

Recognition of Achievement

Presented to the


Starr County

Groundwater Conservation District

in recognition of completing the

District Groundwater Management Plan

approved on August 17, 2021. A review of the management plan has documented that the plan is administratively complete and in compliance with Texas Water Code §36.1071 and 31 TAC 356.


Jeff Walker
Executive Administrator


Texas Water
Development Board

STARR COUNTY GROUNDWATER CONSERVATION DISTRICT

GROUNDWATER MANAGEMENT PLAN

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Effective AUGUST 17, 2021

DISTRICT MISSION

Starr County Groundwater Conservation District (the “District”) will strive to develop, promote, and implement groundwater conservation and management strategies to protect groundwater resources for the benefit of the citizens, economy, and environment of the District and to engage at a regional and state level with other groundwater conservation districts and stakeholders to carry out the District’s statutory mandate.

TIME PERIOD FOR THIS PLAN

This plan becomes effective upon adoption by the District’s Board of Directors and approval by the Texas Water Development Board (“TWDB”). This plan replaces the existing plan adopted by the District’s Board of Directors, which was approved by TWDB on July 25, 2014. This management plan will remain in effect for a period of five (5) years from the date of TWDB’s approval unless an amended plan is approved by TWDB.

STATEMENT OF GUIDING PRINCIPLES

The Texas Constitution, Article XVI, Section 59 (“Conservation and development of natural resources; conservation and reclamation districts”) declares that the preservation, development and conservation of all natural resources within the state, including groundwater, are public rights and duties that may be managed by conservation and reclamation districts as deemed appropriate by the Texas Legislature. By statutory enactment of the Texas Legislature and declaration of the Texas Supreme Court, groundwater management by groundwater conservation districts is the preferred method of groundwater management. The District recognizes its duty to protect private property rights in groundwater while at the same time using the best available science to balance groundwater development with groundwater conservation and preservation. The District will achieve these purposes by performing duties set forth in the general law of the state, Chapter 36 of the Texas Water Code, and the District’s enabling legislation, including implementation of this management plan.

GENERAL DESCRIPTION OF THE DISTRICT

History and Governance

The District was created by Act of the 79th Legislature, Chapter 451, 2005 Regular Session, as amended and codified in Chapter 8803 of the Texas Special District Local Laws Code. The District was confirmed by the citizens of Starr County through an election on May 12, 2007.

Starr County GCD is governed by a publicly elected five-member Board of Directors. One director serves at-large, and one director is elected to represent each Starr County Commissioner’s precinct. Board members serve staggered four-year terms. The District moved from a May uniform election date to a November uniform election date of each even-numbered

year to coincide with the elections of Starr County and other political subdivisions in the interest of greater voter turnout and coordination of the election with these other political subdivisions.

Location and Extent

The District's boundaries are coterminous with the boundaries of Starr County and are located within Regional Water Planning Group "M" (Rio Grande) and Groundwater Management Area (GMA) 16. Starr County is an area of land covering 1,229 square miles located in South Texas along the border with Mexico. The county is bound on the east by Hidalgo County, on the south by the Rio Grande River, on the west by Zapata County, and on the north by Jim Hogg and Brooks Counties. Rio Grande City is the county seat, which is located in the southern portion of the county. There are four incorporated cities in Starr County: Roma, Escobares, La Grulla, and Rio Grande City. The rest of the County is composed of small rural communities such as Falcon Heights, Salineno, Fronton, Rosita, El Sauz, San Isidro, and La Victoria. The large majority of the population of Starr County resides in the communities located along U.S. Highway 83, mainly in the areas bounded by Roma in the West, and by Alto Bonito in the East. The 2016 Regional Water Plan projects that the population of Starr County will increase by 57.5% by the year 2070.

2016 Regional Water Plan						
Starr County Population Projections for 2020 - 2070						
Year	2020	2030	2040	2050	2060	2070
Population	70,803	80,085	88,633	97,107	104,687	111,555

Groundwater Resources of Starr County

The known groundwater resources within the District include the Gulf Coast and Yegua-Jackson aquifers.

The Gulf Coast Aquifer is categorized by TWDB as a major aquifer that extends north and south along the Texas Gulf Coast from the Louisiana border to the Rio Grande River and inland for a distance of 90 to 100 miles. This aquifer covers approximately 41,879 square miles within the Texas Gulf Coast Region and underlies approximately 80% of the District. The District lies at the extreme southwest boundary of the Gulf Coast Aquifer. According to TWDB Report 380, water quality in the southern reaches of the aquifer is characterized by total dissolved solids ranging from 1,000 to more than 10,000 milligrams per liter, compared to levels of less than 500 milligrams per liter in the northern reaches of the Gulf Coast Aquifer.

The Yegua-Jackson Aquifer is categorized by TWDB as a minor aquifer that also runs north and south from the Texas/Louisiana border to the Rio Grande River. The Yegua-Jackson runs along the inside edge of the Gulf Coast Aquifer but is only about 35 miles wide and covers only about 10,904 square miles. This aquifer is located within the southwestern part of the District and underlies the approximate 20% of land within the District under which the Gulf Coast Aquifer is

not prevalent. This aquifer is characterized by low yielding sands with saturated thickness averaging 170 feet.

In the last round of joint planning pursuant to Section 36.108 of the Texas Water Code, the districts within Groundwater Management Area 16 declared the Gulf Coast Aquifer to be relevant and the Yegua Jackson Aquifer to be not relevant for establishment of desired future conditions.

Summarized Information Groundwater Availability Modeling Information For The Gulf Coast Aquifer System and The Yegua-Jackson Aquifer For Starr County Groundwater Conservation District¹

Management Plan Requirement	Aquifer	Results (in acre-feet per year)
Estimated annual amount of recharge from precipitation to the District	Gulf Coast Aquifer	4,119
	Yegua-Jackson Aquifer	0
Estimated annual volume of water that discharges from the aquifer to springs and any surface water body including lakes, streams, and rivers.	Gulf Coast Aquifer	167
	Yegua-Jackson Aquifer	679
Estimated annual volume of flow into the district within each aquifer in the district	Gulf Coast Aquifer	1,241
	Yegua-Jackson Aquifer	1,150
Estimated annual volume of flow out of the District within each aquifer in the district	Gulf Coast Aquifer	5,046
	Yegua-Jackson Aquifer	248
Estimated net annual volume of flow between each aquifer in the district	From Gulf Cost Aquifer System (Catahoula Formation) to Yegua-Jackson Aquifer	210 ²
	From Yegua-Jackson downdip portion to Yegua-Jackson Aquifer	348

Source: TWDB, GAM Run 18-016 (Appendix B).

¹ All Values Are Reported in Acre-Feet Per Year And Rounded to the Nearest 1 Acre-Foot

² Flow calculated from the groundwater availability model for the Yegua-Jackson Aquifer.

Surface Water Resources of Starr County

The Rio Grande River and its tributaries constitute the primary surface water resources within Starr County.

ESTIMATE OF MODELED AVAILABLE GROUNDWATER BASED ON DESIRED FUTURE CONDITIONS

Section 36.001 of the Texas Water Code defines modeled available groundwater as the amount of water that TWDB's Executive Administrator determines may be produced on an average annual basis to achieve an aquifer's desired future condition established by groundwater conservation districts within each groundwater management area under Section 36.108. This management plan is based upon the desired future conditions established by GMA 16 Resolution No. 2017-01 adopted January 17, 2017, as reflected in TWDB, GAM Run 17-025 MAG (May 19, 2017) (See Appendix A).

The desired future conditions adopted by Groundwater Management Area 16 represent the quantified, measurable conditions of the groundwater resources of the District over the 50-year planning period. Section 36.001(30) defines a "desired future condition" of an aquifer as a quantitative description, adopted in accordance with Section 36.108, of the desired condition of the groundwater resources in a management area at one or more specified future times. The desired future conditions provided below demonstrate the maximum amount of water level declines that the District must not exceed over the 50-year planning period.

DESIRED FUTURE CONDITIONS ESTABLISHED FOR THE DISTRICT

Aquifer	Amount average drawdown should not exceed after 50 years (in feet)
Gulf Coast Aquifer	69

Source: TWDB, GAM Run 17-025 MAG (Appendix A).

MODELED AVAILABLE GROUNDWATER ESTIMATES BASED ON DISTRICT DESIRED FUTURE CONDITIONS

Aquifer	Modeled Available Groundwater Totals for each decade in the planning period 2010-2060 (in acre-ft. per year)					
	2010	2020	2030	2040	2050	2060
Gulf Coast Aquifer ³	2,742	3,722	4,701	5,681	6,659	7,639

Source: TWDB, GAM Run 17-025 MAG (Appendix A).

³ TWDB GAM Run 17-025 MAG (Appendix A).

Estimated Historical Water Use in Starr County

In the past, annual groundwater usage in the District has varied from a high of 2,750 acre-feet to a low of 1,256 acre-feet. These estimates are based upon historical water use data obtained from the 2017 State Water Plan datasets. Annual usage for 2002 through 2017 is as follows:

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2017	GW	300	74	0	0	8	600	982
	SW	9,359	0	0	0	7,552	200	17,111
2016	GW	321	74	1	0	4	856	1,256
	SW	8,576	0	0	0	8,687	285	17,548
2015	GW	384	74	2	0	3	846	1,309
	SW	8,202	0	0	0	4,558	282	13,042
2014	GW	622	74	9	0	1	821	1,527
	SW	9,034	0	2	0	3,784	274	13,094
2013	GW	805	74	41	0	20	821	1,761
	SW	9,184	0	10	0	12,418	273	21,855
2012	GW	1,277	86	6	0	0	694	2,063
	SW	9,177	9	2	0	13,000	231	22,419
2011	GW	1,371	86	29	0	0	1,104	2,590
	SW	9,418	9	8	0	23,875	367	33,677
2010	GW	1,235	86	221	0	0	1,032	2,574
	SW	7,717	10	211	0	15,000	344	23,282
2009	GW	1,124	86	233	0	0	655	2,098
	SW	7,645	9	223	0	17,504	218	25,599
2008	GW	1,025	98	245	0	0	793	2,161
	SW	6,613	9	234	0	17,387	265	24,508
2007	GW	1,273	89	0	0	0	818	2,180
	SW	6,896	9	0	0	14,060	273	21,238
2006	GW	1,461	86	0	0	0	794	2,341
	SW	7,328	10	0	0	9,756	265	17,359
2005	GW	1,380	147	0	0	0	756	2,283
	SW	6,864	11	0	0	7,358	252	14,485
2004	GW	1,289	147	0	0	417	76	1,929
	SW	6,427	10	0	0	6,308	1,081	13,826
2003	GW	1,310	147	0	0	278	75	1,801
	SW	6,197	9	0	0	6,611	1,066	13,883
2002	GW	1,270	242	0	0	471	64	2,047
	SW	5,815	9	0	0	15,216	907	21,947

Source: Estimated Historical Water Use and 2017 State Water Plan Dataset: Starr County Groundwater Conservation District (Appendix C).

Projected Surface Water Supply within the District

The District has reviewed the 2017 State Water Plan data on projected surface water supply within the District. TWDB defines “surface water supplies” as the maximum amount of surface water available from existing sources for use during drought of record conditions that is physically and legally available for use. The 2017 State Water Plan projects that Starr County will have available surface water supplies totaling 16,937 acre-feet by the year 2030, and 16,818 acre-feet by the year 2070. The Amistad-Falcon Lake Reservoir System is the only surface water source identified in the 2017 State Water Plan for Starr County. The Amistad-Falcon Lake Reservoir System is projected to produce 3,703 acre-feet for Rio Grande City by the year 2070. A table of the data showing the projected surface water supply contemplated for the District in the 2017 State Water plan is included below.

All values are in acre-feet.

RWPG	WUG	Basin	Source Name	2020	2030	2040	2050	2060	2070
M	Aqua SUD	Rio Grande	Amistad-Falcon Lake/Reservoir System	28	25	23	23	21	20
M	County-Other Starr	Nueces-Rio Grande	Amistad-Falcon Lake/Reservoir System	35	35	35	35	35	35
M	County-Other Starr	Rio Grande	Amistad-Falcon Lake/Reservoir System	769	769	769	769	769	769
M	Escobares	Rio Grande	Amistad-Falcon Lake/Reservoir System	169	184	203	221	238	253
M	Irrigation, Starr	Rio Grande	Amistad-Falcon Lake/Reservoir System	8,509	8,481	8,453	8,425	8,397	8,369
M	La Grulla	Rio Grande	Amistad-Falcon Lake/Reservoir System	552	552	552	552	552	552
M	Livestock, Starr	Rio Grande	Amistad-Falcon Lake/Reservoir System	65	65	65	65	65	65
M	Manufacturing Starr	Rio Grande	Amistad-Falcon Lake/Reservoir System	14	14	14	14	14	14
M	Mining, Starr	Nueces-Rio Grande	Amistad-Falcon Lake/Reservoir System	82	82	82	82	82	82
M	Mining, Starr	Rio Grande	Amistad-Falcon Lake/Reservoir System	278	277	277	276	275	275
M	Rio Grande City	Rio Grande	Amistad-Falcon Lake/Reservoir System	3,703	3,703	3,703	3,703	3,703	3,703
M	Rio WSC	Rio Grande	Amistad-Falcon Lake/Reservoir System	330	330	330	330	330	330
M	Roma	Rio Grande	Amistad-Falcon Lake/Reservoir System	1,989	1,974	1,955	1,937	1,920	1,905
M	Union WSC	Rio Grande	Amistad-Falcon Lake/Reservoir System	446	446	446	446	446	446
Sum of Projected Surface Water Supplies (acre-feet)				16,969	16,937	16,907	16,878	16,847	16,818

Source: Estimated Historical Water Use and 2017 State Water Plan Dataset: Starr County Groundwater Conservation District (Appendix C).

Projected Water Demands Within the District

All values are in acre-feet.

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
M	Aqua SUD	Rio Grande	32	35	38	42	45	48
M	County-Other Starr	Nueces-Rio Grande	155	169	182	197	211	225
M	County-Other Starr	Rio Grande	3,485	3,787	4,077	4,410	4,743	5,051
M	Escobares	Rio Grande	169	184	203	221	238	253
M	Irrigation, Starr	Rio Grande	13,483	11,085	8,646	6,192	3,714	3,714
M	La Grulla	Rio Grande	337	373	406	441	475	506
M	Livestock, Starr	Nueces-Rio Grande	153	153	153	153	153	153
M	Livestock, Starr	Rio Grande	865	865	865	865	865	865
M	Manufacturing, Starr	Rio Grande	14	15	16	17	18	19
M	Mining, Starr	Nueces- Rio Grande	131	160	178	197	221	251
M	Mining, Starr	Rio Grande	440	537	597	661	740	840
M	Rio Grande City	Rio Grande	3,839	4,262	4,660	5,075	5,464	5,820
M	Rio WSC	Rio Grande	396	435	473	513	551	587
M	Roma	Rio Grande	1,357	1,476	1,590	1,719	1,849	1,968
M	Union WSC	Rio Grande	827	910	991	1,076	1,156	1,231
Sum of Projected Water Demands (acre-feet)			25,683	24,446	23,075	21,779	20,443	21,531

Source: Estimated Historical Water Use and 2017 State Water Plan Dataset: Starr County Groundwater Conservation District (Appendix C).

Projected Water Supply Needs

The District has reviewed the 2017 State Water Plan data on water supply needs within the District. TWDB defines “water supply needs” as the projected water demands that are in excess of existing water supplies for a water user group or wholesale water provider. The 2017 State Water Plan projects that Starr County will have a surplus of water for its needs related to irrigation, livestock, and service to the community of La Grulla through the year 2070. The 2017 State Water Plan projects a water supply need in Starr County related to Rio Grande City of 136 acre-feet in 2020, rising to 2,117 acre-feet by 2070. Additional water supply needs exist in the following categories: mining, county-other, manufacturing, municipal supply for Aqua SUD, Union WSC, and Rio WSC, and non-municipal domestic use. A table of the data showing the water supply needs contemplated for the District in the 2017 State Water plan is included below.

All values are in acre-feet.

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
M	Aqua SUD	Rio Grande	-4	-10	-15	-19	-24	-28
M	County-Other Starr	Nueces-Rio Grande	-113	-127	-140	-155	-169	-183
M	County-Other Starr	Rio Grande	-2,589	-2,891	-3,181	-3,514	-3,847	-4,155
M	Escobares	Rio Grande	0	0	0	0	0	0
M	Irrigation, Starr	Rio Grande	-4,654	-2,284	127	2,553	5,003	4,975
M	La Grulla	Rio Grande	215	179	146	111	77	46
M	Livestock, Starr	Nueces-Rio Grande	87	87	87	87	87	87
M	Livestock, Starr	Rio Grande	0	0	0	0	0	0
M	Manufacturing, Starr	Rio Grande	0	-1	-2	-3	-4	-5
M	Mining, Starr	Nueces-Rio Grande	-49	-78	-96	-115	-139	-169
M	Mining, Starr	Rio Grande	38	-60	-120	-185	-265	-365
M	Rio Grande City	Rio Grande	-136	-559	-957	-1,372	-1,761	-2,117
M	Rio WSC	Rio Grande	-66	-105	-143	-183	-221	-257
M	Roma	Rio Grande	632	498	365	218	71	-63
M	Union WSC	Rio Grande	-381	-464	-545	-630	-710	-785
Sum of Projected Water Supply Needs (acre-feet)			-7,992	-6,579	-5,199	-6,176	-7,140	-8,127

Source: Estimated Historical Water Use and 2017 State Water Plan Dataset: Starr County Groundwater Conservation District (Appendix C).

Projected Water Management Strategies

The District has reviewed the 2017 State Water Plan data on water management strategies within the District. TWDB defines “recommended water management strategy” as a specific project or action to increase water supply or maximize existing supply to meet a specific need. The 2017 State Water Plan projects that successful water management strategies in the District could increase water supply by 8,242 acre-feet by the year 2030, rising to 12,687 acre-feet in 2050, and 16,135 acre-feet by 2070 to meet increased water supply needs in the region. There are water management strategies to develop added aquifer supplies from the Gulf Coast Aquifer System

for municipal and county other users. Other water management strategies include conservation, reuse, and the conversion and purchase of water rights. A table of the data showing the projected water management strategies contemplated for the District in the 2017 State Water plan is included under Appendix C, Estimated Historical Water Use and 2017 State Water Plan Dataset: Starr County Groundwater Conservation District.

Management of Groundwater Supplies

The District will manage the supply of groundwater within the District in order to conserve the resource while seeking to maintain the economic viability of all the resource user groups, public and private. The District will work to develop a network of monitoring wells in order to assess current conditions and monitor changing conditions of the aquifers within the District. The District's Board will routinely review these conditions and make the information gathered from its monitoring efforts available to the public.

Actions, Procedures, Performance and Avoidance for Plan Implementation

The District will implement this plan and will utilize this plan as a guidepost for determining the direction or priority for the District's activities. All operations of the District, all agreements entered into by the District, and any additional planning efforts in which the District may participate will be consistent with this plan.

The District will implement rules that govern the spacing, drilling and withdrawal of groundwater from groundwater wells in a manner consistent with this management plan and in furtherance of achieving the District's statutory mandate (see Appendix D, District Rules).

The methodology that the District will use to trace its progress on an annual basis in achieving all of its management goals will be as follows:

The District's Board of Directors will ensure accountability of the District to implement this plan by routine briefings by its staff and/or consultants, no less than twice annually, and by taking action as necessary to commit resources and direct its staff and/or consultants to carry out the tasks required to implement this plan.

The District's Board will consider and adopt an annual report that reflects the District's performance in achieving its management goals and objectives. The report will include the number of instances each activity was engaged in during the year, referenced to the expenditure of time and other resources so that the effectiveness and efficiency of each activity may be evaluated. The annual report will be maintained on file at the District's office.

GOALS, MANAGEMENT OBJECTIVES AND PERFORMANCE STANDARDS

Definitions:

- Conjunctive use—The combined use of groundwater and surface water sources that optimizes the beneficial characteristics of each source, such as water banking, aquifer storage and recovery, enhanced recharge, and joint management.
- Most efficient use of groundwater—Practices, techniques, and technologies that a district determines will provide the least consumption of groundwater for each type of use balanced with the benefits of using groundwater.
- Natural resources issues—Issues related to environmental and other concerns that may be affected by a district's groundwater management plan and rules, such as impacts on endangered species, soils, oil and gas production, mining, air and water quality degradation, agriculture, and plant and animal life.
- Recharge enhancement—Increased recharge accomplished by the modification of the land surface, streams, or lakes to increase seepage or infiltration rates or by the direct injection of water into the subsurface through wells.

Goal

- 1.0 Providing the most efficient use of groundwater.

Management Objective

- 1.1 The District will educate its Board, staff, and constituents about best management practices in the efficient use of groundwater for irrigation, public water supply, industrial and other beneficial purposes that are prevalent in the District.

Performance Standards

- 1.2 Within the first two years following approval by TWDB of this plan, the District will identify all its nonexempt groundwater users and research best management practices for the efficient use of groundwater by the identified nonexempt users.
- 1.3 In each of the second, third, fourth and fifth years following TWDB's approval of this plan, the District will hold at least one informational meeting for nonexempt groundwater users regarding best management practices for the efficient use of groundwater.

Goal

- 2.0 Controlling and preventing waste of groundwater.

Management Objectives

- 2.1 The District will educate its Board, staff, and constituents about best management practices in avoiding the waste of groundwater, and will develop a procedural mechanism that allows for effectively controlling and preventing waste of groundwater.

Performance Standards

- 2.1 Within the first year following approval by TWDB of this plan, solicit and consider public comment during a rulemaking conducted under Section 36.101 of the Texas Water Code regarding prevention of waste of groundwater.
- 2.2 Within the first year following approval by TWDB of this plan, adopt and implement rules that address and prohibit the waste of groundwater and provide a procedural approach for the District to become aware of instances of waste by implementing Sections 36.001(8), 36.102 and other sections of the Texas Water Code that prohibit the waste of groundwater and provide for various enforcement and other legal remedies to prevent waste.
- 2.3 In each of the second, third, fourth and fifth years following TWDB's approval of this plan, the District will hold at least one informational meeting for nonexempt groundwater users regarding best management practices for avoiding the waste of groundwater—this meeting may be held in conjunction with the meeting to be held under Performance Standard 1.3.

Goal

- 3.0 Controlling and preventing subsidence.

This goal is not applicable to the District.

The District has reviewed TWDB's subsidence risk report for applicability to the District, Identification of the Vulnerability of the Major and Minor Aquifers of Texas to Subsidence with Regard to Groundwater Pumping (TWDB Contract Number 1648302062, by LRE Water, et al.)(March 21, 2017), including Figure 4.23, which illustrates confined zones and a risk assessment for the region underlying the Gulf Coast and Yegua-Jackson aquifers. Subsidence, while manifesting as a major problem in certain, limited areas overlying these aquifers, has not been a problem within the District, and does not foreseeably present an issue within the District that needs to be addressed at this time. TWDB's subsidence risk report that is applicable to the District is available at: https://www.twdb.texas.gov/groundwater/docs/Subsidence_Vulnerability_Report.pdf.

Goal

- 4.0 Addressing conjunctive surface water management issues.

Management Objective

- 4.1 Each year, the District will participate in the regional planning process by engaging with the Region M Regional Water Planning Group to convey information about groundwater availability and groundwater use within the District and to explore conjunctive use and the development of surface water supplies to meet the needs of water user groups in the District.

Performance Standard

- 4.2 Each year, the District will communicate twice in writing with the administrator and/or lead consultant for the Region M Regional Water Planning Group about the substantive information described in Section 4.1.
- 4.3 A District representative will attend at least one Region M Regional Water Planning Group meeting annually, if any such meetings are noticed and held, and shall brief the District's Board about the meeting.

Goal

- 5.0 Addressing natural resource issues that impact the use and availability of groundwater and which are impacted by the use of groundwater.

Management Objective

- 5.1 The District may inspect suspended and abandoned wells to ensure proper capping or plugging of such wells in accordance with District Rules. The District may, after proper notice, order the Well Owner or Operator to cap or plug a well. If after written notice, the Well owner or Operator fails or refuses to cap or plug the well, the District may, upon Board approval, go on the land and plug or cap the well safely and securely in accordance with Section 36.118 of the Texas Water Code and District Rules.

Performance Standard

- 5.2 The following will be the expected key metrics used to measure progress of management objectives:
- The number of notices sent out to well owners or operators concerning violations of District rules;

- The number of wells plugged and capped each year; and,
- The number of plugging assistance requests each year;

Management Objective

- 5.3 A District representative will attend and actively participate in all GMA 16 meetings to discuss further refining and advancing this goal.

Performance Standard

- 5.4 The District representative will approach and confer with other groundwater conservation districts in GMA 16 regarding the objective of gaining insight concerning the groundwater conditions of neighboring groundwater conservation districts, regional issues that may impact the use and availability of groundwater, and such issues which are impacted by the use of groundwater. The District representative will present a report at the District Board meeting that follows each GMA 16 meeting.

Goal

- 6.0 Addressing drought conditions.

Management Objective

- 6.1 Identify and address any effect(s) of drought conditions on groundwater levels and groundwater use within the District.

Performance Standard

- 6.2 At least four times per year the Board agenda will include an item to allow for a report of the Palmer Drought Severity Index, recent rainfall, and public input on any impacts to water well production, including data from <https://www.waterdatafortexas.org/drought>.
- 6.3 All the updates on drought conditions and recent rainfall will be posted for public review and comment and included in an annual summary in an annual report to the District's Board.

Goal

- 7.0 Addressing water conservation, recharge enhancement, rainwater harvesting, and brush control, where appropriate and cost effective.

Management Objective

- 7.1 Educate the public about strategies that may be employed by constituents of the District to achieve one or more these conservation-related goals.

Performance Standard

- 7.2 Publish at least one article per year in the *Town Crier* that provides tips that promote the enhancement of groundwater resources by conservation, recharge enhancement, rainwater harvesting, and/or brush control.
- 7.3 Make a presentation each year in either an elementary, middle and/or high school located within the District on the topic of water conservation.

Goal

- 8.0 Addressing precipitation enhancement is not applicable as it is cost prohibitive.

Goal

- 9.0 Addressing desired future conditions.

Management Objectives

- 9.1 The District will develop and adopt a monitoring well plan to enhance the District's understanding of baseline aquifer levels in the Gulf Coast Aquifer within the District and to monitor changes in these aquifer levels.
- 9.2 The District will take public comment during a rulemaking and develop and implement a regulatory approach to achieve the desired future conditions of the Gulf Coast Aquifer.

Performance Standards

- 9.3 Within the first two years following approval of this plan by TWDB, the District will work with a professional engineer (P.E.) or professional geoscientist (P.G.) to identify an appropriate representation of existing and/or new wells to be measured to establish a baseline aquifer level and changes in aquifer levels for purposes of achieving desired future conditions.
- 9.4 Within the first three years following approval of this plan by TWDB, the District will approach at least ten (10) well owners within the District every three (3) years about volunteering access to their wells as monitoring wells.

- 9.5 Within the first four years following approval of this plan by TWDB, the District will adopt a monitoring well plan that provides for measuring and recording aquifer levels in those wells identified in Section 8.4 in a manner that supports the District's efforts to achieve desired future conditions.
- 9.6 The District will adopt rules that support the District's achievement of desired future conditions based on the best available science collected and evaluated based in part on the District's monitoring well plan.

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APPENDIX A

**GAM RUN 17-025 MAG:
MODELED AVAILABLE GROUNDWATER FOR
THE GULF COAST AQUIFER SYSTEM IN
GROUNDWATER MANAGEMENT AREA 16**

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May 19, 2017



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GAM RUN 17-025 MAG: MODELED AVAILABLE GROUNDWATER FOR THE GULF COAST AQUIFER SYSTEM IN GROUNDWATER MANAGEMENT AREA 16

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Texas Water Development Board
Groundwater Division
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(512) 463-0495
May 19, 2017

EXECUTIVE SUMMARY:

The modeled available groundwater for Groundwater Management Area 16 (Figure 1) for the Gulf Coast Aquifer System is summarized by decade for the groundwater conservation districts and counties (Table 1) and for use in the regional water planning process (Table 2). The modeled available groundwater estimates range from approximately 233,000 acre-feet per year in 2020 to 312,000 acre-feet per year in 2060 (Tables 1 and 2). The estimates were extracted from results of a model run using the alternative groundwater availability model for Groundwater Management Area 16 (version 1.01). The model run files, which meet the desired future conditions of Groundwater Management Area 16, were submitted to the Texas Water Development Board (TWDB) as part of the Desired Future Conditions Explanatory Report for Groundwater Management Area 16. The explanatory report and other materials submitted to the TWDB were determined to be administratively complete on April 19, 2017.

REQUESTOR:

Mr. David O'Rourke, consultant for Groundwater Management Area 16.

DESCRIPTION OF REQUEST:

In a letter dated January 25, 2017, Mr. David O'Rourke, consultant for Groundwater Management Area 16, provided the TWDB with the desired future conditions of the Gulf Coast Aquifer System adopted by the groundwater conservation district representatives in Groundwater Management Area 16. All other aquifers in Groundwater Management Area 16 (Carrizo-Wilcox and Yegua-Jackson) were declared non-relevant for joint planning purposes. The Gulf Coast Aquifer System includes the Chicot Aquifer, Evangeline Aquifer, and the Jasper Aquifer. Clarifications to the submitted materials were received by TWDB on April 4, 2017. The desired future conditions for the Gulf Coast Aquifer System, as described

in Resolution No. 2017-01 and adopted January 17, 2017, by the groundwater conservation districts within Groundwater Management Area 16, are described below:

Groundwater Management Area 16 [all counties]

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 62 feet in December 2060 from estimated year 2010 conditions.

Bee Groundwater Conservation District

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 76 feet in December 2060 from estimated year 2010 conditions.

Live Oak Underground Water Conservation District

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 34 feet in December 2060 from estimated year 2010 conditions.

McMullen Groundwater Conservation District

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 9 feet in December 2060 from estimated year 2010 conditions.

Red Sands Groundwater Conservation District

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 40 feet in December 2060 from estimated year 2010 conditions.

Kenedy County Groundwater Conservation District

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 40 feet in December 2060 from estimated year 2010 conditions.

Brush Country Groundwater Conservation District

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 69 feet in December 2060 from estimated year 2010 conditions.

Duval County Groundwater Conservation District

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 104 feet in December 2060 from estimated year 2010 conditions.

San Patricio County Groundwater Conservation District

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 48 feet in December 2060 from estimated year 2010 conditions.

Starr County Groundwater Conservation District

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 69 feet in December 2060 from estimated year 2010 conditions.

No District - Cameron County

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 70 feet in December 2060 from estimated year 2010 conditions.

No District - Hidalgo County

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 118 feet in December 2060 from estimated year 2010 conditions.

No District - Kleberg County

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 28 feet in December 2060 from estimated year 2010 conditions.

No District - Nueces County

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 21 feet in December 2060 from estimated year 2010 conditions.

No District - Webb County

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 113 feet in December 2060 from estimated year 2010 conditions.

No District - Willacy County

Drawdown of the Gulf Coast Aquifer System shall not exceed an average of 40 feet in December 2060 from estimated year 2010 conditions.

METHODS:

The alternative groundwater availability model for Groundwater Management Area 16 (Hutchison and others, 2011) was run using the model files submitted with the explanatory report (O'Rourke, 2017). Model-calculated water levels were extracted for the years 2010

and 2060, and drawdown was calculated as the difference between water levels at the beginning of 2010 and water levels at the end of 2060. Drawdown averages were calculated for the Gulf Coast Aquifer System by county, groundwater conservation districts, and the entire groundwater management area. As specified in the explanatory report (O'Rourke, 2017), drawdown for model cells that became dry during the simulation (water level dropped below the base of the cell) were excluded from the averaging. The calculated drawdown averages were compared with the desired future conditions to verify that the pumping scenario specified by the district representatives achieved the desired future conditions within a one-foot variance.

The modeled available groundwater values were determined by extracting pumping rates by decade from the model results using ZONEBUDGET Version 3.01 (Harbaugh, 2009). Table 1 presents the annual pumping rates by county and groundwater conservation district, subtotaled by groundwater conservation district, and then summed for Groundwater Management Area 16. Table 2 presents the annual pumping rates by county, river basin, regional water planning area, and groundwater conservation district within Groundwater Management Area 16.

Modeled Available Groundwater and Permitting

As defined in Chapter 36 of the Texas Water Code, "modeled available groundwater" is the estimated average amount of water that may be produced annually to achieve a desired future condition. Groundwater conservation districts must consider modeled available groundwater when issuing permits in order to manage groundwater production to achieve the desired future condition(s). Districts must also consider annual precipitation and production patterns, the estimated amount of pumping exempt from permitting, existing permits, and a reasonable estimate of actual groundwater production under existing permits.

PARAMETERS AND ASSUMPTIONS:

The parameters and assumptions for the groundwater availability are described below:

- The analysis used version 1.01 of the alternate groundwater availability model for Groundwater Management Area 16. See Hutchison and others (2011) for assumptions and limitations of the model.
- The model has six layers that represent the Chicot Aquifer (Layer 1), the Evangeline Aquifer (Layer 2), the Burkeville Confining Unit (Layer 3), the Jasper Aquifer (Layer 4), the Yegua-Jackson Aquifer (Layer 5), and the Queen-City, Sparta and Carrizo-Wilcox Aquifer System (Layer 6).
- The model was run with MODFLOW-2000 (Harbaugh and others, 2000).

- Groundwater Division checked the validity of the assertion that starting water levels in the model were comparable to the measured water-level conditions at the end of year 2010. Water-level values were averaged over the entire area of Groundwater Management Area 16 for the measured and modeled conditions between the years 2000 and 2010. These averaged water-level values are reported in Table 3. As presented in Table 3, the average water-levels indicate that conditions in the field did not change significantly, however, model estimated values differ significantly (by over 12 feet). Such a difference in the model estimates can be explained by the difference in values of pumping and recharge used in the model and those occurring in the field for the period between the years 2000 and 2010. It is important to note here that the groundwater availability model for Groundwater Management Area 16 was constructed using the confined aquifer assumption (and LAYCON=0 option) available within MODFLOW-96. Such an assumption leads to an almost linear response between pumping and drawdown. The Groundwater Division checked and verified the validity of the assumption by taking out the pumping input in the model from the years 2000 to 2010 and obtaining equivalent drawdown values in the year 2060. Based on the analysis, we conclude that the submitted model files are acceptable for developing estimates of modeled available groundwater. Please note that the confined aquifer assumption may also lead to physically unrealistic conditions with pumping in a model cell continuing even when water levels have dropped below the base of the model cell.
- Drawdown averages and modeled available groundwater values are based on official aquifer boundaries (Figures 1 and 2).
- Drawdown values for cells with water levels below the base elevation of the cell ("dry" cells) were excluded from the averaging. However, pumping values from those cells were included in the calculation of modeled available groundwater.
- Estimates of modeled available groundwater from the model simulation were rounded to whole numbers.
- Average drawdown per county may include some model cells that represent portions of surface water such as bays, reservoirs, and the Gulf of Mexico.

RESULTS:

The modeled available groundwater for the Gulf Coast Aquifer System that achieves the desired future conditions adopted by Groundwater Management Area 16 increases from approximately 233,000 acre-feet per year in 2020 to 312,000 acre-feet per year in 2060 (Tables 1 and 2). The modeled available groundwater is summarized by groundwater conservation district and county (Table 1) and by county, river basin, and regional water

planning area for use in the regional water planning process (Table 2). Small differences of values between table summaries are due to rounding errors.

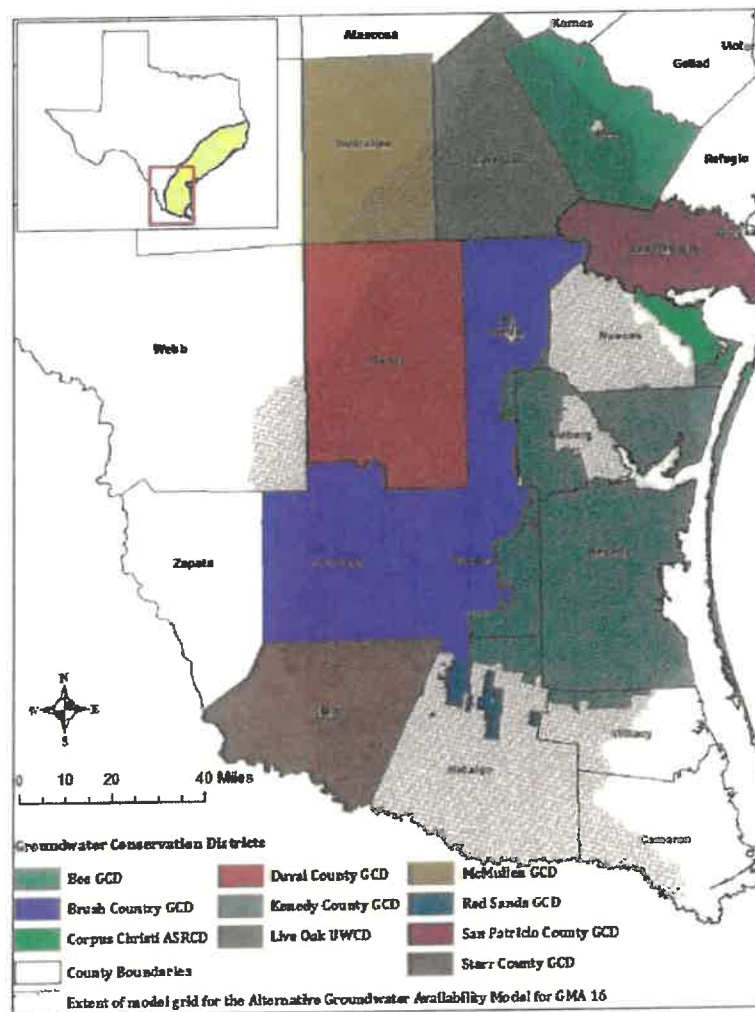


FIGURE 1. MAP SHOWING GROUNDWATER CONSERVATION DISTRICTS (GCDs), COUNTIES, AND GULF COAST AQUIFER SYSTEM EXTENT IN GROUNDWATER MANAGEMENT AREA 16 OVERLAIN ON THE EXTENT OF THE ALTERNATIVE GROUNDWATER AVAILABILITY MODEL FOR GROUNDWATER MANAGEMENT AREA 16.

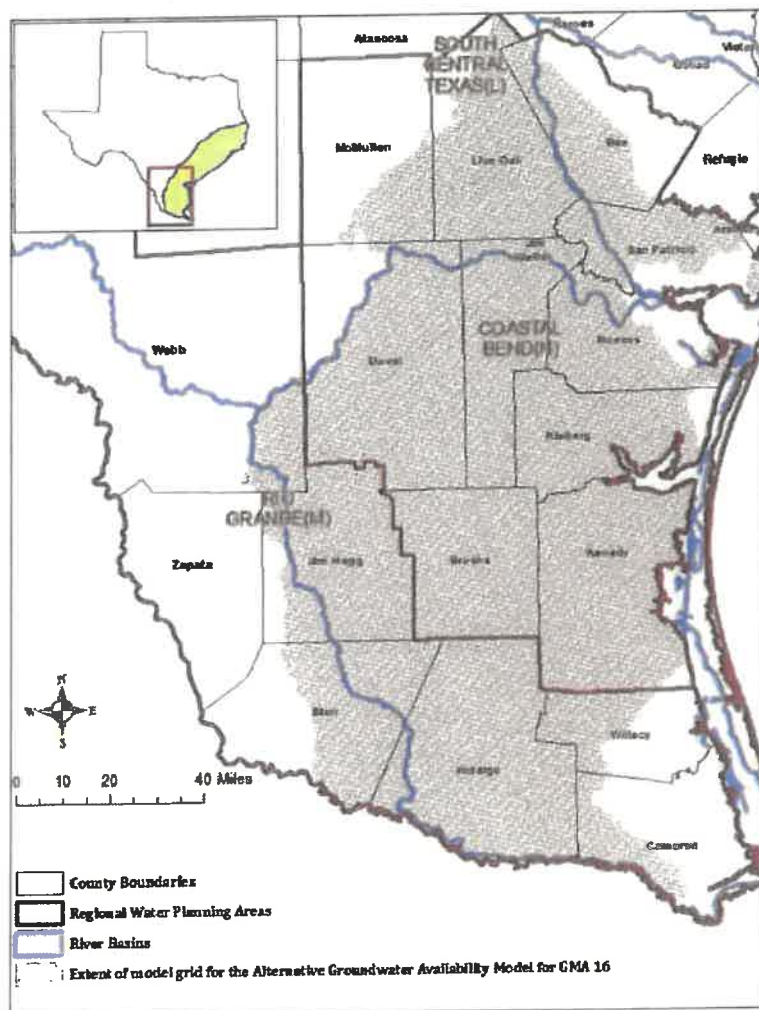


FIGURE 2. MAP SHOWING THE EXTENT OF THE GULF COAST AQUIFER SYSTEM, REGIONAL WATER PLANNING AREAS, COUNTIES, AND RIVER BASINS IN GROUNDWATER MANAGEMENT AREA 16 OVERLAIN ON THE EXTENT OF THE ALTERNATIVE GROUNDWATER AVAILABILITY MODEL FOR GROUNDWATER MANAGEMENT AREA 16.

**TABLE 1. MODELED AVAILABLE GROUNDWATER FOR THE GULF COAST AQUIFER SYSTEM IN GROUNDWATER MANAGEMENT AREA 16
 SUMMARIZED BY GROUNDWATER CONSERVATION DISTRICT (GCD) AND COUNTY FOR EACH DECADE BETWEEN 2010 AND 2060.
 VALUES ARE IN ACRE-FEET PER YEAR.**

Groundwater Conservation District (GCD)	County	Aquifer	2010	2020	2030	2040	2050	2060
Bee GCD	Bee	Gulf Coast Aquifer System	7,689	8,971	10,396	11,061	11,392	11,584
Brush Country GCD	Brooks	Gulf Coast Aquifer System	3,657	3,657	3,657	3,657	3,657	3,657
Brush Country GCD	Hidalgo	Gulf Coast Aquifer System	131	131	131	131	131	131
Brush Country GCD	Jim Hogg	Gulf Coast Aquifer System	6,174	6,174	6,174	6,174	6,174	6,174
Brush Country GCD	Jim Wells	Gulf Coast Aquifer System	4,220	8,710	9,075	9,403	9,768	10,060
Brush Country GCD		Gulf Coast Aquifer System	14,182	18,672	19,037	19,365	19,730	20,022
Corpus Christi ASRCD	Nueces	Gulf Coast Aquifer System	328	342	356	370	384	398
Deval County GCD	Duval	Gulf Coast Aquifer System	18,973	20,571	22,169	23,764	25,363	26,963
Kenedy County GCD	Brooks	Gulf Coast Aquifer System	1,155	1,925	2,695	3,465	4,235	4,235
Kenedy County GCD	Willacy	Gulf Coast Aquifer System	289	482	674	867	1,060	1,060
Kenedy County GCD	Hidalgo	Gulf Coast Aquifer System	364	607	849	1,092	1,335	1,335
Kenedy County GCD	Jim Wells	Gulf Coast Aquifer System	261	434	608	783	957	957
Kenedy County GCD	Nueces	Gulf Coast Aquifer System	151	251	351	452	552	552
Kenedy County GCD	Kenedy	Gulf Coast Aquifer System	7,981	13,301	18,621	23,941	29,261	29,261
Kenedy County GCD	Kleberg	Gulf Coast Aquifer System	3,788	6,314	8,839	11,364	13,889	13,889
Kenedy County GCD		Gulf Coast Aquifer System	13,989	23,314	32,637	41,964	51,289	51,289
Live Oak UWCD	Live Oak	Gulf Coast Aquifer System	6,556	8,338	9,343	8,564	8,441	8,441
McMullen GCD	McMullen	Gulf Coast Aquifer System	510	510	510	510	510	510
Red Sands GCD	Hidalgo	Gulf Coast Aquifer System	1,368	1,667	1,966	2,265	2,563	2,863
San Patricio County GCD	San Patricio	Gulf Coast Aquifer System	14,201	43,611	45,016	46,422	47,828	49,234
Starr County GCD	Starr	Gulf Coast Aquifer System	2,742	3,722	4,701	5,681	6,659	7,639
No District-Bee	Bee	Gulf Coast Aquifer System	0	0	0	0	0	0
No District-Cameron	Cameron	Gulf Coast Aquifer System	5,378	6,688	7,999	9,311	10,620	11,932
No District-Hidalgo	Hidalgo	Gulf Coast Aquifer System	15,908	85,634	90,905	96,175	101,445	106,715

Groundwater Conservation District (GCD)	County	Aquifer	2010	2020	2030	2040	2050	2060
No District-Jim Wells	Jim Wells	Gulf Coast Aquifer System	0	0	0	0	0	0
No District-Kleberg	Kleberg	Gulf Coast Aquifer System	3,857	4,051	4,243	4,436	4,629	4,822
No District-Nueces	Nueces	Gulf Coast Aquifer System	5,753	5,996	6,240	6,487	6,731	6,974
No District-Webb	Webb	Gulf Coast Aquifer System	450	620	789	959	1,129	1,299
No District-Willacy	Willacy	Gulf Coast Aquifer System	544	664	785	905	1,024	1,145
No District-Total		Gulf Coast Aquifer System	31,890	103,653	110,961	118,273	125,578	132,887
GMA 16 Total		Gulf Coast Aquifer System	112,428	233,371	257,092	278,239	299,737	311,830

TABLE 2. MODELED AVAILABLE GROUNDWATER BY DECADE FOR THE GULF COAST AQUIFER SYSTEM IN GROUNDWATER MANAGEMENT AREA 16. RESULTS ARE IN ACRE-FEET PER YEAR AND ARE SUMMARIZED BY COUNTY, REGIONAL WATER PLANNING AREA (RWPA), RIVER BASIN, AND AQUIFER.

County	RWPA	River Basin	Aquifer	2020	2030	2040	2050	2060
Bee	N	Nueces	Gulf Coast Aquifer System	770	893	949	978	995
Bee	N	San Antonio-Nueces	Gulf Coast Aquifer System	8,201	9,503	10,112	10,414	10,589
Brooks	N	Nueces-Rio Grande	Gulf Coast Aquifer System	5,582	6,352	7,122	7,892	7,892
Cameron	M	Nueces-Rio Grande	Gulf Coast Aquifer System	6,301	7,536	8,771	10,005	11,241
Cameron	M	Rio Grande	Gulf Coast Aquifer System	387	463	540	615	691
Duval	N	Nueces	Gulf Coast Aquifer System	326	351	376	401	428
Duval	N	Nueces-Rio Grande	Gulf Coast Aquifer System	20,245	21,818	23,388	24,962	26,535
Hidalgo	M	Nueces-Rio Grande	Gulf Coast Aquifer System	86,405	91,810	97,216	102,620	107,784
Hidalgo	M	Rio Grande	Gulf Coast Aquifer System	1,634	2,041	2,447	2,854	3,260
Jim Hogg	M	Nueces-Rio Grande	Gulf Coast Aquifer System	5,236	5,236	5,236	5,236	5,236
Jim Hogg	M	Rio Grande	Gulf Coast Aquifer System	938	938	938	938	938
Jim Wells	N	Nueces	Gulf Coast Aquifer System	593	593	593	593	593
Jim Wells	N	Nueces-Rio Grande	Gulf Coast Aquifer System	8,551	9,090	9,593	10,132	10,424
Kenedy	N	Nueces-Rio Grande	Gulf Coast Aquifer System	13,301	18,621	23,941	29,261	29,261
Klueberg	N	Nueces-Rio Grande	Gulf Coast Aquifer System	10,365	13,082	15,800	18,518	18,711
Live Oak	N	Nueces	Gulf Coast Aquifer System	8,297	9,297	8,522	8,400	8,400
Live Oak	N	San Antonio-Nueces	Gulf Coast Aquifer System	41	46	42	41	41
McMullen	N	Nueces	Gulf Coast Aquifer System	510	510	510	510	510
Nueces	N	Nueces-Rio Grande	Gulf Coast Aquifer System	5,862	6,191	6,522	6,851	7,079
Nueces	N	Nueces	Gulf Coast Aquifer System	727	756	787	816	845
Nueces	N	San Antonio-Nueces	Gulf Coast Aquifer System	0	0	0	0	0
San Patricio	N	Nueces	Gulf Coast Aquifer System	4,130	4,502	4,874	5,247	5,619
San Patricio	N	San Antonio-Nueces	Gulf Coast Aquifer System	39,481	40,514	41,548	42,581	43,615
Starr	M	Nueces-Rio Grande	Gulf Coast Aquifer System	1,497	1,891	2,285	2,678	3,072

County	RWPA	River Basin	Aquifer	2020	2030	2040	2050	2060
Starr	M	Rio Grande	Gulf Coast Aquifer System	2,225	2,810	3,396	3,981	4,567
Webb	M	Rio Grande	Gulf Coast Aquifer System	98	125	152	179	206
Webb	M	Nueces	Gulf Coast Aquifer System	18	22	27	32	37
Webb	M	Nueces-Rio Grande	Gulf Coast Aquifer System	504	642	780	918	1,056
Willacy	M	Nueces-Rio Grande	Gulf Coast Aquifer System	1,146	1,459	1,772	2,084	2,205
GMA 16-Total			Gulf Coast Aquifer System	233,371	257,092	278,239	299,737	311,830

TABLE 3. COMPARISON OF MEASURED AND MODELED WATER-LEVELS AVERAGED OVER GROUNDWATER MANAGEMENT AREA 16 FROM THE DECADAL YEARS 2000 AND 2010. VALUES OF FIELD MEASURED WATER-LEVELS WERE OBTAINED FROM THE TWDB GROUNDWATER DATABASE (GWDB).

Average water levels in Groundwater Management Area 16 (in feet above mean sea level)		
	Year 2000	Year 2010
Field measurements (GWDB)	114.1	114.4
Model estimated	119.5	107.1

LIMITATIONS:

The groundwater model used in completing this analysis is the best available scientific tool that can be used to meet the stated objectives. To the extent that this analysis will be used for planning purposes and/or regulatory purposes related to pumping in the past and into the future, it is important to recognize the assumptions and limitations associated with the use of the results. In reviewing the use of models in environmental regulatory decision making, the National Research Council (2007) noted:

“Models will always be constrained by computational limitations, assumptions, and knowledge gaps. They can best be viewed as tools to help inform decisions rather than as machines to generate truth or make decisions. Scientific advances will never make it possible to build a perfect model that accounts for every aspect of reality or to prove that a given model is correct in all respects for a particular regulatory application. These characteristics make evaluation of a regulatory model more complex than solely a comparison of measurement data with model results.”

A key aspect of using the groundwater model to evaluate historic groundwater flow conditions includes the assumptions about the location in the aquifer where historic pumping was placed. Understanding the amount and location of historic pumping is as important as evaluating the volume of groundwater flow into and out of the district, between aquifers within the district (as applicable), interactions with surface water (as applicable), recharge to the aquifer system (as applicable), and other metrics that describe the impacts of that pumping. In addition, assumptions regarding precipitation, recharge, and streamflow are specific to a particular historic time period.

Because the application of the groundwater model was designed to address regional scale questions, the results are most effective on a regional scale. The TWDB makes no warranties or representations relating to the actual conditions of any aquifer at a particular location or at a particular time.

It is important for groundwater conservation districts to monitor groundwater pumping and groundwater levels in the aquifer. Because of the limitations of the groundwater model and the assumptions in this analysis, it is important that the groundwater conservation districts work with the TWDB to refine this analysis in the future given the reality of how the aquifer responds to the actual amount and location of pumping now and in the future. Historic precipitation patterns also need to be placed in context as future climatic conditions, such as dry and wet year precipitation patterns, may differ and affect groundwater flow conditions.

REFERENCES:

- Hutchison, W.R., Hill, M.E., Anaya, R., Hassan, M.M., Oliver, W., Jigmond, M., Wade, S., and Aschenbach, E. 2011. Groundwater Management Area 16 Groundwater Flow Model, Texas Water Development Board, unpublished report.
- Harbaugh, A. W., 2009, Zonebudget Version 3.01, A computer program for computing subregional water budgets for MODFLOW ground-water flow models, U.S. Geological Survey Groundwater Software.
- Harbaugh, A.W., Banta, E.R., Hill, M.C., and McDonald, M.G., 2000, MODFLOW-2000, The U.S. Geological Survey modular ground-water model- user guide to modularization concepts and the groundwater flow process: U.S. Geological Survey, Open-File Report 00-92.
- National Research Council, 2007, Models in Environmental Regulatory Decision Making Committee on Models in the Regulatory Decision Process, National Academies Press, Washington D.C., 287 p., http://www.nap.edu/catalog.php?record_id=11972.
- Texas Water Code, 2011, <http://www.statutes.legis.state.tx.us/docs/WA/pdf/WA.36.pdf>

APPENDIX B

GAM RUN 18-016: STARR COUNTY GROUNDWATER CONSERVATION DISTRICT GROUNDWATER MANAGEMENT PLAN

Jerry Shi, Ph.D., P.G.
Texas Water Development Board
Groundwater Division
Groundwater Availability Modeling Department
512-463-5076
February 28, 2019



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GAM RUN 18-016: STARR COUNTY GROUNDWATER CONSERVATION DISTRICT GROUNDWATER MANAGEMENT PLAN

Jerry Shi, Ph.D., P.G.
Texas Water Development Board
Groundwater Division
Groundwater Availability Modeling Department
512-463-5076
February 28, 2019

EXECUTIVE SUMMARY:

Texas Water Code, Section 36.1071(h) (Texas Water Code, 2011), states that, in developing its groundwater management plan, a groundwater conservation district shall use groundwater availability modeling information provided by the Executive Administrator of the Texas Water Development Board (TWDB) in conjunction with any available site-specific information provided by the district for review and comment to the Executive Administrator.

The TWDB provides data and information to the Starr County Groundwater Conservation District in two parts. Part 1 is the Estimated Historical Water Use/State Water Plan dataset report, which will be provided to you separately by the TWDB Groundwater Technical Assistance Department. Please direct questions about the water data report to Mr. Stephen Allen at 512-463-7317 or stephen.allen@twdb.texas.gov. Part 2 is the required groundwater availability modeling information and this information includes:

1. the annual amount of recharge from precipitation, if any, to the groundwater resources within the district;
2. for each aquifer within the district, the annual volume of water that discharges from the aquifer to springs and any surface-water bodies, including lakes, streams, and rivers; and
3. the annual volume of flow into and out of the district within each aquifer and between aquifers in the district.

The groundwater management plan for the Starr County Groundwater Conservation District should be adopted by the district on or before April 26, 2019, and submitted to the Executive Administrator of the TWDB on or before May 26, 2019. The current management plan for the Starr County Groundwater Conservation District expires on July 25, 2019.

This report replaces the results of GAM Run 10-011 (Hassan, 2010). GAM Run 18-016 meets current standards set after GAM Run 10-011 was released. GAM Run 18-016 includes results from the groundwater availability model for the southern portion of the Gulf Coast Aquifer System (Chowdhury and Mace, 2007) and the groundwater availability model for the Yegua-Jackson Aquifer (Deeds and others, 2010). Tables 1 and 2 summarize the groundwater availability model data required by statute, and Figures 1 and 2 show the area of the models from which the values in the tables were extracted. If, after review of the figures, the Starr County Groundwater Conservation District determines that the district boundaries used in the assessment do not reflect current conditions, please notify the TWDB at your earliest convenience.

METHODS:

In accordance with the provisions of the Texas Water Code, Section 36.1071(h), the groundwater availability model for the southern portion of the Gulf Coast Aquifer System and the groundwater availability model for the Yegua-Jackson Aquifer were used to estimate information for the Starr County Groundwater Conservation District management plan. Water budgets from the model for the southern portion of the Gulf Coast Aquifer System were extracted for the historical model period (1981 through 2000). Water budgets from the model for the Yegua-Jackson Aquifer were extracted for the historical model period (1980 through 1997). The water budgets were extracted from the models using ZONEBUDGET Version 3.01 (Harbaugh, 2009). The average annual water budget values for recharge, surface-water outflow, inflow to the district, and outflow from the district for the aquifers within the district are summarized in this report.

PARAMETERS AND ASSUMPTIONS:

Gulf Coast Aquifer System

- We used version 2.01 of the groundwater availability model for the southern portion of the Gulf Coast Aquifer System for this analysis. See Chowdhury and Mace (2007) for assumptions and limitations of the model.
- The model has four layers which represent four sub-units of the aquifer system: the Chicot Aquifer (Layer 1), the Evangeline Aquifer (layer 2), the Burkeville confining unit (layer 3), and the Jasper Aquifer (Layer 4).
- Water budgets for the district were determined for the Gulf Coast Aquifer System using all four layers based on official aquifer boundary.

- The model was run with MODFLOW-96 (Harbaugh and McDonald, 1996).
- The groundwater discharge to surface water was calculated from the MODFLOW-96 river boundary.

Yegua-Jackson Aquifer

- We used version 1.01 of the groundwater availability model for the Yegua-Jackson Aquifer for this analysis. See Deeds and others (2010) for assumptions and limitations of the model.
- The model has five layers which represent the aquifer shallow portion and the Catahoula Formation (Layer 1), the Upper Jackson (Layer 2), the Lower Jackson (Layer 3), the Upper Yegua (Layer 4), and the Lower Yegua (Layer 5).
- Water budgets for the district were determined using all five layers based on official aquifer boundary.
- The model was run with MODFLOW-2000 (Harbaugh and others, 2000).
- The groundwater discharge to surface water was calculated from the combination of MODFLOW-2000 stream boundary, reservoir boundary, and drain boundary.

RESULTS:

A groundwater budget summarizes the amount of water entering and leaving the aquifers according to the groundwater availability model. The groundwater budget components listed below and reported in Tables 1 and 2 were extracted from the groundwater availability model results for the Gulf Coast Aquifer System and for the Yegua-Jackson Aquifer located within Starr County Groundwater Conservation District and averaged over the historical calibration periods.

1. Precipitation recharge—the areally distributed recharge sourced from precipitation falling on the outcrop areas of the aquifers (where the aquifer is exposed at land surface) within the district.
2. Surface-water outflow—the total water discharging from the aquifer (outflow) to surface-water features such as streams, reservoirs, and springs.
3. Flow into and out of district—the lateral flow within the aquifer between the district and adjacent counties.

4. Flow between aquifers—the net vertical flow between the aquifer and adjacent aquifers or confining units. This flow is controlled by the relative water levels in each aquifer and aquifer properties of each aquifer or confining unit that define the amount of leakage that occurs.

Water budgets are estimates because of the size of the model cells and the approach used to extract data from the model. To avoid double accounting, a model cell that straddles a political boundary, such as a district or county boundary, is assigned to one side of the boundary based on the location of the centroid of the model cell. For example, if a cell contains two counties, the cell is assigned to the county where the centroid of the cell is located.

TABLE 1. SUMMARIZED INFORMATION FOR THE GULF COAST AQUIFER SYSTEM FOR STARR COUNTY GROUNDWATER CONSERVATION DISTRICT'S GROUNDWATER MANAGEMENT PLAN. ALL VALUES ARE REPORTED IN ACRE-Feet PER YEAR AND ROUNDED TO THE NEAREST 1 ACRE-FOOT.

Management Plan requirement	Aquifer or confining unit	Results
Estimated annual amount of recharge from precipitation to the district	Gulf Coast Aquifer System	4,119
Estimated annual volume of water that discharges from the aquifer to springs and any surface-water body including lakes, streams, and rivers	Gulf Coast Aquifer System	167
Estimated annual volume of flow into the district within each aquifer in the district	Gulf Coast Aquifer System	1,241
Estimated annual volume of flow out of the district within each aquifer in the district	Gulf Coast Aquifer System	5,046
Estimated net annual volume of flow between each aquifer in the district	From Gulf Coast Aquifer System (Catahoula Formation) to Yegua-Jackson Aquifer	210*

*: Flow calculated from the groundwater availability model for the Yegua-Jackson Aquifer.

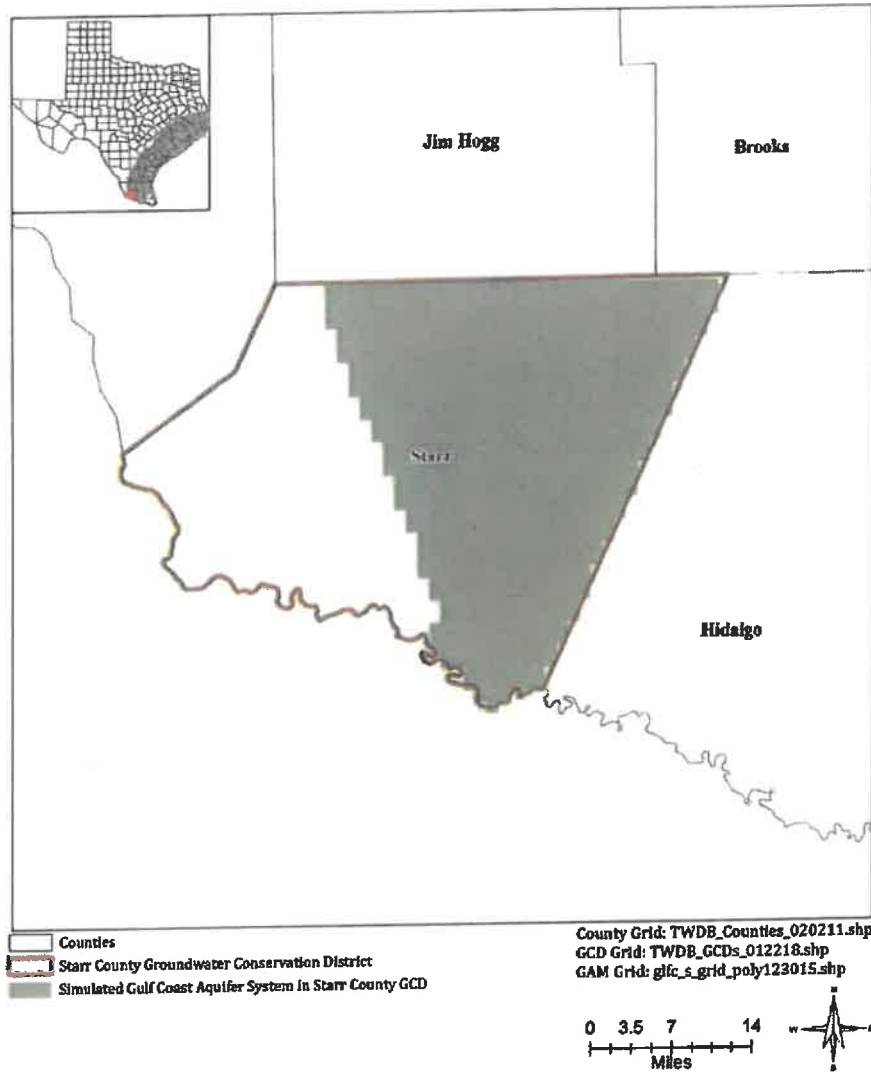


FIGURE 1. AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE GULF COAST AQUIFER SYSTEM FROM WHICH THE INFORMATION IN TABLE 1 WAS EXTRACTED (THE GULF COAST AQUIFER SYSTEM EXTENT WITHIN THE DISTRICT BOUNDARY).

TABLE 2. SUMMARIZED INFORMATION FOR THE YEGUA-JACKSON AQUIFER FOR STARR COUNTY GROUNDWATER CONSERVATION DISTRICT'S GROUNDWATER MANAGEMENT PLAN. ALL VALUES ARE REPORTED IN ACRE-FEET PER YEAR AND ROUNDED TO THE NEAREST 1 ACRE-FOOT.

Management Plan requirement	Aquifer or confining unit	Results
Estimated annual amount of recharge from precipitation to the district	Yegua-Jackson Aquifer	0
Estimated annual volume of water that discharges from the aquifer to springs and any surface-water body including lakes, streams, and rivers	Yegua-Jackson Aquifer	679
Estimated annual volume of flow into the district within each aquifer in the district	Yegua-Jackson Aquifer	1,150
Estimated annual volume of flow out of the district within each aquifer in the district	Yegua-Jackson Aquifer	248
Estimated net annual volume of flow between each aquifer in the district	From Yegua-Jackson downdip portion to Yegua-Jackson Aquifer	348
	From Gulf Coast Aquifer System (Catahoula Formation) to Yegua-Jackson Aquifer	210

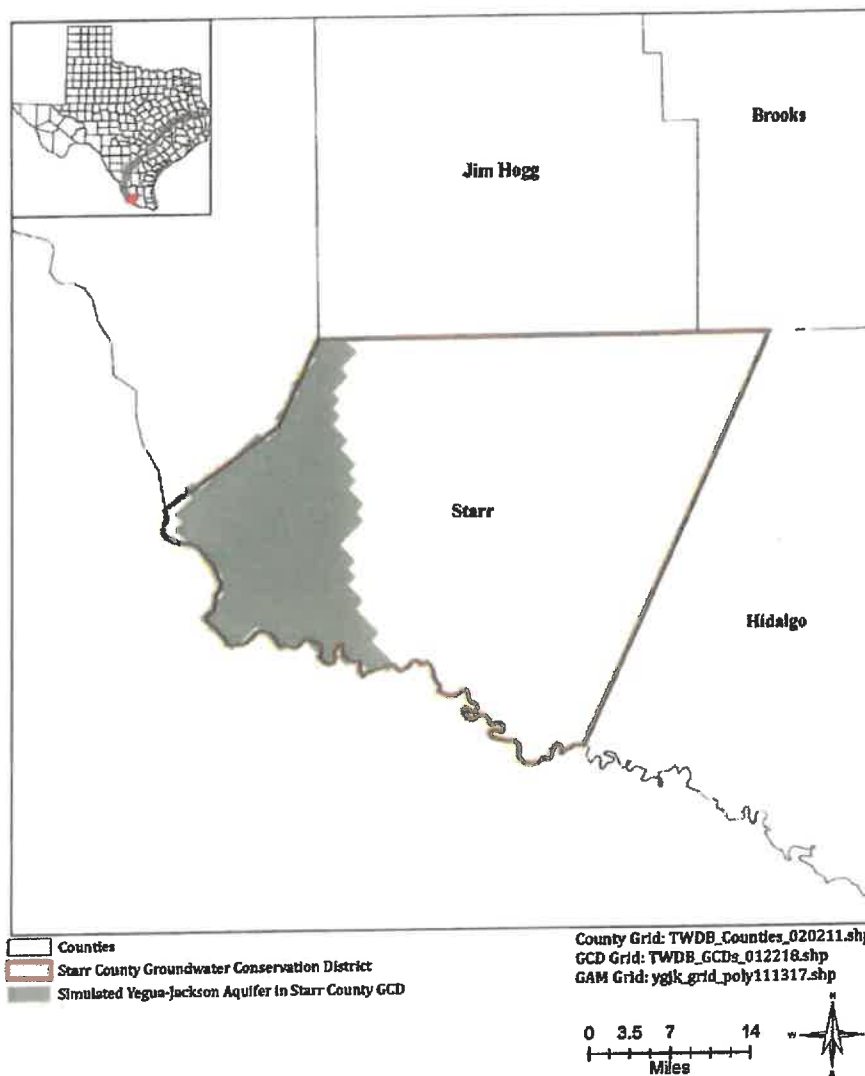


FIGURE 2. AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE YEGUA-JACKSON AQUIFER FROM WHICH THE INFORMATION IN TABLE 2 WAS EXTRACTED (THE YEGUA-JACKSON AQUIFER EXTENT WITHIN THE DISTRICT BOUNDARY).

LIMITATIONS:

The groundwater models used in completing this analysis are the best available scientific tools that can be used to meet the stated objectives. To the extent that this analysis will be used for planning purposes and/or regulatory purposes related to pumping in the past and into the future, it is important to recognize the assumptions and limitations associated with the use of the results. In reviewing the use of models in environmental regulatory decision making, the National Research Council (2007) noted:

"Models will always be constrained by computational limitations, assumptions, and knowledge gaps. They can best be viewed as tools to help inform decisions rather than as machines to generate truth or make decisions. Scientific advances will never make it possible to build a perfect model that accounts for every aspect of reality or to prove that a given model is correct in all respects for a particular regulatory application. These characteristics make evaluation of a regulatory model more complex than solely a comparison of measurement data with model results."

A key aspect of using the groundwater model to evaluate historic groundwater flow conditions includes the assumptions about the location in the aquifer where historic pumping was placed. Understanding the amount and location of historic pumping is as important as evaluating the volume of groundwater flow into and out of the district, between aquifers within the district (as applicable), interactions with surface water (as applicable), recharge to the aquifer system (as applicable), and other metrics that describe the impacts of that pumping. In addition, assumptions regarding precipitation, recharge, and interaction with streams are specific to particular historic time periods.

Because the application of the groundwater models was designed to address regional-scale questions, the results are most effective on a regional scale. The TWDB makes no warranties or representations related to the actual conditions of any aquifer at a particular location or at a particular time.

It is important for groundwater conservation districts to monitor groundwater pumping and overall conditions of the aquifer. Because of the limitations of the groundwater model and the assumptions in this analysis, it is important that the groundwater conservation districts work with the TWDB to refine this analysis in the future given the reality of how the aquifer responds to the actual amount and location of pumping now and in the future. Historic precipitation patterns also need to be placed in context as future climatic conditions, such as dry and wet year precipitation patterns, may differ and affect groundwater flow conditions.

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- Harbaugh, A.W., and McDonald, M.G., 1996, User's documentation for MODFLOW-96, an update to the U.S. Geological Survey modular finite-difference ground-water flow model: U.S. Geological Survey Open-File Report 96-485, 56 p.
- Hassan, M., 2010, GAM Run 10-011: Texas Water Development Board GAM Run 10-011 Report, 6 p., <https://www.twdb.texas.gov/groundwater/docs/GAMruns/GR10-11.pdf>.
- National Research Council, 2007, Models in Environmental Regulatory Decision Making Committee on Models in the Regulatory Decision Process, National Academies Press, Washington D.C., 287 p., http://www.nap.edu/catalog.php?record_id=11972.
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APPENDIX C

Estimated Historical Water Use And 2017 State Water Plan Datasets:

Starr County Groundwater Conservation District

by Stephen Allen
Texas Water Development Board
Groundwater Division
Groundwater Technical Assistance Section
stephen.allen@twdb.texas.gov
(512) 463-7317
March 2, 2021

GROUNDWATER MANAGEMENT PLAN DATA:

This package of water data reports (part 1 of a 2-part package of information) is being provided to groundwater conservation districts to help them meet the requirements for approval of their five-year groundwater management plan. Each report in the package addresses a specific numbered requirement in the Texas Water Development Board's groundwater management plan checklist. The checklist can be viewed and downloaded from this web address:

<http://www.twdb.texas.gov/groundwater/docs/GCD/GMPChecklist0113.pdf>

The five reports included in this part are:

1. Estimated Historical Water Use (checklist item 2)
from the TWDB Historical Water Use Survey (WUS)
2. Projected Surface Water Supplies (checklist item 6)
3. Projected Water Demands (checklist item 7)
4. Projected Water Supply Needs (checklist item 8)
5. Projected Water Management Strategies (checklist item 9)
from the 2017 Texas State Water Plan (SWP)

Part 2 of the 2-part package is the groundwater availability model (GAM) report for the District (checklist items 3 through 5). The District should have received, or will receive, this report from the Groundwater Availability Modeling Section. Questions about the GAM can be directed to Dr. Shirley Wade, shirley.wade@twdb.texas.gov, (512) 936-0883.

DISCLAIMER:

The data presented in this report represents the most up-to-date WUS and 2017 SWP data available as of 3/2/2021. Although it does not happen frequently, either of these datasets are subject to change pending the availability of more accurate WUS data or an amendment to the 2017 SWP. District personnel must review these datasets and correct any discrepancies in order to ensure approval of their groundwater management plan.

The WUS dataset can be verified at this web address:

<http://www.twdb.texas.gov/waterplanning/waterusesurvey/estimates/>

The 2017 SWP dataset can be verified by contacting Sabrina Anderson (sabrina.anderson@twdb.texas.gov or 512-936-0886).

For additional questions regarding this data, please contact Stephen Allen (stephen.allen@twdb.texas.gov or 512-463-7317).

Estimated Historical Water Use

TWDB Historical Water Use Survey (WUS) Data

Groundwater and surface water historical use estimates are currently unavailable for calendar year 2019. TWDB staff anticipates the calculation and posting of these estimates at a later date.

STARR COUNTY

All values are in acre-feet

Year	Source	Municipal	Manufacturing	Mining	Steam Electric	Irrigation	Livestock	Total
2018	GW	267	74	17	0	8	619	985
	SW	8,348	0	4	0	5,357	206	13,915
2017	GW	300	74	0	0	8	600	982
	SW	9,358	0	0	0	7,552	200	17,110
2016	GW	321	74	1	0	4	856	1,256
	SW	8,576	0	0	0	8,687	285	17,548
2015	GW	384	74	2	0	3	846	1,309
	SW	8,202	0	0	0	4,558	282	13,042
2014	GW	622	74	9	0	1	821	1,527
	SW	9,034	0	2	0	3,784	274	13,094
2013	GW	805	74	41	0	20	821	1,761
	SW	9,184	0	10	0	12,418	273	21,885
2012	GW	1,277	86	6	0	0	694	2,063
	SW	9,177	9	2	0	13,000	231	22,419
2011	GW	1,371	86	29	0	0	1,104	2,590
	SW	9,418	9	8	0	23,875	367	33,677
2010	GW	1,235	86	221	0	0	1,032	2,574
	SW	7,717	10	211	0	15,000	344	23,282
2009	GW	1,124	86	233	0	0	655	2,098
	SW	7,645	9	223	0	17,504	218	25,599
2008	GW	1,025	98	245	0	0	793	2,161
	SW	6,613	9	234	0	17,387	265	24,508
2007	GW	1,273	89	0	0	0	818	2,180
	SW	6,896	9	0	0	14,060	273	21,238
2006	GW	1,461	86	0	0	0	794	2,341
	SW	7,328	10	0	0	9,756	265	17,359
2005	GW	1,380	147	0	0	0	756	2,283
	SW	6,864	11	0	0	7,358	252	14,485

2004	GW	1,289	147	0	0	417	76	1,929
	SW	6,427	10	0	0	6,308	1,081	13,826
2003	GW	1,301	147	0	0	278	75	1,801
	SW	6,197	9	0	0	6,611	1,066	13,883

Projected Surface Water Supplies

TWDB 2017 State Water Plan Data

STARR COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	Source Name	2020	2030	2040	2050	2060	2070
M	AGUA SUD	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	28	25	23	23	21	20
M	COUNTY-OTHER, STARR	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	35	35	35	35	35	35
M	COUNTY-OTHER, STARR	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	769	769	769	769	769	769
M	ESCOBARES	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	169	184	203	221	238	253
M	IRRIGATION, STARR	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	8,509	8,481	8,453	8,425	8,397	8,369
M	LA GRULLA	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	552	552	552	552	552	552
M	LIVESTOCK, STARR	RIO GRANDE	LIVESTOCK LOCAL SUPPLY	65	65	65	65	65	65
M	MANUFACTURING, STARR	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	14	14	14	14	14	14
M	MINING, STARR	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	82	82	82	82	82	82
M	MINING, STARR	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	278	277	277	276	275	275
M	RIO GRANDE CITY	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	3,703	3,703	3,703	3,703	3,703	3,703
M	RIO WSC	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	330	330	330	330	330	330
M	ROMA	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	1,989	1,974	1,955	1,937	1,920	1,905
M	UNION WSC	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	446	446	446	446	446	446
Sum of Projected Surface Water Supplies (acre-feet)				16,969	16,937	16,907	16,878	16,847	16,818

Projected Water Demands

TWDB 2017 State Water Plan Data

Please note that the demand numbers presented here include the plumbing code savings found in the Regional and State Water Plans.

STARR COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
M	AGUA SUD	RIO GRANDE	32	35	38	42	45	48
M	COUNTY-OTHER, STARR	NUECES-RIO GRANDE	155	169	182	197	211	225
M	COUNTY-OTHER, STARR	RIO GRANDE	3,485	3,787	4,077	4,410	4,743	5,051
M	ESCOBARES	RIO GRANDE	169	184	203	221	238	253
M	IRRIGATION, STARR	RIO GRANDE	13,483	11,085	8,646	6,192	3,714	3,714
M	LA GRULLA	RIO GRANDE	337	373	406	441	475	506
M	LIVESTOCK, STARR	NUECES-RIO GRANDE	153	153	153	153	153	153
M	LIVESTOCK, STARR	RIO GRANDE	865	865	865	865	865	865
M	MANUFACTURING, STARR	RIO GRANDE	14	15	16	17	18	19
M	MINING, STARR	NUECES-RIO GRANDE	131	160	178	197	221	251
M	MINING, STARR	RIO GRANDE	440	537	597	661	740	840
M	RIO GRANDE CITY	RIO GRANDE	3,839	4,262	4,660	5,075	5,464	5,820
M	RIO WSC	RIO GRANDE	396	435	473	513	551	587
M	ROMA	RIO GRANDE	1,357	1,476	1,590	1,719	1,849	1,968
M	UNION WSC	RIO GRANDE	827	910	991	1,076	1,156	1,231
Sum of Projected Water Demands (acre-feet)			25,683	24,446	23,075	21,779	20,443	21,531

Projected Water Supply Needs

TWDB 2017 State Water Plan Data

Negative values (in red) reflect a projected water supply need, positive values a surplus.

STARR COUNTY

All values are in acre-feet

RWPG	WUG	WUG Basin	2020	2030	2040	2050	2060	2070
M	AGUA SUD	RIO GRANDE	-4	-10	-15	-19	-24	-28
M	COUNTY-OTHER, STARR	NUECES-RIO GRANDE	-113	-127	-140	-155	-169	-183
M	COUNTY-OTHER, STARR	RIO GRANDE	-2,589	-2,891	-3,181	-3,514	-3,847	-4,155
M	ESCOBARES	RIO GRANDE	0	0	0	0	0	0
M	IRRIGATION, STARR	RIO GRANDE	-4,654	-2,284	127	2,553	5,003	4,975
M	LA GRULLA	RIO GRANDE	215	179	146	111	77	46
M	LIVESTOCK, STARR	NUECES-RIO GRANDE	87	87	87	87	87	87
M	LIVESTOCK, STARR	RIO GRANDE	0	0	0	0	0	0
M	MANUFACTURING, STARR	RIO GRANDE	0	-1	-2	-3	-4	-5
M	MINING, STARR	NUECES-RIO GRANDE	-49	-78	-96	-115	-139	-169
M	MINING, STARR	RIO GRANDE	38	-60	-120	-185	-265	-365
M	RIO GRANDE CITY	RIO GRANDE	-136	-559	-957	-1,372	-1,761	-2,117
M	RIO WSC	RIO GRANDE	-66	-105	-143	-183	-221	-257
M	ROMA	RIO GRANDE	632	498	365	218	71	-63
M	UNION WSC	RIO GRANDE	-381	-464	-545	-630	-710	-785
Sum of Projected Water Supply Needs (acre-feet)			-7,992	-6,579	-5,199	-6,176	-7,140	-8,127

Projected Water Management Strategies

TWDB 2017 State Water Plan Data

STARR COUNTY

WUG, Basin (RWPG)

All values are in acre-feet

Water Management Strategy	Source Name [Origin]	2020	2030	2040	2050	2060	2070
AGUA SUD, RIO GRANDE (M)							
ADVANCED MUNICIPAL CONSERVATION - AGUA SUD	DEMAND REDUCTION [STARR]	0	0	1	2	5	7
AGUA SUD EAST WWTP POTABLE REUSE	DIRECT REUSE [HIDALGO]	4	4	3	4	3	3
AGUA SUD WEST WWTP POTABLE REUSE	DIRECT REUSE [HIDALGO]	3	3	4	4	3	3
CONVERSION OF IRRIGATION WATER RIGHTS TO DMI	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	1	1	4	8	10	10
HIDALGO COUNTY ID NO. 16 CONSERVATION	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	1	1	2	2	2	2
HIDALGO COUNTY ID NO. 6 CONSERVATION	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	3	3	3	3	3	3
		12	12	17	23	26	28
COUNTY-OTHER, STARR, NUECES-RIO GRANDE (M)							
ADVANCED MUNICIPAL CONSERVATION - COUNTY-OTHER, STARR	DEMAND REDUCTION [STARR]	0	0	0	5	15	26
HIDALGO COUNTY ID NO. 2 CONSERVATION	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
RIO GRANDE CITY WATER METER REPLACEMENT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	2	2	2	2	2	2
ROMA WATER RIGHT PURCHASE AND REGIONAL WTP	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	84	83	83	80	78	77
STARR COUNTY CONVERSION OF WR	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	37	102	172	248	330	331
STARR COUNTY-OTHER ADDITIONAL GROUNDWATER WELLS	GULF COAST AQUIFER [STARR]	17	17	17	17	17	17
		140	204	274	352	442	453
COUNTY-OTHER, STARR, RIO GRANDE (M)							

ADVANCED MUNICIPAL CONSERVATION - COUNTY-OTHER, STARR	DEMAND REDUCTION [STARR]	0	0	0	116	339	588
HIDALGO COUNTY ID NO. 2 CONSERVATION	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	2	3	5	6	7	9
RIO GRANDE CITY WATER METER REPLACEMENT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	46	46	46	46	46	46
ROMA WATER RIGHT PURCHASE AND REGIONAL WTP	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	1,903	1,879	1,854	1,807	1,759	1,735
STARR COUNTY CONVERSION OF WR	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	826	2,289	3,858	5,546	7,422	7,420
STARR COUNTY-OTHER ADDITIONAL GROUNDWATER WELLS	GULF COAST AQUIFER [STARR]	383	383	383	383	383	383
		3,160	4,600	6,146	7,904	9,956	10,181
IRRIGATION, STARR, RIO GRANDE (M)							
ARRUNDO DONAX BIOLOGICAL CONTROL	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	41	39	35	29	20	21
BRUSH CONTROL	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	0
ON-FARM IRRIGATION CONSERVATION	DEMAND REDUCTION [STARR]	1,652	1,652	1,652	1,652	1,652	1,652
		1,693	1,691	1,687	1,681	1,672	1,673
LA GRULLA, RIO GRANDE (M)							
ADVANCED MUNICIPAL CONSERVATION - LA GRULLA	DEMAND REDUCTION [STARR]	11	40	40	40	40	40
		11	40	40	40	40	40
MANUFACTURING, STARR, RIO GRANDE (M)							
IMPLEMENTATION OF BEST MANAGEMENT PRACTICES	DEMAND REDUCTION [STARR]	1	2	2	2	2	2
STARR COUNTY CONVERSION OF WR	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	1	2	3
		1	2	2	3	4	5
MINING, STARR, NUECES-RIO GRANDE (M)							
IMPLEMENTATION OF BEST MANAGEMENT PRACTICES	DEMAND REDUCTION [STARR]	13	16	18	20	22	25
		13	16	18	20	22	25
MINING, STARR, RIO GRANDE (M)							
IMPLEMENTATION OF BEST MANAGEMENT PRACTICES	DEMAND REDUCTION [STARR]	44	54	60	66	74	84
		44	54	60	66	74	84

RIO GRANDE CITY, RIO GRANDE (M)

ADVANCED MUNICIPAL CONSERVATION - RIO GRANDE CITY	DEMAND REDUCTION [STARR]	173	512	906	1,356	1,801	2,108
HIDALGO COUNTY ID NO. 2 CONSERVATION	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	22	37	51	66	80	95
RIO GRANDE CITY WATER METER REPLACEMENT	DEMAND REDUCTION [STARR]	160	160	160	160	160	160
		355	709	1,117	1,582	2,041	2,363

RIO WSC, RIO GRANDE (M)

ADVANCED MUNICIPAL CONSERVATION - RIO WSC	DEMAND REDUCTION [STARR]	0	0	9	29	55	84
HIDALGO COUNTY ID NO. 2 CONSERVATION	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	3	4	6	7	9	11
RIO GRANDE CITY WATER METER REPLACEMENT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	162	162	162	162	162	162
		165	166	177	198	226	257

ROMA, RIO GRANDE (M)

ADVANCED MUNICIPAL CONSERVATION - ROMA	DEMAND REDUCTION [STARR]	0	0	0	0	0	93
ROMA WATER RIGHT PURCHASE AND REGIONAL WTP	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	100	100	100	100	100	100
		100	100	100	100	100	193

UNION WSC, RIO GRANDE (M)

ADVANCED MUNICIPAL CONSERVATION - UNION WSC	DEMAND REDUCTION [STARR]	0	0	25	70	124	185
UNION WSC BGD PLANT	GULF COAST AQUIFER [STARR]	560	560	560	560	560	560
UNION WSC WATER METER AND WATER LINE REPLACEMENT	DEMAND REDUCTION [STARR]	88	88	88	88	88	88
		648	648	673	718	772	833
Sum of Projected Water Management Strategies (acre-feet)		6,342	8,242	10,311	12,687	15,375	16,135

APPENDIX D

STARR COUNTY GROUNDWATER CONSERVATION DISTRICT RULES

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STARR COUNTY GROUNDWATER CONSERVATION DISTRICT'S RULES

PREAMBLE

These rules of the Starr County Groundwater Conservation District were most recently amended effective December 17, 2020, in accordance with Section 59 of Article XVI of the Texas Constitution; the District's enabling act, Chapter 8803 of the Texas Special District Local Laws Code; Chapter 36 of the Texas Water Code; and other applicable law.

These rules have been adopted for the purpose of simplifying procedure, avoiding delays, saving expense, and facilitating the administration of the groundwater laws of the State of Texas and the local laws and regulations of this District. To the end that these objectives be attained, these rules shall be so construed. These rules may be used as guides in the exercise of discretion, where discretion is vested. However, under no circumstances, and in no particular case shall these rules be construed as a limitation or restriction upon the exercise of any discretion, where such exists; nor shall they in any event be construed to deprive the District of an exercise of powers, duties, and jurisdiction conferred by law, nor to limit or restrict the amount and character of data or information which may be required for the proper administration of the law.

Throughout the State of Texas, groundwater conservation districts embody local government at its most basic level: local representatives establishing guidelines for the use and conservation of that private property right and public interest in groundwater for the benefit of their constituents and the economy of the District. The District was established to conserve and manage groundwater for the benefit of the citizens of Starr County. To fulfill this duty, the District has adopted these rules to ensure a fair, open, and consistent method of formulating and implementing its policies.

RULE 1 INTRODUCTION, REGULATORY AUTHORITY AND PURPOSE OF RULES

These rules are adopted pursuant to Section 36.101 of the Texas Water Code and the District's enabling act to provide for the conservation, preservation, protection, and recharge of groundwater within Starr County. These rules are adopted under the District's statutory authority to prevent waste of groundwater, protect rights of owners of interests in groundwater, prevent degradation of water quality, and to carry out the powers and duties of Chapter 36 of the Texas Water Code and the District's enabling act. Nothing in these rules or applicable law shall be construed as granting the authority to deprive or divest a landowner, including a landowner's lessees, heirs, or assigns, of the groundwater ownership and rights described by Section 36.002 of the Texas Water Code, recognizing, however, that Section 36.002 does not prohibit the District from limiting or prohibiting the drilling of a well for failure or inability to comply with minimum well spacing or tract size requirements adopted by the District; affect the ability of the District to regulate groundwater production as authorized under Sections 36.113, 36.116, or 36.122 or otherwise under Chapter 36 of the Texas Water Code, or a special law governing the District; or require that a rule adopted by the District allocate to each landowner a proportionate share of available groundwater for production from the aquifer based on the number of acres owned by the landowner. The District's orders, resolutions, policies, guidelines, and other actions have been enacted and implemented to fulfill these objectives.

The District uses these rules as guides in the exercise of the powers conferred by law and in the accomplishment of the purposes of the District's enabling act. They may not be construed as a

limitation or restriction on the exercise of any discretion nor be construed to deprive the District or Board of the exercise of any powers, duties or jurisdiction conferred by law, nor be construed to limit or restrict the amount and character of data or information that may be required to be collected for the proper administration of the District's enabling act.

RULE 2 DEFINITIONS

Unless the context indicates a contrary meaning, the words hereinafter defined shall have the following meanings in the rules, management plan, forms, and other documents of the District and when used in conducting business at the District.

"Rules" or "rules" means the rules of the District compiled in this document and as may be amended and/or repealed from time to time.

"District's enabling act" means the acts of the Texas Legislature codified in Chapter 8803 of the Texas Special District Local Laws Code relating to the creation, administration, powers, duties, operation and financing of the District, as may be amended from time to time.

"District" means the Starr County Groundwater Conservation District.

"Water" for the purposes of these rules is synonymous with groundwater unless the context provides otherwise.

"Groundwater" has the same meaning as defined in Section 36.001 of the Texas Water Code.

"Landowner" means the person who bears ownership of the land surface who may or may not be the "Owner" of groundwater.

"Owner" means any person that has the right to produce groundwater from the land, by deed, contract, lease, easement, or any other estate in the land. The term "Owner", as used herein, includes any agent or attorney representing the Owner in any matter concerning the District. The Owner is obligated to provide written notice to the District if it desires to receive any notice that would otherwise be provided to the Landowner under these rules.

"Person" means any individual, partnership, firm, state agency, political subdivision, corporation, or other legal entity.

"Board" means the Board of Directors of the District.

"Director" means a member of the Board.

"Presiding Officer" means the Board President or, in the Board President's absence, a Director delegated authority by the Board to preside over District business.

"General Manager" means the General Manager of the District.

"Beneficial use" and "use for a beneficial purpose" are synonymous terms that have the same meaning as defined in Section 36.001 of the Texas Water Code.

“Waste” has the same meaning as defined in Section 36.001 of the Texas Water Code.

“Degradation of Water Quality” means pollution or harmful alteration of the character of groundwater by means of salt water or other deleterious matter admitted from another stratum or strata or from the surface of the ground, or from the operation of a well.

“Acre-foot” means the amount of water necessary to cover one acre of land one foot deep, or 325,851 gallons of water.

“Permitted well” means a well subject to the District’s drilling and/or operating permit requirements.

“Drilling Permit” means a permit for a water well issued or to be issued by the District allowing a water well to be drilled.

“Operating Permit” means a permit issued by the District for a non-exempt water well that allows a designated volume of groundwater to be withdrawn from a water well for a designated period and at a maximum rate with other conditions established by these rules and any action by the Board.

“Export” of groundwater means transferring or transporting groundwater out of the District. The terms “transfer,” “transport,” or “export” of groundwater are used interchangeably within Chapter 36 of the Texas Water Code and these rules.

“Texas Open Meetings Act” means Chapter 551 of the Texas Government Code.

“Texas Public Information Act” means Chapter 552 of the Texas Government Code.

“Water meter” means a water flow-measuring device that can accurately record the amount of groundwater produced during a measured time.

“Well” means an excavation drilled or dug into the ground that may intercept or penetrate a groundwater-bearing stratum or formation.

“Well System” means two or more wells owned, operated, or otherwise under the control of the same person and that are held under the same permit.

“Existing well” means any well in the District that was drilled or properly completed on or before the adoption of the Starr County Groundwater Conversation District management plan, October 10, 2013.

“Monitoring well” means a well installed to measure some groundwater characteristic, usually water levels, and quality, of the groundwater or aquifer.

“SOAH” means State Office of Administrative Hearings.

“TDLR” means Texas Department of Licensing and Regulation.

“TWDB” means Texas Water Development Board.

“TCEQ” means Texas Commission on Environmental Quality.

“RRC” means Railroad Commission of Texas.

“Desired Future Condition” and “DFC” have the same meaning as defined in Section 36.001 of the Texas Water Code.

“Modeled Available Groundwater” has the same meaning as defined in Section 36.001 of the Texas Water Code.

“GPM” means gallons per minute.

“And” and “or” shall be interchangeable depending upon the context.

RULE 3 WELL REGISTRATION AND PERMITS FOR DRILLING, OPERATING AND EXPORT

3.1 Registration of Wells and Well Completion Information

- A. All water wells, existing and new, exempt and nonexempt, must be registered on a form provided by the District and are required to comply with the District’s registration requirements in these rules. It is a violation of these rules for a well owner, well operator, or water well driller to drill any well without the water well registration form being filed with and approved by the District. This includes the GPS location determined by a representative of the District.
- B. All new wells must be pre-registered by the owner of the groundwater right or well, well operator, or water well driller prior to being drilled. The District staff will review the pre-registration and make a preliminary determination on whether the well meets the exclusions or exemptions provided in Rule 3.2 E. If the preliminary determination is that the well is exempt, the registrant may begin drilling immediately upon receiving approval. After an exempt well is completed and in operation, information required in Subsection C of this rule and any additional well-completion information required by the registration form must be provided to the District within 30 calendar days. If the preliminary determination is that the well is nonexempt, the registrant must secure a drilling permit to drill a well under Rule 3.2 A, an operating permit to operate a well and produce and use groundwater under Rule 3.2 B, and an export permit to export groundwater for use outside the District’s boundaries under Rule 3.2 C.
- C. Requirement of Driller’s Log, Casing, and Pump Data. Complete records shall be kept, and reports thereof made to the District, concerning the drilling, equipping and completion of all wells drilled. Such records shall include an accurate driller’s log, any electric logs that have been made, and any additional data concerning the description of the well, its discharge, and its equipment as may be required by the Board. Such reports shall be filed with the District within 30 calendar days after completion of the well.
- D. Time During Which Drilling Authorization by Permit or Registration Shall Remain Valid. Except as provided in the rules, any drilling authorization by permit or registration granted

shall expire if the work is not completed within 60 calendar days from the date of approval by the Board. If a written request for such extension is made to the District explaining why a proposed project will take more time to complete, the Board or General Manager, may grant such time, as is reasonably necessary to complete such project. A registration form is otherwise informational and will remain as a permanent record at the District.

- E. **Transfer of Registration and District's Records of Ownership or Control of Groundwater Well and Groundwater Rights.** If ownership or control of any groundwater right or water well covered by a registration occurs, the current and new owner(s) are responsible for coordinating to notify the District in writing. Upon receipt of documentation evidencing current ownership or control, the District's staff will indicate this information in the well registration.

3.2 General Permitting Policies and Procedures

- A. **Drilling Permit Requirement.** The owner of the groundwater right or well, well operator, or any other person acting on their behalf, must file a completed application for a water well drilling permit. No person shall hereafter begin to drill a well, or perforate an existing well, or increase the size of a well, without having first applied to the District and received a permit to do so, unless the drilling and operation of the well is exempt by law or by these rules. An applicant may commence the drilling of a well when his application has been approved and a permit issued by the District.
- B. **Operating Permit Requirement.** Within a reasonably prompt period of time after a well is drilled, the well owner or well operator, or any other person acting on their behalf, must file a completed operating permit application and prior to operating the well. The operating permit application must be approved and a permit issued by the District prior to operation of the well and the production and beneficial use of groundwater. The permit holder is responsible for renewing this permit and ensuring that it remains in effect until an operating permit is no longer required under these rules.
- C. **Requirement to Request Authority to Export under an Operating Permit.** The owner of the groundwater right or well, well operator, or any other person acting on their behalf, must indicate on a completed application for an operating permit whether export of groundwater is intended. No person is authorized to export groundwater outside the District's boundaries without authority from the District pursuant to a permit.
- D. **Permit Applications.** Each application for a drilling permit and operating permit requires a separate application and must be completed on a District form. The application for a permit must be in writing and sworn. The substantive information required by an applicant for each type of permit is set forth in the Rules Appendix.
- E. **Permitting Exemptions.** The drilling and operating permit requirements of these rules do not apply to:
 - 1. a well drilled, completed, or equipped such that it is incapable of producing more than 25,000 gallons of groundwater per day for domestic use such as for drinking water, cooking, and washing, provided that the minimum acreage is 1.7 acres;

2. a well used for providing water for livestock or poultry on a tract of land larger than ten (10) acres that is either drilled, completed, or equipped so that it is incapable of producing more than 25,000 gallons of groundwater a day;
 3. a well used for irrigating a garden or orchard, if the produce of the garden or orchard is to be consumed by the individual, family or household;
 4. a water well used solely to supply water for a rig that is actively engaged in drilling or exploration operations for an oil or gas well permitted by RRC provided that the person holding the RRC permit is responsible for drilling and operating the water well and the water well is located on the same lease of field associated with the drilling rig; this exemption does not apply to the use of groundwater for the purpose of fracturing an oil or gas well or for the use of groundwater in any application during the production of an oil or gas well; groundwater use for fracturing an oil or gas well or groundwater used in any way for the production of an oil or gas well is subject to the permitting rules of the District;
 5. a water well authorized under a permit issued by the RRC under Chapter 134, Natural Resources Code, or for production from such a well to the extent the withdrawal is required for mining activities regardless of any subsequent use of the water;
 6. All wells drilled prior to the adoption of the management plan approved on October 10, 2013, provided that the use of the water does not change (existing wells);
 7. a well used for wildlife management such that it is incapable of producing more than 25,000 gallons of ground-water per day; and
 8. a monitoring well.
- F. Notice of Permit Hearing. Once the District has received an administratively complete application for a drilling, operating and/or export permit, the General Manager or Board will issue written notice indicating a date and time for a hearing on the application in accordance with Rule 8.
- I. Operating Permits. On approval of an application, the District shall issue an Operating Permit to the applicant. The permit holder's right to produce shall be limited to the extent and purposes stated in the permit. Unless specified otherwise by the Board, the permit shall be valid for a period of approximately three years ending December 31st of the third year from which the permit was issued. An applicant requesting a permit term longer than three years must substantiate its reason for the longer term and its need to put groundwater to beneficial use throughout the proposed permit term. Operating permits are site specific, and a permitted groundwater production allowance is restricted to production from the permitted well. A permit shall not be transferable except as provided by these rules.

- J. **Effect of Acceptance of Permit.** Acceptance of the permit by the person to whom it is issued constitutes acknowledgment of an agreement to comply with all of the terms, provisions, conditions, limitations, and restrictions contained in the permit.
- K. **Permit Renewal.** The permit holder must indicate its interest in permit renewal and comply with any requirement of the District's General Manager to request permit renewal. The District is not required to renew an operating permit if the permit holder (1) is delinquent in paying any District fee; (2) is subject to a pending enforcement action for a substantive violation of a District permit, order, or rule that has not been settled by agreement with the District or a final adjudication; or (3) has not paid a civil penalty or has otherwise failed to comply with an order resulting from a final adjudication of a violation of a district permit, order, or rule. If the permit holder is not subject to any of these three circumstances, the District's Board or General Manager will, without a hearing, grant a renewal of the operating permit on the identical terms of the permit or, if requested by the permit holder, with a reduced pumping allocation.
- L. The Board may issue a drilling permit and operating permit at the same hearing. The Board reserves the right to defer a decision on the operating permit until after the well has been drilled and well and relevant data have been provided by the person requesting the operating permit.
- M. **Measuring and Reporting Groundwater Withdrawals:**
1. **Nonexempt wells:** Every owner or operator of a nonexempt well is responsible for measuring withdrawals from each well either by a District-approved meter or alternative measuring method. Meters must be selected and installed in accordance with the District General Manager's specifications and approval, at the well owner's cost. Meters are not required to be installed on nonexempt wells that are drilled, completed, or equipped so that they are incapable of producing more than 25,000 gallons per day, as long as an alternative measuring method approved by the District is used to record and report groundwater production from this type of well.
 2. **Exempt wells:** Only wells exempt under Rule 3.2(E)(4) and (5) must measure and report groundwater withdrawals and must do so as follows:
 - a) An entity holding a permit issued by the RRC under Chapter 134, Texas Natural Resources Code, that authorizes the drilling of a water well, shall report monthly to the District:
 - i) the total amount of water withdrawn during the month;
 - ii) the quantity of water necessary for mining activities; and
 - iii) the quantity of water withdrawn for other purposes.
 - b) A report reflecting the total amount of water withdrawn each month from a well exempt under District Rule 3.2(e)(4) must be submitted to the District by the owner or operator. The owner and the operator of such a well may

coordinate to determine the amount of monthly withdrawals and to submit this report. However, both the owner and operator of such a well are responsible for ensuring that the withdrawals are determined and that the report is submitted to the District.

- c) The groundwater production from wells subject to reporting under this Subsection 3.2(M)(2) must be measured by meter or alternative measuring method approved under these rules.
3. Time Period of Measurements and for Reporting: The permit holder is responsible for installing a meter or using a District-approved alternative measuring method to record groundwater on at least a monthly basis. The permit holder must submit a report reflecting the annual withdrawals on a calendar-year basis by any means approved by the General Manager, or more frequently, if requested by the General Manager. Pursuant to Texas Water Code Sections 36.109 and 36.111, the Board or General Manager may deem it useful or otherwise necessary for the District to secure additional groundwater withdrawal and/or use data and may request such data.
4. Metering: A meter shall be read and the meter reading monthly recorded to reflect the actual amount of pumpage throughout each calendar year. The permit holder subject to this reporting requirement shall keep accurate records of the amount of groundwater withdrawn and the purpose of the withdrawal, and such records shall be available for inspection by the District. Where wells are permitted in the aggregate, metering and reporting are required on a well-by-well basis. The District may require a well owner or operator, at the well owner's or operator's expense, to test the accuracy of the meter and submit a certificate of the test results. Costs of meter maintenance shall be borne by the well owner or operator. The District also has the authority to test a meter. If a test reveals that a meter is not registering within an accuracy of 95%-105% of actual flow, or is not properly recording the total flow of groundwater withdrawn from the well or Well System, the well owner or operator must take appropriate steps to remedy the problem, and to retest the meter within 90 (ninety) calendar days from the date the problem is discovered.
5. Alternative measuring method: The District may authorize the use of an alternative measuring method in lieu of a meter if it can be demonstrated by the well owner or operator that the alternative measuring method is capable of accurate measurement of groundwater withdrawal. The owner or operator of a nonexempt well must secure the District General Manager's approval of an alternative measuring method of determining the amount of groundwater withdrawn. The General Manager may authorize the alternative measuring method if the well owner or operator demonstrates that the alternative measuring method can accurately measure the groundwater withdrawn.
6. Violation of Metering, Measuring and Reporting Requirements: False reporting or logging of meter readings, intentionally tampering with or disabling a meter, or

similar actions to avoid accurate reporting of groundwater use and pumpage shall constitute a violation of these rules and shall subject the person performing the action, as well as the well owner, and/or the primary operator who authorizes or allows that action, to such remedies as provided in the District Act and these rules.

7. **Recordkeeping Required until Installation of Meter:** In the event that a well owner or operator is not measuring withdrawals by District-approved meter or alternative measuring method, the well owner or operator shall be required to keep an accurate log of dates of operation of each well, the duration of such operation, and the purpose and place of use of the water produced until such time as the well owner or operator installs a District-approved meter or secures an alternate measuring method. Such metering log shall be submitted to the District in writing and sworn to within 10 calendar days of the installation of the meter or approval of an alternate measuring method, whichever is earlier. Failure to provide the metering log as required by this rule or the provision of false information therein shall be a violation of these rules and grounds for permit denial or revocation.

3.3 Operating Permit Required

Within 30 calendar days of completion of drilling a new nonexempt well, the owner or operator of the well shall file with the District, on forms provided by the District, an application for a Water Well Operating Permit. The operating permit must be approved by the Board of Directors after public hearing and remain permitted until an operating permit is no longer required for the well/well system.

3.4 Operating Permit Provisions

All permits are granted subject to these rules, orders of the Board, and the laws of the State of Texas. In addition to any special provisions or other requirements incorporated into the permit, each permit is subject to the following standard permit provisions:

- A. This permit is granted in accordance with the provisions of the rules of the District, and acceptance of this permit constitutes an acknowledgment and agreement that the permit holder will comply with the rules of the District.
- B. Only the permit holder and their authorized agents are allowed to operate a nonexempt well. To protect the permit holder from unauthorized use of a well and withdrawal of groundwater by a person other than the permit holder, written notice must be filed with the District with sufficient information to evidence the transfer of ownership or control of a well and/or the authority to withdraw from the well.
- C. Production from nonexempt wells shall be reported in accordance with Rule 3.2(M). Immediate written notice shall be given to the District in the event a withdrawal exceeds or is anticipated to exceed the quantity authorized by the permit.
- D. The operation of the well for the authorized withdrawal must be conducted in a non-wasteful manner.

- E. All wells shall be equipped and maintained in accordance with these rules as to drilling, installation of casing, completion, pipe and fittings to prevent the escape of groundwater from a groundwater reservoir to any reservoir not containing groundwater and to prevent the pollution or harmful alteration of the character of the water in any groundwater reservoir.
- F. Production from all nonexempt wells for water sales in or outside of the District must be metered by the owner or operator using a device or method that is within plus or minus 2% of accuracy. Measured or estimated water use shall be reported to the District monthly. Water use may be verified by District.
- G. The well site must be accessible to District representatives for inspection, and the permit holder agrees to cooperate fully in any reasonable inspection of the well and well site by the District representatives.
- H. The application pursuant to which a permit has been issued is incorporated in such permit, and such permit is granted based on and contingent upon the accuracy of the information supplied in that application. A finding that false information has been supplied is grounds for revocation of the permit.
- I. Violation of this permit's terms, conditions, requirements, or special provisions, including pumping amounts in excess of authorized withdrawal volume or production rate, is subject to enforcement as provided by the District's rules.

3.5 Change of Ownership or Purpose or Place of Use

- A. A permit holder may informally request transfer of any permit or registration on file with the District, and such transfer may be approved as a ministerial act by the District's General Manager or Board upon filing adequate information supporting the change in ownership.
- B. Any permit holder requesting a change of the purpose or place of use stated in a permit shall apply to the Board for continuation of the permit for the proposed changed use at the same or reduced rate of production. The application for change of use shall be in the same form, and governed by the same standards, as the original permit application. The Board may request any additional relevant information the District considers necessary, to analyze the request for the amendment.

RULE 4 FEES

4.1 Permit Application Fees

A fee is due only for applications for operating and export permits as set forth in the schedule below, and must be received by the District for the application to be declared administratively complete:

Type of application	Well Production Capacity	One-Time Application Fee
Operating Permit	up to 100 GPM	\$100.00
	101-400 GPM	\$400.00
	401-600 GPM	\$700.00
	601+ GPM	\$900.00
Export Permit		\$1,000.00

4.2 Export Fees

The district may impose an export fee or surcharge using one of the following methods:

- A. a fee negotiated between the district and the exporter; or
- B. a rate not to exceed the equivalent of the District's tax rate per hundred dollars of valuation for each thousand gallons of water exported from the district or 2.5 cents per thousand gallons of water, if the district assesses a tax rate of less than 2.5 cents per hundred dollars of valuation.

RULE 5 WELL CONSTRUCTION, COMPLETION, AND TECHNICAL STANDARDS

5.1 General Responsibility

After authorization to drill a well by permit or registration has been granted, the well, if drilled, must be drilled within 30 feet of the location specified in the permit. All water wells must be located, drilled, completed, and recompleted and water well pumps must be installed in accordance with the regulations of the District, Starr County, TCEQ, TDLR, and any other entity with jurisdiction.

5.2 Reworking and Replacing a Well

- A. An existing well may be reworked, re-drilled, or re-equipped in a manner that will not change the existing well status.
- B. A permit must be applied for and the Board will consider approving the permit, if a party wishes to increase the rate of production of an existing well to the point of increasing the size of the column pipe and GPM by reworking or re-equipping such well.
- C. A permit must be applied for and granted by the Board if a party wishes to replace an existing permitted well with a replacement well.
- D. A replacement well, in order to be considered such, must be drilled within 30 feet of the existing well and shall not be drilled nearer the property line than 50 feet. The District may allow a greater distance of 30 feet from the existing well if there is good cause, such as providing better safety or providing a greater distance from a potential pollution source. For a well to be considered a replacement well, the well that is replaced must be plugged or capped and not be used. A replacement well must be registered.

RULE 6 WELL SPACING

- A. Spacing and Location of Existing Wells: Wells drilled prior to October 10, 2013 are not subject to spacing requirements of this rule except that these existing wells shall have been drilled in accordance with TDLR rules in effect, if any, on the date such drilling commenced.
- B. Spacing and Location of New Wells: All new exempt and nonexempt wells must comply with the spacing and location requirements set forth in TDLR's regulations with three exceptions. Wells shall not be located within 50 (fifty) feet from a property line or any existing well unless the well complies with TDLR's variance provisions. However, this Rule 6 provides only minimal spacing requirements that are subject to further restriction by the Board after a permit hearing and the Board's consideration of evidence relevant to whether the proposed new well unreasonably affects and interferes with one or more existing wells.

RULE 7 ENFORCEMENT AND VARIANCES

7.1 Notices and Access to Property

Directors and District agents and employees are entitled to access to all property within the District to carry out technical and other investigations necessary to the implementation of the District's rules. Prior to entering upon property for the purpose of conducting an investigation, the person seeking access must give notice in writing, in person, or by telephone to the owner, lessee, or operator, agent, or employee of the well owner or lessee, as determined by information contained in the application or other information on file with the District. Notice is not required if prior permission is granted to enter without notice. Inhibiting or prohibiting access to any Director or District agents or employees who are attempting to conduct an investigation under the District's rules constitutes a violation and subjects the person who is inhibiting or prohibiting access, as well as any other person who authorizes or allows such action, to the penalties set forth in Texas Water Code Chapter 36.

7.2 Conduct of Investigation

Investigations or inspections that require entrance upon property must be conducted at reasonable times, and must be consistent with the establishment's rules and regulations concerning safety, internal security, and fire protection. The persons conducting such investigations must identify themselves and present credentials upon request of the owner, lessee, operator, or person in charge of the well or property.

7.3 Rule Enforcement Initiative

If it appears that a person has violated or is violating any provision of the District's rules, the District may employ any of the following means, or a combination thereof, in providing notice of the violation:

- A. Informal Notice and Coordination: The District's General Manager, agent, or any Director may inform the person of the apparent violation via telephone by informing, or attempting to inform, the appropriate person to explain the apparent violation and the steps necessary to cure the violation. The information received by the District through this informal notice

concerning the violation and the date and time of the telephone call will be documented and will remain in the District's files. The District may afford an opportunity to the alleged violator to cure a violation through coordination and negotiation with the District.

- B. **Written Notice of Violation:** The District may inform the person of the violation through written notice of violation. Each written notice of violation issued herein shall explain the basis of the alleged violation, identify the rule or order that has been violated or is currently being violated, and list specific required actions that must be satisfactorily completed to cure a past or present violation to address each violation raised, and may include the amount of payment of applicable civil penalties.
- C. **Compliance Meeting:** The District may hold a meeting with any person whom the District believes to have violated, or to be violating, a District rule or order to discuss each such violation and the steps necessary to satisfactorily remedy each such violation. The General Manager may conduct a compliance meeting without the Board, unless otherwise determined by the Board or General Manager. The information received in any meeting conducted pursuant to this subsection concerning the violation will be documented, along with the date and time of the meeting, and will be kept on file with the District.
- D. Nothing in this section shall limit the authority of the District to take action, including emergency actions or any other appropriate enforcement action, without prior notice provided under this subsection.

7.4 Show Cause Hearing

- A. The Board or General Manager may order any person that it believes has violated or is violating any provision of the District's rules a District order to appear before the Board at a public meeting, held in accordance with the Texas Open Meetings Act, and called for such purpose and to show cause of the reasons an enforcement action, including the assessment of civil penalties and initiation of a suit in a court of competent jurisdiction in Starr County, should not be pursued against the person made the subject of the show cause hearing. The Presiding Officer may employ the procedural rules applicable to permit hearings of the District's rules.
- B. No show cause hearing under subsection (A) of this rule may be conducted unless the District serves, on each person made the subject of the show cause hearing, a written notice 10 calendar days prior to the date of the hearing. Such notice shall include all of the following information:
 - 1. the time, date, and place for the hearing;
 - 2. the basis of each asserted violation;
 - 3. the rule or order that the District believes has been violated or is currently being violated; and
 - 4. a request that the person duly appear and show cause of the reasons an enforcement action should not be pursued.

- C. The District may pursue immediate enforcement action against the person cited to appear in any show cause order issued by the District where the person cited fails to appear and show cause of the reasons an enforcement action should not be pursued.
- D. Nothing in this rule shall constrain the authority of the District to take action, including emergency actions or any other enforcement action, against a person at any time, regardless of whether the District decides to hold a hearing under this Section.

7.5 Service of Written Notices of Alleged Violation
Show Cause Hearing, and Intent to Seal Well

The District shall provide written notice of the alleged violation, show cause hearing, and intent to seal a well by certified mail, return receipt requested, hand delivery, first class mail, facsimile, email, FedEx, UPS, or any other type of public or private courier or delivery service. If the District has been unsuccessful in its attempt to reach the alleged violator by at least one of the methods in this rule above, the District may tape the notice on the door of the alleged violator's office or home, or post notice in the newspaper of general circulation in the District and within the county in which the alleged violator resides or in which the alleged violator's office is located.

7.6 Remedies

- A. The Board shall consider the appropriate remedies to pursue against an alleged violator during the show cause hearing, including assessment of a civil penalty, injunctive relief, or assessment of a civil penalty and injunctive relief. In assessing civil penalties, the Board may determine that each day that a violation continues shall be considered a separate violation. The civil penalty for a violation of any District rule is hereby set at the lower of \$10,000.00 per violation or a lesser amount determined after consideration, during the enforcement hearing, of the criteria in subsection (B) of this rule.
- B. In determining the amount of a civil penalty, the Board of Directors shall consider the following factors:
 - 1. compliance history;
 - 2. efforts to correct the violation and whether the violator makes a good faith effort to cooperate with the District;
 - 3. the penalty amount necessary to ensure future compliance and deter future noncompliance;
 - 4. any enforcement costs related to the violation; and
 - 5. any other matters deemed necessary by the Board.

7.7 Payment of Penalties and Associated Fees and Expenses

The District shall collect all past due fees and civil penalties accrued that the District is entitled to collect under the District's rules. Any person or entity in violation of these rules is subject to payment of all past due fees and civil penalties along with all fees, penalties, and court costs and associated fees of the District's attorneys and experts, which are incurred as a result of any

violations that ensue after the District provides written notice of a violation. Failure to pay required fees will result in a violation of the District's rules and such failure is subject to civil penalties.

7.8 Enforcement in State Court

After conclusion of the show cause hearing and/or a period of time established by the Board for compliance with the Board's enforcement order, the District may commence suit. Any suit shall be filed in a court of competent jurisdiction in Starr County. If the District prevails in a suit brought under this Section, the District may seek and the court shall grant, in the interests of justice and as provided by Subsection 36.066(h), Texas Water Code, in the same action, recovery of attorneys' fees, costs for expert witnesses, and other costs incurred by the District before the court.

7.9 Sealing of Wells

- A. The Board may order a Well Owner or Operator to seal a well that is prohibited from withdrawing groundwater within the District by the District's rules to ensure that a well is not operated in violation of the District's rules. A well may be sealed when:
 - 1. no application has been made for a permit to drill a new water well that is not excluded or exempted;
 - 2. no application has been made for an operating permit to withdraw groundwater from an existing well that is not excluded or exempted from the requirement that a permit be obtained in order to lawfully withdraw groundwater; or
 - 3. the Board has denied, canceled or revoked a drilling permit or an operating permit.
- B. The well may be sealed by physical means, and tagged to indicate that the well has been sealed by the District, and other appropriate action may be taken as necessary to preclude operation of the well or to identify unauthorized operation of the well. Tampering with, altering, damaging, or removing the seal of a sealed well, or in any other way violating the integrity of the seal, or pumping of groundwater from a well that has been sealed constitutes a violation of these rules and subjects the person performing that action, as well as any well owner or primary operator who authorizes or allows that action, to such penalties as provided by the District's rules.

7.10 Capping and Plugging of Wells

- A. Capping: The Board may order a Well Owner or Operator to cap a well to prevent waste, prevent pollution, or prevent further deterioration of a well casing. The well must remain capped until such time as the conditions that led to the capping requirement are eliminated. If well pump equipment is removed from a well and the well will be re-equipped at a later date, the well must be capped, provided however that the casing is not in a deteriorated condition that would permit co-mingling of water strata, in which case the well must be plugged. The cap must be capable of sustaining a weight of at least four hundred (400) pounds and must be constructed with a water tight seal to prevent entrance of surface pollutants into the well itself, either through the well bore or well casing.

- B. **Plugging:** A deteriorated or abandoned well must be plugged in accordance with the TDLR's rules (Title 16, Chapter 76 of the Texas Administrative Code).
1. It is the responsibility of the landowner to ensure that such a well is plugged to prevent pollution of the underground water and to prevent injury to persons and animals. Registration of the well is required prior to, or in conjunction with, well plugging.
 2. Any person that plugs a well in the District must submit a copy of the plugging report to the District and the TDLR within 30 calendar days of plugging completion.
 3. The Board may order a landowner to plug a well if the landowner does not voluntarily do so in accordance with this rule and the TDLR's regulations.
- C. **Failure to Cap or Plug:** If the landowner fails or refuses to plug or cap the well in compliance with this rule within 30 calendar days after being requested to do so in writing by any representative of the District then, upon Board approval, any person, firm, or corporation employed by the District may go on the land and plug or cap the well safely and securely, pursuant to Section 36.118 of the Texas Water Code. Reasonable expenses incurred by the District in plugging or capping a well constitutes a lien on the land on which the well is located. The District shall perfect the lien by filing in the deed records an affidavit, executed by any person conversant with the facts, stating the following:
1. the existence of the well;
 2. the legal description of the property on which the well is located;
 3. the approximate location of the well on the property;
 4. the failure or refusal of the owner or lessee, after notification, to close the well within 30 calendar days after the notification;
 5. the closing of the well by the District, or by an authorized agent, representative, or employee of the District; and
 6. the expense incurred by the District in closing the well

7.11 Notice of Board Action to Require Sealing, Capping or Plugging

- A. No order by the Board to seal, cap or plug a well may be entered unless the District serves on the landowner on whose each property the well is located a written notice 10 calendar days prior to the date of the Board meeting at which the Board will consider action under these rules.
- B. Such notice shall include all of the following information:
1. the time, date, and place for the meeting;
 2. a brief summary of the need for sealing, capping or plugging of one or more wells; and
 3. a request that the person duly appear and show cause of the reasons why the Board should not order that one or more wells should not be sealed, capped or plugged.

7.12 Orders to Prevent Waste or Degradation of Water Quality

After providing 15 calendar days' notice to affected parties and an opportunity for a show cause hearing, the Board may adopt orders to prohibit or prevent Waste or Degradation of Water Quality. If the Board President or his or her designee determines that an emergency exists requiring the immediate entry of an order to prohibit waste or pollution and protect the public health, safety, and welfare, he or she may enter a temporary order without notice and hearing provided, however, the temporary order shall continue in effect for the lesser of 15 calendar days or until a hearing can be conducted. In such an emergency, the Board President or his or her designee is also authorized, without notice or hearing to pursue a temporary restraining order, injunctive, and other appropriate relief in a court of competent jurisdiction.

RULE 8 PROCEDURAL RULES

8.1 General Procedural Rules

- A. **District Address.** The District's mailing address and physical address of the District's office shall be established by simple motion or resolution of the Board and posted on the District's webpage if the District has a functioning webpage.
- B. **Computing Time.** In computing any period of time prescribed or allowed by these rules, by order of the Presiding Officer or Board, or by any applicable statute, the day of the act, event or default from which the designated period of time begins to run, is not to be included, but the last day of the period so computed is to be included, unless it be a Saturday, Sunday, or legal holiday, in which event the period runs until the end of the next day which is neither a Saturday, Sunday, nor legal holiday. The District will observe the schedule of legal holidays established by Starr County, except as modified by the District's Board by simple motion or resolution. If the District's Board modifies Starr County's schedule of legal holidays, the District will make a modified schedule of legal holidays readily available to the public.
- C. **Time Limit.** Applications, requests, or other papers or documents required or permitted to be filed under these rules, or by law, must be filed at the District's office and may be filed by hand delivery, mail, facsimile or any delivery service. The filing must be received at the District's office, within the time limits, if any, for such filing. The date of receipt and not the date of posting is determinative. A facsimile is considered received as of the date on which the telephonic document transfer is complete, except that any transfer completed after 5:00 p.m. Central Standard Time will be deemed complete on the following business day. If a person files a document by facsimile, he or she must file a copy by mail within three calendar days. A document may be filed by electronic mail ("email") only if the Board or Presiding Officer has expressly authorized filing by email for that particular type of document and expressly established the appropriate date and time deadline, email address, and any other appropriate filing instructions.
- D. **Methods of Service and Notice.** Except as otherwise provided for in these rules, any notice or document required by these rules to be served or delivered may be delivered to the recipient, or the recipient's authorized representative, in person, by agent, by courier-receipted delivery, by certified or registered mail sent to recipient's last known address, by email to the recipient's email address on file with the District if written consent is granted by the recipient, or by facsimile to the recipient's current facsimile number and shall be

accomplished by 5:00 o'clock p.m. (as shown by the clock in the recipient's office) on the date on which it is due. Service by mail is complete upon deposit in a post office or other official depository of the United States Postal Service. Service by facsimile is complete upon transfer, except that any transfer commencing after 5:00 o'clock p.m. (as shown by the clock in the recipient's office) shall be deemed complete the following business day. If service or delivery is by mail, and the recipient has the right to perform some act or is required to perform some act within a prescribed period of time after service, three calendar days will be added to the prescribed period. Where service by other methods has proved unsuccessful, the service shall be complete by such other method as may be approved by the Board. The person or person's attorney shall certify compliance with this rule in writing over signature and on the filed document. A certificate by a person or the person's attorney of record, or the return of an officer, or the affidavit of any person showing service of a document, shall be prima facie evidence of the fact of service.

- E. Use of Forms. The District may furnish forms, instructions and guidance for the preparation of any application, declaration, registration or other document that is required to be filed with the District. If the District furnishes a form, then use of such form is mandatory. Supplements may be attached if there is insufficient space on the form.
- F. Minutes and Records of the District. The District will maintain all records of the District in accordance with its records management policy and the Texas Local Government Records Act in Title 6, Subtitle C of the Texas Local Government Code. All public information of the District is available for public inspection and copying upon written request in accordance with the Texas Public Information Act. Charges for public inspection and copies will be established by the District in accordance with the Texas Public Information Act and rules of the Office of the Attorney General.
- G. Applicability; Procedures Not Otherwise Provided For. This section of the rules applies to all business before the District and all types of hearings conducted by the District to the extent not inconsistent with any other section of these rules that applies to the type of hearing at issue. If, in connection with any hearing, the Board determines that there are no statutes or other applicable rules resolving particular procedural questions then before the Board, the Board will direct the parties to follow procedures consistent with the purpose of these rules, the District's enabling act, and Chapter 36 of the Texas Water Code.
- H. Continuance. Unless provided otherwise in these rules, any meeting, workshop, or hearing may be continued from time to time and date to date without published notice after the initial notice, in conformity with the Texas Open Meetings Act.
- I. Request for Reconsideration. To appeal a decision of the District, including any determinations made by the General Manager or Board, concerning any matter not covered under any other section of these rules, a request for reconsideration must be filed with the District within 20 calendar days of the date of the decision. Such request for reconsideration must be in writing and must state clear and concise grounds for the request. The Board will make a decision on the request for reconsideration within 45 calendar days thereafter. The failure of the Board to grant or deny the request for reconsideration within 45 calendar days of the date of filing shall constitute a denial of the request. A person may not appeal or otherwise challenge any decision of the District in court unless and until it

has exhausted its administrative remedies by first filing a request for reconsideration, which has subsequently been denied.

- J. Meetings. The Board will hold regular meetings at least quarterly and as the Board may establish from time to time. The Board may hold a special meeting if desired by the Board President or General Manager, or upon written request of at least three Directors. All Board meetings will be held according to the Texas Open Meetings Act and other applicable law.
- K. Committees. The Board President may establish committees for formulation of policy recommendations to the Board, and appoint the chair and membership of the committees. Committee members serve at the pleasure of the President.
- L. Ex Parte Communications. Directors may not communicate, directly or indirectly, about any issue of fact or law in any contested hearing before the Board, with any agency, person, party or their representatives, except on notice and opportunity for all parties to participate. This rule does not apply to a Director who abstains from voting on any matter in which ex parte communications have occurred or to communications between the Board and the staff, professional, or consultants of the District if the General Manager is not a party to the contested proceeding.
- M. Conduct and Decorum. In every meeting, workshop and hearing of the Board and District, every member of the public must conform to ethical standards of conduct and must exhibit courtesy and respect for all other participants. No person may interfere with the orderly conduct of District business. If in the judgment of the Presiding Officer a person is acting in violation of this provision, the Presiding Officer will first warn the person to refrain from engaging in such conduct. Upon further violation by the same person, the Presiding Officer may exclude that person from the proceeding for such time and under such conditions as the Presiding Officer deems necessary.

8.2 HEARINGS

The District conducts six types of hearings:

- A. Rulemaking hearings are governed by Section 8.3 of the District's rules.
- B. Hearings on the District's management plan are governed by Section 12 of the District's rules.
- C. Permit-related hearings and hearings on applications for well-spacing exceptions are governed by Section 8.5 of the District's rules.
- D. Enforcement hearings are governed by Section 7 of the District's rules.
- E. Hearings on the DFCs, including the appeal process of DFCs, are governed by Section 8.4 of the District's rules.
- F. All other hearings not described in this rule are governed by Rule 8.6.

RULE 8.3 RULEMAKING HEARINGS

- A. A rulemaking hearing involves matters of general applicability that implement, interpret, or prescribe the law or District's policy, or that describe the procedure or practice requirements of the District. The District will update its rules to implement the DFCs before the first anniversary of the date that the TWDB approves the District's management plan that has been updated to reflect the adopted DFCs.
- B. Notice and Scheduling of Hearings
 1. For all rulemaking hearings, the notice shall include a brief explanation of the subject matter of the hearing, the time, date, and place of the hearing, location, or Internet site at which a copy of the proposed rules may be reviewed or copied, if the District has a functioning Internet site, and any other information deemed relevant by the General Manager or the Board.
 2. Not less than 20 calendar days prior to the date of the hearing, and subject to the notice requirements of the Texas Open Meetings Act the General Manager shall:
 - a) post notice in a place readily accessible to the public at the District's office;
 - b) provide notice to the County Clerk of Starr County, whereupon the County Clerk shall post the notice on a bulletin board at a place convenient to the public in the County Courthouse;
 - c) publish notice in one or more newspapers of general circulation in the District;
 - d) provide notice by mail, fax, or email to any person who has requested notice under Subsection (c); and
 - e) make available a copy of all proposed rules at a place accessible to the public during normal business hours, and post an electronic copy on the District's Internet site, if the District has a functioning Internet site.
 3. A person may submit to the District a written request for notice of a rulemaking hearing. A request is effective for the remainder of the calendar year in which the request is received by the District. To receive notice of a rulemaking hearing in a later year, a person must submit a new request. An affidavit of an officer or employee of the District establishing attempted service by first class mail, fax, or email to the person in accordance with the information provided by the person is proof that notice was provided by the District.
 4. Failure to provide notice under Subsection (c) does not invalidate an action taken by the District at a rulemaking hearing.
 5. Any hearing may or may not be scheduled during the District's regular business hours, Monday through Friday of each week, except District holidays. Any hearing may be continued from time to time and date to date without published notice after the initial published notice in conformity with the Texas Open Meetings Act. The District must conduct at least one hearing prior to adopting amendments to the District's rules.
- C. Rulemaking Hearings Procedures
 1. General Procedures: The Presiding Officer will conduct the rulemaking hearing in the manner the Presiding Officer deems most appropriate to obtain all relevant

information pertaining to the subject of the hearing as conveniently, inexpensively, and expeditiously as possible. The Presiding Officer will prepare and keep a record of the rulemaking hearing in the form of an audio or video recording or a court reporter transcription at his or her discretion.

2. Submission of Documents: Any interested person may submit written statements, protests or comments, briefs, affidavits, exhibits, technical reports, or other documents relating to the subject of the hearing. Such documents must be submitted no later than the time of the hearing, as stated in the notice of hearing given in accordance with Rule 8.3 B; provided, however, that the Presiding Officer may grant additional time for the submission of documents.
3. Oral Presentations: Any person desiring to offer comment on the subject of the hearing must so indicate on the registration form provided at the hearing. The Presiding Officer will establish the order of testimony and may limit the number of times a person may speak, the time for oral presentations, and the time for raising questions. In addition, the Presiding Officer may limit or exclude cumulative, irrelevant, or unduly repetitious presentations. Conclusion of the Hearing: At the conclusion of the testimony, and after the receipt of all documents, the Presiding Officer may either close the record, or keep it open to allow the submission of additional information. When adopting, amending, or repealing any rule, the District shall:
 - a) consider all groundwater uses and needs;
 - b) develop rules that are fair and impartial;
 - c) consider the groundwater ownership and rights described by Section 36.002 of the Texas Water Code;
 - d) consider the public interest in conservation, preservation, protection, recharging, and prevention of waste of groundwater, and of groundwater reservoirs or their subdivisions, and in controlling subsidence caused by withdrawal of groundwater reservoirs or their subdivision, consistent with the objectives of Section 59, Article XVI, Texas Constitution;
 - e) consider the goals developed as part of the District's management plan under Section 36.1071 of the Texas Water Code; and
 - f) not discriminate between land that is irrigated for production and land that was irrigated for production and enrolled or participating in a federal conservation program.

D. Emergency Rules and Orders

1. Emergency Rules. The Board may adopt an emergency rule without prior notice and/or hearing if the Board finds that a substantial likelihood of imminent peril to the public health, safety, or welfare, or a requirement of state or federal law, requires adoption of a rule on less than 20 calendar days' notice. The Board shall prepare a written statement of the reasons for this finding. An emergency rule adopted shall be effective for not more than 90 calendar days after its adoption by the Board. The Board may extend the 90-day period for an additional 90 calendar

days if notice of a hearing on the final rule is given not later than the 90th calendar day after the date the rules is adopted. An emergency rule adopted without notice and/or a hearing must be adopted at a meeting conducted under Chapter 551, Texas Government Code.

2. Emergency Order Authorizing Temporary Production for Demonstrated Emergency Need

- a) A person can request in writing that the District issue an emergency order authorizing the production of groundwater for a beneficial use without a permit for a temporary period of time during which the person can submit an Operating Permit application. This request must be in writing and include sufficient factual detail of the emergency situation; the quantity of groundwater needed (in gallons or acre feet); the proposed source of the groundwater (identify the aquifer); the specific location of the well from which the groundwater will be produced; and the period of time proposed for the requested emergency authorization. This request must be submitted to the District's office by any means that ensures receipt by the District.
- b) Upon receipt and consideration of the written request for an emergency order under this rule, the District's Board President or General Manager may issue an emergency order partially or fully granting the request. An order issued under this rule will provide a time limit during which it is effective, which may not exceed 75 calendar days.
- c) Upon issuance of an order under this rule, the requestor is not required to hold a permit but must use its best efforts to prepare and submit an Operating Permit application. The beneficiary of the emergency order authorization must submit an Operating Permit application to the District within 20 calendar days of issuance of the emergency order. If an Operating Permit application is timely submitted under this subsection, then it is within the discretion of the District's Board President or General Manager to extend the 75-day timeframe of the emergency order while the application is pending.
- d) If neither the District's Board President nor General Manager issues an order under this rule after reviewing the request, the requestor's remedy is to submit an Operating Permit application.
- e) If an emergency order is issued, the District's Board must be notified of the circumstances and relief granted at the District's next Board meeting.

8.4 PROPOSED DFCs: PUBLIC COMMENT, HEARING, AND BOARD ADOPTION; APPEAL OF DFCs

- A. Public Comment. Upon receipt of proposed DFCs from the Groundwater Management Area's district representatives, a public comment period of 90 calendar days commences, during which the District will receive written public comments and conduct at least one hearing to allow public comment on the proposed DFCs that are relevant to the District. The District will make available at the District's office a copy of the proposed DFCs and any supporting materials, such as the documentation of factors considered under

Subsection 36.108(d) of the Texas Water Code and groundwater availability model run results.

B. Notices of Hearing and Meeting

1. At least 10 calendar days before a hearing or meeting under this rule, the Board must post notice that includes:
 - a) the proposed DFCs and a list of any other agenda items;
 - b) the date, time, and location of the hearing;
 - c) the name, telephone number, and address of the person to whom questions or requests for additional information may be submitted;
 - d) the names of the other districts in the District's groundwater management area; and
 - e) information on how the public may submit comments.
2. Except as provided by Subsection (A) of this rule, the hearing and meeting notice must be provided in the manner prescribed for a rulemaking hearing under these rules and Subsection 36.101(d) of the Texas Water Code.

C. Hearing. The District shall hold a public hearing to accept public comments using procedures prescribed for rulemaking hearings.

D. District's Report on Public Comments and Suggested Revisions. After the public hearing, the District shall compile for consideration at the next joint planning meeting a summary of relevant comments received, any suggested revisions to the proposed DFCs, and the basis for any suggested revisions.

E. Board Adoption of DFCs. As soon as possible after the District receives the DFCs resolution and explanatory report from the Groundwater Management Area's district representatives pursuant to Subsection 36.108(d-3) of the Texas Water Code, the Board shall adopt the DFCs in the resolution and explanatory report that apply to the District. The Board shall issue notice of its meeting at which it will take action on the DFCs in accordance with the notice provisions of this rule.

F. Appeal of DFCs

1. Not later than 120 calendar days after the date on which the District adopts a DFC under Subsection 36.108(d-4), Texas Water Code, a person determined by the District to be an affected person may file a petition appealing the reasonableness of a DFC. The petition must include:
 - a) evidence that the petitioner is an affected person;
 - b) a request that the District contract with SOAH to conduct a hearing on the petitioner's appeal of the reasonableness of the DFC; and

- c) evidence that the districts did not establish a reasonable DFC of the groundwater resources within the relevant Groundwater Management Area.
2. Not later than 10 calendar days after receiving a petition described by Subsection (A) of this rule, the District's Presiding Officer shall determine whether the petition was timely filed and meets the requirements of Subsection (A) of this rule and, if so, shall submit a copy of the petition to the TWDB. If the petition was untimely or did not meet the requirements of Subsection (A) of this rule, the District's Presiding Officer shall return the petition to the petitioner advising of the defectiveness of the petition. Not later than 60 calendar days after receiving a petition under Subsection (A) of this rule, the District shall:
 - a) contract with SOAH to conduct the requested hearing; and
 - b) submit to SOAH a copy of any petitions related to the hearing requested under this rule and received by the District.
 3. A hearing under this rule must be held:
 - a) at the District's office unless the District's Board takes action to select a different location; and
 - b) in accordance with Chapter 2001, Texas Government Code, and SOAH's rules.
 4. Not less than 10 calendar days prior to the date of the SOAH hearing under this rule, notice shall be issued by the District and meet the following requirements:
 - a) state the subject matter, time, date, and location of the hearing;
 - b) be posted at a place readily accessible to the public at the District's office;
 - c) be provided to the County Clerk of Starr County, whereupon the County Clerk shall post the notice on a bulletin board at a place convenient to the public in the County Courthouse; and
 - d) be sent by certified mail, return receipt requested; hand delivery; first class mail; fax; email; FedEx; UPS; or any other type of public or private courier or delivery service to:
 - 1) the petitioner;
 - 2) any person who has requested notice in writing to the District;
 - 3) each nonparty district and regional water planning group located within the same Groundwater Management Area as a district named in the petition;
 - 4) TWDB's Executive Administrator; and
 - 5) TCEQ's Executive Director.

If the District is unable to provide notice by any of these forms of notice, the District may tape the notice on the door of the individual's or entity's office or home, or

post notice in the newspaper of general circulation in the District and within the county in which the person or entity resides or in which the person's or entity's office is located.

5. Before a hearing is conducted under this rule, SOAH shall hold a prehearing conference to determine preliminary matters, including:
 - a) whether the petition should be dismissed for failure to state a claim on which relief can be granted;
 - b) whether a person seeking to participate in the hearing is an affected person who is eligible to participate; and
 - c) each affected person that shall be named as a party to the hearing.
6. The petitioner shall pay the costs associated with the contract for the hearing conducted by SOAH under this rule. The petitioner shall deposit with the District an amount sufficient to pay the contract amount before the hearing begins. After the hearing, SOAH may assess costs to one or more of the parties participating in the hearing and the District shall refund any money exceeding actual hearing costs to the petitioner. SOAH shall consider the following in apportioning costs of the hearing:
 - a) the party who requested the hearing;
 - b) the party who prevailed in the hearing;
 - c) the financial ability of the party to pay the costs;
 - d) the extent to which the party participated in the hearing; and
 - e) any other factor relevant to a just and reasonable assessment of costs.
7. On receipt of the SOAH Administrative Law Judge's findings of fact and conclusions of law in a proposal for decision, which may include a dismissal of a petition, the District shall issue a final order stating the District's decision on the contested matter and the District's findings of fact and conclusions of law. The District may change a finding of fact or conclusion of law made by the Administrative Law Judge, or may vacate or modify an order issued by the Administrative Law Judge, as provided by Section 2001.058(e), Texas Government Code.
8. If the District vacates or modifies the proposal for decision, the District shall issue a report describing in detail the District's reasons for disagreement with the Administrative Law Judge's findings of fact and conclusions of law. The report shall provide the policy, scientific, and technical justifications for the District's decision.
9. If the District in its final order finds that a DFC is unreasonable, not later than the 60th calendar day after the date of the final order, the District shall coordinate with the districts in the Groundwater Management Area at issue to reconvene in a joint planning meeting for the purpose of revising the DFC found to be unreasonable in accordance with the procedures in Section 36.108, Texas Water Code.

10. The Administrative Law Judge may consolidate hearings requested under this rule that affect two or more districts. The Administrative Law Judge shall prepare separate findings of fact and conclusions of law for each district included as a party in a multidistrict hearing.

8.5 PERMIT HEARINGS

- A. Notice of Hearings: Permit Applications, Amendments, and Revocations: The District may hold hearings on original permit applications, applications for permit renewals or amendments and permit revocations or suspensions. Notice of permit hearings will be given in accordance with Chapter 36.401-419 of the Texas Water Code as may be amended.
- B. Authority of Presiding Officer: The Presiding Officer may conduct the hearing in the manner the Presiding Officer deems most appropriate. The Presiding Officer has the authority to:
 1. set hearing dates, other than the initial hearing date for permit matters set in accordance with these rules;
 2. convene the hearing at the time and place specified in the notice for public hearing;
 3. establish the jurisdiction of the District concerning the subject matter under consideration;
 4. rule on motions and on the admissibility of evidence and amendments to pleadings;
 5. designate and align parties and establish the order for presentation of evidence;
 6. administer oaths to all persons presenting testimony;
 7. examine witnesses;
 8. issue subpoenas when required to compel the attendance of witnesses or the production of information;
 9. compel discovery under these rules;
 10. ensure that information and testimony are introduced as conveniently and expeditiously as possible, without prejudicing the rights of any party to the proceeding;
 11. conduct public hearings in an orderly manner, in accordance with these rules;
 12. recess or continue any hearing from time to time and place to place;
 13. reopen the record of a hearing for additional evidence, when necessary to make the record more complete;
 14. exercise any other appropriate powers necessary or convenient, to effectively carry out the responsibilities of Presiding Officer; and
 15. require that individuals desiring to participate in a hearing submit a form providing the person's name and contact information and indicating whether the person seeks to provide public comment or participate in the hearing as a party.
- C. Appearance - Representative Capacity: Any interested person may appear in person, or may be represented by legal counsel, a well driller, consultant, or other representative. Such person or representative may present evidence, exhibits, or testimony, or make an

oral presentation. A person appearing in a representative capacity may be required to prove proper authority.

- D. Continuance: The Presiding Officer may continue hearings from time to time and from place to place without the necessity of publishing, serving, mailing or otherwise issuing a new notice. If a hearing or other proceeding is continued and a time and place for the hearing to reconvene are not publicly announced at the hearing by the Presiding Officer before it is recessed, a notice of any further setting of the hearing or other proceeding must be delivered, at a reasonable time, to all parties and any other person the Presiding Officer deems appropriate, but it is not necessary to post at the county courthouses or publish a newspaper notice of the new setting.
- E. Filing of Documents - Time Limit: Applications, motions, exceptions, communications, requests, briefs, or other papers and documents required to be filed under these rules, or by law, must be received in hand at the District's office within the time limit, if any, set by these rules, or by the Presiding Officer for filing. Mailing within the time period is insufficient, if the submissions are not actually received by the District within the time limit. The mailbox rule provided for in the Texas Rules of Civil Procedure and Texas case law does not apply to filing of documents with the District.
- F. Affidavit: Whenever the making of an affidavit by a party to a hearing or other proceeding is necessary, it may be made by the party or the party's representative or counsel. This Rule does not dispense with the necessity of an affidavit being made by a party, when expressly required by statute.
- G. Broadening the Issues: No person will be allowed to appear in any hearing or other proceeding that, in the opinion of the Presiding Officer, is for the sole purpose of unduly broadening the issues to be considered in the hearing or other proceeding.
- H. Protesting an Application and Board's Decision to Proceed as Uncontested or Contested Case: If a person desires to protest an application, that person must appear at the initial hearing prepared to articulate their justiciable interest related to a legal right, duty, privilege, power, or economic interest that is within the District's regulatory authority and how that justiciable interest would be unreasonably affected by the permit proposed by the application. This potential party must attend the initial, preliminary hearing and be prepared to address and respond to inquiry and any cross-examination regarding their alleged justiciable interest. A justiciable interest does not include persons who have only an interest common to members of the general public. It is recommended but not mandatory that a person desiring to protest an application for a permit or permit amendment file with the District a notice of protest setting forth the protestant's justiciable interest related to a legal right, duty, privilege, power, or economic interest that is within the District's regulatory authority and how that justiciable interest would be unreasonably affected by the permit proposed by the application. It is recommended that the notice of protest be submitted so that it is received by the District at least two business days before the permit hearing. The Board shall deliberate and take official action to determine whether any person has sufficiently demonstrated their justiciable interest and whether that justiciable interest would be unreasonably affected by the permit proposed by the

application and, if both thresholds are met, that the hearing contested. The applicant and General Manager are automatic parties to both contested and uncontested hearings.

- I. **Uncontested Permit Hearing Procedures:** An uncontested permit hearing may be conducted informally when, in the judgment of the Presiding Officer, the conduct of the proceeding under informal procedures will result in a savings of time or cost to the parties, lead to a negotiated or agreed settlement of facts or issues in controversy, not prejudice the rights of any party, and is not objected to by any party.
 1. The Board may take action on any uncontested application at a properly noticed public meeting held at any time after the public hearing at which the application is scheduled to be heard. The Board may issue a written order to:
 - a) grant the application;
 - b) grant the application with special conditions; or
 - c) deny the application.
 2. An applicant may, not later than the 20th day after the date the Board issues an order granting the application, demand a contested case hearing if the order:
 - a) includes special conditions that were not part of the application as finally submitted; or
 - b) grants a maximum amount of groundwater production that is less than the amount requested in the application.
- J. **Contested Permit Hearing Procedures before SOAH:** If an application is contested, any party to the hearing may request that the District contract with SOAH to conduct further proceedings in the hearing. A request for a SOAH hearing under this rule must be made to the Board at the initial, preliminary hearing and is untimely if submitted after the conclusion of this preliminary hearing.
 - a) **Location:** The Board shall determine whether the SOAH hearing will be held in Travis County or at the District's office or other regular meeting place of the Board, after considering the interests and convenience of the parties, and the expense of a SOAH contract.
 - b) **Costs, Deposit:** The party requesting that the hearing be conducted by SOAH shall pay all costs associated with the contract for the hearing and shall make a deposit with the District in an amount that is sufficient to pay the estimated SOAH contract amount before the hearing begins. If the total cost for the contract exceeds the amount deposited by the paying party at the conclusion of the hearing, the party that requested the hearing shall pay the remaining amount due to pay the final price of the contract. If there are unused funds remaining from the deposit at the conclusion of the hearing, the unused funds shall be refunded to the paying party.

- c) **Referral:** Upon execution of a contract with SOAH and receipt of the deposit from the appropriate party or parties, the District's Presiding Officer shall refer the application to SOAH. The Presiding Officer's referral to SOAH shall be in writing and shall include procedures established by the Presiding Officer under Subsection (4) below; a copy of the permit application, all evidence admitted at the preliminary hearing, the District's rules and other relevant policies and precedents, Management Plan, and the District's enabling act; and guidance and the District's interpretation regarding its regulations, permitting criteria, and other relevant law to be addressed in a Proposal for Decision and Findings of Fact and Conclusions of Law to be prepared by SOAH. The Board and Presiding Officer may not attempt to influence the Finding of Facts or the Administrative Law Judge's application of the law in a contested case except by proper evidence and legal argument. SOAH may certify one or more questions to the District's Board seeking the District Board's guidance on District precedent or the District Board's interpretation of its regulations or other relevant law, in which case the District's Board shall reply to SOAH in writing.
- d) **Procedure before SOAH:** A hearing conducted by SOAH is governed by SOAH's procedural rules; Subchapters C, D, and F, Chapter 2001, Texas Government Code; and, to the extent, not inconsistent with these provisions, any procedures established by the Presiding Officer under District Rule 8.7(B).
- e) **District's Receipt of SOAH's Proposal for Decision and Findings of Fact and Conclusions of Law:** The District's Board shall conduct a hearing within 45 days of receipt of SOAH's Proposal for Decision and Findings of Fact and Conclusions of Law, and shall act on the application at this hearing or no later than 60 days after the date that the Board's final hearing on the application is concluded in a manner consistent with Section 2001.058 of the Texas Government Code. At least 10 calendar days prior to this hearing, the Presiding Officer shall provide written notice to the parties of the time and place of the Board's hearing under this subsection by mail and email, for each party with an email address.
- f) **The Board may change a finding of fact or conclusion of law made by the Administrative Law Judge, or may vacate or modify an order issued by the Administrative Law Judge, only if the Board determines:**
 - a) that the Administrative Law Judge did not properly apply or interpret applicable law, District rules, written policies, or prior administrative decisions;
 - b) that a prior administrative decision on which the Administrative Law Judge relied is incorrect or should be changed; or
 - c) that a technical error in a finding of fact should be changed.

K. Contested Hearing Procedures before the District

- a) The Presiding Officer may take input from the parties on preferred procedures and will decide what procedures to employ for the hearing, including but not limited to:
 - a) whether the Board or a hearing examiner will conduct the hearing;
 - b) alignment of parties;
 - c) formulation and simplification of issues;
 - d) necessity or desirability of amending applications or other pleadings;
 - e) possibility of making admissions or stipulations;
 - f) scheduling discovery;
 - g) identification of and specification of the number of witnesses;
 - h) filing and exchange of prepared testimony and exhibits; and
 - i) procedure at the hearing on the merits of the application.
- b) Recording: A record of the hearing in the form of an audio or video recording or a court reporter transcription shall be kept in a contested hearing. The Presiding Officer shall have the hearing transcribed by a court reporter upon a request by a party to a contested hearing. Court reporter transcription costs may be assessed against the party requesting the transcription or among the parties to the hearing. In assessing reporting and transcription costs, the Presiding Officer must consider the following factors:
 - a) the party who requested the transcript;
 - b) the financial ability of the requesting party to pay the costs;
 - c) the extent to which the requesting party participated in the hearing;
 - d) the relative benefits to the various parties of having a transcript;
 - e) the budgetary constraints of a governmental entity participating in the proceeding; and
 - f) any other factor that is relevant to a just and reasonable assessment of costs.In any proceeding where the assessment of reporting or transcription costs is an issue, the Presiding Officer will provide the parties an opportunity to present evidence and argument on the issue and the Board will decide how to assess these costs.
- c) Discovery: Discovery will be conducted upon such terms and conditions, and at such times and places, as directed by the Presiding Officer. Unless specifically modified by these rules or by order of the Presiding Officer, discovery will be governed by, and subject to the limitations set forth in, the Texas Rules of Civil Procedure. In addition to the forms of discovery authorized under the Texas Rules of Civil Procedure, the parties may exchange informal requests for information, either by agreement or by order of the Presiding Officer.
- d) Ex Parte Communications: Neither the Presiding Officer nor the Board may communicate, directly or indirectly, in connection with any issue of fact or law with any agency, person, party, or their representatives, except on notice and opportunity for all parties to participate. This provision does not prevent communications with

District staff not directly involved in the hearing in order to utilize the special skills and knowledge of the District in evaluating the evidence and does not apply to proceedings other than a contested permit hearing.

- e) **Compelling Testimony; and Swearing Witnesses:** The Presiding Officer may compel any person to testify who is necessary, helpful, or appropriate to the hearing, and shall administer the oath to witnesses.
- f) **Evidence:** Except as modified by these rules, the Texas Rules of Civil Evidence govern the admissibility and introduction of evidence; however, evidence not admissible under the Texas Rules of Civil Evidence may be admitted if it is of the type commonly relied upon by reasonably prudent persons in the conduct of their affairs. In addition, evidence may be stipulated by agreement of all parties.
- g) **Written Testimony:** When a proceeding will be expedited and the interests of the parties not substantially prejudiced, testimony may be received in written form. The written testimony of a witness, in either narrative or question and answer form, may be admitted into evidence upon the witness being sworn and identifying the testimony as a true and accurate record of what the testimony would be if given orally. The witness will be subject to clarifying questions and to cross-examination, and the prepared testimony will be subject to objection.
- h) **Oral Argument:** At the discretion of the Presiding Officer, oral arguments may be heard at the conclusion of the presentation of evidence. Reasonable time limits may be prescribed. The Presiding Officer may require or accept written briefs in lieu of, or in addition to, oral arguments. When the matter is presented to the Board for final decision, the Board may hear oral argument by the parties.
- i) **Conclusion of the Permit Hearing**
 - a) **Closing the Record:** At the conclusion of the presentation of evidence and any oral argument, the Presiding Officer may either close the record or keep it open and allow the submission of additional evidence, exhibits, briefs, or proposed findings and conclusions from one or more of the parties. No additional evidence, exhibits, briefs, or proposed findings and conclusions may be filed unless permitted or requested by the Presiding Officer.
 - b) **Time for Board Action on Certain Permit Matters:** In the case of hearings before the Board involving original permit applications, or applications for permit renewals or amendments, the Board must act by issuing a written order, within 60 calendar days after the close of the hearing record.
- j) **Hearing by Hearing Examiner:** If a hearing examiner conducts the hearing, a brief written summary of the hearing and recommendation of the action shall be prepared by the hearing examiner and provided to the Board for its consideration and decision. A copy of the hearing examiner's report shall be provided to all parties. The hearing shall be considered to have concluded when the parties have had an

opportunity to present their written or oral comments on the hearing officer's report to the Board and upon the close of the hearing record.

L. Board Action on Uncontested and Contested Applications: Either on the final hearing date or no later than 60 calendar days after the final hearing date is concluded, the Board must take action on the subject matter of the hearing.

1. In deciding whether or not to issue or amend a Drilling or Operating Permit, and in setting the permitted volume and other terms of a permit, the Board must consider whether:

- a) the application contains accurate information and conforms to the requirements prescribed by Chapter 36, Texas Water Code;
- b) the water well(s) complies with spacing and production limitations identified in these rules;
- c) the proposed use of water does or does not unreasonably affect existing groundwater and surface water resources or existing permit holders;
- d) the proposed use of water is dedicated to a beneficial use;
- e) the proposed use of water is consistent with the District Management Plan;
- f) the applicant agrees to avoid waste and achieve water conservation;
- g) the applicant has agreed that reasonable diligence will be used to protect groundwater quality and that the applicant will follow well plugging guidelines at the time of well closure; and
- h) for those hearings conducted by SOAH, the Board shall consider the Proposal for Decision and Findings of Fact and Conclusions of Law issued by SOAH.

2. In deciding whether or not to modify a permit, and in setting the modified permitted volume and other terms of a permit, the Board must consider whether the data from monitoring wells within the source aquifer or other evidence reflects:

- a) an unacceptable level of decline in water quality of the aquifer;
- b) that modification of the permit is necessary to prevent waste and achieve water conservation;
- c) that modification of the permit will minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure;
- d) that modification of the permit will lessen interference between wells;
- e) that modification of the permit will control and prevent subsidence; and
- f) that modification of the permit is necessary to avoid impairment of Desired Future Conditions.

3. The Board shall consider the relevant criteria and observe the relevant restrictions and may exercise the authority set forth in Sections 36.113, 36.1131, and 36.122 of the Texas Water Code. In issuing permits, the District shall manage total groundwater production on a long-term basis to achieve an applicable Desired Future Condition and consider:

- a) the Modeled Available Groundwater;

- b) TWDB's estimate of the current and projected amount of groundwater produced under exemptions granted by District Rule 11.3 and Section 36.117, Texas Water Code;
 - c) the amount of groundwater authorized under permits previously issued by the District;
 - d) a reasonable estimate of the amount of groundwater that is actually produced under permits issued by the District; and
 - e) yearly precipitation and production patterns.
4. The District may not impose any restrictions on the production of groundwater for use outside of the District other than imposed upon production for in-district use, and shall be fair, impartial, and nondiscriminatory.

M. Request for Rehearing and Appeal:

- 1. An applicant in a contested or uncontested hearing on an application or a party to a contested hearing may administratively appeal a decision of the Board on a permit or permit amendment application by requesting written findings of fact and conclusions of law from the Board not later than the 20th calendar day after the date of the decision.
- 2. On receipt of a timely written request, the Board shall make written findings and conclusions regarding a decision of the Board on a permit or permit amendment application. The Board shall provide certified copies of the findings and conclusions to the party who requested them, and to each designated party, not later than the 35th calendar day after the date the Board receives the request. A party to the contested case hearing may request a rehearing before the Board not later than the 20th calendar day after the date the Board issues the findings and conclusions. A party to a contested hearing must first make a request for written findings and conclusions before a party to the contested case may submit a request for rehearing under this rule.
- 3. A request for rehearing must be filed in the District's office and must state clear and concise grounds for the request. The person requesting a rehearing must provide copies of the request to all parties to the hearing.
- 4. If the Board grants a request for rehearing, the Board shall, after proper notice, schedule the rehearing not later than the 45th calendar day after the date the request is granted.
- 5. The failure of the Board to grant or deny a request for rehearing before the 91st calendar day after the date the request is submitted is a denial of the request.
- 6. A decision by the Board on a permit or permit amendment application is final:
 - a) if a request for rehearing is not filed on time, on the expiration of the period

for filing a request for rehearing;

- b) if a request for rehearing is filed on time and the Board denies the request for rehearing, on the date the Board denies the request for rehearing; or
- c) if a request for rehearing is filed on time and the Board grants the request for rehearing:
 - i) on the final date of the rehearing if the Board does not take further action;
 - ii) if the Board takes further action after rehearing, on the expiration of the period for filing a request for rehearing on the Board's modified decision if a request for rehearing is not timely filed; or
 - iii) if the Board takes further action after rehearing and another request for rehearing on this Board action is timely filed, then Subsections (c)(i) and (iii) of this rule shall govern the finality of the Board's decision.

7. The applicant or party to a contested case hearing must exhaust all administrative remedies with the District prior to seeking judicial relief from a District decision on a permit or permit amendment application. After all administrative remedies are exhausted with the District, an applicant or a party to a contested case hearing must file suit in a court of competent jurisdiction in Starr County to appeal the District's decision on a permit or permit amendment application within 60 calendar days after the date the District's decision is final. An applicant or party to a contested case hearing is prohibited from filing suit to appeal a District's permitting decision if a request for rehearing was not timely filed.

8.6 Hearings on Other Matters

A public hearing may be held on any matter beyond rulemaking, the District's management plan, enforcement, and permitting, within the jurisdiction of the District, if the Board deems a hearing to be in the public interest or necessary to effectively carry out the duties and responsibilities of the District. Not less than 10 calendar days prior to the date of a public hearing under this rule, the Board shall publish notice of the subject matter of the hearing, the time, date, and place of the hearing, in a newspaper of general circulation in the District, in addition to posting the notice in the manner provided by the Texas Open Meetings Act.

RULE 9 PROHIBITION AGAINST WASTE AND DEGRADATION OF WATER QUALITY

- A. Groundwater shall not be produced within, or used within or outside the District in such a manner as to constitute Waste.
- B. Any person producing or using groundwater shall use every possible precaution in accordance with reasonable methods to stop and prevent Waste or Degradation of Water Quality of such water.
- C. The Waste or Degradation of Water Quality of groundwater is a violation of these rules subject to enforcement under these rules.

RULE 10 GROUNDWATER PRODUCTION LIMITATIONS

- A. To fulfill its obligation for conservation and protection of groundwater and minimizing well interference and local unreasonable effects to existing wells, while at the same time protecting property rights in groundwater, the District will make permitting decisions after meaningful consideration of the permitting factors set forth in these rules while employing its authority to manage the aquifers in the District on a long-term basis to achieve the statutorily mandated Desired Future Conditions.
- B. Individual permits shall specify allowable pumping rates and volumes subject to curtailed rates in the event that monitored water levels drop below levels designated in the permit. The maximum allowable drawdown is 10 feet at the permit boundary.
- C. Due to the complexity and variable nature of the aquifers in Starr County, the maximum allowable well and pump size and volume and rate of groundwater production will be based on the evidence presented to the District during the permit hearing. An applicant bears the burden of proof and is responsible for ensuring that evidence is in the record to support an application. Based on the provided information such as location of the well(s) in the District, proposed depth and completion zones, permitted acreage, proximity to adjacent landowners and other landowners potentially affected by the proposed well and proposed pumping rates and volumes, and proximity to natural features such as springs, the Board will determine for each application whether to deny or partially deny it and/or impose special permit conditions. The Board's conditions may include and are not limited to the following:
 - 1. the actions and procedures to be taken by the holder of the drilling and operating permits in the event that pumping causes the water level in an existing registered or permitted well to drop to a level that is unreasonable based upon the circumstances;
 - 2. the actions and procedures to be taken by the holder of the drilling and operating permits in the event that the pumping from the permitted well causes the water to be unusable to the registered or permitted existing well owner;
 - 3. the actions and procedures to be taken by the holder of the drilling and operating permits in the event that pumping causes springs or artesian wells used for beneficial purpose to stop flowing;
 - 4. measures to be taken in cases where the reduction of artesian pressure causes an emergency to arise, which may threaten human or animal health, safety, or welfare;
 - 5. the actions and procedures to be taken in the event that activities associated with drilling or producing from the permitted well contaminates another well owner's water supply.

RULE 11 DROUGHT MANAGEMENT

No rules for drought management are adopted at this time.

RULE 12 DISTRICT MANAGEMENT PLAN

- A. The District's management plan will serve the purposes set forth by Section 36.1071 and other provisions of Chapter 36 of the Texas Water Code
- B. The Board will review and either amend or readopt the management plan at least prior to every fifth year anniversary of TWDB's approval of the amended or readopted management plan.
- C. Notice: The notice of a hearing on any adoption or amendment of the management plan shall include the time, date, and place of the hearing, location or webpage at which a copy of the proposed plan may be reviewed or copied, if the District has a functioning webpage, and any other information deemed relevant by the General Manager or the Board. Not less than 10 calendar days prior to the date of the hearing, and subject to the notice requirements of the Texas Open Meetings Act, the General Manager shall:
 - 1. post notice in a place readily accessible to the public at the District's office;
 - 2. provide notice to the County Clerk of Starr County, whereupon the County Clerk shall post the notice on a bulletin board at a place convenient to the public in the County Courthouse;
 - 3. make available a copy of the proposed plan at a place accessible to the public during normal business hours, and post an electronic copy on the District's webpage, if the District has a functioning webpage; and
 - 4. issue any additional notice required by TWDB.
- D. Hearing Procedures: The District must conduct at least one hearing prior to adopting the plan or any amendments to the plan. The Presiding Officer will conduct the hearing in the manner the Presiding Officer deems most appropriate to obtain all relevant information pertaining to the subject of the hearing as conveniently, inexpensively, and expeditiously as possible.
 - 1. Recording: The Presiding Officer will prepare and keep a record of the hearing in the form of an audio or video recording or a court reporter transcription at his or her discretion.
 - 2. Submission of Documents: Any interested person may submit written statements, protests, or comments, briefs, affidavits, exhibits, technical reports, or other documents relating to the subject of the hearing. Such documents must be submitted no later than the time of the hearing, as stated in the notice of hearing; provided, however, the Presiding Officer may grant additional time for the submission of documents.
 - 3. Oral Presentations: Any person desiring to testify on the subject of the hearing must so indicate on the registration form provided at the hearing. The Presiding Officer establishes the order of testimony and may limit the number of times a person may speak, the time period for oral presentations, and the time period for

raising questions. In addition, the Presiding Officer may limit or exclude cumulative, irrelevant, or unduly repetitious presentations.

4. **Conclusion of the Hearing:** At the conclusion of the hearing, the Board may take action on the subject matter of the hearing, take no action, or postpone action until a future meeting or hearing of the Board. When adopting, amending, or repealing the plan, the District shall:
 - a) use the District's best available data and groundwater availability modeling information provided by the TWDB's Executive Administrator together with any available site-specific information that has been provided by the District to the TWDB's Executive Administrator for review and comment before being used in the plan;
 - b) address the management goals set forth in Section 36.1071, Texas Water Code; and
 - c) use and address objectives consistent with achieving the DFCs as adopted during the joint planning process.
5. **Hearing Registration Form:** The District may require that a person participating in a hearing on the management plan complete a hearing registration form stating the person's name and contact information.
6. **Continuance:** The hearing on the management plan may be continued from time to time and date to date without notice after the initial notice, in compliance with the Texas Open Meetings Act.

RULE 13 – AQUIFER STORAGE AND RECOVERY (ASR)

13.1 Applicability of District's Rules to ASR Projects

- A. As a general matter, TCEQ has exclusive jurisdiction over the regulation and permitting of ASR Injection Wells. However, the District has concurrent jurisdiction over an ASR Injection Well that also functions as an ASR Recovery Well when that well pumps groundwater in excess of the volume authorized by TCEQ under an ASR project. The District is entitled to notice of and may seek to participate in an ASR permitting matter pending at TCEQ and, if the District qualifies as a party, in a contested hearing on an ASR application.
- B. A Project Operator shall:
 1. register an ASR Injection Well and ASR Recovery Well associated with the ASR Project if a well is located in the District;
 2. submit to the District the monthly report required to be provided to TCEQ under Section 27.155, Texas Water Code, at the same time the report is submitted to TCEQ; and

3. submit to the District the annual report required to be provided to TCEQ under Section 27.156, Texas Water Code, at the same time the report is submitted to TCEQ.
- C. If an ASR Project recovers an amount of groundwater that exceeds the volume authorized by TCEQ to be recovered under the project, the Project Operator shall report to the District the volume of groundwater recovered that exceeds the volume authorized to be recovered in addition to providing the report required by these rules.
- D. Except as provided by these rules, the District may not require a permit for the drilling, equipping, operation, or completion of an ASR Injection Well or an ASR Recovery Well that is authorized by TCEQ.
- E. Each ASR Recovery Well that is associated with an ASR Project is subject to the permitting, spacing, and production requirements of the District if the amount of groundwater recovered from the wells will exceed the volume authorized by TCEQ to be recovered under the project. The requirements of the District apply only to the portion of the volume of groundwater recovered from the ASR Recovery Well that exceeds the volume authorized by TCEQ to be recovered.
- F. A Project Operator may not recover groundwater from an ASR Project in an amount that exceeds the volume authorized by TCEQ to be recovered under the project unless the Project Operator complies with the applicable requirements of the District as described by this rule.
- G. The District may not assess a production fee or export fee or surcharge for groundwater recovered from an ASR Recovery Well, except to the extent that the amount of groundwater recovered under the ASR Project exceeds the volume authorized by TCEQ to be recovered.
- H. The District may consider hydrogeologic conditions related to the injection and recovery of groundwater as part of an ASR Project in the planning for and monitoring of the achievement of a DFC for the aquifer in which the wells associated with the project are located.

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RULES APPENDIX

This appendix is part of the rules and organized for convenient review of permit application requirements. Those requirements include:

- (a) Each application for a Drilling Permit and Operating Permit and permit amendment requires the filing of a separate application. The District may require that a District application form be completed. Each application for a permit shall be in writing and sworn to, and shall include the name, mailing address, phone number, and email address of the applicant and the owner of the land on which the well or Well System is or will be located.
- (b) In addition to the information required of all permit applications, an application for a Drilling Permit or to amend a Drilling Permit must include the following information:
 - (1) if the applicant does not own the well site(s) and proposed well(s), documentation establishing the applicable authority to construct, drill, and complete each well on each proposed well site;
 - (2) the location of each well and the estimated rate at which water will be withdrawn;
 - (3) the conditions and restrictions, if any, placed on the rate and amount of withdrawal;
 - (4) the date the permit is to expire if each well is not drilled or if each existing well is not properly completed to meet all statutory and regulatory requirements for the intended purpose of use;
 - (5) a declaration that the applicant will comply with all District well plugging and capping guidelines and report closure to the Commission;
 - (6) a location map of all existing wells within a one half (1/2) mile radius of the proposed well or Well System or the existing well or wells to be modified;
 - (7) a map or other document from the County Tax Appraisal District indicating the ownership and location of the subject property;
 - (8) a document indicating the location of each proposed well or each existing well to be modified, the subject property, and adjacent owners' physical and mailing addresses;
 - (9) notice of any application to the Public Utility Commission to obtain or modify a Certificate of Convenience and Necessity to provide water with water obtained pursuant to the requested permit; and
 - (10) a statement of the nature and purpose of the proposed use and the amount of water to be used for each purpose.
- (c) In addition to the information required of all permit applications, an application for an operating permit or to amend an operating permit must include the following information:
 - (1) if the applicant does not own the well site(s), proposed well(s), and groundwater, documentation establishing the applicable authority to operate each well and produce and beneficially use the groundwater from each well;

- (2) the annual amount of groundwater claimed to be necessary for beneficial use during each year of the proposed permit term with information supporting the annual amount of use requested for each proposed purpose of use;
 - (3) a requirement that the water withdrawn under the permit be put to beneficial use at all times;
 - (4) the location of the use of the water from the well or Well System;
 - (5) the conditions and restrictions, if any, placed on the rate and amount of withdrawal;
 - (6) a declaration that the applicant will comply with the District's rules and all groundwater use permits and plans promulgated pursuant to the District's rules;
 - (7) a declaration that the applicant will comply with the District Management Plan;
 - (8) a drought contingency plan;
 - (9) a declaration that the applicant will comply with all District well plugging and capping guidelines and report closure to the Commission;
 - (10) the duration the permit is proposed to be in effect, if greater than three years;
 - (11) a written statement addressing each of the applicable permitting criteria in Rules 3.2 and 8.5(L) and substantiating why the applicant believes the Board should consider each of these applicable criteria in a manner favorable to the applicant. and
 - (12) for applications requesting more than 200 acre feet of groundwater per year, a report describing the local hydrogeology, identifying existing users within a one-mile radius, and addressing local groundwater availability, the area of influence from the proposed groundwater withdrawals, and how any unreasonable effects from the proposed pumping ought to be addressed.
- (d) The General Manager or Board may waive one or more of the informational requirements for an application to amend an Operating Permit depending on the nature of the amendment provided that the Board has sufficient, relevant information to consider the application at the hearing.
- (e) In addition to the information required of all permit applications, an application for authorization to export groundwater must describe the following issues and provide documents relevant to these issues:
- (1) the availability of water in the District and in the proposed receiving area during the period for which the water supply is requested;
 - (2) the projected effect of the proposed export on aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users within the District;
 - (3) how the proposed export is consistent with the approved regional water plan and certified District Management Plan;
 - (4) the name and mailing address of the owner and/or operator of the transportation facility;

- (5) a statement of the nature and purpose of the proposed use and the amount of water to be used for each purpose outside the District;
- (6) the legal description of the location of the well(s) and transportation facilities;
- (7) a technical description of the transport facilities;
- (8) the permit number of the well or wells used to produce water to be transported; and
- (9) the time schedule for construction and/or operation of the facility.

Authorization to export is not required if the groundwater is to be used on property that straddles the District boundary line.

All in-County permit holders using 95% of the authorized volume of groundwater within the District's boundaries are exempt from the requirement to request authorization to export.

- (f) The applicant must provide the District with the information relevant to the type of application that is required in this rule for the District to declare that the application is administratively complete. If the District provides a written list of application deficiencies, the applicant shall have 60 calendar days to fully respond to the General Manager's satisfaction, after which a deficient application expires. The applicant may request an extension of this 60-day period or a ruling on the administrative completeness of its application by filing a written request with the District. The District will set an applicant's request under this rule on its next regularly scheduled Board meeting agenda, with three calendar days' notice compliant with the Texas Open Meetings Act. The Board will consider and take action on an applicant's request under this rule at this meeting.

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