

Water Conservation Plan

for

**San Jacinto River Authority
Woodlands Division**

Prepared by

San Jacinto River Authority

Adopted: February 28, 2019

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Section 1. Introduction

In 1996, severe drought conditions affected every region of the State. Water systems throughout the State were forced to cope with water shortages or system capacity problems. In response to the 1996 drought, the 75th Texas Legislature enacted Senate Bill 1, which directed the State to take a regional approach to water planning. One of the provisions of the legislation required the Texas Commission on Environmental Quality (TCEQ) to adopt rules requiring wholesale and retail public water suppliers to develop water conservation and drought contingency plans.¹

Water conservation and drought contingency plans work together to help Texans manage short-term and long-term water shortages. The goal of a water conservation plan is to achieve lasting, long-term improvements in water use efficiencies using strategies to reduce the amount of water withdrawn from a particular source, and to ensure that the water withdrawn is used in an efficient manner. Drought contingency plans are short-term in nature, using temporary supply and demand management measures in response to temporary and potentially recurring water shortages and other emergencies.

The San Jacinto River Authority (SJRA), as a water right holder and wholesale water supplier, is required to submit a Water Conservation and Drought Contingency Plan to the TCEQ and Texas Water Development Board (TWDB). SJRA was created by the Texas Legislature in 1937 to:

“Provide water for domestic, municipal, commercial, industrial and mining purposes within and without the watershed of [the San Jacinto River], including water supplies for cities, towns and industries, and in connection therewith to construct or otherwise acquire water transportation, treatment and distribution facilities and supplemental sources of water.”²

The SJRA service area includes all of Montgomery County and portions of Waller, Grimes, Walker, San Jacinto, Fort Bend and Liberty Counties (Figure 1-1). The SJRA also serves customers and is authorized to operate in east Harris County through an agreement with the City of Houston.

SJRA is governed by a seven-member board. The General Manager oversees approximately 170 employees and all facilities across five divisions: Lake Conroe, Highlands, Groundwater Reduction Plan (GRP), Woodlands, and Flood Management. The following is provided as the Water Conservation Plan (including utility description, service area description, and customer data) for the Woodlands Division (the Division). The Division’s Drought Contingency Plan is provided under a separate cover.

¹ Senate Bill 1, 75th Legislature, Section 12.1272 of the Texas Water Code.

² House Bill No. 832, 45th Legislature, Regular Session, Austin, TX, 1937.

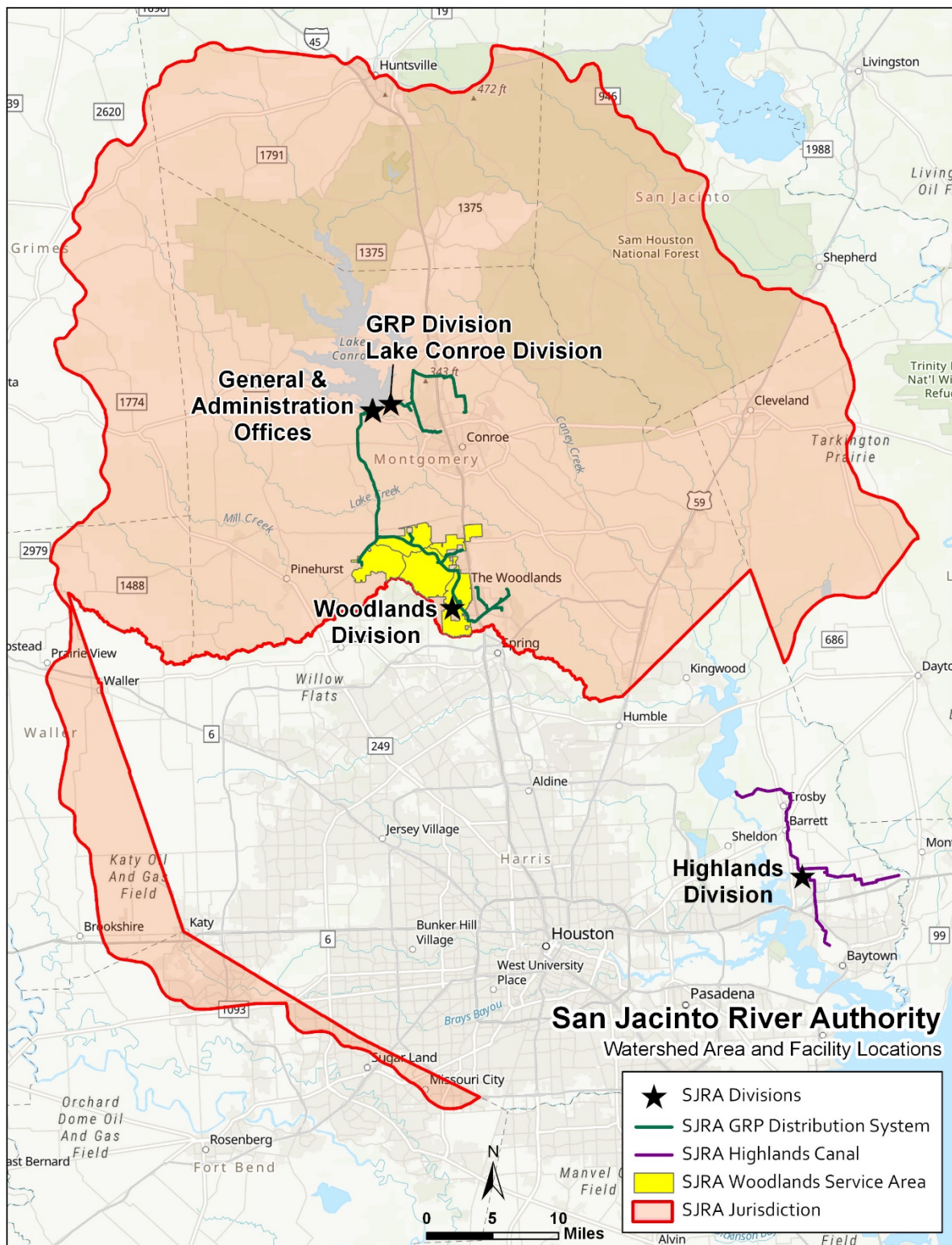


Figure 1-1. Watershed Area and Facility Locations

Section 2. Utility and Service Area Description

2.1 Utility Description

The Division currently provides its customers with water on a wholesale basis from a blend of water generated by 38 groundwater wells within the Evangeline and Jasper formations of the Gulf Coast Aquifer and surface water from Lake Conroe. SJRA is currently authorized by Lone Star Groundwater Conservation District (LSGCD) to produce up to 20,479 acre-feet per year (ac-ft/yr) from these wells. Water is disinfected at five water treatment plants and conveyed to customers through a series of potable distribution pipelines. The Division also provides wholesale wastewater service to customers through a wastewater collection system and three wastewater treatment plants.

In 2004 SJRA was granted 14,944 ac-ft/yr of water rights associated with groundwater based effluent return flows from its three wastewater treatment plants in The Woodlands, within the San Jacinto River Basin (Permit 5809). A portion of this return flow is utilized by SJRA to serve its customers in southeast Harris County. Customers of the Division also utilize indirect reuse through Permit 3960 (held by The Woodlands Land Development Company and Sequoia Golf Woodlands, LLC).

SJRA operates Lake Conroe, one of two major surface water supply reservoirs located in the San Jacinto River Basin. Completed in 1973, Lake Conroe is owned by SJRA and the City of Houston. SJRA owns one-third (33,333 ac-ft/year) and the City of Houston owns two-thirds (66,667 ac-ft/yr) of the total 100,000 ac-ft/yr of permitted water rights from the lake under Certificate of Adjudication (COA) 10-4963. The SJRA's water right is permitted for multiple uses. Lake Houston, which is owned by the City of Houston, is the other surface water supply reservoir in the basin. SJRA also holds an option contract for the purchase of the Houston portion of raw water in Lake Conroe which it plans to utilize in coming years.

The Woodlands Division is a GRP Participant in the SJRA Joint Groundwater Reduction Plan, which specifies measures to meet the requirements of Phase II(B) of the LSGCD District Regulatory Plan (DRP) to reduce future groundwater use within Montgomery County. Through their research and permitting efforts, LSGCD determined that groundwater production in Montgomery County exceeded the sustainable recharge rate and in response established certain requirements to reduce groundwater use. Phase I of the LSGCD DRP, which was adopted in 2006, established a target for sustainable production. DRP Phase II(A) was adopted in 2008 and required entities or groups of entities permitted to produce 10 million gallons per year of groundwater (Large Volume Groundwater Users, or LVGUs) to assess future water needs and potential alternative supplies. Phase II(B) of the DRP requires that all LVGUs either individually or in conjunction with others reduce their groundwater production to not more than 70% of their year 2009 permitted production (Total Qualifying Demand) no later than January 2016.

The Joint GRP specifies multiple strategies to meet Participant needs, including surface water

supplies, conservation, groundwater use from multiple formations, and wastewater reuse. As one of the selected GRP Participants partially converting to treated surface water, the Division is utilizing treated surface water originating from Lake Conroe to partially supply The Woodlands. Since conversion, the Division receives a base amount of treated surface water and will meet remaining demand with groundwater. The Water Conservation and Drought Contingency Plans for SJRA's GRP Division have been developed separately. The objectives and methods specified in this Water Conservation Plan are consistent with the requirements of the GRP Water Conservation Plan in order to maintain compatibility with the overlying GRP and Lake Conroe Division plans.

2.2 Service Area Description

The approximately 2,453 square mile area of SJRA's jurisdiction within the San Jacinto River Basin is bounded on the north and the east by the Trinity River Basin and the Trinity-San Jacinto Coastal Basin, on the west by the Brazos River Basin, and on the south by Harris County. The Division covers approximately 36 square miles and is a wholesale provider of water and wastewater service to The Woodlands.

The Woodlands is a master-planned community located in southern Montgomery County, Texas on IH-45, just north of the Harris County line. The Woodlands is made up of eleven individual Municipal Utility Districts (MUDs) ("The Woodlands Districts"), ten of which are operated and managed through The Woodlands Joint Powers Agency (WJPA), along with Harris-Montgomery County MUD No. 386 which is not a part of the WJPA (Figure 2-1). The WJPA provides retail water and wastewater services to The Woodlands community. The Woodlands Districts purchase all of their wholesale water and wastewater treatment services from the Division.

In 2018, The Woodlands Division produced 16,661 acre-feet ($\approx 5,429,000,000$ gallons) of blended surface and groundwater, and 1,919 acre-feet of reuse water as shown in Tables 2-1 and 2-2. A map of the Division's service area, along with existing potable water treatment facilities and appurtenances, is provided below (Figure 2-2). Major wastewater infrastructure is shown in Figure 2-3.

Table 2-1. 2018 Blended Surface and Ground Water Production

Municipal – GW	9,231 ac-ft
Municipal - SW	7,431 ac-ft
Industrial	0 ac-ft
Irrigation	0 ac-ft
Total	16,661 ac-ft

Table 2-2. 2018 Reuse Production

Municipal*	1,919 ac-ft
Industrial	0 ac-ft
Irrigation	0 ac-ft
Total	1,919 ac-ft

*Includes approximately 65 ac-ft of indirect reuse for landscape irrigation and 1,855 ac-ft of direct reuse for WWTP process and wash-down water.

A full description of the Division's customer information can be found in Appendix A, the Water Utility Profile.

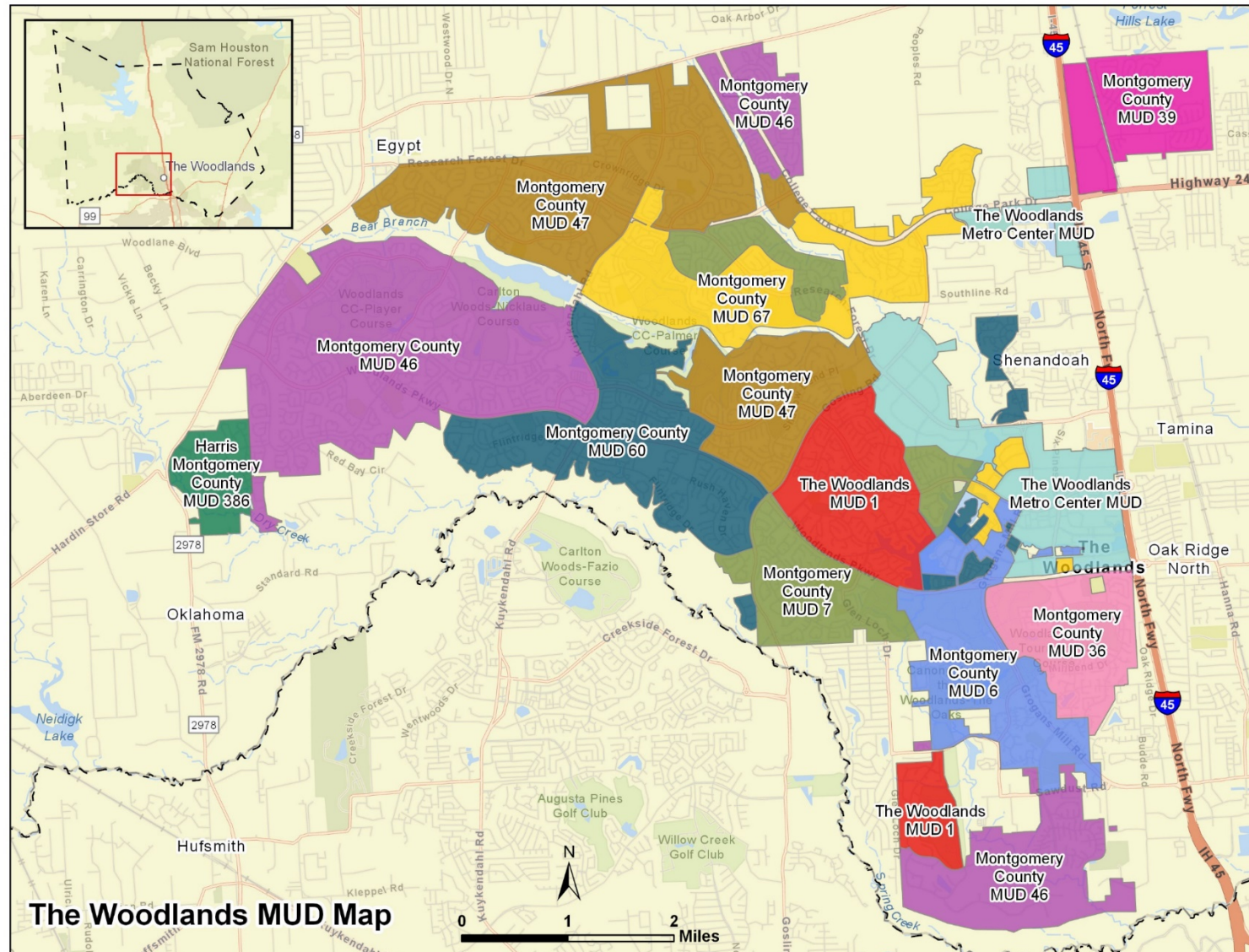


Figure 2-1. Woodlands MUDs

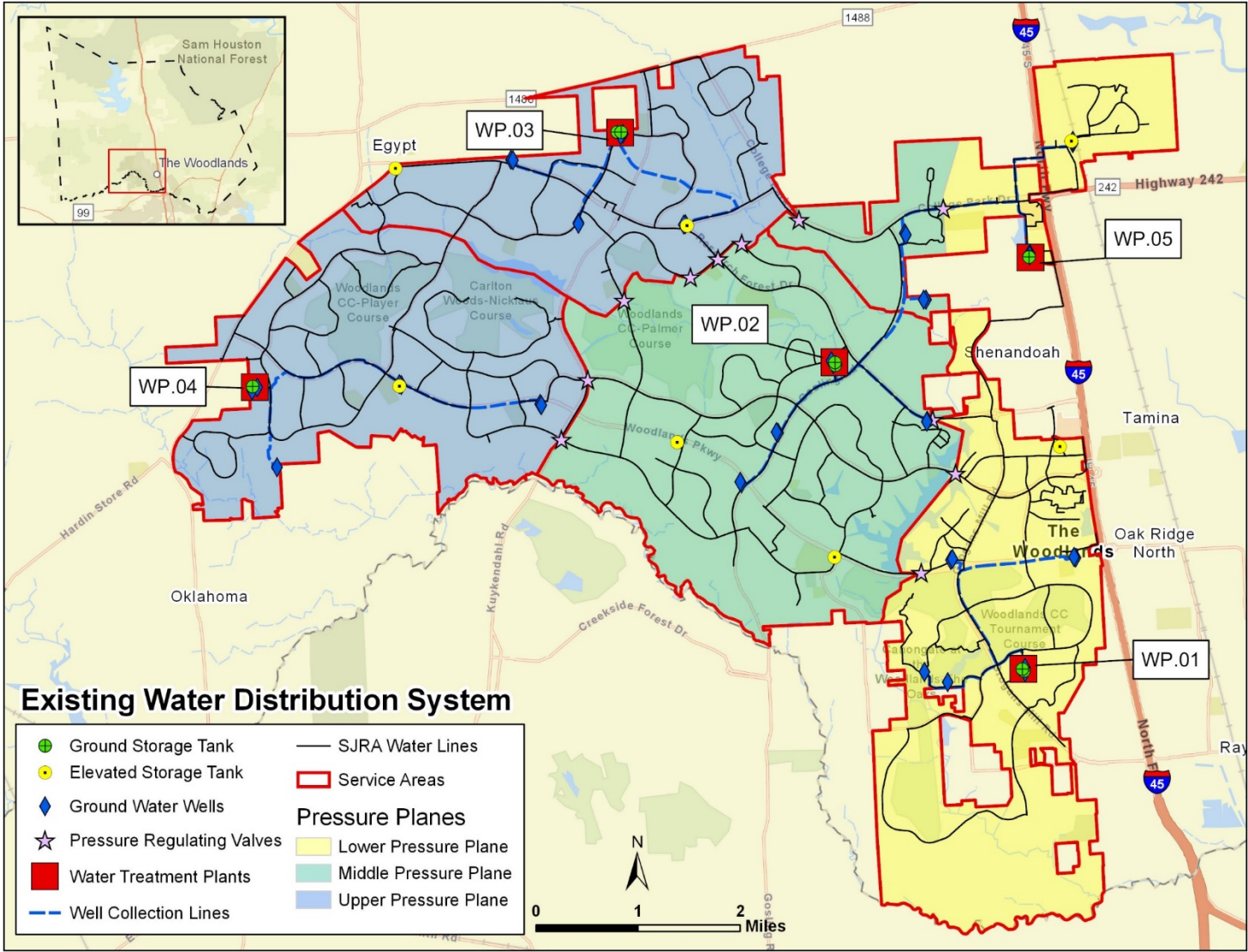


Figure 2-2. Woodlands Division Water Distribution System

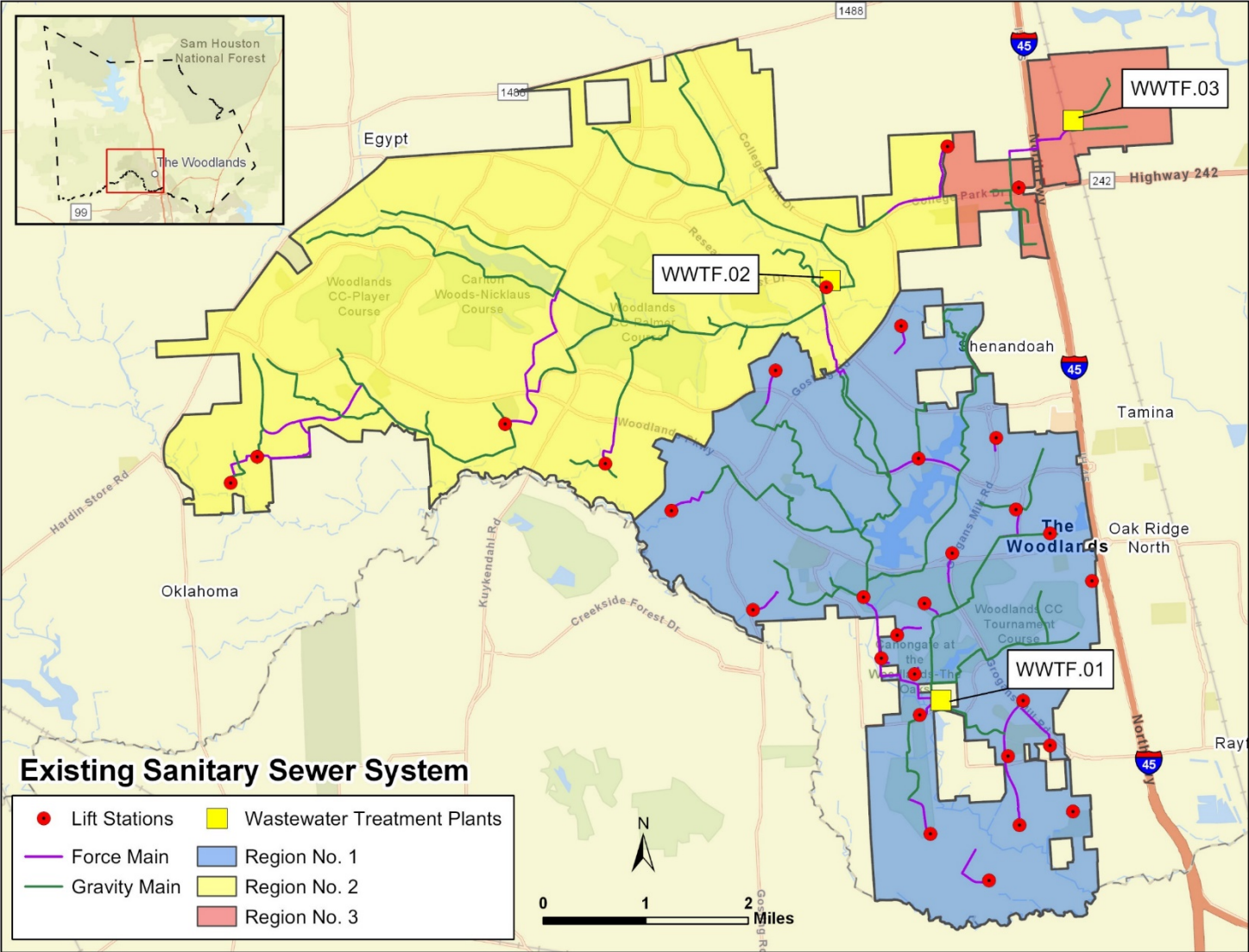


Figure 2-3. Woodlands Division Wastewater Infrastructure

Section 3. Water Conservation Plan

In the Texas Water Code, water conservation is defined as follows:

“(A) The development of water resources; and,

“(B) Those practices, techniques, and technologies that will reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.”³

Based upon these concepts of water conservation, the Division’s objective is to develop a water conservation plan that increases water use efficiency, thereby reducing water demands, without adversely affecting population and the economic growth potential of its customers.

3.1 Woodlands Division 5- and 10-year Water Conservation Target Goals

As a wholesale water provider, the Division is not involved in the day-to-day operations of its customers and therefore does not have direct control over the demands that it serves; however, it is working closely with the MUDs and the WJPA to encourage water-use reduction. The water conservation measures described below include those under the direct control of, and being implemented by, the Division as well as goals supported and encouraged by the Division for implementation by its customers. The SJRA Woodlands Division is to achieve a reduction in water demand of 2.5% over a 5-year period, and 5% over a 10-year period. Average per-capita municipal demand for the Division for 2014 through 2018 was 194.4 gallons per capita per day (gpcd). It is the goal of the Division to reduce municipal per-capita water demand to 189.5 gpcd by the end of 2023 and to 184.7 gpcd by the end of 2028 and water loss less than 10%, annually.

3.2 Water Conservation Methods

The Division’s water conservation plan includes the following water conservation methods. Each method is described in greater detail in the following subsections.

- Metering and Record Management;
- Leak Detection, Repair, and Minimization of Conveyance Losses;
- Recycling and Reuse;
- Rate Structure;
- Contractual Requirements for Customer Water Conservation Plans;

³ TWC, Section 17.001 (23) (A) and (B).

- Customer Conservation Plan Guidance;
- Customer Reporting Requirements;
- Public Information and Education;
- Encouraging Customer Conservation Practices; and
- Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan.

There are two reservoirs (Lake Conroe and Lake Houston) in the San Jacinto River system however, they are operated by separate entity's therefore the Woodlands Division does not have a reservoir system operations plan.

3.2.1 Metering and Record Management

The customers of the Division are responsible for metering their water use. The data collected from the metering of the customers allows the Division and SJRA to maintain a detailed record management system of water deliveries. Note that the Division's delivery to each customer MUD is not directly metered. However, all retail municipal and commercial water connections within the WJPA as well as some irrigation connections are metered. Customers of the Division are responsible for installing and maintaining meters at the points of retail delivery, including calibration to a level of accuracy compatible with the conservation goals of the Division. Access to these meters will be given to the Division by each customer for inspection purposes. The Division is responsible for metering and maintenance of meters at its production and treatment facilities.

3.2.2 Leak Detection, Repair, and Minimization of Conveyance Losses

The Division's wholesale distribution mains are maintained by the Division. The Division is responsible for lines 12-inches in diameter and larger. Potential leaks identified through accounting, inspection, or customer reporting are repaired promptly to minimize conveyance losses. Those components of the system used to take water from the mains into each wholesale customer's system are owned and maintained by the customer. The Division encourages its customers to engage in leak detection and repair in their own systems. SJRA and the Division encourage customers to take measures to reduce water loss to less than 10% in order to prevent waste and facilitate achievement of the Water Conservation Plan demand reduction goals as specified above.

3.2.3 Recycling and Reuse

The Division currently utilizes reuse supplies, including providing indirect reclaimed effluent to a golf course in the Woodlands through a long-term supply contract. The Division also implements direct

reuse by using WWTP effluent for maintenance and process water. As a part of conservation efforts, the Division will continue reuse.

3.2.4 Rate Structure

SJRA utilizes a non-promotional rate structure for wholesale contracts with its customers; these rates are periodically reviewed and adjusted as necessary. SJRA also encourages the Division's customers to establish rate structures promoting conservation for sales to their own wholesale and retail customers.

3.2.5 Contractual Requirements for Customer Water Conservation Plans

SJRA will enforce the terms of contracts with wholesale water supply customers related to water conservation measures and Water Conservation Plan requirements. Additionally, SJRA will include in all water supply contracts entered into, renewed, or amended after the adoption of the Division's Water Conservation Plan a requirement that customers develop and implement water conservation plans as required by Title 30, Texas Administrative Code, Chapter 288 30 TAC §288). Per 30 TAC §288, any future contract, renewal, or amendment will also require that successive sales from SJRA customers to others include a contractual stipulation for water conservation requirements. At a minimum, customer conservation plans must comply with the requirements of 30 TAC §288.

SJRA requests that customer water conservation plans be consistent with the conservation goals of the Division, including a reduction in water demand in accordance with the per-capita goals referenced above, and should be at least as stringent as the Division's Plan. Customers should submit to SJRA on an annual basis a summary of water conservation and drought contingency plan implementation. SJRA will include these requests as requirements in all water supply contracts entered into, renewed, or amended after the adoption of the Division's Water Conservation Plan.

SJRA may periodically update these criteria, as well as the Water Conservation and Drought Contingency Plans for the Division to meet legal requirements or address changing conditions; subsequent to such revisions, customers of the Division are requested to update their water conservation and drought contingency plans as applicable.

3.2.6 Customer Conservation Plan Guidance;

SJRA will provide to customers upon request, model water conservation plans as developed by TCEQ, meeting the contractual requirements described in Section 3.2.5 above for each customer type. Additionally, SJRA will at customer request review draft customer water conservation and drought contingency plans for consistency with contractual requirements and the Division's Water Conservation and Drought Contingency Plans. Customers can contact the Division for information regarding the Division's

Plans and contractual requirements.

3.2.7 Customer Reporting Requirements

In 2011, the 82nd Texas Legislature passed Senate Bill (SB) 181, which addressed the need for consistency in water use reporting by municipalities, water utilities, and others. Subsequently, TWDB and TCEQ developed detailed guidance and procedures for calculating and reporting water use, water loss, and other factors.

While SJRA is not directly impacted by these requirements as a wholesale provider, the Division and other divisions provide contractual water supply to a number of entities which are impacted by SB181. The broad range of water uses served by SJRA and the requirements of multiple State reporting programs creates a need for the consistent customer reporting. As such, SJRA will require customer water usage reports, including any values for per-capita water demand, to follow the procedures established by TWDB and TCEQ.⁴ Water use reports should include data at the sector level (single family residential, multi-family residential, industrial, commercial, agricultural, etc.) and should additionally include estimated population served and calculated water loss. Further, SJRA may request that customers annually submit to SJRA a copy of all conservation plan reporting forms, if required by TCEQ, that are submitted to TCEQ.

SJRA will also hold one or more workshops providing information to water supply customers on the reporting requirements discussed in this section.

3.2.8 Public Information and Education

SJRA has the option to utilize a plethora of water conservation resources that the TWDB, American Water Works Association, and American Public Works Association originally created as components of their own public education campaigns. Individual pamphlets and educational messages provided from these entities would be selected for specialized water conservation needs as they arise. SJRA also provides and constantly updates conservation information and efficient water use on the Authority website at <http://www.sjra.net/>.

SJRA will provide, as needed and/or requested, water conservation literature to the customers of the Division. The Division is committed to promoting improvements in industrial, municipal, and agricultural/irrigation processes to achieve conservation with its customers.

SJRA, across all divisions, will make information available through its public information and education program for plumbers and customers to use when purchasing and installing plumbing fixtures, water-using appliances, and watering equipment. Information regarding retrofit devices, such as low-flow

⁴ TWDB et al. 2012. Guidance and Methodology for Reporting on Water Conservation and Water Use

shower heads or toilet dams that reduce water use by replacing or modifying existing fixtures or appliances, will also be provided.

Other public information approaches which SJRA has utilized in the past and may implement in the future include public tours of various facilities across all divisions, participation in local environmental events, classroom water conservation educational programs, and joint operation of a mobile teaching lab.

3.2.9 Encouraging Customer Conservation Practices

SJRA and the Division will work with WJPA to consider implementing rules, measures, and emerging technologies that promote water conservation and efficient use. Recommended measures include, but are not limited to, the following:

- Prohibitions on wasting water;
- Time-of-day watering restrictions;
- Water conservation pricing structures;
- Landscape irrigation conservation, including integrating rainfall/freeze sensors into irrigation systems;
- Water reuse
- Rainwater harvesting
- Public education programs

Additional information on conservation practices for a wide range of water uses can be found at the TWDB website (<http://www.twdb.texas.gov/>).

3.2.10 Implementation, Enforcement, Coordination with RWPG, and Updating of the Plan

The Woodlands Division Manager and/or designees will act as the administrator(s) of the Water Conservation Plan for the Woodlands Division. The administrator(s) will oversee the execution and implementation of all elements of the program and monitor the progress of the plan. Additionally, the administrator(s) will be responsible for submission of an annual report to the TCEQ and TWDB on the progress, and any changes to, the Water Conservation Plan. SJRA is responsible for maintaining adequate records for program verification.

SJRA will enforce the terms of contracts with wholesale water supply customers related to water conservation measures and Water Conservation Plan requirements.

The Division is located within the Region H Regional Water Planning Area. In accordance with the TCEQ rules, the Division provides a copy of its Water Conservation Plan to the Region H Regional Water Planning Group. A copy of the transmittal letter is included in Appendix B.

Every five years, SJRA will examine the Division's Water Conservation Plan and revise as

necessary. The Water Conservation Plan for the Division has been adopted by a resolution of the Board of Directors of SJRA. A copy of the resolution is included in Appendix B.

Appendix A

Water Utility Profiles

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San Jacinto River Authority – Woodlands Division

**TCEQ Form 20162: Profile and Water Conservation Plan
Requirements for Wholesale Public Water Supplies**

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Texas Commission on Environmental Quality

PROFILE AND WATER CONSERVATION PLAN REQUIREMENTS FOR WHOLESALE PUBLIC WATER SUPPLIERS

This form is provided to assist wholesale public water suppliers in water conservation plan development. If you need assistance in completing this form or in developing your plan, please contact the conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4691.

Name: San Jacinto River Authority – Woodlands Division

Address: 2436 Sawdust Road, The Woodlands, TX 77380

Telephone Number: (281) 367-9511 Fax: (281) 362-4385

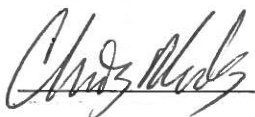
Water Right No.(s): N/A

Regional Water Planning Group: H

Form Completed by: Chris Meeks

Title: Woodlands Division Manager

Person responsible for implementing conservation program: Chris Meeks Phone: (281) 367-9511

Signature:  Date: 3.6.19

NOTE: If the plan does not provide information for each requirement, include an explanation of why the requirement is not applicable.

PROFILE

I. WHOLESALE SERVICE AREA POPULATION AND CUSTOMER DATA

A. Population and Service Area Data

1. Service area size (in square miles): 37.86
(Please attach a copy of service-area map) **See Attachment A**
2. Current population of service area: 105,087

3. Current population served for:

- a. Water 105,087
- b. Wastewater 105,087

4. Population served for previous five years:

Year	Population
2014	100,703
2015	101,795
2016	102,870
2017	103,892
2018	105,087

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

Year	Population
2020	106,329
2030	107,678
2040	108,755
2050	109,842
2060	110,941

6. List source or method for the calculation of current and projected population size.

Interfaith of The Woodlands was used for the estimated populations for the previous five years. Projected populations through 2030 were derived from the SJRA GRP Pumpage Rate Study and the Harris-Galveston Subsidence District Regional Groundwater Update study. Population increase from 2030 to 2060 were derived from population rate increase of 1% per decade from The Woodlands Township as 99% ultimate build-out in The Woodlands - Montgomery County will occur in 2028.

B. Customers Data

List (or attach) the names of all wholesale customers, amount of annual contract, and amount of annual use for each customer for the previous year:

Wholesale customer	Contracted amount (ac-ft/yr)*	Previous year amount of water delivered (acre-feet)
The Woodlands MUD 1	2766	1165
Montgomery County MUD 6	2899	840
Montgomery County MUD 7	3641	1133
Montgomery County MUD 36	2015	603
Montgomery County MUD 39	2022	581
Montgomery County MUD 46	8018	3995
Montgomery County MUD 47	7460	2908
Montgomery County MUD 60	4326	1864
Montgomery County MUD 67	4003	1445
Metro Center MUD	6115	1901
Harris-Montgomery MUD 386	938	321

**Estimated from projected Year 2018 single-family equivalent connections.*

II. WATER USE DATA FOR SERVICE AREA

A. Water Delivery

Indicate if the water provided under wholesale contracts is treated or raw water and the annual amounts for the previous five years (in acre feet):

Year	Treated Water	Raw Water
2014	18550	0
2015	17658	0
2016	18287	0
2017	18495	0
2018	16661	0
Totals	89651	0

B. Water Accounting Data

1. Total amount of water diverted at the point of diversion(s) for the previous five years (in acre-feet) for all water uses:

Year	2014	2015	2016	2017	2018
<i>Month</i>					
January	1012	899	971	968	955
February	855	849	1076	988	796
March	1030	922	1307	1319	1300
April	1682	1145	1314	1444	1434
May	2027	1192	1366	1987	1862
June	1802	1426	1430	1833	1943
July	1969	2185	2602	2180	1975
August	2511	2692	2042	1926	2074
September	1833	2220	1746	1747	1401
October	1653	2046	2012	1725	1111
November	1186	1108	1368	1357	915
December	989	973	1050	1021	896
Totals	18550	17658	18284	18495	16661

2. Wholesale population served and total amount of water diverted for **municipal use** for the previous five years (in acre-feet):

Year	Total Population Served	Total Annual Water Diverted for Municipal Use
2014	100,703	18,550
2015	101,795	17,658
2016	102,870	18,284
2017	103,892	18,495
2018	105,087	16,661

C. Projected Water Demands

If applicable, project and attach water supply demands for the next ten years using information such as population trends, historical water use, and economic growth in the service area over the next ten years and any additional water supply requirements from such growth.

III. WATER SUPPLY SYSTEM DATA

A. Projected Water Demands

List all current water supply sources and the amounts authorized (in acre feet) with each.

Water Type	Source	Amount Authorized
Surface Water	SJRA – GRP SWTP (Lake Conroe)	*
Groundwater	Evangeline and Jasper aquifers	20,479
Other	N/A	N/A

**Surface water is delivered to meet 40-65% of water demand*

B. Treatment and Distribution System (if providing treated water)

1. Design daily capacity of system (MGD): 63.95
2. Storage capacity (MGD):
 - c. Elevated 4.5
 - d. Ground 17

3. Please attach a description of the water system. Include the number of treatment plants, wells, and storage tanks. **See Attachment B**

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data (if applicable)

1. Design capacity of wastewater treatment plant(s) (MGD): 14.7
2. Briefly describe the wastewater system(s) of the area serviced by the wholesale public water supplier. Describe how treated wastewater is disposed. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and the receiving stream if wastewater is discharged.

All SJRA WWTP's are versions of the activated sludge processes. System treatment diagrams are included in Attachment C.

- *TCEQ names and numbers:*
 - *WWTP No. 1 – WQ0011401001*
 - *WWTP No. 2 – WQ0012597001*
 - *WWTP No. 3 – WQ0011658001*
- *Owner / Operator: SJRA*
- *Receiving stream*
 - *WWTP No. 1 – Panther Branch (Segment No. 1008 of the San Jacinto River Basin)*
 - *WWTP No. 2 – Panther Branch (Segment No. 1008 of the San Jacinto River Basin)*
 - *WWTP No. 3 – unnamed tributary (Segment No. 1004 of the San Jacinto River Basin)*

B. Wastewater Data for Service Area (if applicable)

1. Percent of water service area served by wastewater system: 100 %
2. Monthly volume treated for previous five years (in 1,000 gallons):

<u>Year</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
<u>Month</u>					
January	229,218	235,318	231,289	243,256	241,573
February	210,434	207,992	210,942	210,914	226,181
March	233,844	238,399	238,579	228,185	235,936
April	227,516	236,222	256,510	226,274	224,437
May	256,239	269,032	292,740	241,056	242,013
June	242,115	247,793	260,433	237,887	237,367
July	241,876	244,867	242,433	244,255	246,943
August	247,297	244,898	263,831	332,235	244,860

September	246,396	233,447	234,551	239,941	240,428
October	241,853	239,347	229,365	236,272	236,522
November	222,495	233,268	217,035	229,540	238,644
December	227,981	236,322	231,215	234,747	255,521
Totals	2,827,264	2,866,905	2,908,923	2,904,562	2,870,425

V. ADDITIONAL REQUIRED INFORMATION

In addition to the description of the wholesaler's service area (profile from above), a water conservation plan for a wholesale public water supplier must include, at a minimum, additional information as required by Title 30, Texas Administrative Code, Chapter 288.5. Note: If the water conservation plan does not provide information for each requirement an explanation must be included as to why the requirement is not applicable.

A. Specific, Quantified 5 & 10-Year Targets

The water conservation plan must include specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable unaccounted-for water, and the basis for the development of these goals. Note that the goals established by wholesale water suppliers under this subparagraph are not enforceable.

B. Metering Devices

The water conservation plan must include a description as to which practice(s) and/or device(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply.

C. Record Management Program

The water conservation plan must include a monitoring and record management program for determining water deliveries, sales, and losses.

D. Metering/Leak-Detection and Repair Program

The water conservation plan must include a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system.

E. Reservoir Systems Operations Plan

The water conservation plan must include 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. The reservoir systems operations plan shall include optimization of water supplies as one of the significant goals of the plan.

F. Contract Requirements for Successive Customer Conservation

The water conservation plan must include a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, 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 of Title 30 TAC

Chapter 288. If the customer intends to resell the water, then 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.

G. Enforcement Procedure and Official Adoption

The water conservation plan must include a means for implementation and enforcement, which shall be evidenced by a copy of the ordinance, rule, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and a description of the authority by which the water supplier will implement and enforce the conservation plan.

H. Coordination with the Regional Water Planning Group(s)

The water conservation plan must include documentation of coordination with the regional water planning groups for the service area of the wholesale water supplier in order to ensure consistency with the appropriate approved regional water plans.

Example statement to be included within the water conservation plan:

The service area of the _____ (name of water supplier) is located within the _____ (name of regional water planning area or areas) and _____ (name of water supplier) has provided a copy of this water conservation plan to the _____ (name of regional water planning group or groups).

I. Plan Review and Update

A wholesale water supplier 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. A wholesale water supplier shall review and update the next revision of its water conservation plan no later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. The revised plan must also include an implementation report.

J. Additional Conservation Strategies

Any combination of the following strategies shall be selected by the water wholesaler, in addition to the minimum requirements of this chapter, if they are necessary in order to achieve the stated water conservation goals of the plan. The commission may require by commission order that any of the following strategies be implemented by the water supplier if the commission determines that the strategies are necessary in order for the conservation plan to be achieved:

1. 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;
2. A program to assist agricultural customers in the development of conservation, pollution prevention and abatement plans;
3. A program for reuse and/or recycling of wastewater and/or graywater;
4. A cost-share program;
5. A technical assistance and outreach program;
6. A program for purchase and direct distribution of water conservation equipment; and
7. Any other water conservation practice, method, or technique which the wholesaler shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

Best Management Practices

The Texas Water Developmental Board's (TWDB) Report 362 is the Water Conservation Best Management Practices (BMP) guide. The BMP Guide is a voluntary list of management practices that water users may implement in addition to the required components of Title 30, Texas Administrative Code, Chapter 288. The Best Management Practices Guide broken out by sector, including Agriculture, Commercial, and Institutional, Industrial, Municipal and Wholesale along with any new or revised BMP's can be found at the following link on the Texas Water Developments Board's website: <http://www.twdb.state.tx.us/conservation/bmps/index.asp>

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact 512-239-3282.

San Jacinto River Authority – Woodlands Division

Attachments to TCEQ Form

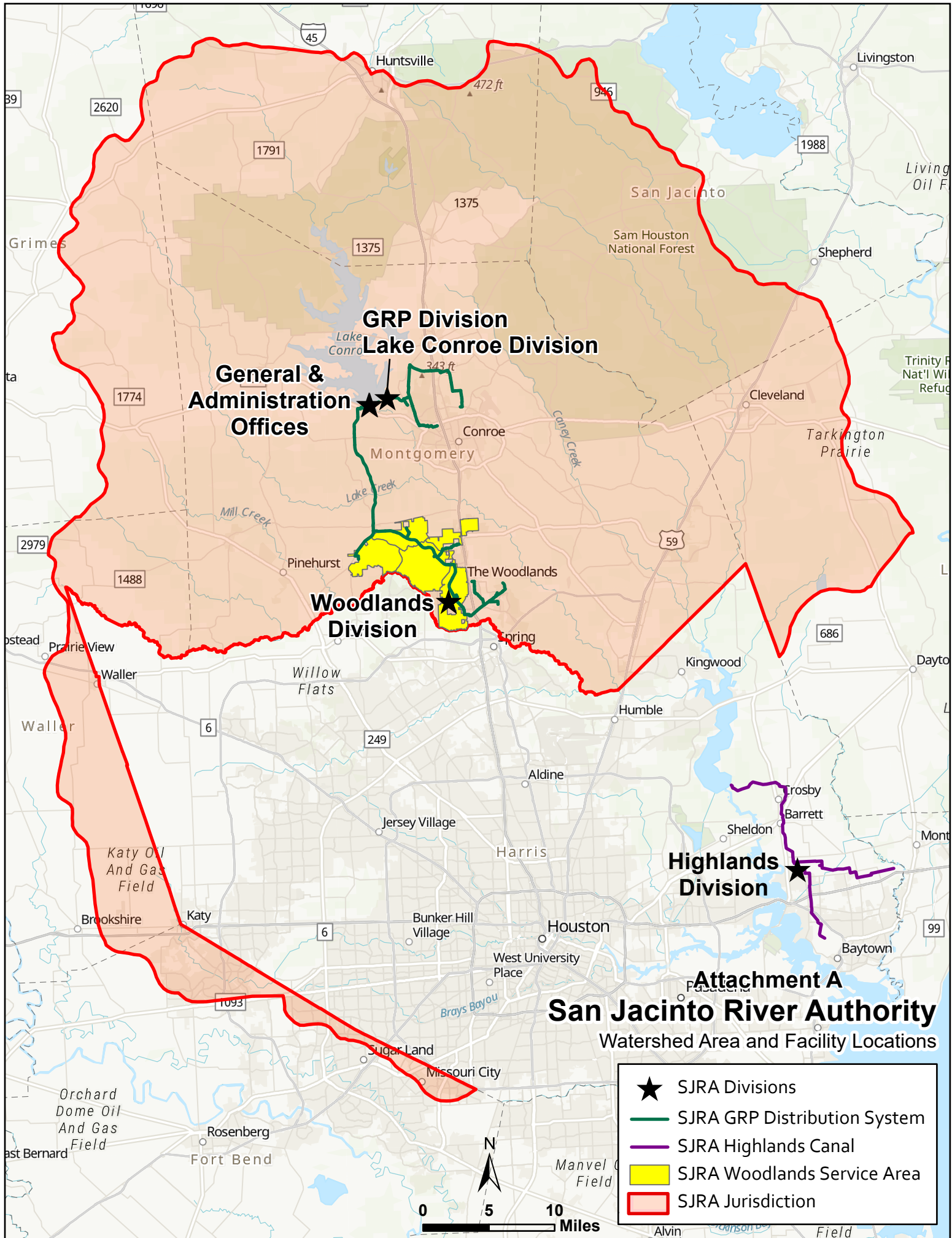
**20162: Profile and Water Conservation Plan
Requirements for Wholesale Public Water Supplies**

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Attachment A

SJRA Service Area

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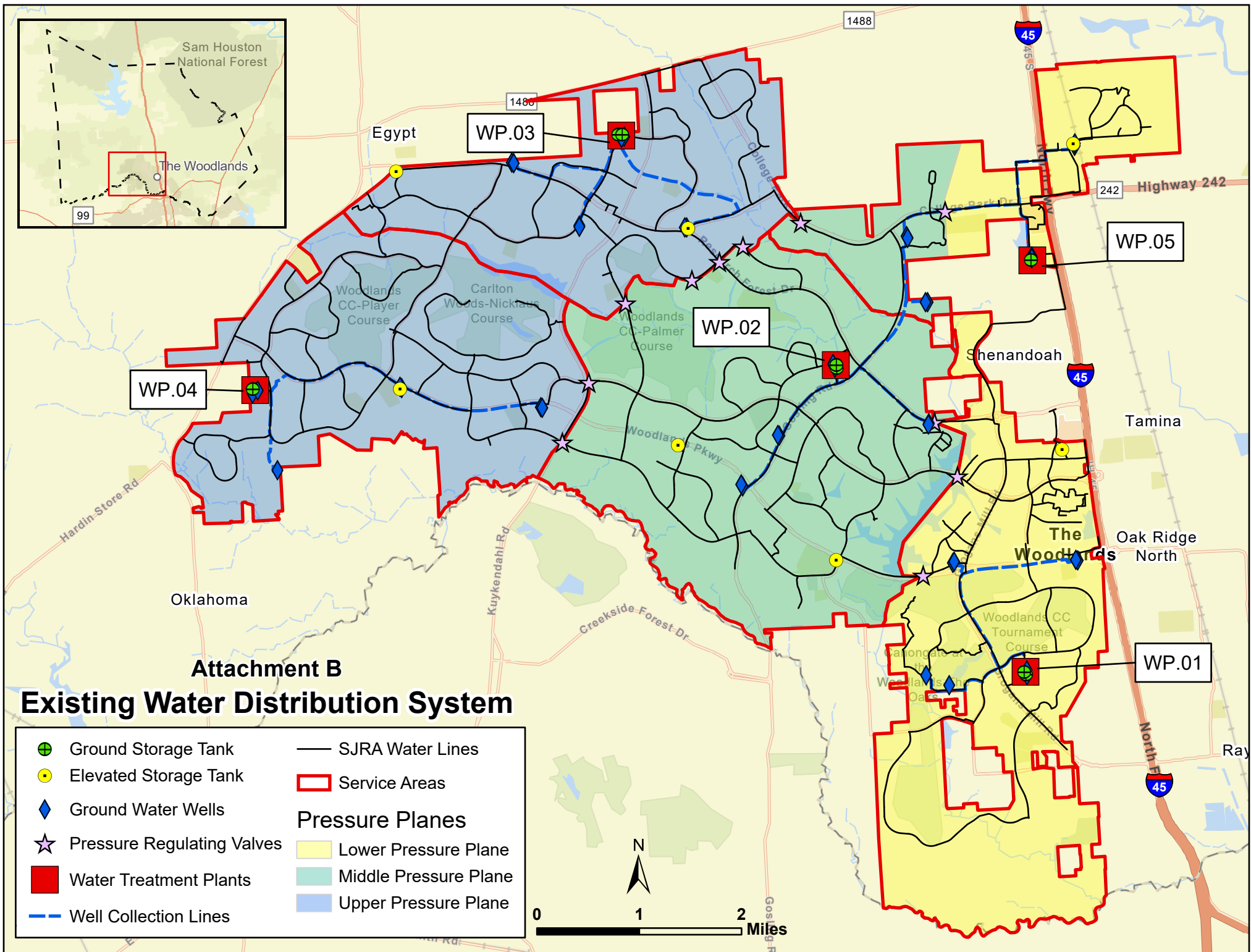
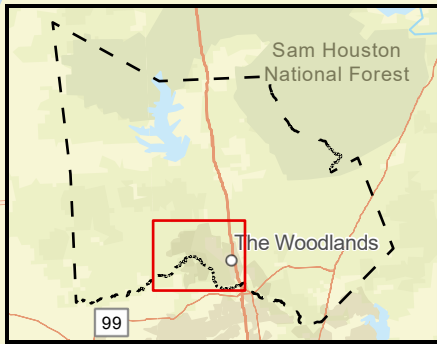


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Attachment B

Water Distribution System

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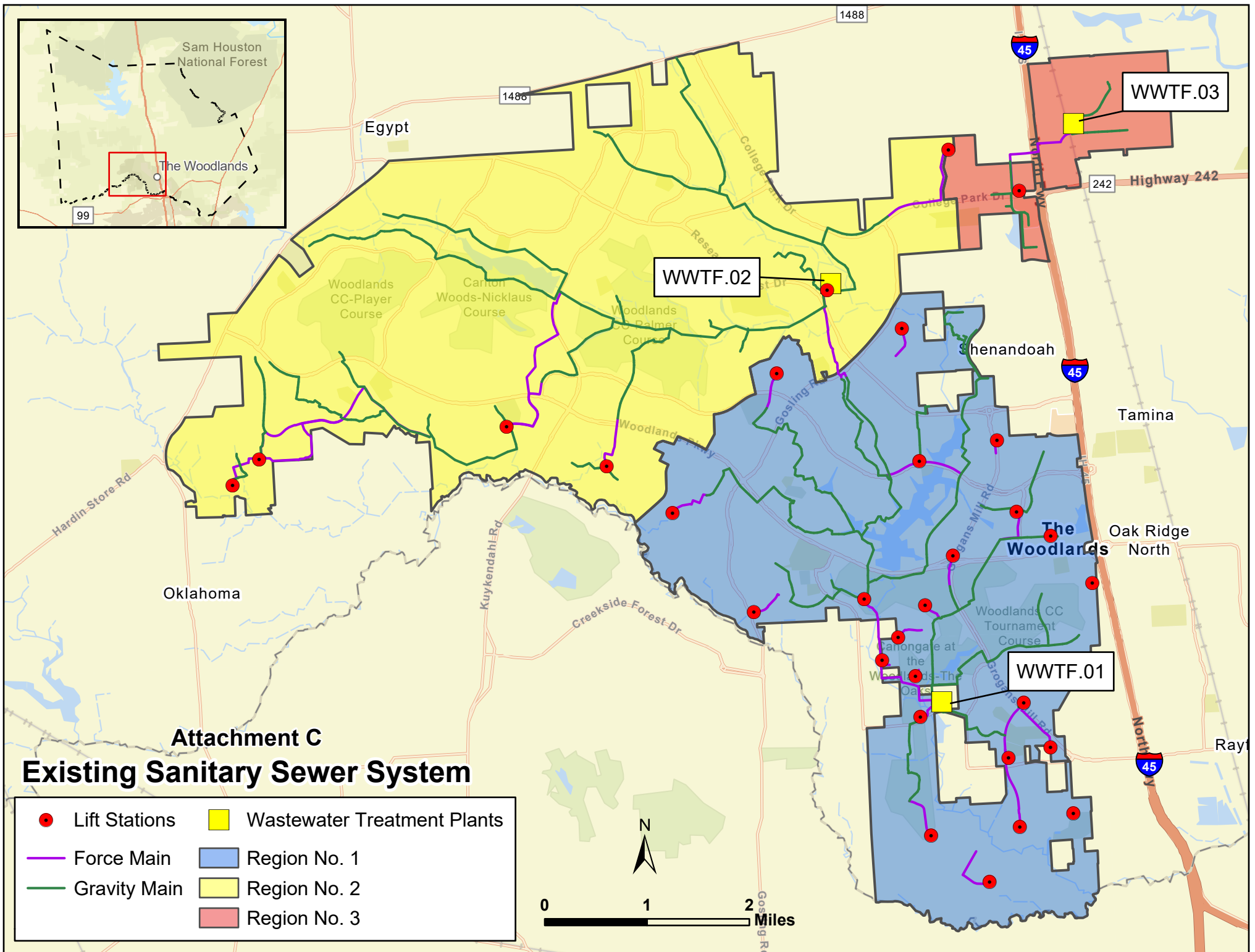
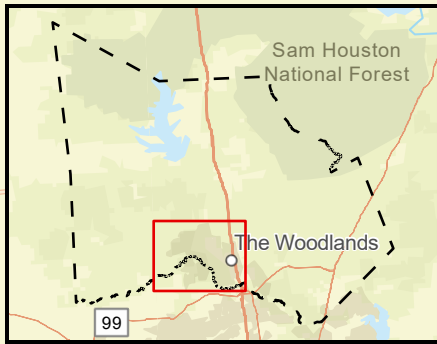


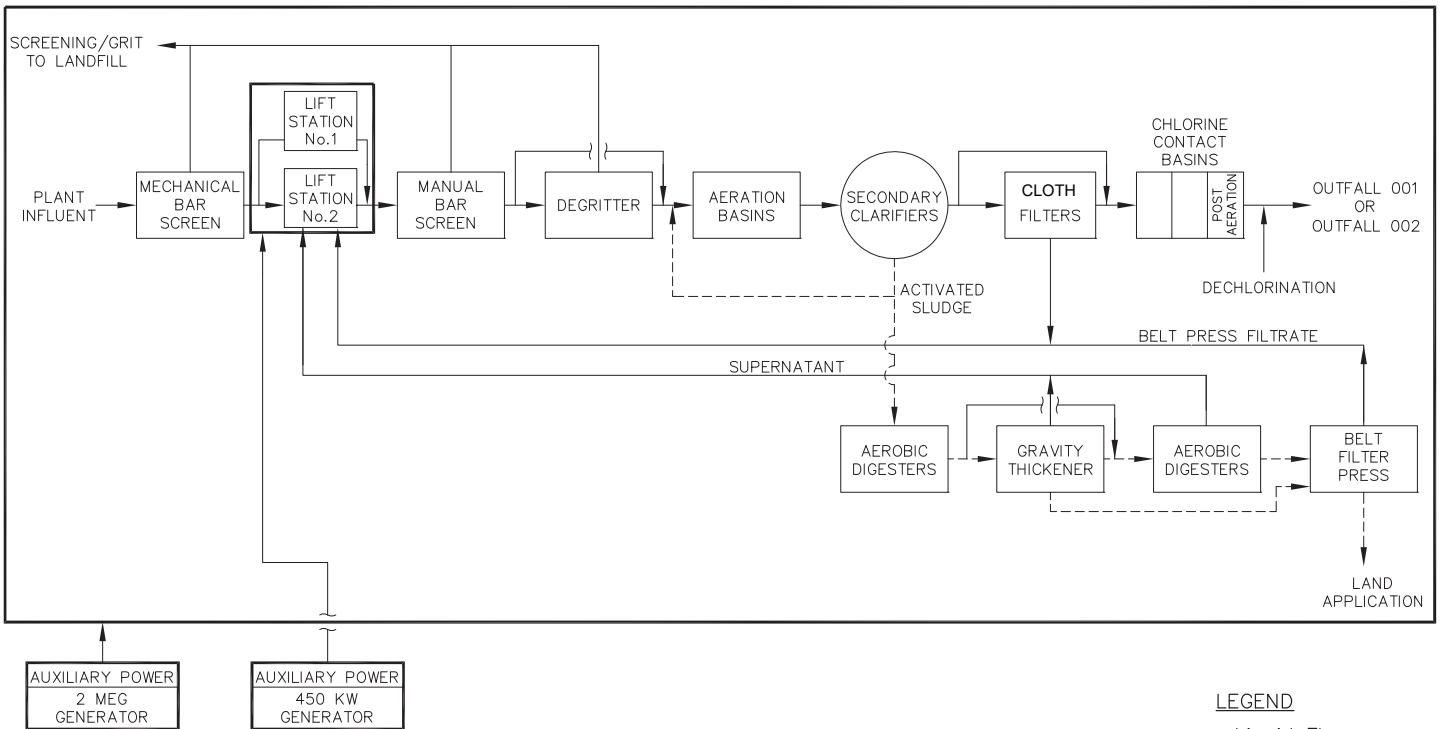
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Attachment C

Wastewater Distribution System and Treatment Plant Process Diagrams

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LEGEND

— Liquid Flow

- - - Solids Flow

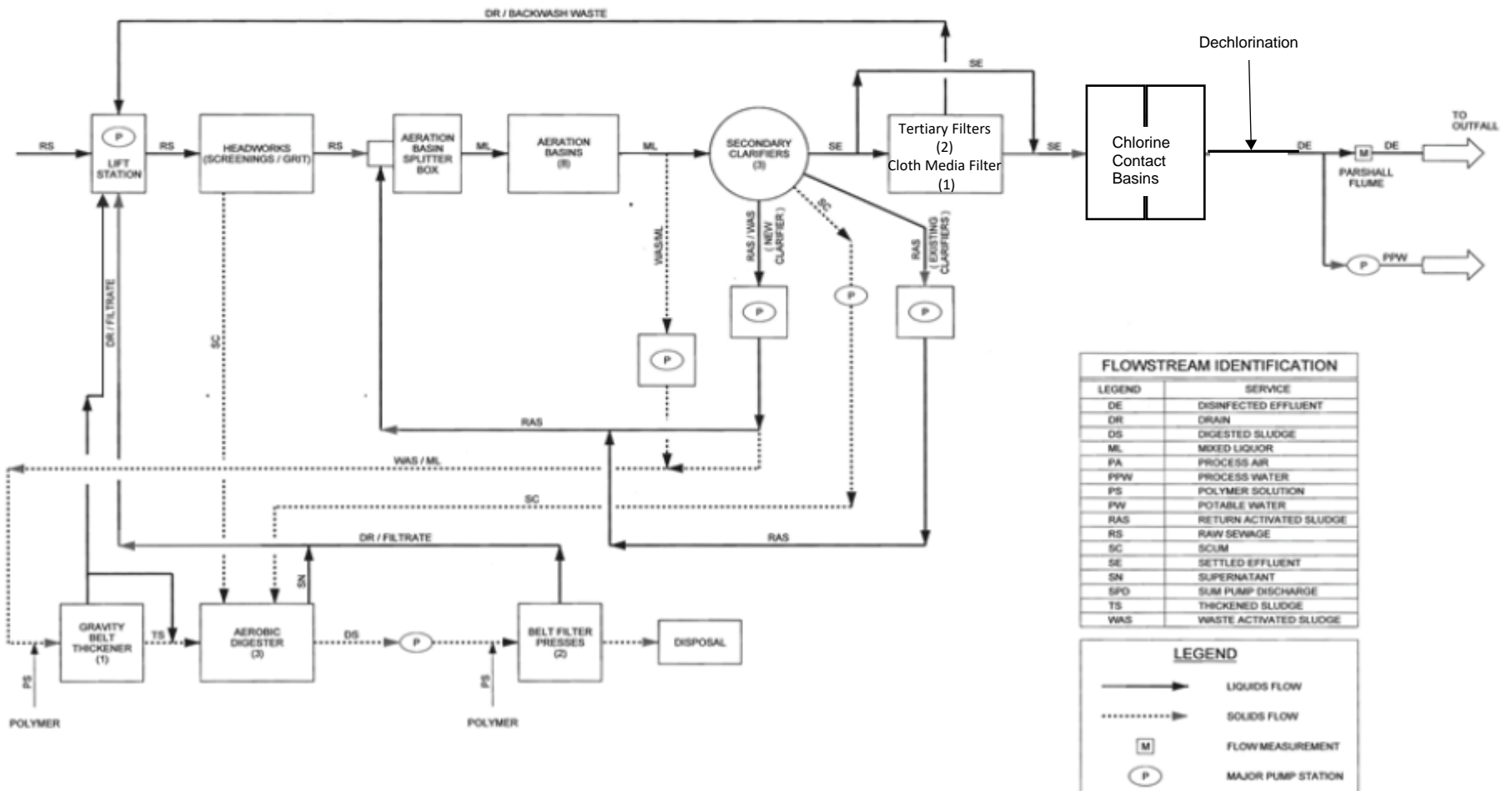
— Generator Service Area

ATTACHMENT C
 SAN JACINTO RIVER AUTHORITY
 WASTEWATER TREATMENT PLANT NO. 1
 TPDES PERMIT RENEWAL APPLICATION
 FLOW DIAGRAM

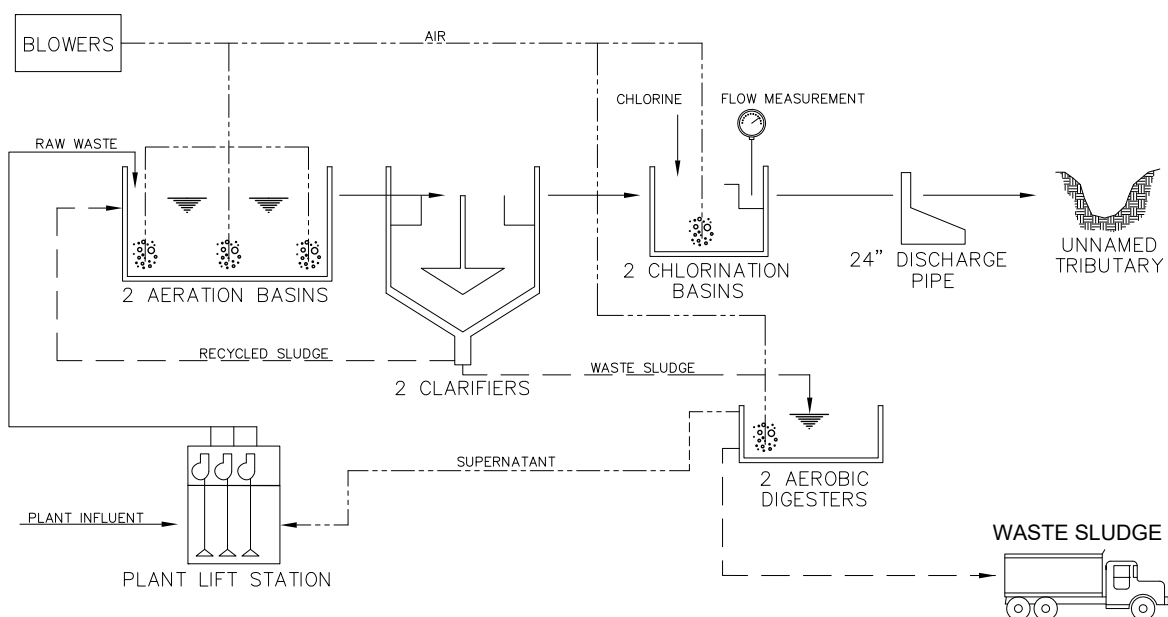
ATTACHMENT C

SAN JACINTO RIVER AUTHORITY WASTEWATER TREATMENT FACILITY NO. 2 PERMIT NO. WQ0012597001

EXISTING PROCESS FLOW DIAGRAM (6.0 MGD AAF AND 15.6 MGD P2HF)



MODE OF TREATMENT
SINGLE STAGE NITRIFICATION ACTIVATED SLUDGE



LEGEND
 ———> Liquid Flow
 - - - -> Solid Flow
 ·····> Other Flow

ATTACHMENT C
 SAN JACINTO RIVER AUTHORITY
 WASTEWATER TREATMENT PLANT NO. 3
 TPDES PERMIT APPLICATION
 FLOW DIAGRAM – EXISTING/INTERIM I PHASE

Appendix B

Resolutions Passed by SJRA Transmittal Letter to Region H RWPG

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RESOLUTION NO. 2019-R-03

RESOLUTION ADOPTING REVISED WATER CONSERVATION PLANS AND DROUGHT CONTINGENCY PLANS; AUTHORIZING THE IMPLEMENTATION OF SUCH REVISED PLANS; REPEALING AND RESCINDING ALL PRIOR PLANS; AND CONTAINING OTHER PROVISIONS RELATING TO THE SUBJECT

WHEREAS, the San Jacinto River Authority (the "Authority") has water rights issued by the Texas Commission on Environmental Quality and its predecessor agencies (collectively, the "TCEQ") to divert water from the San Jacinto River and Trinity River basins; and

WHEREAS, the Authority, by and through its Highlands Division, owns and operates water supply and distribution systems and facilities, including the Lake Houston Pump Station, East Canal Transfer Pump Station, Highlands Reservoir, and the Highlands Canal System, in order to sell and deliver water out of such rights to certain customers generally located in eastern Harris County; and

WHEREAS, the Authority also owns an interest in Lake Conroe Dam and Reservoir, located in Montgomery and Walker Counties ("Lake Conroe") upstream on the San Jacinto River from the Lake Houston Reservoir, and holds certain contract rights and water rights issued by the TCEQ to divert or release and use water from Lake Conroe; and

WHEREAS, the Authority, by and through its Lake Conroe Division, operates Lake Conroe and sells water out of such rights to customers located in Montgomery County, generally in close proximity to Lake Conroe; and

WHEREAS, the Authority, by and through its Woodlands Division, owns and operates an extensive water supply and distribution system and facilities for providing regional, wholesale services to customers in the area of The Woodlands; and

WHEREAS, the Authority, by and through its Groundwater Reduction Plan Division (the "GRP Division"), owns and operates a surface water treatment facility and transmission system that will withdraw water from Lake Conroe for treatment, distribution and sale to its Woodlands Division and certain other customers; and

WHEREAS, in connection with the management of such facilities, systems and operations, the Authority has previously adopted various Water Conservation Plans and Drought Contingency Plans (collectively, the "Plans") in accordance with the requirements of Chapter 11, Texas Water Code, as amended, and the rules of the TCEQ under Chapter 288 of Title 30, Texas Administrative Code, as amended; and

WHEREAS, the Board of Directors of the Authority has determined that it is in the public interest to revise and replace the Plans; Now, Therefore,

BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE SAN JACINTO RIVER AUTHORITY, THAT:

Section 1: The Plans, as previously adopted and amended by the Authority, are hereby repealed and rescinded in its entirety.

Section 2: The Board of Directors of the Authority hereby approves and adopts the revised water conservation and drought contingency plans, each dated as of the date hereof, titled as follows: *Water Conservation Plan for San Jacinto River Authority Highlands Division; Drought Contingency Plan for San Jacinto River Authority Highlands Division; Water Conservation Plan for San Jacinto River Authority Lake Conroe Division; Drought Contingency Plan for San Jacinto River Authority Lake Conroe Division; Water Conservation Plan for San Jacinto River Authority Woodlands Division; Drought Contingency Plan for San Jacinto River Authority Woodlands Division; Water Conservation Plan for San Jacinto River Authority GRP Division; and Drought Contingency Plan for San Jacinto River Authority GRP Division* (collectively, the "Revised Plans").

Section 3: The Revised Plans, together with any amendments thereto which may be made from time to time, shall be maintained on file in the official records of the Authority and filed, as appropriate, with the TCEQ, the Texas Water Development Board and any other agencies with jurisdiction.

Section 4: It shall be the policy of the Authority that the programs and procedures set forth in the Revised Plans be implemented immediately. The General Manager of the Authority shall report to the Board of Directors of the Authority and other interested agencies annually on the implementation and effectiveness of the Revised Plans in accordance with the procedures set forth in the Revised Plans.

Section 5: The General Manager of the Authority is hereby designated as the official responsible for implementation of the Revised Plans in accordance with the guidelines set forth in the Revised Plans.

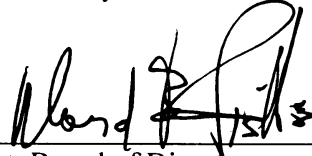
Section 6: It shall be the policy of the Authority to support and assist its wholesale and retail customers in (1) designating their pre-assigned officials as having the responsibility and authority to implement the Revised Plans, (2) allowing for enforcement of the Revised Plans, and (3) providing civil penalties for noncompliance with the Revised Plans.

Section 7: It shall be the policy of the Authority that the *Water Conservation Plan for San Jacinto River Authority GRP Division* and the *Drought Contingency Plan for San Jacinto River Authority GRP Division* establish minimum requirements which shall be adopted, respectively, in a water conservation plan and a drought contingency by each participant in the Authority's Groundwater Reduction Plan. The General Manager of the Authority and the GRP Administrator are hereby authorized and directed to take such actions as are deemed necessary and appropriate to ensure that the participants in the Authority's Groundwater Reduction Plan (the "Participants") adopt water conservation plans and drought contingency plans that are reasonably determined to meet or exceed such minimum requirements. Further, it shall be the policy of the Authority to support and assist the Participants in (1) adopting such water

conservation plans and drought contingency plans, and (2) implementing and enforcing such water conservation plans and drought contingency plans.

Section 8: This Resolution shall be and remain in full force and effect from and after the date of its passage and approval.

PASSED AND APPROVED this 28th day of February, 2019.



President, Board of Directors



Secretary, Board of Directors

(SEAL)



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San Jacinto River Authority

ADMINISTRATIVE OFFICE
P.O. Box 329 • Conroe, Texas 77305
(T) 936.588.3111 • (F) 936.588.3043

March 12, 2019

Mark Evans, Chair
Region H Water Planning Group
c/o San Jacinto River Authority
P.O. Box 329
Conroe, Texas 77305

Re: Water Conservation and Drought Contingency Plans

Dear Mr. Evans:

Please find enclosed one (1) copy of the revised Water Conservation and Drought Contingency Plans for the San Jacinto River Authority's Lake Conroe, GRP, Woodlands, and Highlands Divisions. San Jacinto River Authority's Board of Directors adopted the enclosed plans on February 28, 2019. These revisions have been completed to meet the regulatory requirement to update and submit the Plans to TCEQ and TWDB by May 1, 2019. Electronic versions of the Plans are available on San Jacinto River Authority's website at <http://www.sjra.net/about/wc-dcp/>.

If you have any questions, please do not hesitate to contact Daniel Hilderbrandt, P.E. at (936) 588-7121 or dhilderbrandt@sjra.net.

Sincerely,

Ronald Kelling, P.E.
Deputy General Manager
San Jacinto River Authority

Cc: Mark Smith, P.E.
Chris Meeks
Kimberly Wright
Bret Raley
Daniel Hilderbrandt, P.E.

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Appendix C

Woodlands Division TCEQ Form 20645 - Water Conservation Implementation Report Form and Summary of Updates/Revisions to Water Conservation Plan

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Water Availability Division - MC-160, P.O. Box 13087 Austin, Texas 78711-3087
Telephone (512) 239-4691, FAX (512) 239-2214

WATER CONSERVATION IMPLEMENTATION REPORT FORM AND SUMMARY OF UPDATES/REVISIONS TO WATER CONSERVATION PLAN

(Texas Water Code §11.1271(b) and Title 30 Texas Administrative Code §288.30(1) to (4))

Please note, this form replaces the following forms: TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers)

This Form is applicable to the following entities:

1. Water Right Holders of 1,000 acre-feet or more for municipal, industrial, and other non-irrigation uses.
2. Water Right Holders of 10,000 acre-feet or more for irrigation uses.

The above noted entities are required by rule to submit updates to their water conservation plan(s) and water conservation implementation report(s) every five years. The most current five-year submittal deadline is May 1st, 2019. See 30 Texas Administrative Code (TAC) §288.30(1) to (4). Entities must also submit any revisions to their water conservation plan within 90 days of adoption when the plans are revised in between the five-year submittal deadlines. This form may be used for the five-year submittal or when revisions are made to the water conservation plans in the interim periods between five-year submittals. Please complete the form as directed below.

1. Water Right Holder Name: San Jacinto River Authority
2. Water Right Permit or Certificate Nos. COA 10-4963, COA 10-4964, COA 10-4965, COA 10-4966, Permit 5807, Permit 5808, Permit 5809, COA 08-4279, Permit 5271
3. Please Indicate by placing an 'X' next to all that Apply to your Entity:

Water Right Holder of 1,000 acre-feet or more for non-irrigation uses

- ☒ Municipal Water Use by Public Water Supplier
- ☒ Wholesale Public Water Supplier
- ☒ Industrial Use
- ☒ Mining Use
- ☒ Agriculture Non-Irrigation

Water Right Holder of 10,000 acre-feet or more for irrigation uses

- ☐ Individually-Operated Irrigation System
- ☒ Agricultural Water Suppliers Providing Water to More Than One User

Water Conservation Implementation Reports/Annual Reports

4. Water Conservation Annual Reports for the previous five years were submitted to the Texas Water Development Board (TWDB) for each of the uses indicated above as required by 30 TAC §288.30(10)(C)? Yes ☒ No ☐

TCEQ no longer requires submittal of the information contained in the detailed implementation report previously required in Forms TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers). However, the Entity must be up-to-date on its Annual Report Submittals to the TWDB.

Water Conservation Plans

5. For the five-year submittal (or for revisions between the five-year submittals), attach your updated or revised Water Conservation Plan for each of the uses indicated in Section 3, above. Every updated or revised water conservation plan submitted must contain each of the minimum requirements found in the TCEQ rules and must be duly adopted by the entity submitting the water conservation plan. Please include evidence that each water conservation plan submitted has been adopted.

- Rules on minimum requirements for Water Conservation Plans can be found in 30 TAC 288.
http://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288
- Forms which include the minimum requirements and other useful information are also available to assist you. Visit the TCEQ webpage for Water Conservation Plans and Reports. https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/conserv.html

Call 512-239-4691 or email to wcp@tceq.texas.gov for assistance with the requirements for your water conservation plan(s) and report(s).

6. For each Water Conservation Plan submitted, state whether the five and ten-year targets for water savings and water loss were met in your *previous* water conservation plan.

Yes _____ No x

If the targets were not met, please provide an explanation.

The previous Water Conservation Plan (2014) for the Woodlands Division set a goal of 1% reduction in water use per year. The Woodlands Division's total water use did not decrease by a minimum of 1% each year between 2014 and 2018, however, the average 5-year water usage between 2009-2013 was 20,798.4 acre-ft/year, and the average 5-year water usage between 2014-2018 was 17,929.6 acre-ft/year. This results in a 13.58% reduction in the average 5-year water use for the Division. This reduction is mainly due to the higher than average rainfall in recent years which reduces the overall water use for the Woodlands Division.

7. For each five-year submittal, does each water conservation plan submitted contain *updated* five and ten-year targets for water savings and water loss?

Yes x No _____

If yes, please identify where in the water conservation plan the updated targets are located (page, section).

Section 3.1, Page 3-1

8. In the box below (or in an attachment titled "Summary of Updates or Revisions to Water Conservation Plans), please identify any other revisions/updates made to each water conservation plan that is being updated or revised. Please specify the water conservation plan being updated and the location within the plan of the newly adopted updates or revisions.

SJRA Woodlands Division

- Updated 5 and 10-year water conservation and water loss goals. (Section 3.1)
- Removed water conservation methods "Conservation Coordination", "Conservation Stakeholder Group", and "Awards and Recognition". The Woodlands Division does not plan to utilize these methods in at least the next five years. (Previously included in Section 3)
- Revised/Updated all Figures. (Throughout)
- Other minor text revisions (Throughout)

9. Form Completed by (Point of Contact): Chris Meeks
(If different than name listed above, owner and contact may be different individual(s)/entities)

Contact Person Title/Position: Chris Meeks, Woodlands Division Manager

Contact Address: 2436 Sawdust Road, The Woodlands, TX 77380

Contact Phone Number: 281-367-9511 Contact Email Address: cmeeks@sjra.net

Signature: 

Date: 3.4.19

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