

**RESOLUTION NO. 194-08-2022 ADOPTING THE REVISED WATER CONSERVATION &
DROUGHT CONTINGENCY PLAN FOR LAGUNA MADRE WATER DISTRICT**

WHEREAS, the Laguna Madre Water District (District) previously adopted a Water Conservation and Drought Contingency Plan on May 10, 2017; and

WHEREAS, a Water Conservation and Drought Contingency Plan must be updated and adopted by the District; and,

WHEREAS, Section 11.1271 of the Texas Water Code and applicable rules of the Texas Commission on Environmental Quality and Texas Water Development Board require all public water supply systems in Texas to prepare a water conservation plan; and,

WHEREAS, as authorized under a law and in the best interests of the customers of the Laguna Madre Water District, the Board of Directors deems it reasonable and necessary to establish specific rules and policies for the orderly and efficient management of limited water supplies during drought and other water supply emergencies; and

WHEREAS, The Board of Directors further finds, determines, and declares that the meeting at which this resolution has been considered and acted upon was open to the public and public notice of the time, place, and subject of said meeting was duly given, all as required by Texas Water Code Ann. 49.063; Now, therefore,

BE IT RESOLVED by the Board of Directors of the Laguna Madre Water District that:

SECTION 1. The Revised Water Conservation & Drought Contingency Plan attached hereto is hereby adopted as the official policy of the Laguna Madre Water District.

SECTION 2. The Laguna Madre Water District General Manager and their designee are hereby directed to implement, administer and enforce the Revised Water Conservation & Drought Contingency Plan.

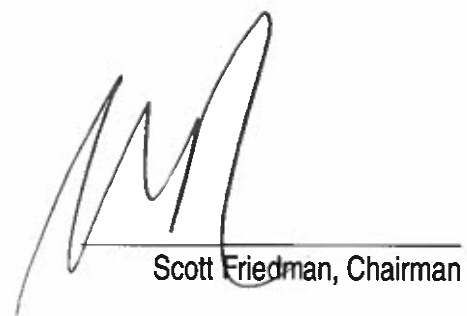
SECTION 3. This resolution shall take effect immediately upon its approval.

PASSED AND APPROVED this 14th day of September 2022.

ATTEST:



Jason Starkey, Secretary


Scott Friedman, Chairman



Water Conservation and Drought Contingency Plan

Board of Directors

SCOTT FRIEDMAN	-	CHAIRMAN
ADAM LALONDE	-	VICE-CHAIRMAN
JASON STARKEY	-	SECRETARY
WILLIAM DONAHUE	-	DIRECTOR
DAVE BOUGHTER	-	DIRECTOR

Laguna Madre Water District

105 Port Road
Port Isabel, Texas

Revised September 8, 2022

Prepared By:

Charles Ortiz

Mission Statement: To proactively serve our customers by providing reliable, safe, high quality water and wastewater services.

The Water Conservation Plan was revised by Laguna Madre Water District pursuant to the Provisions of the Texas Administration Code Chapter 288, Water Conservation Plans, Guidelines, and Requirements.

Water Conservation Plan for the Laguna Madre Water District

2022

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Appendix "A" – Water Utility Profile

Laguna Madre Water District Water Conservation and Drought Contingency Plan

I. Introduction

The Water Conservation and Drought Contingency Plan (WCDC Plan) has been revised by the Laguna Madre Water District (LMWD) pursuant to the provisions of the Texas Administrative Code Chapter 288, Water Conservation Plans, Guidelines and Requirements. According to TAC Rule 288, conservation means “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”. The Texas Commission on Environmental Quality (TCEQ) is responsible for overseeing these plans.

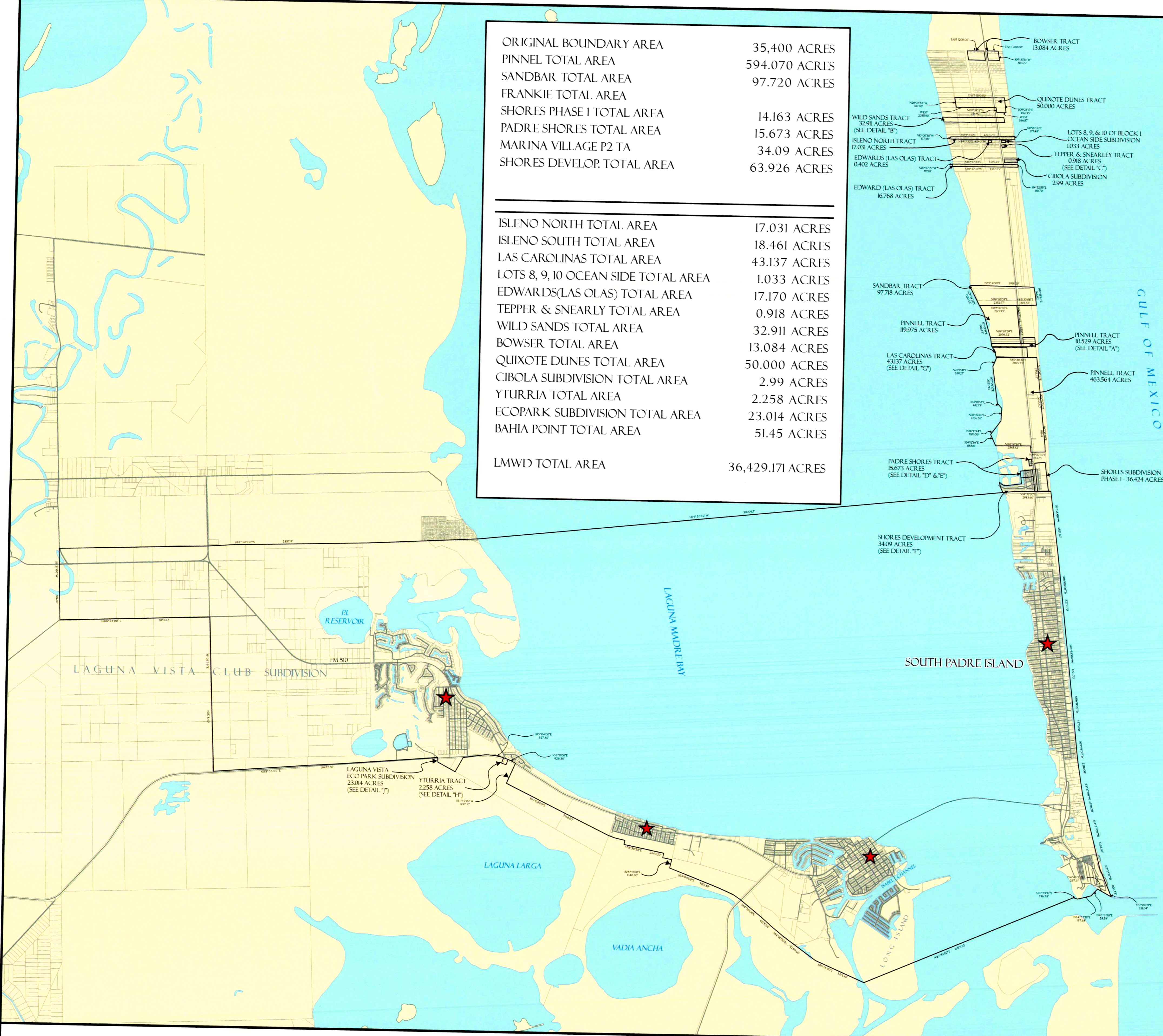
LMWD has previously submitted Water Conservation Plan to TCEQ & Texas Water Development Board (TWDB), as required by state law, as approved by LMWD on May 13, 2019 via Resolution No. 171-02-19. The current revision is proposed to update status of Water Rights Allocation and System Improvements and clarify water restrictions in drought contingency plan. The District has revised its Drought Contingency Plan to conform to TCEQ form #20191 – Drought Contingency Plan for a Retail Public Water Supplier.

II. Service Area and System Evaluation

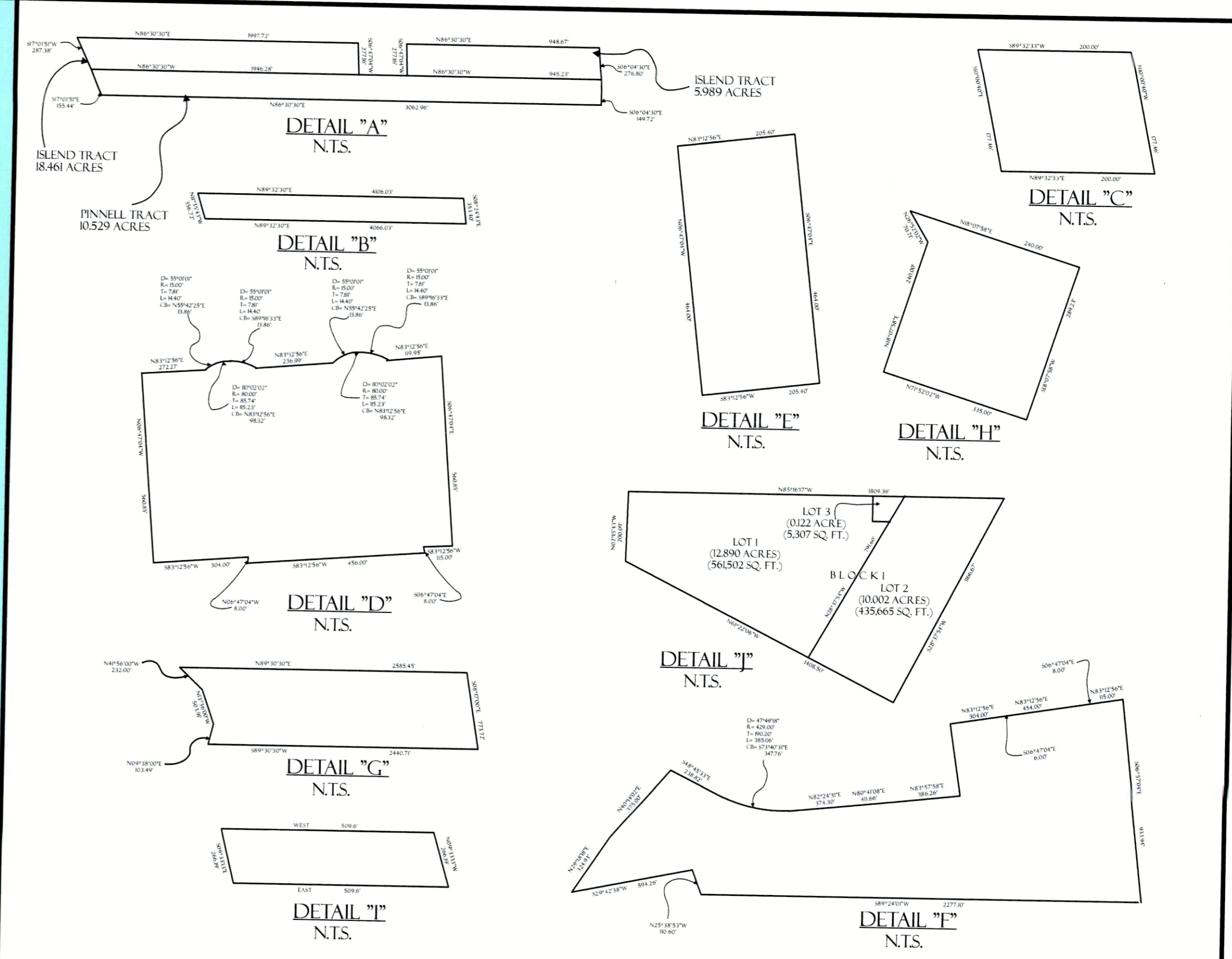
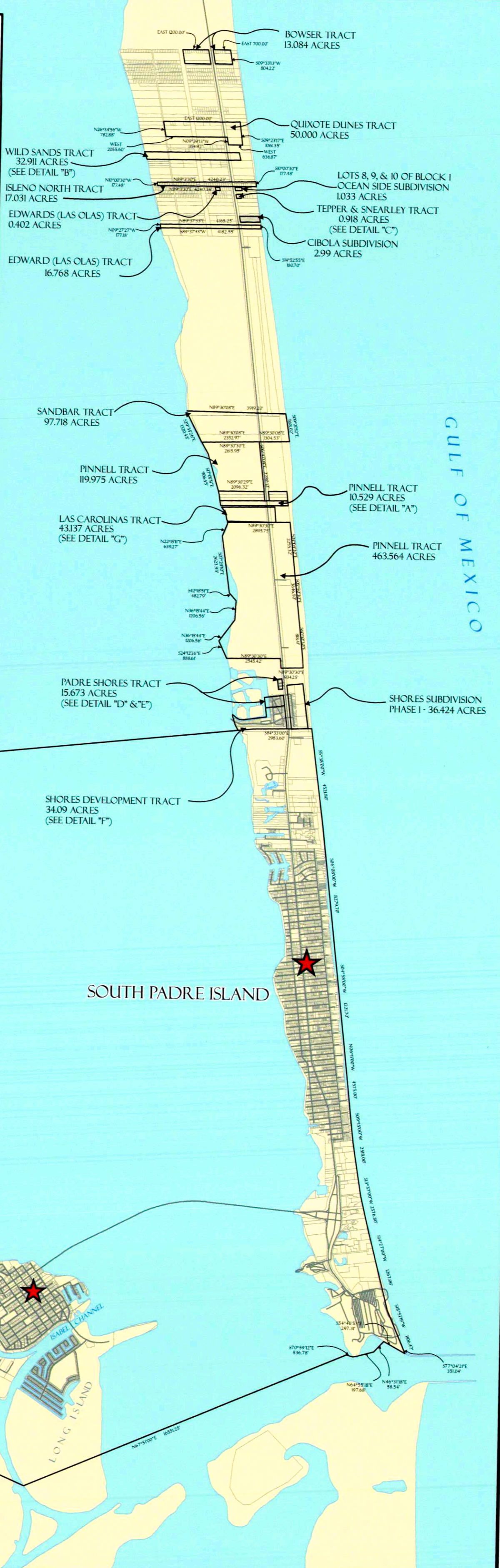
Laguna Madre Water District (LMWD) provides water and wastewater services to the City of Port Isabel, City of South Padre Island, the Village of Laguna Vista, and unincorporated areas of Cameron County including Laguna Heights and Long Island.

The LMWD maintains its own water supply system from the Rio Grande to two Water Treatment Plants. The raw water system includes three pump stations, 3 reservoirs and 34 miles of pipeline. Laguna Madre Water District has a Total Service Area of 36,429 Acres as shown in Figure 1.

Raw water is pumped from the Rio Grande under LMWD’s allotted water rights of 7,513.3920 acre feet. This raw water is pumped via the LMWD’s raw water transmission lines from the Rio Grande to Water Treatment Plants 1 & 2. Water Treatment Plant 1 is being upgraded to a 5.0 million gallon per day plant and located in Port Isabel. Water Treatment Plant 2 is an 8.0 million gallon per day plant and located in Laguna Vista. Once the raw water is treated, it is pumped into 5 elevated tanks, 2 ground storage tanks, 2 underground storage clear-wells and distribution pipes. The total capacity of the existing storage tanks is 4,125,000 gallons. Unlimited Tax Bonds, Series 2022, proposes a new 600,000 gallon Elevated Storage Tank #6 to replace the existing Port Isabel Elevated Storage Tank #1 and Laguna Vista Elevated Storage Tank #4 as well as one 1.5 million gallon concrete ground storage tank to replace two existing steel ground storage tanks at



ORIGINAL BOUNDARY AREA	35,400 ACRES
PINNEL TOTAL AREA	594.070 ACRES
SANDBAR TOTAL AREA	97.720 ACRES
FRANKIE TOTAL AREA	
SHORES PHASE I TOTAL AREA	14.163 ACRES
PADRE SHORES TOTAL AREA	15.673 ACRES
MARINA VILLAGE P2 TA	34.09 ACRES
SHORES DEVELOP. TOTAL AREA	63.926 ACRES
<hr/>	
ISLENO NORTH TOTAL AREA	17.031 ACRES
ISLENO SOUTH TOTAL AREA	18.461 ACRES
LAS CAROLINAS TOTAL AREA	43.137 ACRES
LOTS 8, 9, 10 OCEAN SIDE TOTAL AREA	1.033 ACRES
EDWARDS(LAS OLAS) TOTAL AREA	17.170 ACRES
TEPPER & SNEARLY TOTAL AREA	0.918 ACRES
WILD SANDS TOTAL AREA	32.911 ACRES
BOWSER TOTAL AREA	13.084 ACRES
QUIXOTE DUNES TOTAL AREA	50.000 ACRES
CIBOLA SUBDIVISION TOTAL AREA	2.99 ACRES
YTURRIA TOTAL AREA	2.258 ACRES
ECOPARK SUBDIVISION TOTAL AREA	23.014 ACRES
BAHIA POINT TOTAL AREA	51.45 ACRES
<hr/>	
LMWD TOTAL AREA	36,429.171 ACRES



LAGUNA MADRE WATER DISTRICT
BOARD OF DIRECTORS

[Signature]
SCOTT FRIEDMAN, CHAIRMAN
DATE: 8/12/2021

[Signature]
ADAM LALONDE, VICE-CHAIRMAN
DATE: 8/12/21

[Signature]
JASON STARKEY, SECRETARY
DATE: 8/10/2021

[Signature]
WILLIAM "BILL" DONAHUE, DIRECTOR
DATE: 8/9/21

[Signature]
DAVE BOUGHTER, DIRECTOR
DATE: 8/19/21



LAGUNA MADRE WATER DISTRICT BOUNDARY

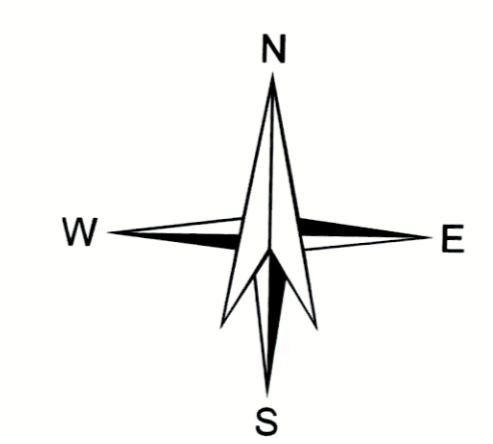
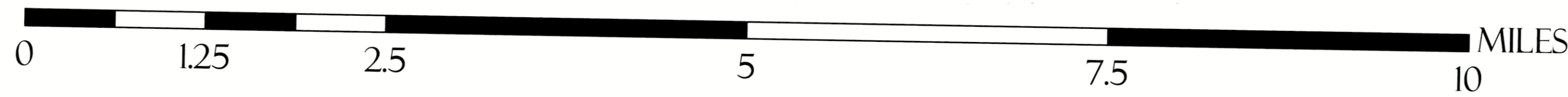


Figure 1

DATE: NOVEMBER 18, 2020

Water Plant 1. Water System Improvements will increase storage capacity by 225,000 gallons resulting in a total storage amount of 4,350,000 gallons.

Water availability and usage:

- Authorized amount for LMWD is 7,696.522 Acre-Feet (AF) of Municipal Water Rights under Normal Conditions. Under drought conditions, TCEQ Watermaster may prorate authorized amount up to 1,750 AF/ Year for a total remaining balance of 5,946.5220 AF/YR. When Falcon and Amistad combined balance is less than 50% capacity, the District authorized amount increases / decreases by 145.8 Acre Feet per year for each percentage change +/- in capacity.
- From Year 2012 through 2021, LMWD used an average of 5,338 Acre-Feet per year of Municipal Water Rights with a maximum diversion of 5,833.2305 Acre-Feet in 2020.
- Because of our proximity to the Gulf of Mexico, hurricanes can be the most frequent natural hazard affecting the area. The District maintains an Emergency Fund reserve as a safeguard to major storm events that could adversely affect annual revenue.

On January 8, 2016, the Bureau of Reclamation issued a Finding that Laguna Madre Water District's Title XVI Feasibility Study Report is Complete. The report serves as a Master Plan to implement a Port Isabel Water Reclamation Facility. Secondary treatment improvements were completed on February 13, 2019, and an Advanced Water Treatment Facility (AWTF) is pending funding. The AWTF will complete the full cycle of direct potable reuse, which will reduce diversions from the Rio Grande and help replenish water capacity in the Falcon and Amistad Reservoir System.

a. Raw Water Source and Delivery System

Currently, the only raw water source for the LMWD is the Rio Grande. This region of Texas is facing steady growth and diminishing water supply.

Because of the increasing cost of delivering raw surface water from the Rio Grande and the desire for alternative sources, the LMWD decided to evaluate the cost and feasibility of developing both Seawater Desalination Treatment Facility and a Water Reclamation and Reuse Facility. These projects will reduce withdrawals from the Rio Grande by providing an Alternate Water Supply.

b. Raw Water System

Raw water is diverted out of the Rio Grande through three pumps, with a capacity of 12.96 MGD per pump. There are five miles of 42-inch concrete pipeline leading to Reservoir 4. Reservoir 4 has a 610 Acre-Foot storage capacity with a 15 MGD pumping capability. 10 miles of 36-inch pipeline connects this reservoir to Cuates pump station, east of the City of Los Fresnos. Cuates Pump Station was upgraded in Series 2012 system improvements to 12 MGD. The water from Reservoir 4 can be gravity fed or pumped to Cuates Pump Station. Series 2012 System Improvements included a third parallel pipeline (24") from Cuates Pump Station to Reservoir #3 in Laguna Vista.

Reservoir 3 has a storage capacity of 230 acre-feet and is the last settling reservoir before treatment at WTP No.2. Raw water pump station at reservoir 3 feeds both WTP No.2 in Laguna Vista and raw water irrigation system for South Padre Island Golf Community.

A separate raw water transfer pump station at Reservoir 3 conveys water supply to Reservoir #1, located in Port Isabel, which is the source water for WTP No.1. Raw water transfer pump station is being upgraded through the Unlimited Tax Bonds, Series 2022, to supply water demand required for proposed WP1 Microfiltration System. Raw water is fed through parallel 16-inch and a 15-inch lines into a 30-acre-foot capacity reservoir.

The South Padre Island Golf Course currently buys raw water from LMWD; averaging 33.4 acre-feet per year.

As part of the Water Management System, the Water Plant Manager accounts for water pumped from the Rio Grande, to the treatment plants and water system sales.

c. Treated Water System and Use

Water Treatment Plant No.1 was originally built over 50 years ago. Clarifiers were restored in 2022 to meet a capacity of 5 MGD. Existing conventional filters will be replaced with a Microfiltration system to provide equal water quality as water plant 2, funded through a Water System Improvements Bond Election passed in November 2020. Upon completion, WTP No.1 improvements include new raw water intake pumps; a new microfiltration (MF) treatment system housed in a new facility with associated mechanical, electrical, plumbing, and instrumentation improvements; equalization tank / feed water tank; chemical storage facilities for microfiltration clean-in-place (CIP) chemicals; new high service pump station; and a 1.5 million gallon ground storage tank. Both Water Plants operate on a single pressure plane and will support each other to meet peak water demand.

Water Treatment Plant No.2 was originally built in 1985. In 2013, the filtration system was upgraded from conventional rapid sand filters to an 8.0 MGD Microfiltration system. Site includes chemical feed facilities, a one-million gallon clearwell, and high service pump

station. Water System Improvements in Unlimited Tax Bonds, Series 2022, include high service pump station rehabilitation to provide a design life through year 2042.

Water Distribution System: The LMWD water distribution system is growing with new development in the South Padre Island Golf Community, Bahia Point Subdivision adjacent to Laguna Heights, Long Island Village Water and Sewer System Improvements, and ongoing development within South Padre Island, Port Isabel, and Laguna Vista. Weekend tourism results in peak water usage adding to the demands of permanent residents.

In October 2012, LMWD completed *Water Distribution & Wastewater Collection Systems Hydraulic Modeling*, prepared by CDMSmith. The Study created an all-pipes water distribution model in InfoWater. Model scenarios include growth projections through year 2040. Freese and Nichols continues to maintain the water model for the District. Most recent model update and calibration was performed in Year 2022 to support a design year of 2042 for ongoing System Improvements funded through Unlimited Tax Bonds, Series 2022.

The LMWD has been working, “system wide”, to improve the reliability and efficiency in the distribution system. These efforts ensure continued quality and reliability in the essential services LMWD provides. The LMWD distribution system is made up of nearly 200 miles of pipeline. The system consists of pipelines ranging in sizes from 2” to 24”. Approximately 75% of the pipe in the system is 8-inches or less in diameter. Distribution crews continually repair aged, small diameter pipelines. Water main upgrades in the Causeway area and an 8-inch loop on Laguna Blvd are current projects along with ongoing Valve Replacement.

d. Billing Cycles

Billing Cycle Process: There are three billing cycles for LMWD. The billing cycle determines when the water meter is read and the due date. It is an integral part of the remote reading process.

LMWD’s utility bills are mailed out monthly or approximately every 30 days. There is a constant rotation of billing dates month to month, however there is a general billing date expectation customers understand.

LMWD billing cycles are as follow: Cycle one includes customers who live in Laguna Heights and the town of Laguna Vista, Cycle two includes customers who live in Port Isabel, and cycle three includes those who live in South Padre Island (Figure 3: Billing Cycles). The customers address dictates what billing cycle he lands under therefore; an address cannot be changed to another location.

Consumption is determined by the verification of several books throughout the three cycles. On average, Laguna Heights and Laguna Vista used 47% of the entire consumption, Port Isabel used 18%, and South Padre Island used 35%.

As shown in the Water Utility Profile (Appendix A), LMWD served a population of 45,264 through 15,088 connections and is comprised of ten class types; they are residential, commercial, industrial, churches, schools, hotels, mobile homes, apartments, restaurants, condominiums, and unassigned.

e. Treated Wastewater System and Use

LMWD operates and maintains regional wastewater facilities where wastewater from the service area is collected and pumped into four Wastewater Treatment Plants (WWTPs). In 1974, the mainland WWTP was built in Port Isabel. On February 13, 2019, Port Isabel Wastewater Treatment Plant modifications were completed, maintaining an existing capacity of 1.1 MGD. These secondary treatment improvements were needed to prepare for a future Port Isabel Water Reclamation Facility. Phase 3, described in the District's Master Plan for Direct Potable Reuse, will proceed based on actual flows treated at the facility. Phase 3 will be an expansion to a 2.0 MGD capacity through the addition of Sludge Holding Tanks and a third Clarifier. The Laguna Vista WWTP was built in 2005 with a treatment capacity of 0.65 MGD. South Padre Island has two WWTPs. One is located in Isla Blanca (IBWWTP) and the other is located at Andy Bowie (ABWWTP), adjacent to South Padre Island Birding, Nature Center & Alligator Sanctuary. IBWWTP was built in 1974 and has an existing capacity of 2.6 MGD; and ABWWTP was built in 1974 and has a capacity of 1.5 MGD.

In October 2012, LMWD completed *Water Distribution & Wastewater Collection Systems Hydraulic Modeling*. The model created scenarios for sewer lift stations and collection pipelines in InfoWorks. The models included growth projections through year 2040. Freese and Nichols continues to maintain the models for ongoing System Improvements. The District is performing wastewater collection system improvements to get wet weather flows through the Port Isabel Wastewater Treatment Facility for a future direct potable reuse facility, meaning the introduction of treated reclaimed municipal wastewater into a raw water supply immediately before the water enters a drinking water treatment plant.

LMWD has created a position for Pretreatment Manager to minimize Fats, Oil, & Grease (FOG) from entering the sewer system. Grease build-up is an unavoidable factor that reduces the life span of the wastewater collection system. When these types of issues arise, LMWD's solution has been to find, fix or replace failed pipe sections. The expenses considered to maintain this program are labor, materials and equipment. This find and fix approach can be costly and inefficient. The District has taken a comprehensive approach to fix these area wide problems. Pretreatment Manager checks manifests at restaurants

and prevents FOG from entering the system. Chemical addition (Microsolve) is used for odor control and pipe maintenance. Lift station rehabilitation is replacing infrastructure that is at the end of its useful life. Hydraulic modeling is done to design for wet weather that remains within the 2 hour peak flow permitted at the sewer plant.

One of the main goals for the LMWD is to find the best available technology that can be used in the design, construction, operation and maintenance of the collection system.

Wastewater Collection Systems Rehabilitation/Replacement: Portions of the sewer collection system warrant replacement. Projects have been prioritized and defined based on the hydraulic model results. Rehabilitation projects are identified by Operations on a continual basis.

f. Service Area and Water Use Projections

LMWD is located at the eastern edge of Cameron County. The three municipalities served are South Padre Island, Port Isabel, and the Town of Laguna Vista including the unincorporated area of Laguna Heights.

LMWD's last 5 years of treated water pumped into the distribution system averages out to 1,372,704,887 gallons. It is estimated that every year the demand rises about 160,000 gallons. The system demand fluctuates depending on seasonal water usage, and the amounts of visitors South Padre Island has at any given time. LMWD averaged 3.75 million gallons of treated water pumped per day in 2021. The Peak Day Use of 7.35 MGD occurred in Year 2018.

III. Problem Identification

The challenges faced are population growth, increased demand, diminishing supplies, stringent regulations, and an aging infrastructure. The most significant issues for LMWD are water supply and distribution pipelines.

a. Inadequate Raw Water Supply to Meet Expected Water Demands

According to the TWDB, the population growth for the LMWD service area, is estimated to be about 20% every ten years from 2020 to 2070. The projected population for 2030 is 54,317 with a raw demand of 6,406 acre-feet. In 2070, we are estimated to have a population of 63,370 with a raw water demand of 7,473 acre-feet. In preparation for this increasing growth, LMWD will continue to research other sources of water such as seawater desalination, brackish water and reuse. Keeping up with this proactive approach will help LMWD with its future demands.

b. Identification and Reduction of Raw Water Losses

In order to identify leaks, the LMWD personnel drives to the river pump station and back, along the pipeline, every time the river/Reservoir No. 4/Cuates pumps are on and whenever needed to verify of any situation in occurrence. In December 2009, LMWD completed a Hydraulic Optimization Study. The report identified Cuates Pump Station and Pipeline Improvements as the most critical need in the raw water conveyance system. These works were completed as part of the System Improvements, Tax Bond Series 2012. Future projects to further reduce raw water losses include rehabilitation of Reservoir No. 4 pipeline.

c. Identification and Reduction of Treated Water Losses

LMWD is committed to improving efficiency by reducing treated water losses and has taken several steps to improve the effectiveness of treated water distribution system. Major distribution system efficiency projects include:

- i. Metering: Universal Metering – The LMWD requires a meter at every connection to the water system including, but not limited to, residential, industrial, municipal, and commercial connections. The LMWD completed an Advanced Meter Infrastructure (AMI) full meter replacement program in 2019. All meters were replaced and upgraded from an AMR to an AMI system. Since then, LMWD has kept up with meter replacement in order to maintain its high standards for correct metering of the system.
- ii. Metering at point of diversion – For better accountability, the LMWD has replaced production (distribution) meters and meters located upstream of the high service pump stations at each water plant. The distribution meters were updated accordingly and the meters at the water plants were switched from insertion tube meters to mag meters for more accuracy.
- iii. LMWD maintains a total of 1,325,000 gallons of elevated storage capacity. Laguna Vista and Laguna Heights each have one elevated tower and South Padre Island has two. The proposed Elevated Storage Tank #6 in Port Isabel will provide an additional 600,000 gallons of elevated storage capacity. The existing and proposed elevated storage capacity is adequate for the next 20 years. The LMWD inspects all elevated tanks every year to determine the tanks standing in order to comply with AWWA standards.

d. Raw Water Demand Reduction Possibilities

The LMWDs' four wastewater treatment plants use a small amount of their plants effluent to wash down. Opportunities that have presented themselves are as follows:

- i. Port Isabel Wastewater Treatment Plant – The LMWD is researching the opportunity for direct potable reuse at this facility. This would reduce the amount of raw water that LMWD would have to divert from the Rio Grande.

Port Isabel Wastewater Treatment Plant Modifications were completed on February 4, 2019, as a first step (improve water quality in secondary treatment) in moving forward toward the potable reuse program. Next phase of project will be wastewater effluent characterization. The District will begin lab work to acquire data needed for design and construction of an Advanced Water Treatment Facility. Treated effluent can blend with the source water to reduce diversions from the Rio Grande.

- ii. Effluent from the Andy Bowie Wastewater Treatment Facility is providing beneficial use for estuary management at the South Padre Island Birding, Nature Center & Alligator Sanctuary. It meets their needs and saves them from purchasing treated potable water to maintain the freshwater exhibit.
- iii. Laguna Vista Wastewater Treatment Plant – The South Padre Island Golf course, located in Laguna Vista, currently uses raw water for irrigation. LMWD constructed a Cloth Media Filter (Reuse Authorization No. R14069-001) for Type I reclaimed water use. The authorization is used to fill two golf course (off-channel) amenity lakes at South Padre Island Golf Community.

IV. Water Utility Profile

Appendix A to this water conservation plan is the Laguna Madre Water District Utility Profile based on the format recommended by the TCEQ and the TWDB.

V. Water Conservation Goals

Goal One: Water Loss – Proper accounting of all water use and production is the first step in establishing a goal for the reduction of water loss. Reliable metering ensures that the number of total treated water and total billed water is accurately accounted for. In turn, the LMWD can provide a value of water loss and unaccounted-for -water.

Goal Two: Per Capita Usage – The average daily GPCD over the last five years has been 185 gallons. (Table 2: Gallons per capita per Day)

In 2021, this number was 170 gallons and has fluctuated over the past five years. LMWD is researching for ways to reduce this number, some of which are stated in this plan.

Goal Three: Water Recycling – The LMWD seeks the opportunity to reuse or reclaim at least 50% of its wastewater effluent. Type II reclaimed water use includes irrigation or other uses in areas where the public is not present during the time when irrigation activities occur or other uses where the public would not come in contact with the reclaimed water (Texas Administrative Code, 2009).

Goal Four: Alternative Sources – The LMWD is evaluating resources such as saltwater desalination and direct potable reuse. Desalination is plausible in our area, with Port Isabel being the most viable area for a future Advanced Water Purification Facility. Considering these types of alternative sources is the best way to resolve our long-term demand need.

VI. Water Conservation Plan Elements

a. Education and Public Information

- i. Public Education Campaign – The LMWD will promote water conservation by informing its customers of different methods to conserve water. The municipalities we serve tend to have night outs where LMWD can go out and speak to the customers and hand out informational packets.
- ii. Brochures – Brochures on water conservation are handed out to new customers and any one of the public that request them. Available in these brochures are tips from the ABC’s water conservation, Be Water Smart Indoors, Water Savings Tips, and Forty-Nine tips to Conserve Water (Spanish Version).
- iii. LMWD Website – Water conservation, water saving tips and mandatory water conservation restrictions are found on the LMWD website, <https://www.lmwd.org/water-conservation>. LMWD updates this information as needed and also allows you to receive notifications on when they are made.
- iv. School and Community Education - The educational program includes going to our local schools and informing the students of the importance of water and water conservation. LMWD will also provide “tours” of the water plants so that the public can see where their water is treated and get a better understanding of water treatment. Some of the objectives for this education are:
 1. Learning where their tap water comes from
 2. Learning about our raw water source and its troubles
 3. Becoming familiar with the treatment process
 4. Becoming familiar with some of the regulatory agencies and their regulations
 5. Learning our main objective, which is providing safe drinking water to the public
- v. Drought Awareness Campaign – In addition to water conservation, during actual drought conditions, LMWD will educate and enforce a drought awareness campaign. A drought campaign should have similar information however drought regulation should take place. This should be publicized through local newspaper, television advertisement and possibly radio. All customers will receive detailed information of the drought conditions

The overall goal of the Water Conservation Information Program is to provide information to the public for water conservation.

b. Water Rate Structure

The District imposes an inverted block rate structure on both water and wastewater customers. All customers are subject to the conservation-oriented rate structure so that everyone is equally encouraged to conserve.

The current rate structure enforces that high-volume users are penalized for high usage; in essence the more you use, the more you pay. Volumetric rates and charges increase depending on meter size. On September 26, 2018, the District approved water, wastewater, and raw water rates described in a five-year financial schedule included in Resolution No. 165-09-18 Amending Laguna Madre Water District Water, Wastewater, and Raw Water Rate Schedules, as shown in Appendix “B”.

c. Plumbing Fixtures and Retrofit Programs

Building owners will be encouraged to replace plumbing devices with more efficient fixtures. LMWD currently provides conservation kits to its customers that include dye tablets, used to identify water leaks at home.

d. Water Savings Plumbing Code

In June 25, 1986, the LMWD adopted a resolution that includes water conservation requirements for new construction and renovations. For example, toilets that were installed before 1980 would draw about 5.5 gallons per flush. Improved technology has made it possible to considerably save in water.

Fixture	Standard
Lavatory & Sink	No more than 2.2 gpm's at 60 pounds per square inch of pressure
Wall Mounted, Flush meter Toilets	No more than 1.6 gallons per flush
All other Toilets	No more than 1.6 gallons per flush
Urinals	No more than 1.0 gallons per flush
Drinking Water Fountains	Must be self closing
All Hot Water Lines	Must be insulated
Swimming Pools	New pools must have a re-circulating filtration equipment

e. Universal Metering, Meter Repair and Replacement Program

All customers of the LMWD are metered. In 2019, the LMWD converted to an Advanced Metering Infrastructure (AMI) system. The LMWD replaced and retrofitted all meters to communicate through the new AMI system. In addition, Customers now have access to hourly data through their WaterSMART app to quickly catch leaks and make repairs. Advanced Metering Infrastructure (AMI) System includes a new network, software, and full meter replacement to get hourly reads. The technology upgrade will enhance the District's ability to conserve water through better communication with all stakeholders.

f. Control of Unaccounted Water Use

LMWD remains compliant with Texas Water Code Section 1.0121(b) requiring retail public water utilities to conduct a water audit every five years, unless they have an active financial obligation with the Texas Water Development Board or have more than 3,300 connections, in which case they must conduct an audit annually. Four basic steps for a water audit includes:

- i. Identify and quantify each source of water.
- ii. Identify, quantify and verify authorized metered water uses.
- iii. Identify and estimate unmetered water uses.
- iv. Identify and estimate water loss.

g. Leak Detection and Repair Program

The LMWD does not have a leak detection program in place. However, staff addresses leaks in the water distribution system when a customer calls in, when there is low pressure in the system, when there is no water, or when staff has been notified that water is visible on alleys and/or roadways. In addition, water plant operators monitor tank levels and pressure through a SCADA system at Water Pant #2. This information is a monitoring system that can be used to indicate differentials through the LMWD system.

The LMWD will continue taking the following actions to improve and prevent continuing water loss in the distribution system:

- i. The LMWD will continue with line replacement; as it is an ongoing program to maintain high standards with high quality materials.
- ii. Establish a leak detection program in the distribution system.
- iii. Continue with valve maintenance and replacement

h. Pressure Control in the Distribution System

The water distribution system provides economical and compatible facilities that are capable of furnishing sufficient water at suitable pressures. The system consists of almost 200 miles of underground water mains, two pump stations, two ground storage tanks, 2 clearwells, five elevated storage tanks, and approximately 7,161 meters.

After treating the water, it is pumped into the distribution system with excess water being stored in the elevated tanks. The distribution network is laid out in a continuous looped system to circulate water and maintain constant system pressures of about 45 psi.

i. Water Recycling and Reuse

As previously mentioned, the LMWD currently recycles water within their wastewater plants for non-potable use. This includes washing down stations and chlorine system. The LMWD will continue to pursue wastewater effluent reuse opportunities to accommodate future growth

j. Conservation Programs for Industrial, Commercial and Institutional Customers (ICI)

The LMWD will develop a water conservation program for ICI customers that will include the resources to implement efficient water management practices that will help them reduce operating costs for water and energy without sacrificing production quality. In addition, this program will help ICI customers become more efficient to reduce the impact of any potential mandatory water regulation brought by any water shortages. Best of all, a well-planned, efficient program will help extend the LMWD service area.

k. Conservation Additional Requirements (Population over 5,000)

The Texas Administrative Code includes additional requirements for water conservation plans for drinking water suppliers serving populations over 5,000.

288.2(a)(2)(C) – Requirement for Water Conservation Plans by Wholesale Customers

Should LMWD acquire a Wholesale Customer, a requirement in every wholesale water supply contract entered into or renewed after the adoption of the plan (by wither ordinance, resolution, or tariff), each successive wholesale customer develop and implement a water conservation plan or water conservation measures following the requirements of *Title 30, Part 1, Chapter 288, Subchapter A., Rule 288.2* of the Texas Administrative Code. The requirement will also extend to each successive wholesale customer in the resale of the water, 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 customer be required to implement conservation measures in accordance with the provision of this chapter.

l. Implementation and Enforcement

The General Manager (GM) at the Laguna Madre Water District or his/her designee will be responsible for the implementation and enforcement of the Water Conservation Plan. In addition, he or she will ensure that records are maintained in the administration building to prepare reports requested by TCEQ.

m. Coordination with Regional Water Planning Groups

The District will be in coordination with our Rio Grande Regional Water Planning Group (Region M) for the Water Conservation Plan. A copy of the water conservation plan will be provided to the Texas Water Development Board.

n. Periodic Review

The LMWD personnel will ensure that water conservation goals are monitored and unaccounted water is identified. LMWD will update and inform the General Manager of the amendments made to the water conservation plan. It will meet current and future demands.

VII. Drought Contingency Plan

A Drought Contingency Plan for a Retail Public Water Supplier is provided on the following page using format provided by form TCEQ-20191.



Texas Commission on Environmental Quality

Water Availability Division
MC-160, P.O. Box 13087 Austin, Texas 78711-3087
Telephone (512) 239-4600, FAX (512) 239-2214

Drought Contingency Plan for a Retail Public Water Supplier

This form is provided as a model of a drought contingency plan for a retail public water supplier, modified by Laguna Madre Water District. 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) 239-4600.

Drought Contingency Plans must be formally adopted by the governing body of the water provider and documentation of adoption must be submitted with the plan. For municipal water systems, adoption would be by the city council as an ordinance. For other types of publicly-owned water systems (example: utility districts), plan adoption would be by resolution of the entity's board of directors adopting the plan as administrative rules. For private investor-owned utilities, the drought contingency plan is to be incorporated into the utility's rate tariff. Each water supplier shall provide documentation of the formal adoption of their drought contingency plan.

Name:	<u>Laguna Madre Water District</u>	
Address:	<u>105 Port Road, Port Isabel, Texas 78578</u>	
Telephone Number:	<u>(956) 943-2626</u>	<u>Fax: (956) 943-6827</u>
Water Right No.(s):	<u>23-850</u>	
Regional Water Planning Group:	<u>M</u>	
Form Completed by:	<u>Charles F. Ortiz, P.E.</u>	
Title:	<u>District Engineer</u>	
Person responsible for implementation:	<u>Carlos J. Galvan, Jr.</u>	<u>Phone: (956) 943-2626</u>
Signature:	<u>Date: 9 / 14 / 2022</u>	

Section I: Declaration of Policy, Purpose, and Intent

In order to conserve the available water supply and protect the integrity of water supply facilities, with particular regard for domestic water use, sanitation, and fire protection, and to protect and preserve public health, welfare, and safety and minimize the adverse impacts of water supply shortage or other water supply emergency conditions, the Laguna Madre Water District (*name of your water supplier*) hereby adopts the following regulations and restrictions on the delivery and consumption of water.

Water uses regulated or prohibited under this Drought Contingency Plan (the Plan) are considered to be non-essential and continuation of such uses during times of water shortage or other emergency water supply condition are deemed to constitute a waste of water which subjects the offender(s) to penalties as defined in Section X of this Plan.

Section II: Public Involvement

Opportunity for the public to provide input into the preparation of the Plan was provided by the Laguna Madre Water District (*name of your water supplier*) by means of website, public Board Meetings, email, and notifications included with bills (*describe methods used to inform the public about the preparation of the plan and provide opportunities for input; for example, scheduling and providing public notice of a public meeting to accept input on the Plan*).

Section III: Public Education

The Laguna Madre Water District (*name of your water supplier*) will periodically provide the public with information about the Plan, including information about the conditions under which each stage of the Plan is to be initiated or terminated and the drought response measures to be implemented in each stage. This information will be provided by means of website, discussion at Board Meetings, email, Customer Service, and notifications included with bills (*describe methods to be used to provide information to the public about the Plan; for example, public events, press releases or utility bill inserts*).

Section IV: Coordination with Regional Water Planning Groups

The service area of the Laguna Madre Water District (*name of your water supplier*) is located within the Rio Grande Regional Water Planning Group (Region M) (*name of regional water planning area or areas*) and Laguna Madre Water District (*name of your water supplier*) has provided a copy of this Plan to the Texas Water Development Board and Region M (*name of your regional water planning group or groups*).

Section V: Authorization

The General Manager (*designated official; for example, the mayor, city manager, utility director, general manager, etc.*), or his/her designee is hereby authorized and directed to implement the applicable provisions of this Plan upon determination that such implementation is necessary to protect public health, safety, and welfare. The General Manager (*designated official*) or his/her designee shall have the authority to initiate or terminate drought or other water supply emergency response measures as described in this Plan.

Section VI: Application

The provisions of this Plan shall apply to all persons, customers, and property utilizing water provided by the Laguna Madre Water District (*name of your water supplier*). The terms “person” and “customer” as used in the Plan include individuals, corporations, partnerships, associations, and all other legal entities.

Section VII: Definitions

For the purposes of this Plan, the following definitions shall apply:

Aesthetic water use: water use for ornamental or decorative purposes such as fountains, reflecting pools, and water gardens.

Commercial and institutional water use: water use which is integral to the operations of commercial and non-profit establishments and governmental entities such as retail establishments, hotels and motels, restaurants, and office buildings.

Conservation: those practices, techniques, and technologies that 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 supply is conserved and made available for future or alternative uses.

Customer: any person, company, or organization using water supplied by Laguna Madre Water District (*name of your water supplier*).

Domestic water use: water use for personal needs or for household or sanitary purposes such as drinking, bathing, heating, cooking, sanitation, or for cleaning a residence, business, industry, or institution.

Even number address: street addresses, box numbers, or rural postal route numbers ending in 0, 2, 4, 6, or 8 and locations without addresses.

Industrial water use: the use of water in processes designed to convert materials of lower value into forms having greater usability and value.

Landscape irrigation use: water used for the irrigation and maintenance of landscaped areas, whether publicly or privately owned, including residential and commercial lawns, gardens, golf courses, parks, and rights-of-way and medians.

Non-essential water use: water uses that are not essential nor required for the protection of public, health, safety, and welfare, including:

- (a) irrigation of landscape areas, including parks, athletic fields, and golf courses, except otherwise provided under this Plan;
- (b) use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle;
- (c) use of water to wash down any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
- (d) use of water to wash down buildings or structures for purposes other than immediate fire protection;
- (e) flushing gutters or permitting water to run or accumulate in any gutter or street;
- (f) use of water to fill, refill, or add to any indoor or outdoor swimming pools or Jacuzzi-type pools;
- (g) use of water in a fountain or pond for aesthetic or scenic purposes except where necessary to support aquatic life;
- (h) failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s); and
- (i) use of water from hydrants for construction purposes or any other purposes other than fire fighting.

Odd numbered address: street addresses, box numbers, or rural postal route numbers ending in 1, 3, 5, 7, or 9.

Section VIII: Criteria for Initiation and Termination of Drought Response Stages

The General Manager (*designated official*) or his/her designee shall monitor water supply and/or demand conditions on a monthly (*example: daily, weekly, monthly*) basis and shall determine when conditions warrant initiation or termination of each stage of the Plan, that is, when the specified “triggers” are reached.

The triggering criteria described below are based on:
Falcon and Amistad Reservoir Information provided in monthly reports prepared by Texas Commission on Environmental Quality Rio Grande Water Division - Lower, Rio Grande Watermaster.

(Provide a brief description of the rationale for the triggering criteria; for example, triggering criteria / trigger levels based on a statistical analysis of the vulnerability of the water source under drought of record conditions, or based on known system capacity limits).

Utilization of alternative water sources and/or alternative delivery mechanisms:

Alternative water source(s) for Laguna Madre Water District (name of utility) is/are: Use of reclaimed water for non-potable purposes; future direct potable reuse and/or seawater desalination treatment facilities.

(Examples: Other well(s), Inter-connection with other system, Temporary use of a non-municipal water supply, Purchased water, Use of reclaimed water for non-potable purposes, etc.).

Stage 1 Triggers -- MILD Water Shortage Conditions

Requirements for initiation

Customers shall be requested to voluntarily conserve water and adhere to the prescribed restrictions on certain water uses, defined in Section VII Definitions, when the level of U.S. combined storage in Amistad and Falcon Reservoirs reaches 50% or below.

Requirements for termination

Stage 1 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of 30 consecutive days.

Stage 2 Triggers – MODERATE Water Shortage Conditions

Requirements for initiation

Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses provided in Section IX of this Plan when the level of the U.S. combined storage in Amistad and Falcon Reservoirs is 40% or below .

Requirements for termination

Stage 2 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of 30 consecutive days. Upon termination of Stage 2, Stage 1, or the applicable drought response stage based on the triggering criteria, becomes operative.

Stage 3 Triggers – SEVERE Water Shortage Conditions

Requirements for initiation

Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses for Stage 3 of this Plan when the level of the U.S. combined storage in Amistad and Falcon Reservoirs is 25% or below.

Requirements for termination

Stage 3 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of 30 consecutive days. Upon termination of Stage 3, Stage 2, or the applicable drought response stage based on the triggering criteria, becomes operative.

Stage 4 Triggers – CRITICAL Water Shortage Conditions

Requirements for initiation

Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses for Stage 4 of this Plan when the level of the U.S. combined storage in Amistad and Falcon Reservoirs is 15% or below.

Requirements for termination

Stage 4 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of 30 consecutive days. Upon termination of Stage 4, Stage 3, or the applicable drought response stage based on the triggering criteria, becomes operative.

Stage 5 Triggers – EMERGENCY Water Shortage Conditions

Requirements for initiation

Customers shall be required to comply with the requirements and restrictions for Stage 5 of this Plan when General Manager, or his/her designee, determines that a water supply emergency exists based on:

1. Major water line breaks, or pump or system failures occur, which cause unprecedented loss of capability to provide water service; **or**
2. Natural or man-made contamination of the water supply source(s).

Requirements for termination

Stage 5 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of 3 consecutive days.

Section IX: Drought Response Stages

The General Manager, or his/her designee, shall monitor water supply and/or demand conditions on a daily basis and, in accordance with the triggering criteria set forth in Section VIII of this Plan, shall determine that a mild, moderate, severe, critical, emergency or water shortage condition exists and shall implement the following notification procedures:

Notification

Notification of the Public:

The General Manager or his/ her designee shall notify the public by means of:

Examples:
Notifications on Website: <https://www.lmwd.org/>
publication in a newspaper of general circulation,
direct mail to each customer,
public service announcements,
signs posted in public places
take-home fliers at schools.

Additional Notification:

The General Manager or his/ her designee shall notify directly, or cause to be notified directly, the following individuals and entities:

Examples:
Mayors and City Managers for South Padre Island, Port Isabel, and Laguna Vista

Fire Chief(s)
City and/or County Emergency Management Coordinator(s)
County Judge & Commissioner(s)
State Disaster District / Department of Public Safety
TCEQ (required when mandatory restrictions are imposed)
Major water users
Critical water users, i.e. hospitals
Parks / street superintendents & public facilities managers
General Manager for Long Island Village

Note: The plan should specify direct notice only as appropriate to respective drought stages.

Stage 1 Response – MILD Water Shortage Conditions

Target: Achieve a voluntary 3 percent reduction in total water use.

Best Management Practices for Supply Management:

The District intends to implement the use of an alternative supply source(s). Both Seawater Treatment Desalination and/or a Port Isabel Water Reclamation Facility (i.e. potable reuse) are being considered at this time. The District purchases additional Water Rights to keep allocation higher than demand at all times.

Voluntary Water Use Restrictions for Reducing Demand:

- (a) Water customers are requested to voluntarily limit the irrigation of landscaped areas to Mondays and Thursdays for customers in Laguna Heights and Laguna Vista, Tuesdays and Fridays for water customers on South Padre Island, and Saturdays and Wednesdays for water customers in Port Isabel and Long Island Village, and to irrigate landscapes only between 7:00 p.m. to midnight on designated watering days and between the hours of midnight and 7:00 a.m. the following day.
- (b) All operations of the Laguna Madre Water District shall adhere to water use restrictions prescribed for Stage 1 of the Plan.
- (c) Water customers are requested to practice water conservation and to minimize or discontinue water use for non-essential purposes.

Stage 2 Response – MODERATE Water Shortage Conditions

Target: Achieve a 5 percent reduction in total water use.

Water Use Restrictions for Demand Reduction:

Under threat of penalty for violation, the following water use restrictions shall apply to all persons:

- (a) Irrigation of landscaped areas with hose-end sprinklers or automatic irrigation systems shall be limited to Mondays and Thursdays for customers in Laguna Heights and Laguna Vista, Tuesdays and Fridays for customers on South Padre Island, and Saturdays and Wednesdays for water customers in Port Isabel and Long

Island Village, and irrigation of landscaped areas is further limited to the hours of 7:00 p.m. and 12:00 midnight on designated watering days and between the hours of midnight and 7:00 a.m. the following day. However, irrigation of landscaped areas is permitted at anytime if it is by means of a hand-held hose, a faucet filled bucket or watering can of five (5) gallons or less, or drip irrigation system.

- (b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is prohibited except on designated watering days between 7:00 p.m. and 12:00 midnight and between the hours of 12:00 midnight and 7:00 a.m. the following day. Such washing, when allowed, shall be done with a hand-held bucket or a hand-held hose equipped with a positive shutoff nozzle for quick rises. Vehicle washing may be done at any time on the immediate premises of a commercial car wash or commercial service station. Further, such washing may be exempted from these regulations if the health, safety, and welfare of the public is contingent upon frequent vehicle cleansing, such as garbage trucks and vehicles used to transport food and perishables.
- (c) Use of water to fill, refill, or add to any indoor or outdoor swimming pools, wading pools, or Jacuzzi-type pools is prohibited except on designated watering days between 7:00 p.m. and 12:00 midnight and between the hours of 12:00 midnight and 7:00 a.m. the following day.
- (d) Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.
- (e) Use of water from hydrants shall be limited to fire fighting, related activities, or other activities necessary to maintain public health, safety, and welfare, except that use of water from designated fire hydrants for construction purposes may be allowed under special permit from the Laguna Madre Water District.
- (f) Use of water for the irrigation of golf course greens, tees, and fairways is prohibited except on designated watering days between the hours 7 p.m. and 12:00 midnight and between 12:00 midnight and 7:00 a.m. the following day.
- (g) All restaurants are prohibited from serving water to patrons except upon request of the patron.
- (h) The following uses of water are defined as non-essential and are prohibited:
 - 1. wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas;
 - 2. use of water to wash down buildings or structures for purposes other than immediate fire protection;
 - 3. use of water for dust control;
 - 4. flushing gutters or permitting water to run or accumulate in any gutter or street; and
 - 5. failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s).

Stage 3 Response – SEVERE Water Shortage Conditions

Target: Achieve a 10 percent reduction in total water use .

Water Use Restrictions for Demand Reduction:

All requirements of Stage 2 shall remain in effect during Stage 3 except:

- (a) Irrigation of landscaped areas shall be limited to designated watering days between the hours of 7 p.m. and 12:00 midnight and between 12:00 midnight and 7:00 a.m. the following day and shall be by means of hand-held hoses, hand-held buckets, drip irrigation, or permanently installed automatic sprinkler system only. The use of hose-end sprinklers is prohibited at all times.

Stage 4 Response – CRITICAL Water Shortage Conditions

Target: Achieve a 15 percent reduction in total water use .

Water Use Restrictions for Reducing Demand:

All requirements of Stage 2 and 3 shall remain in effect during Stage 4 except:

- (a) Irrigation of landscaped areas shall be limited to designated watering days between the hours of 6:00 a.m. and 10:00 a.m. and between 8:00 p.m. and 12:00 midnight and shall be by means of hand-held hoses, hand-held buckets, or drip irrigation only. The use of hose-end sprinklers or permanently installed automatic sprinkler systems are prohibited at all times.
- (b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle not occurring on the premises of a commercial car wash and commercial service stations and not in the immediate interest of public health, safety, and welfare is prohibited. Further, such vehicle washing at commercial car washes and commercial service stations shall occur only between the hours of 6:00 a.m. and 10:00 a.m. and between 6:00 p.m. and 10 p.m.
- (c) The filling, refilling, or adding of water to swimming pools, wading pools, and Jacuzzi-type pools is prohibited.
- (d) Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.
- (e) No application for new, additional, expanded, or increased-in-size water service connections, meters, service lines, pipeline extensions, mains, or water service facilities of any kind shall be approved, and time limits for approval of such applications are hereby suspended for such time as this drought response stage or a higher-numbered stage shall be in effect.

Stage 5 Response – EMERGENCY Water Shortage Conditions

Target: Achieve a 20 percent reduction in total water use .

Water Use Restrictions for Reducing Demand:

All requirements of Stage 2, 3, and 4 shall remain in effect during Stage 5 except:

- (a) Irrigation of landscaped areas is absolutely prohibited.
- (b) Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is absolutely prohibited.

Section X: Enforcement

- (a) No person shall knowingly or intentionally allow the use of water from the Laguna Madre Water District for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of this Plan, or in an amount in excess of that permitted by the drought response stage in effect at the time pursuant to action taken by General Manager (*designated official*), or his/her designee, in accordance with provisions of this Plan.
- (b) Any person who violates this Plan is guilty of a misdemeanor and, upon conviction shall be punished by a fine of not less than two hundred dollars (\$ 200) and not more than one thousand dollars (\$ 1,000). Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense. If a person is convicted of three or more distinct violations of this Plan, the General Manager shall, upon due notice to the customer, be authorized to discontinue water service to the premises where such violations occur. Services discontinued under such circumstances shall be restored only upon payment of a re-connection charge, hereby established at \$ 25 , and any other costs incurred by the Laguna Madre Water District in discontinuing service. In addition, suitable assurance must be given to the General Manager (*designated official*) that the same action shall not be repeated while the Plan is in effect. Compliance with this plan may also be sought through injunctive relief in the district court.
- (c) Any person, including a person classified as a water customer of the Laguna Madre Water District, in apparent control of the property where a violation occurs or originates shall be presumed to be the violator, and proof that the violation occurred on the person's property shall constitute a rebuttable presumption that the person in apparent control of the property committed the violation, but any such person shall have the right to show that he/she did not commit the violation. Parents shall be presumed to be responsible for violations of their minor children and proof that a violation, committed by a child, occurred on property within the parents' control shall constitute a rebuttable presumption that the parent committed the violation, but any such parent may be excused if he/she proves that he/she had previously directed the child not to use the water as it was used in violation of this Plan and that the parent could not have reasonably known of the violation.
- (d) Any employee of the Laguna Madre Water District, police officer, or other District employee designated by the General Manager (*designated official*), may issue a citation to a person he/she reasonably believes to be in violation of this Ordinance. The citation shall be prepared in duplicate and shall contain the name and address of the alleged violator, if known, the offense

charged, and shall direct him/her to appear in the Justice of the Peace, Precinct 1, Place 1 Cameron County court on the date shown on the citation for which the date shall not be less than 3 days nor more than 5 days from the date the citation was issued. The alleged violator shall be served a copy of the citation. Service of the citation shall be complete upon delivery of the citation to the alleged violator, to an agent or employee of a violator, or to a person over 14 years of age who is a member of the violator's immediate family or is a resident of the violator's residence. The alleged violator shall appear in Justice of the Peace, Precinct 1, Place 1 Cameron County court to enter a plea of guilty or not guilty for the violation of this Plan. If the alleged violator fails to appear in Justice of the Peace, Precinct 1, Place 1 Cameron County court, a warrant for his/her arrest may be issued. A summons to appear may be issued in lieu of an arrest warrant. These cases shall be expedited and given preferential setting in Justice of the Peace, Precinct 1, Place 1 Cameron County court before all other cases.

Section XI: Variances

The General Manager (*designated official*), or his/her designee, may, in writing, grant temporary variance for existing water uses otherwise prohibited under this Plan if it is determined that failure to grant such variance would cause an emergency condition adversely affecting the health, sanitation, or fire protection for the public or the person requesting such variance and if one or more of the following conditions are met:

- (a) Compliance with this Plan cannot be technically accomplished during the duration of the water supply shortage or other condition for which the Plan is in effect.
- (b) Alternative methods can be implemented which will achieve the same level of reduction in water use.

Persons requesting an exemption from the provisions of this Ordinance shall file a petition for variance with the Laguna Madre Water District within 5 days after the Plan or a particular drought response stage has been invoked. All petitions for variances shall be reviewed by the General Manager (*designated official*), or his/her designee, and shall include the following:

- (a) Name and address of the petitioner(s).
- (b) Purpose of water use.
- (c) Specific provision(s) of the Plan from which the petitioner is requesting relief.
- (d) Detailed statement as to how the specific provision of the Plan adversely affects the petitioner or what damage or harm will occur to the petitioner or others if petitioner complies with this Ordinance.
- (e) Description of the relief requested.
- (f) Period of time for which the variance is sought.
- (g) Alternative water use restrictions or other measures the petitioner is taking or proposes to take to meet the intent of this Plan and the compliance date.
- (h) Other pertinent information.

Appendix "A"
Water Utility Profile

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

CONTACT INFORMATION

Name of Utility: LAGUNA MADRE WATER DISTRICT

Public Water Supply Identification Number (PWS ID): TX0310005

Certificate of Convenience and Necessity (CCN) Number:

Surface Water Right ID Number:

Wastewater ID Number:

Contact: First Name: Noe Last Name: Cantu
 Title: Water Plant Manager

Address: 105 Port Road City: Port Isabel State: TX
 Zip Code: 78578 Zip+4: Email: ncantu@lmwd.org
 Telephone Number: 9569432626 Date:

Is this person the designated Conservation Coordinator? Yes No

Coordinator: First Name: Robert Last Name: Gomez
 Title: Director of Operations

Address: 105 Port Road City: Port Isabel Zip Code: 78578
 Email: rgomez@lmwd.org Telephone Number: 956-943-2626

Regional Water Planning Group: M
 Groundwater Conservation District:

Our records indicate that you:

- Received financial assistance of \$500,000 or more from TWDB
- Have 3,300 or more retail connections
- Have a surface water right with TCEQ

A. Population and Service Area Data

1. Current service area size in square miles: 57

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

Attached file(s):

File Name	File Description
LMWD District Boundary Map July 2021.pdf	LMWD District Boundary Map

2. Historical service area population for the previous five years, starting with the most current year.

Year	Historical Population Served By Retail Water Service	Historical Population Served By Wholesale Water Service	Historical Population Served By Wastewater Water Service
2021	21,483	0	21483 21,843
2020	20,892	0	20,892
2019	21,447	0	21,447
2018	17,877	0	17,877
2017	20,739	0	20,739

3. Projected service area population for the following decades.

Year	Projected Population Served By Retail Water Service	Projected Population Served By Wholesale Water Service	Projected Population Served By Wastewater Water Service
2030	25,441	0	25,441
2040	29,944	0	29,944
2050	34,447	0	34,447
2060	38,950	0	38,950
2070	43,453	0	43,453

4. Described source(s)/method(s) for estimating current and projected populations.

Attached file(s):

File Name	File Description
2022.xlsx	

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. System Input

System input data for the previous five years.

Total System Input = Self-supplied + Imported – Exported

Year	Water Produced in Gallons	Purchased/Imported Water in Gallons	Exported Water in Gallons	Total System Input	Total GPCD
2021	1,332,892,147	0	0	1,332,892,147	170
2020	1,364,404,167	0	0	1,364,404,167	179
2019	1,302,864,000	0	0	1,302,864,000	166
2018	1,431,298,990	0	0	1,431,298,990	219
2017	1,432,065,130	0	0	1,432,065,130	189
Historic Average	1,372,704,887	0	0	1,372,704,887	185

C. Water Supply System

1. Designed daily capacity of system in gallons 10,900,000
2. Storage Capacity
 - 2a. Elevated storage in gallons: 1,325,000
 - 2b. Ground storage in gallons: 2,550,000

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

D. Projected Demands

1. The estimated water supply requirements for the next ten years using population trends, historical water use, economic growth, etc.

Year	Population	Water Demand (gallons)
2023	39,170	1,572,667,470
2024	43,237	1,735,983,904
2025	47,305	1,899,300,339
2026	51,373	2,062,616,773
2027	55,440	2,25,933,207
2028	59,508	2,389,249,641
2029	63,576	2,552,566,076
2030	67,643	2,715,882,510
2031	71,711	2,879,198,944
2032	75,779	3,042,515,379

2. Description of source data and how projected water demands were determined.

Historic GPCD multiplied by projected population growth multiplied by 365 days/year. Population was forecasted using last five years of population.

E. High Volume Customers

F. Utility Data Comment Section

Additional comments about utility data.

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

Section II: System Data

A. Retail Water Supplier Connections

1. List of active retail connections by major water use category.

Water Use Category Type	Total Retail Connections (Active + Inactive)	Percent of Total Connections
Residential - Single Family	5,401	75.42 %
Residential - Multi-Family	929	12.97 %
Industrial	3	0.04 %
Commercial	779	10.88 %
Institutional	47	0.66 %
Agricultural	2	0.03 %
Total	7,161	100.00 %

2. Net number of new retail connections by water use category for the previous five years.

Year	Net Number of New Retail Connections						Total
	Residential - Single Family	Residential - Multi-Family	Industrial	Commercial	Institutional	Agricultural	
2021	5,401	929	3	779	47	2	7,161
2020	5,192	932	3	786	48	3	6,964
2019	5,125	1,071	4	879	67	3	7,149
2018	5,027	1,051	4	870	68	2	7,022
2017	5,061	832	8	950	59	3	6,913

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

B. Accounting Data

The previous five years' gallons of RETAIL water provided in each major water use category.

Year	Residential - Single Family	Residential - Multi-Family	Industrial	Commercial	Institutional	Agricultural	Total
2021	429,631,600	334,032,900	28,964,800	352,157,800	10,431,900	9,392,800	1,164,611,800
2020	465,832,600	330,507,300	28,722,500	332,879,400	18,277,700	149,190,300	1,325,409,800
2019	453,667,700	328,202,300	32,078,500	344,020,400	19,535,400	128,134,800	1,305,639,100
2018	461,285,300	325,097,300	37,647,700	365,163,100	20,400,300	110,323,500	1,319,917,200
2017	524,931,100	262,182,700	38,086,400	422,982,900	19,060,200	113,891,800	1,381,135,100

C. Residential Water Use

The previous five years residential GPCD for single family and multi-family units.

Year	Total Residential GPCD
2021	110
2020	119
2019	115
2018	121
2017	122
Historic Average	117

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

D. Annual and Seasonal Water Use

1. The previous five years' gallons of treated water provided to RETAIL customers.

Month	Total Gallons of Treated Water				
	2021	2020	2019	2018	2017
January	90,522,000	90,263,000	84,646,000	90,753,000	100,217,000
February	84,736,000	94,128,000	82,063,000	86,082,000	94,656,000
March	104,992,000	111,555,000	97,419,000	121,821,000	116,683,000
April	100,831,000	83,241,000	101,708,000	109,879,000	127,120,000
May	103,056,000	127,767,000	118,639,000	132,918,000	139,966,000
June	127,404,000	133,514,000	129,771,000	151,900,000	145,002,000
July	137,928,000	133,683,000	160,860,000	192,221,000	165,305,000
August	132,100,000	128,025,000	149,616,000	177,385,000	138,527,000
September	112,257,000	105,194,000	108,356,000	100,719,000	122,205,000
October	99,162,000	106,302,000	98,270,000	89,279,000	101,454,000
November	89,751,000	103,267,000	84,542,000	79,680,000	90,957,000
December	90,173,000	92,889,000	86,974,000	84,349,000	87,109,000
Total	1,272,912,000	1,309,828,000	1,302,864,000	1,416,986,000	1,429,201,000

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

2. The previous five years' gallons of raw water provided to RETAIL customers.

Month	Total Gallons of Raw Water				
	2021	2020	2019	2018	2017
January	1,519,500	932,600	664,000	951,800	489,400
February	1,286,200	1,063,700	372,200	770,300	912,200
March	641,200	1,338,600	535,900	921,500	894,300
April	1,141,100	13,636,100	443,400	1,173,900	839,500
May	1,393,900	16,373,300	1,251,100	1,548,100	968,900
June	889,400	16,973,800	21,727,500	1,242,200	898,300
July	1,324,600	10,687,000	1,733,100	759,700	1,066,000
August	36,200	30,230,700	3,461,600	1,217,700	1,599,800
September	222,800	1,485,300	2,860,400	1,225,500	1,752,000
October	283,800	920,300	1,665,600	879,700	953,800
November	353,000	1,192,200	1,150,000	823,300	743,300
December	294,800	1,141,100	1,016,900	297,000	919,200
Total	9,386,500	95,974,700	36,881,700	11,810,700	12,036,700

3. Summary of seasonal and annual water use.

	Summer RETAIL (Treated + Raw)		Total RETAIL (Treated + Raw)	
2021	399,682,200	0	1,282,298,500	
2020	453,113,500	0	1,405,802,700	
2019	467,169,200	0	1,339,745,700	
2018	524,725,600	0	1,428,796,700	
2017	452,398,100	0	1,441,237,700	
Average in Gallons	459,417,720	0.00	1,379,576,260	0.00

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

E. Water Loss

Water Loss data for the previous five years.

Year	Total Water Loss In Gallons	Water Loss in GPCD	Water Loss as a Percentage
2021	162,486,755	21	0.00 %
2020	21,939,315	3	0.00 %
2019			0.00 %
2018	93,490,553	14	0.00 %
2017	30,191,307	4	0.00 %
Average	77,026,983	11	0.00 %

F. Peak Day Use

Average Daily Water Use and Peak Day Water Use for the previous five years.

Year	Average Daily Use (gal)	Peak Day Use (gal)	Ratio (peak/avg)
2021	3.751 0	5.406 0	1.441 0.0000
2020	3.576 0	4.450 0	1.244 0.0000
2019	3.894 0	5.898 0	1.515 0.0000
2018	3.873 0	7.350 0	1.898 0.0000
2017	3.949 0	6.031 0	1.527 0.0000

G. Summary of Historic Water Use

Water Use Category	Historic Average	Percent of Connections	Percent of Water Use
Residential - Single Family	467,069,660	75.42 %	35.95 %
Residential - Multi-Family	316,004,500	12.97 %	24.32 %
Industrial	33,099,980	0.04 %	2.55 %
Commercial	363,440,720	10.88 %	27.97 %
Institutional	17,541,100	0.66 %	1.35 %
Agricultural	102,186,640	0.03 %	7.86 %

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

H. System Data Comment Section

Section III: Wastewater System Data

A. Wastewater System Data

1. Design capacity of wastewater treatment plant(s) in gallons per day: 5.95

2. List of active wastewater connections by major water use category.

Water Use Category	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal			0	100 0.00 %
Industrial			0	0.00 %
Commercial			0	0.00 %
Institutional			0	0.00 %
Agricultural			0	0.00 %
Total			0	100.00 %

3. Percentage of water serviced by the wastewater system: 100 %

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

4. Number of gallons of wastewater that was treated by the utility for the previous five years.

Month	Total Gallons of Treated Water				
	2021	2020	2019	2018	2017
January	61,840,000	49,479,000	54,614,000	48,994,000	56,586,000
February	52,383,000	48,795,000	52,453,000	48,707,000	55,558,000
March	65,336,000	47,049,000	63,569,000	57,983,000	66,920,000
April	67,523,000	37,250,000	58,602,000	44,543,000	63,392,000
May	84,258,000	56,676,000	63,398,000	48,324,000	62,819,000
June	89,480,000	67,165,000	75,330,000	60,056,000	74,282,000
July	113,786,000	69,295,000	84,002,000	81,827,000	86,788,000
August	88,806,000	68,878,000	58,347,000	67,632,000	68,183,000
September	74,606,000	69,712,000	51,912,000	49,443,000	54,332,000
October	89,711,000	65,676,000	47,934,000	46,835,000	53,369,000
November	71,363,000	56,764,000	42,029,000	47,065,000	51,531,000
December	74,047,000	41,032,000	45,147,000	50,303,000	51,560,000
Total	933,139,000	677,771,000	697,337,000	651,712,000	745,320,000

5. Could treated wastewater be substituted for potable water?

Yes
 No

B. Reuse Data

1. Data by type of recycling and reuse activities implemented during the current reporting period.

Type of Reuse	Total Annual Volume (in gallons)
On-site Irrigation	0
Plant wash down	0
Chlorination/de-chlorination	0
Industrial	0
Landscape Irrigation (park, golf courses)	1,537,000
Agricultural	0
Discharge to surface water	0
Evaporation Pond	0
Other	0
Total	1,537,000

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

C. Wastewater System Data Comment

Additional comments and files to support or explain wastewater system data listed below.