers plus authorized but unmetered uses. (Authorized but unmetered uses would include use for fire fighting, releases for flushing of lines, and uses associated with new construction.) Unaccounted water can include several categories:

- Inaccuracies in customer meters. (Customer meters tend to run more slowly as they age and under-report actual use.)
- Accounts which are being used but have not yet been added to the billing system.
- Losses due to water main breaks and leaks in the water distribution system.
- Losses due to illegal connections and theft. (Included in Appendix H.)
- Other

Measures to control unaccounted water are part of the routine operations of water suppliers. Water audits are useful methods of accounting for water usage within a system. Water audits will be conducted by water suppliers in order to decrease water loss. Maintenance crews and personnel will look for and report evidence of leaks in the water distribution system. The leak detection and repair program is described in Section 5.5 below. Meter technicians are asked to watch for and report signs of illegal connections, so they can be addressed quickly. Unaccounted water calculated as part of the utility profile and is included in Appendix C.

5.4 Leak Detection and Repair

City crews and personnel will look for and report evidence of leaks in the water distribution system. Areas of the water distribution system in which numerous leaks and line breaks occur are targeted for replacement as funds are available.

5.5 Monitoring of Effectiveness and Efficiency – Annual Water Conservation Report

(Appendix D is a form that will be used in the development of an annual water conservation report for water suppliers.)

An annual conservation report will be completed by May 1 of each year and will be used to monitor the effectiveness and efficiency of the water conservation program and to plan conservation-related activities for the next year. This report will record the water use by category, per capita municipal use, and unaccounted water for the current year and compares them to historical values.

6. CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN

The continuing public education and information campaign on water conservation includes the following elements:

- Educate the public through the use of a local municipal channel to providing coverage of water conservation issues, reporting on the importance of water conservation, and encouraging and promoting water re-use.
- Make information on water conservation available on the Water Production webpage located in the City of League City's website, and include links to the *Texas Smartscape* website and link to information on water conservation on the TWDB and TCEQ websites.
- The Harris-Galveston Coastal Subsidence district will continue to present the specially tailored version of the National Waterwise program in area schools.
- Support the State-initiated Water Conservation Awareness and Education Campaign.
- Continue to provide water saving devices for kitchen and bathroom along with water conservation materials to the public during the annual City of League City's open house.
- Utilize local public venues to advertise water conservation awareness. Big League Dreams is the City's largest sports related venue and has agreed to post signage and allow City staff to distribute water conservation material.

7. WATER RATE STRUCTURE

An increasing block rate water structure that is intended to encourage water conservation and discourage excessive use and waste of water will be implemented by 2012.

Residential Rates

1. For the first 3,000 gallons (minimum) = $7.13 per 1,000 gallons
   Each additional 1,000 gallons of water = $5.90 per 1,000 gallons

Commercial/Industrial Rates

Re-Use Rates

1. Re-use rates = $0.27 per 1,000 gallons

8. OTHER WATER CONSERVATION MEASURES

8.1 Ordinances, Plumbing Codes or Rules on Water Conserving Fixtures

The State of Texas has required water conserving fixtures in new construction and renovations since 1992. The state standards call for flows of no more than 2.5 gallons per minute (gpm) for faucets, 3.0 gpm for showerheads, and 1.6 gallons for flush for toilets. Similar standards are now required nationally under federal law. These state and federal standards assure that all new construction and renovations will use water conserving fixtures. In addition, federal standards governing clothes washing machines require all washers produced since 2007 to meet higher efficiency standards. The potential savings from these fixtures can be significant, but historically have been difficult to measure independently from other factors. The City of League City has

adopted by ordinance the International Plumbing Code (IPC) dated 1999 and IPC revisions in 2002.

8.2 Reservoir System Operation Plan

The City of League City purchases water from the Gulf Coast Water Authority and does not have surface water supplies for which to implement a reservoir system operation plan.

8.3 Consideration for Landscape Water Management Regulations (Optional)

- In 2009/2010, the City took steps to remove various developments' amenities lakes systems off of irrigation meters.
- The City encourages the use of xeriscaping and rain water harvesting and is working on providing incentives to encourage residents to utilize these systems. In conjunction with this, the City will be developing design construction standards and details for re-use facilities for inclusion in the "Design and Construction Standards" manual.
- Within the next two years, the City will have an ordinance that will discourage, if not prohibit, the installation of new irrigation systems.
- The Southwest Water Reclamation Facility (SWWRF) is a 4 MGD wastewater treatment plant that is currently under construction and required to serve the City's west service area. This facility is designed to discharge TYPE I effluent quality (Title 30 TAC Chapter 210) for irrigation of large public green spaces and amenity water features.

8.4 Requirement for Water Conservation Plans by Wholesale Customers

The City of League City has no wholesale customers.

8.5 Coordination with Regional Water Planning Group

In accordance with TCEQ regulations, a copy of this adopted water conservation plan will be sent to the Region H Water Planning Group.

8.6 Current Conservation Measures

The City of League City currently has several conservation measures in place. The largest non-indoor uses in our system are irrigation and the largest irrigators, other than the City Parks Department, are private golf courses and the Clear Creek Independent School District.

- The City is negotiating an agreement with the Clear Creek Independent School District to irrigate athletic fields adjacent to the existing reuse distribution system.
- The City has entered a Professional Services Agreement with an engineering firm to perform a Re-Use Feasibility Study. The study will identify potential users and evaluate the business aspect of providing reuse irrigation.
- The City approved a capital improvement project that increases the existing reuse distribution system on the City's eastside service area.
- The City recently completed the expansion and improvements of its' largest wastewater treatment facility, Dallas Salmon Wastewater Treatment Plant (DSWWTP). Improvements included tertiary filtration to provide TYPE I Reuse effluent quality and enhance UV disinfection performance. The City has

provided irrigation water to its' largest golf course for 27 years, pumping over 180 million gallons of irrigation water over a three year period.

- The City encourages the use of xeriscape and rain water harvesting.
- In 2011, the City will require new development and redevelopment to utilize water conservation techniques by revising zoning and subdivision regulations. Developments will begin with a base number of units that is below what is currently allowed. Additional density will be permitted according to the types of water conservation and stormwater management techniques are added to the project.
- The city is actively seeking grant assistance to establish model projects promoting water conservation and stormwater management.
- The city has entered into an agreement with an engineering firm to perform water modeling and water master planning to further identify means to sustain existing water capacity and provide for future water needs.
- The City has secured a grant from TWDB for a "Water Smart Park" for conservation education.

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9. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN

A copy of the resolution adopted by the City Council regarding this water conservation plan is attached to and made part of this plan. The official responsible for the implementation of the Water Conservation Plan is Rich Oller, Assistant City Manager, Public Works.

APPENDIX A

List of References

Appendix A
List of References

(1) Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rules 288.1 and 288.2 and Subchapter B, Rules 288.20, downloaded from http://www.tnrcc.state.tx.us/oprd/rules/pdflib/288a.pdf, November 2003.

The following conservation plans and related documents were reviewed in the development of this plan.

(2) Texas Commission on Environmental Quality Water Utility Profile, downloaded from http://www.tceq.tx.us/assets/public/permitting/forms/10218.pdf

(3) Texas Water Development Board: Report 362, "Water Conservation Best Management Practices Guide", Austin, November 2004

Appendix B

Texas Commission on Environmental Quality Rules on Municipal Water Conservation Plans

APPENDIX B

Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 288	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
SUBCHAPTER A	WATER CONSERVATION PLANS
RULE §288.2	**Water Conservation Plans for Municipal Uses by Public Water Suppliers**

(a) A water conservation plan for municipal water use by public water suppliers must provide information in response to the following. If the plan does not provide information for each requirement, the public water supplier shall include in the plan an explanation of why the requirement is not applicable.

(1) Minimum requirements. All water conservation plans for municipal uses by public drinking water suppliers must include the following elements:

(A) a utility profile including, but not limited to, information regarding population and customer data, water use data, water supply system data, and wastewater system data;

(B) until May 1, 2005, specification of conservation goals including, but not limited to, municipal per capita water use goals, the basis for the development of such goals, and a time frame for achieving the specified goals;

(C) beginning May 1, 2005, specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use, in gallons per capita per day. The goals established by a public water supplier under this subparagraph are not enforceable;

(D) metering device(s), within an accuracy of plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply;

(E) a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement;

(F) measures to determine and control unaccounted-for uses of water (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections; abandoned services; etc.);

(G) a program of continuing public education and information regarding water conservation;

(H) a water rate structure which is not "promotional," i.e., a rate structure which is cost-based and which does not encourage the excessive use of water;

(I) a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin in order to optimize available water supplies; and

(J) a means of implementation and enforcement which shall be evidenced by:

(i) a copy of the ordinance, resolution, or tariff indicating official adoption of the water conservation plan by the water supplier; and

(ii) a description of the authority by which the water supplier will implement and enforce the conservation plan; and

(K) documentation of coordination with the regional water planning groups for the service area of the public water supplier in order to ensure consistency with the appropriate approved regional water plans.

(2) Additional content requirements. Water conservation plans for municipal uses by public drinking water suppliers serving a current population of 5,000 or more and/or a projected population of 5,000 or more within the next ten years subsequent to the effective date of the plan must include the following elements:

(A) a program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system in order to control unaccounted-for uses of water;

(B) a record management system to record water pumped, water deliveries, water sales, and water losses which allows for the desegregation of water sales and uses into the following user classes:

(i) residential;

(ii) commercial;

(iii) public and institutional; and

(iv) industrial;

(C) a requirement in every wholesale water supply contract entered into or renewed after official adoption of the plan (by either ordinance, resolution, or tariff), and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements in this chapter. If the customer intends to resell the water, the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.

(3) Additional conservation strategies. Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements in paragraphs (1) and (2) of this subsection, if they are necessary to achieve the stated water conservation goals of the plan. The commission may require that any of the following strategies be implemented by the water supplier if the commission determines that the strategy is necessary to achieve the goals of the water conservation plan:

(A) conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;

(B) adoption of ordinances, plumbing codes, and/or rules requiring water-conserving plumbing fixtures to be installed in new structures and existing structures undergoing substantial modification or addition;

(C) a program for the replacement or retrofit of water-conserving plumbing fixtures in existing structures;

(D) reuse and/or recycling of wastewater and/or gray water;

(E) a program for pressure control and/or reduction in the distribution system and/or for customer connections;

(F) a program and/or ordinance(s) for landscape water management;

(G) a method for monitoring the effectiveness and efficiency of the water conservation plan; and

(H) any other water conservation practice, method, or technique which the water supplier shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

(b) A water conservation plan prepared in accordance with 31 TAC §363.15 (relating to Required Water Conservation Plan) of the Texas Water Development Board and substantially meeting the requirements of this section and other applicable commission rules may be submitted to meet application requirements in accordance with a memorandum of understanding between the commission and the Texas Water Development Board.

(c) Beginning May 1, 2005, a public water supplier for municipal use shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The public water supplier for municipal

use shall review and update the next revision of its water conservation plan not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group.

Source Note: The provisions of this §288.2 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384

Appendix C
Water Utility Profile

APPENDIX C
Water Utility Profile Based on TCEQ Format

The purpose of the Water Utility Profile is to assist an applicant with water conservation plan development and to ensure that important information and data be considered when preparing your water conservation plan and goals. You may contact the Municipal Water Conservation Unit of the TWDB at 512-936-2391 for assistance, or the Resource Protection Team at 512-239-4691 if submitted to the TCEQ.

Name of Utility:	City of League City
Address & Zip	300 West Walker, League City, TX 77573
Telephone Number:	281-554-1041
Fax Number:	281-554-1044
Form Completed by:	Jody Hooks
Title:	Utility Manager, Water
Signature:	_____
Date:	

Name and phone number of person/department responsible for implementing a water conservation program:
Name: Rich Oller, Assistant City Manager, Public Works
Phone Number: 281-554-1411

I. CUSTOMER DATA

A. Population and Service Area Data

1. Please attach a copy of your Certificate of Convenience and Necessity (CCN) from the TCEQ, and a service area map. **Attachment 1**
2. Service area size (square miles): 52.82
3. Current population of service area 71,530
4. Current population serviced by utility:
   - Water: 71,530
   - Wastewater: 71,530

5. Population served by utility for the previous 5 years.

Year	Population
2005	58,546
2006	61,393
2007	65,374
2008	68,504
2009	71,530

6. Projected population for the service area in the following decades:

Year	Population
2010	71,530
2020	Not available
2030	Not available
2040	Not available
2050	Not available

7. List source(s)/method(s) for the calculation of current and projected population:

CDS Market Research

B. Active Connections

1. Current number of active connections by user type. If not a separate classification, check whether multi-family service is counted as Residential or Commercial.

Treated Water Users	Metered	Not-Metered	Total
Residential-Single-Family	25,421	0	25,421
Residential-Multi-Family	187	0	187
Commercial	1399	0	1,290
Industrial	0	0	0
Public	0	0	0
Other	60	0	60

2. List the net number of new connections per year for most recent three years:

Year	2007	2008	2009
Residential-Single- Family	1,446	799	667
Residential-Multi-Family	0	8	(8)
Commercial	79	69	(23)
Industrial	0	0	0
Public	0	0	0
Other	0	1	1

C. High Volume Customers

List annual water use for the five highest volume retail and wholesale customers (Please indicate if treated or raw water delivery.)

	Customer	Use (1,000 gal/yr)	Treated OR Raw
(1)	Fairways at South Shore	13,614	Treated
(2)	Haven at South Shore	12,468	Treated
(3)	MF/UM Tuscan Land, LTD	12,190	Treated
(4)	Lakes of South Shore Har	11,657	Treated
(5)	Palms Investors	11,609	Treated

II. WATER USE DATA FOR SERVICE AREA

A. Water Accounting Data

1. Amount of water use for previous five years (in 1,000 gal):

Please indicate: Diverted Water _____

Treated Water ___X___

	2005	2006	2007	2008	2009
January	179,491	202,067	207,283	215,805	247,096
February	151,846	182,324	179,174	189,029	218,592
March	185,976	234,173	220,026	229,249	261,045
April	223,402	260,615	219,704	261,775	277,254
May	265,510	259,713	250,132	315,179	326,042
June	303,627	258,258	271,534	329,748	406,337
July	286,480	244,315	245,243	334,080	368,235
August	288,471	258,668	285,186	291,530	379,403

September	218,009	233,519	259,702	302,678	302,254
October	249,443	228,446	256,121	301,782	246,395
November	215,077	209,228	234,621	279,885	229,477
December	197,064	207,777	215,604	250,650	214,206

TOTAL	2,764,396	2,779,103	2,884,330	3,301,390	3,476,336

Please indicate how the above figures were determined (e.g., from a master meter located at the point of a diversion from a stream or located at a point where raw water enters the treatment plant, or from water sales).

Figures were determined from master meters located at points where purchased water enters our distribution system.

2. Amount of water (in 1,000 gallons) delivered (sold) as recorded by the following account types (See #1, Appendix A) for the past five years.

Year	Residential	Commercial	Industrial	Wholesale	Other	Total Sold
2005	1,747,077	519,158	17,150	0	225,483	2,508,868
2006	1,713,867	562,531	21,454	0	221,728	2,519,580
2007	1,688,753	531,520	17,013	0	220,561	2,457,847
2008	1,999,026	698,118	13,430	0	237,574	2,948,148
2009	2,173,076	728,017	11,136	0	261,826	3,174,055

3. List previous five years records for water loss

Year	Amount (Gals)
2005	255,528,000
2006	259,523,000
2007	426,483,100
2008	353,242,000
2009	251,262,000

4. List previous five years records for annual peak-to-average daily use ratio

Year	Average MGD	Peak MGD	Ratio
2005	7,573	14,506	1.92
2006	7,614	11,438	1.50
2007	7,902	12,393	1.57
2008	9,045	14,977	1.66
2009	9,770	18,570	1.90

5. Total per capita water use for previous five years:

Year	Population	Total Treated	Per Capita (gpcd)
2005	58,546	2,764,396	129.36
2006	61,393	2,779,103	124.02
2007	65,374	2,884,330	120.88
2008	68,504	3.301,390	132.03
2009	71,530	3,476,336	133.15

6. Seasonal water use for the previous five years (in gallons per person per day)

Year	Population	Base Per Capita Use	Summer Per Capita Use
2005	58,546	96.22	166.74
2006	61,393	105.23	137.77
2007	65,374	101.00	136.30
2008	68,504	100.63	154.96
2009	71,530	111.28	179.26

B. Projected Water Demands

Project water supply requirements for at least the next ten years using population trends, historical water use, and economic growth, etc. Indicate sources of data and how projected water demands were determined.

Year	Projected MGD
2010	9.55
2011	9.85
2012	10.21
2013	10.60
2014	11.00

2015	11.41
2016	11.81
2017	12.24
2018	12.66
2019	13.11
2020	13.56

Information received from Camp, Dresser, McKee as part of our Water Master Plan/Water Modeling project.

III. WATER SUPPLY SYSTEM

A. Water Supply Sources

List all current water supply sources and the amounts available with each:

Type	Source	Amount Available (MGD)
Surface	Gulf Coast Water Authority – Southeast Water Purification Plant	21.5
Surface	Gulf Coast Water Authority – Thomas Mackey Water Treatment Plant	3.0
Groundwater	City of League City – 3 wells	3.0

B. Treatment and Distribution System

1. Design daily capacity of system

2. Storage capacity: Elevated – 4.4 MG Ground – 11.7 MG

3. If surface water, do you recycle filter backwash to the head of the plant?

4. Please describe the water system. Include the number of treatment plants, wells, and storage tanks. If possible, include a sketch of the system layout.
Attachment 2

IV. WASTEWATER UTILITY SYSTEM

A. Wastewater System Data

1. Design capacity of wastewater treatment plant(s): 12.66 MDG

2. Is treated effluent used for irrigation on site _X_, off-site _X_, plant washdown _X_, or chlorination/dechlorination _X_
If yes, approximately 0.5 MG per month. Could this be substituted for potable water now being used in these areas? _No_

3. Briefly describe the wastewater system(s) of the area serviced by the water utility. Describe how treated wastewater is disposed of. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and if wastewater is discharged, the receiving stream. Please provide a sketch or map which locates the plant(s) and discharge points or disposal sites.

Both wastewater treatment plants are conventional activated sludge, secondary treatment systems. Dallas Salmon WWTP, TPDES Permit No. 10568-005 discharges to Clear Creek Tidal Segment No. 1101 of the San Jacinto-Brazos Coastal Basin. Countryside WWTP, TPDES Permit No. 10568-003 discharges to Clear Creek Tidal Segment No. 1101 of the San Jacinto-Brazos Coastal Basin.

B. Wastewater Data for Service Area

1. Percent of water service area served by wastewater system _95_%

2 Monthly volume treated for previous three years in **MG**
Figures show Dallas Salmon and Countryside WWTP combined

	2007	2008	2009
January	263.3827	259.5578	184.654
February	182.9280	203.2584	168.069
March	230.3154	199.5921	192.580
April	207.2637	173.2083	249.838
May	195.2000	176.0249	204.747
June	179.5815	177.2353	180.505
July	297.6147	201.2478	193.853
August	227.6921	243.3390	190.799
September	221.7563	240.8931	176.559
October	203.7336	188.2806	270.902
November	200.9247	203.0292	199.203
December	194.2288	190.2123	274.617

TOTAL	2604.62	2455.88	2486.32

3. Monthly volume of effluent used as golf course irrigation for previous three years.

	2007	2008	2009
January	0	0	5,186,200
February	1,685,600	0	4,444,500
March	7,859,600	2,999,800	5,143,200
April	2,411,600	8,842,500	6,255,300
May	12,460,800	12,104,600	13,294,300
June	10,055,700	12,033,800	12,152,400
July	2,344,200	11,308,900	14,226,600
August	6,236,900	8,131,300	14,669,500
September	5,916,500	7,227,000	9,959,600
October	6,651,600	11,844,200	2,283,300
November	4,501,500	8,111,400	5,901,400
December	2,131,600	2,298,200	1,451,700
TOTAL	62,255,600	84,901,700	94,968,000