RED SANDS GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN

Red Sands Groundwater Conservation District

200 E Cano Street
Edinburg TX 78531

March, 2018

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ACRONYMS AND ABBREVIATIONS

DFCs	desired future condition
District	Red Sands Groundwater Conservation District
GAM	Groundwater Availability Model
GCD	Groundwater Conservation District
GMA	Groundwater Management Area
HB 1763	House Bill 1763
MAG	Modeled Available Groundwater
PDSI	Palmer Drought Severity Index
SB	Senate Bill
TAC	Texas Administrative Code
TWC	Texas Water Code
TWDB	Texas Water Development Board

1.0 DISTRICT MISSION

The Mission of Red Sands Groundwater Conservation District (District) is to develop and implement an efficient, economic, and environmentally sound groundwater management program to protect, preserve for the future, and enhance the water resources of the District.

2.0 PURPOSE OF THE MANAGEMENT PLAN

Senate Bill (SB) 1, enacted by the 75th Legislature in 1997, and SB 2, enacted by the 77th Legislature in 2001, established a comprehensive, statewide planning process and the actions necessary for districts to manage and conserve the groundwater resources of the State of Texas. These bills require each groundwater conservation district (GCD) to develop a management plan which defines (1) the water needs and supply and (2) the goals it will use to manage the underground water to meet these needs. In addition, the 79th Texas Legislature enacted House Bill 1763 (HB 1763) in 2005 that requires joint planning among all districts within a single Groundwater Management Area (GMA). These GCDs must establish the desired future conditions (DFCs) of the aquifers within their respective GMAs and submit these DFCs to the executive administrator of the Texas Water Development Board (TWDB). Technical information, such as the DFCs of the aquifers within the District's jurisdiction, and the amount of modeled available groundwater from such aquifers, is required to be included in the District's management plan and will guide the District's regulatory and management policies.

The District's management plan satisfies the requirements of SB1, SB2, HB 1763, the statutory requirements of Texas Water Code (TWC) Chapter 36, and the rules and requirements of the TWDB.

3.0 DISTRICT INFORMATION

3.1 District Creation

Creation of the District was authorized in 1999 by the 79th Texas Legislature under SB 1911. The citizens of Hidalgo County, within the District, confirmed the creation of the District by an election held in November, 2002. The District was formed to protect the groundwater resources for the citizens of north-central Hidalgo County. Beyond its enabling jurisdiction, the District is governed primarily by the provisions of Chapter 36 of the TWC, the District's Management Plan, and the District Rules.

3.2 Management

The Board of Directors consists of five members. These five directors are elected by the voters within the boundaries of the District and serve staggered 4-year terms. To be eligible to serve as director, an individual must reside within the District.

3.3 Authority

The District is governed primarily by the provisions of TWC Chapter 36 and 31 Texas Administrative Code (TAC) Chapter 356. The District has the power and authority to undertake various hydrogeological studies, to adopt a management plan, to establish a program for the permitting of certain wells, and to implement programs to achieve its statutory mandates. The District has rule-making authority to implement its policies and procedures and to help ensure the management of the groundwater resources of north-central Hidalgo County.

3.4 Location and Extent

The jurisdiction of the District includes all territory in north-central Hidalgo County located within the boundaries described in **Exhibit 1**. The District lies in the northern region of Hidalgo County. Exhibit 1 shows the area regulated by the District at the time the management plan was adopted. The District occupies 114 square miles, which is approximately 7.2% of the 1,583 square miles in Hidalgo County.

3.5 Topography and Drainage

Hidalgo County is located within the Lower Rio Grande Valley. The Lower Rio Grande Valley is a broad plain that gradually rises in elevation from east to west. Most drainage flows to either the Rio Grande River or the Laguna Madre. In northern Hidalgo County, drainage is into shallow depressions that allow for either percolation into the subsurface or evaporation. The most prominent drainage feature in Hidalgo County is the Rio Grande River, which forms the southern boundary of the County.

3.6 Groundwater Resources of the District

The District is located within the area of the Gulf Coast Aquifer. The aquifer receives recharge directly from precipitation on the land surface. Generally, the strata composing the Gulf Coast Aquifer are considered to be a large, leaky, artesian system where recharge can occur at formational boundaries such as permeable sands.

The Chicot, Evangeline, and Jasper aquifers comprise the Gulf Coast Aquifer System. **Table 1** provides a simplified stratigraphic and hydrogeologic chart of the Texas Gulf Coast Aquifer System. The Chicot Aquifer includes, from the shallowest to deepest, the Beaumont and Lissie formations of Pleistocene age and the Pliocene-age Willis Formation. The Evangeline Aquifer includes the Upper Goliad Formation of earliest Pliocene and late Miocene age, the Lower Goliad Formation of late Miocene age, and the upper unit of the Lagarto Formation (a member of the Fleming Group) of late and middle Miocene age. The Jasper Aquifer includes the Lower Lagarto unit of early Miocene age and the early Miocene Oakville sandstone member of the Fleming Group.

Exhibit 2a shows the outcrops for the surficial deposits and formations in the vicinity of Hidalgo County. In southern Hidalgo County, surficial deposits include the Rio Grande alluvium and terrace deposits. In northern Hidalgo County, the surficial deposits include wind-deposited sands that form a fairly typical dune topography. **Exhibit 2b** shows the locations of the outcrops for the Chicot Aquifer, Evangeline Aquifer, the Burkeville Confining Unit, and the Jasper Aquifer. **Exhibit 2b** also shows the location of

major growth faults (Ewing, 1990) in the vicinity of Hidalgo County. Growth faults are syndepositional normal faults that form mainly by gravitational failure during rapid sediment loading along an unstable shelf margin and upper slope (Winker and Edwards, 1983). Syndepositional means that sedimentation (deposition) is occurring at the same time as faulting. Growth faults commonly enhance vertical flow and impede horizontal groundwater flow.

Exhibit 3 is a vertical cross-section of the Gulf Coast formations and aquifers along a transect that crosses through the middle of Hidalgo County. Because the Gulf Coast Basin was subsiding at the same time sediments were being deposited, the aquifers tend to increase in thickness towards the coast of the Gulf of Mexico. The numbered grey vertical lines in Exhibit 3 are locations of geophysical logs used by Young and others (2010) to determine the stratigraphy along the transect.

The groundwater in this portion of the Gulf Coast Aquifer may be brackish, with fresh water found in specific localities. In the past, the groundwater system of the Lower Rio Grande area was classified to recognize four such localized sources of fresh groundwater: the Lower Rio Grande Valley groundwater reservoir, the Mercedes-San Sebastian shallow groundwater reservoir, the Linn-Faysville groundwater reservoir, and the Oakville Sandstone. The Baker and Dale (1964) map of these four groundwater sources is shown in **Exhibit 4**. The District is located within the formerly recognized Linn-Faysville groundwater reservoir. This source of fresh groundwater is locally recognized as the Red Sands Aquifer.

Most wells found within the boundaries of the District are less than 100 feet deep. The individual sand beds which contain the groundwater are discontinuous, creating a “hit or miss” scenario when drilling for a productive well. However, where the sand is rather permeable, it is not uncommon to find wells yielding several hundred gallons per minute. Deep wells penetrate much thicker water-bearing sands than the shallow wells, and some may yield greater than 500 gallons per minute when pumped. The water produced from these wells may contain higher amounts of sodium, boron, and chloride than in the shallow wells (Follett and others, 1949).

Table 1 Simplified Stratigraphic and Hydrogeological Chart of the Texas Gulf Coast Aquifer System in Hidalgo County

Period	Epoch	Age (M.Y.)	Stratigraphic Unit	Hydrogeologic Unit
Quaternary	Holocene	0.02	Windblown sediments and Rio Grande Alluvium	Chicot Aquifer
	Pleistocene		Beaumont	
		1.8	Lissie	
Tertiary	Pliocene	5.3	Willis	
	Miocene		Goliad (Upper and Lower)	Evangeline Aquifer
			Upper Lagarto	
		17	Middle Lagarto	Burkeville
			Lower Lagarto	Jasper Aquifer
		22	Oakville	
		34	Catahoula/Vicksburg	Aquitard and aquifer

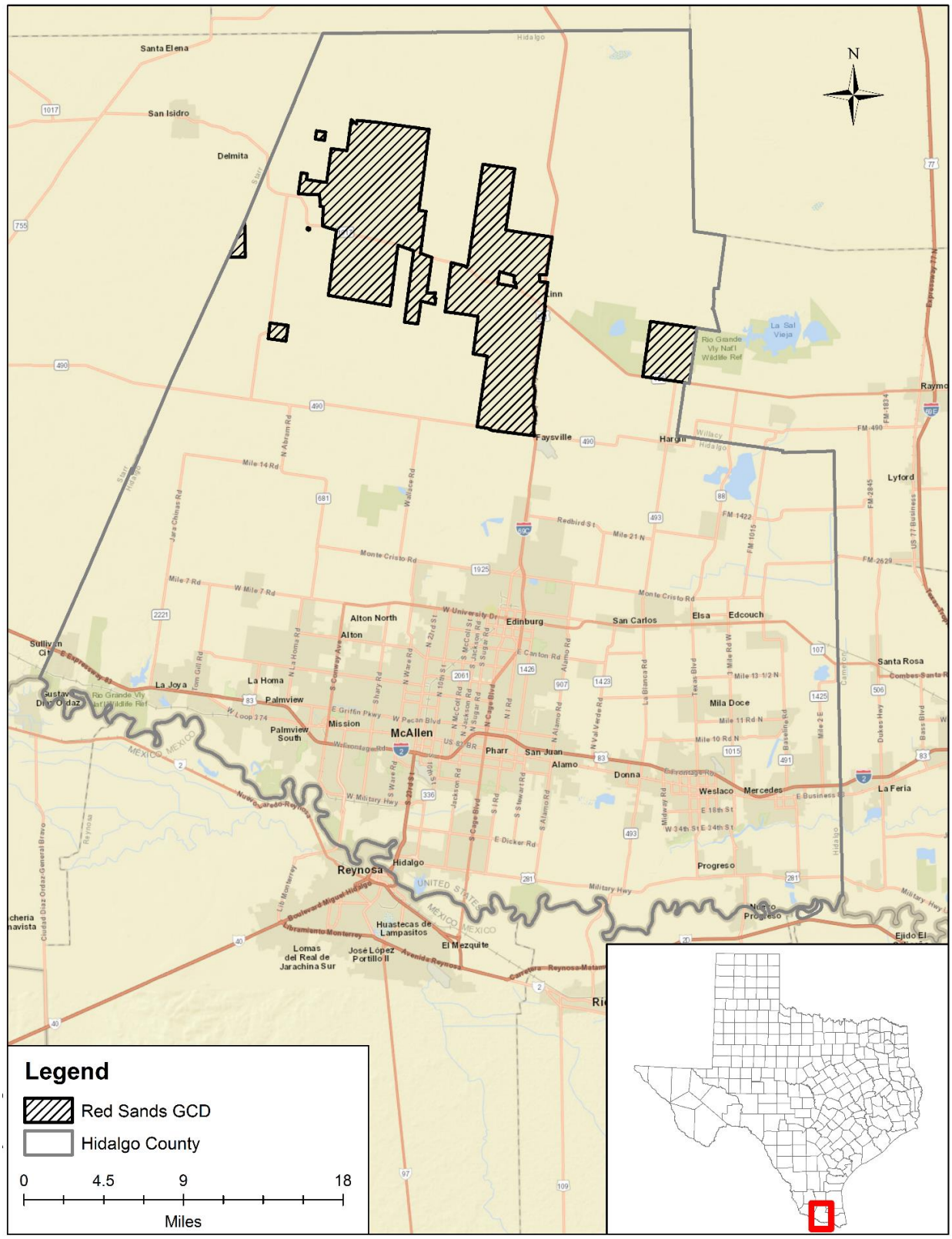

Exhibit 1 Location of the Red Sands Groundwater Conservation District

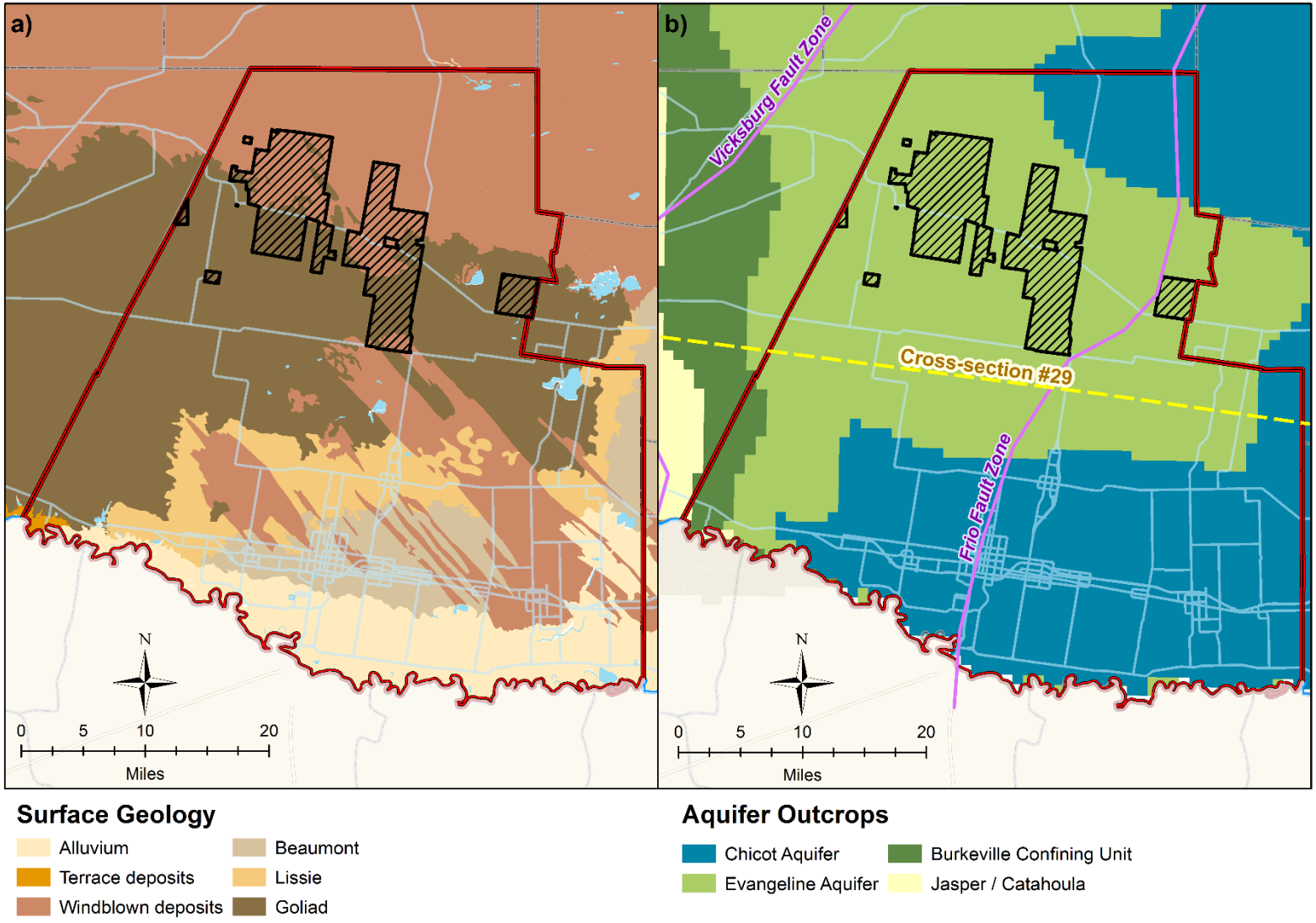

Exhibit 2 Map of Surface Geology Showing Formations Surficial Deposits (a) and Aquifers and Major Growth Faults (b) (Modified from Young and others, (2010)).

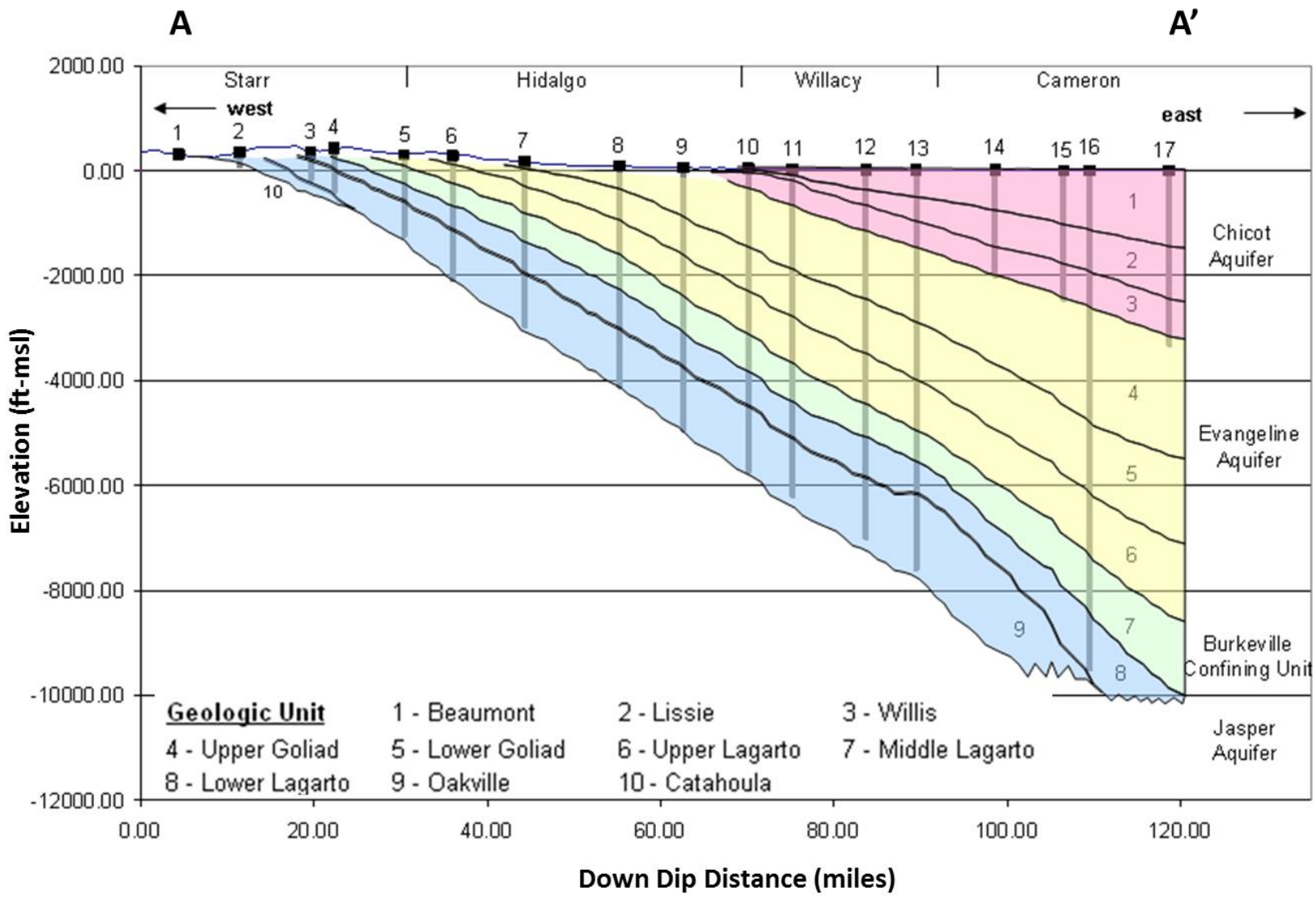

Exhibit 3 Vertical Cross-Section Showing Formations and Aquifers Comprising the Gulf Coast Aquifer System Along Transect A-A' shown in Exhibit 2. Vertical exaggeration is 320:1. (from Young and Others, (2010))

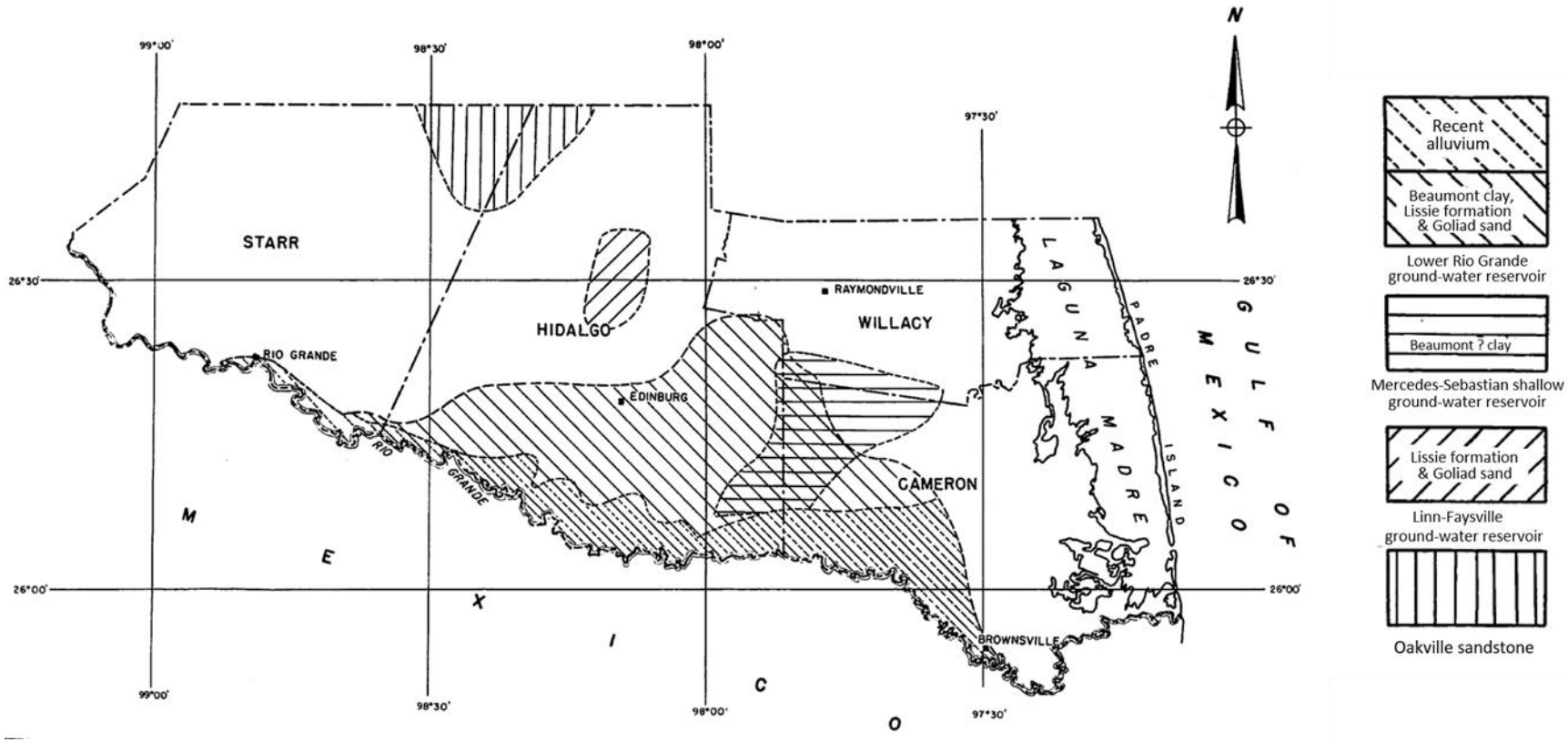

Exhibit 4 Approximate Productive Areas of the Major Sources of Groundwater in the Lower Rio Grande Valley, from Baker and Dale (1964).

4.0 STATEMENT OF GUIDING PRINCIPLES

The District recognizes that the groundwater resources in the north central Hidalgo County region are of vital importance. The preservation of this most valuable resource can be managed in a prudent and cost-effective manner through education, cooperation, and developing a comprehensive understanding of the aquifer. The greatest threat to the District in achieving its stated mission is the inappropriate management of its groundwater resources, based on a lack of understanding of local conditions. The District's management plan is intended to serve as a tool to focus the thoughts and actions of those given the responsibility for the execution of the District's activities.

5.0 CRITERIA FOR PLAN CERTIFICATION

5.1 Planning Horizon

The time period for this plan is 5 years from the date of approval by the executive administrator or, if appealed, on approval by the TWDB. This plan is being submitted as part of the five-year review and re-adoption process as required by TWC 36.1072(e). This plan will remain in effect until a revised management plan is approved by the executive administrator or the TWDB. The plan shall be reviewed annually and updated and readopted in accordance with the requirements of the TWC.

5.2 Board Resolution

A certified copy of the District resolution adopting the plan is provided in **Appendix A – District Resolution**.

5.3 Plan Adoption

Public notices documenting that the plan was adopted following appropriate public meetings and hearings are provided in **Appendix B – Notice of Meetings**.

5.4 Coordination with Surface Water Management Entities

A letter transmitting a copy of this plan to the surface water management entities with jurisdiction within the District is provided in **Appendix C – Letter to Surface Water Management Entities**.

6.0 ESTIMATES OF TECHNICAL INFORMATION REQUIRED BY TWC --

6.1 DFCs Established and Adopted by GMA 16

Modeled available groundwater is defined in TWC §36.001 as "the amount of water that the executive administrator determines may be produced on an average annual basis to achieve a desired future condition established under Section 36.108." DFCs for the District are determined through joint planning with other GCDs in the GMA 16. **Exhibit 5** shows a map of the GCDs that comprise GMA 16. GMA 16 adopted the DFCs in **Table 2** on January 17, 2017. The combined values in Table 2 represent the value for the Gulf Coast Aquifer System. GMA 16 declared other aquifers outside the Gulf Coast Aquifer System as non-relevant. Other aquifers in GMA 16 include the Yegua-Jackson Aquifer and the Carrizo-Wilcox Aquifer.

Table 2 DFCs Adopted by GMA 16 (from O'Rourke, 2017)

Groundwater Conservation District	Drawdown (ft) in 2060 from Estimated 2010 Conditions				
	Chicot	Evangeline	Burkeville	Jasper	Combined
Bee	106	84	73	60	76
Brush Country	47	76	68	69	69
Duval	78	133	95	85	104
Kenedy	15	104	21	21	40
Live Oak	79	64	60	19	34
McMullen	0	0	0	9	9
Red Sands	**38**	**41**	**40**	**39**	**40**
San Patricio	88	60	23	22	48
Starr	0	83	74	55	69
Non-district Cameron	62	122	48	48	70
Non-district Hidalgo	143	151	96	94	118
Non-district Kleberg	7	85	10	9	28
Non-district Nueces	22	39	11	11	21
Non-district Webb	0	151	0	71	113
Non-district Willacy	28	85	23	23	40
GMA 16	47	97	49	49	62

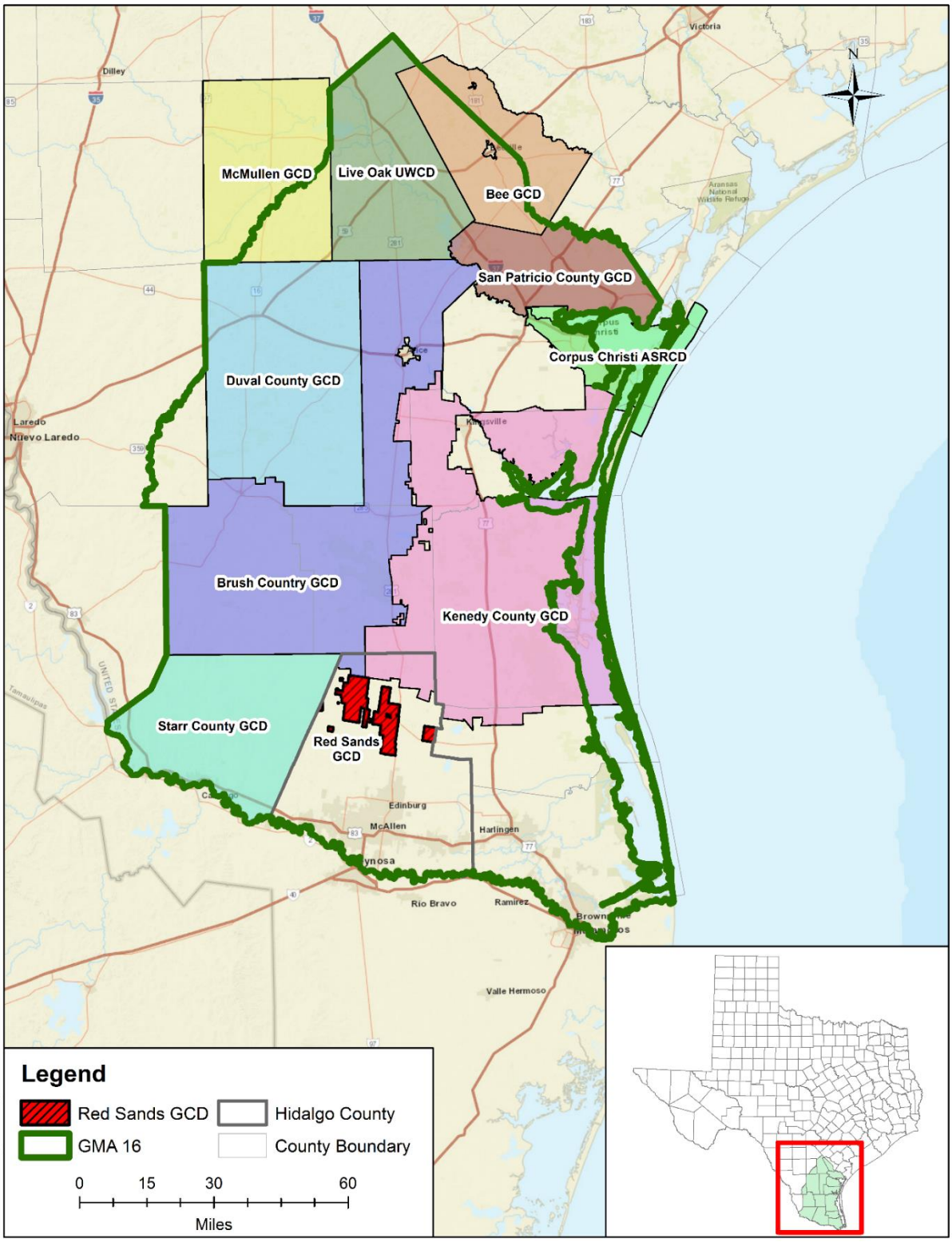

Exhibit 5 Map of Groundwater Management Area 16 and the Groundwater Conservation Districts that comprise GMA 16

6.2 Modeled Available Groundwater in the District

The TWDB (GAM Run 17-025 MAG) determined the Modeled Available Groundwater (MAG) for the Gulf Coast Aquifer System based on the DFC presented in Table 2 by running the alternative groundwater availability model (GAM) for GMA 16 (Hutchison and others, 2011). Model-calculated water levels were extracted for the years 2010 and 2060, and drawdown was calculated as the difference between the water levels at the beginning of 2010 and the water levels at the end of 2060. **Table 3** presents the MAGs calculated by TWDB (GAM Run 17-025 MAG) for the District and for Hidalgo County for 2010, 2020, 2030, 2040, 2050, and 2060. As defined in Chapter 36 of the Texas Water Code, "modeled available groundwater" is the estimated amount of water that may be produced annually to achieve a DFC.

Table 3 Modeled Available Groundwater (acre-ft) for the District and Hidalgo County for 2010, 2020, 2030, 2040, 2050, and 2060

Region	Time					
	2010	2020	2030	2040	2050	2060
Red Sands GCD	1,368	1,667	1,966	2,265	2,563	2,863
Hidalgo County	not provided	88,039	93,851	99,663	105,474	111,044

6.3 Amount of Groundwater Used within the District Annually

The historical groundwater pumping for the District in **Table 4** was estimated by multiplying the annual pumping amounts in Hidalgo County by 0.072, which is the fraction of the area in Hidalgo County occupied by the District. The amount of groundwater used in Hidalgo County was obtained from a TWDB report to the District (Allen, 2018).

Table 4 Estimated Historical Groundwater Use (acre-ft) in the District Calculated by Multiplying the Historic Groundwater Pumping in Hidalgo County by 0.072.

	With 7.2% Multiplier						
Year	Municipal (acre-ft)	Manufacturing(acre-ft)	Mining (acre-ft)	Steam Electric Power(acre-ft)	Irrigation (acre-ft)	Livestock (acre-ft)	Total (acre-ft)
2015	903	0	46	39	9	21	1,018
2014	1,012	0	50	0	42	20	1,124
2013	927	0	48	0	4	21	1,000
2012	885	0	49	0	16	21	971
2011	949	0	77	0	0	25	1,051
2010	628	0	84	0	0	24	736
2009	677	0	131	0	110	29	947
2008	513	1	89	0	5	25	633
2007	388	1	55	0	82	22	548
2006	378	1	52	0	75	23	529
2005	371	1	52	84	120	21	649

	With 7.2% Multiplier						
Year	Municipal (acre-ft)	Manufacturing(acre-ft)	Mining (acre-ft)	Steam Electric Power(acre-ft)	Irrigation (acre-ft)	Livestock (acre-ft)	Total (acre-ft)
2004	298	1	52	82	109	15	557
2003	240	1	52	163	144	16	616
2002	260	1	52	108	248	15	684
2001	256	1	52	135	269	16	729
2000	342	3	53	128	321	20	867

6.4 Annual Amount of Recharge from Precipitation to the Groundwater Resources within the District

The TWDB (Shi, 2016) calculated the amount of recharge from precipitation falling on the outcrop areas of the Gulf Coast aquifers to be 675 acre-feet per year. Shi (2016) calculated the recharge amount using version 2.0 of the GAM for the southern portion of the Gulf Coast Aquifer System (Chowdhury and Mace, 2007). A copy of Shi (2016) report is provided in **Appendix D**.

6.5 For Each Aquifer, Annual Volume of Water That Discharges From The Aquifer To Springs And Any Surface Water Bodies, Including Lakes, Streams, And Rivers

The TWDB (Shi, 2016), found in Appendix D, calculated the amount water discharged to the surface water systems by the groundwater resource to be 0 acre-feet per year. Shi (2016) calculated the discharge amount using version 2.0 of the GAM for the southern portion of the Gulf Coast Aquifer System (Chowdhury and Mace, 2007).

6.6 Annual Volume of Flow into And Out Of The District Within Each Aquifer And Between Aquifers In The District, If Gam Is Available

The TWDB (Shi, 2016), found in Appendix D, calculated flow into the District from the Gulf Coast Aquifer System as 6,324 acre-feet per year and the flow out of the District to the Gulf Coast Aquifer System as 6,548 acre-feet per year. Shi (2016) calculated the flow rates using version 2.0 of the GAM for the southern portion of the Gulf Coast Aquifer System (Chowdhury and Mace, 2007). The model used by Chowdhury and Mace (2007) assumes no cross-formational flow at the base of the Gulf Coast Aquifer System. Therefore, no cross-formational flow between the Gulf Coast Aquifer System and other hydrogeologic units was calculated by the model.

6.7 Projected Surface Water Supply in The District, According to The Most Recently Adopted State Water Plan

Table 5 presents the projected surface water supply in the District. The amounts were calculated by multiplying the projected surface water supply in the 2017 State Water Plan for Hidalgo County by

0.072, which is the fraction of Hidalgo County area occupied by the District. The 2017 State Water Plan water budget for Hidalgo County was provided by the TWDB.

Table 5 Projected Surface Water Supply (acre-ft) for the District for the Years 2020, 2030, 2050, 2050, 2060, and 2070 Calculated by Multiplying the Projected Surface Water Supply in the 2017 State Water Plan for Hidalgo County by 0.072

				With 7.2% Multiplier					
RWPG	WUG	Basin	Source Name	2020	2030	2040	2050	2060	2070
M	COUNTY-OTHER	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	232	232	232	232	232	232
M	COUNTY-OTHER	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	6	6	6	6	6	6
M	IRRIGATION	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	16,678	16,644	16,611	16,577	16,543	16,509
M	IRRIGATION	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	695	694	692	691	690	688
M	LIVESTOCK	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	74	74	74	74	74	74
M	LIVESTOCK	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	7	7	7	7	7	7
M	MANUFACTURING	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	86	86	86	86	86	86
M	MINING	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	55	55	55	55	55	54
M	MINING	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	4	4	4	4	4	4
M	STEAM ELECTRIC POWER	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	197	197	197	197	197	197

6.8 Projected Total Demand for Water in The District According to The Most Recently Adopted State Water Plan

Table 6 presents the total demand for water in the District. The amounts were calculated by multiplying the total demand for water in the 2017 State Water Plan for Hidalgo County by 0.072, which is the fraction of the area in Hidalgo County occupied by the District. The 2017 State Water Plan water budget for Hidalgo County was provided by the TWDB.

Table 6 Projected Total Demand for Water in the District for the Years 2020, 2030, 2050, 2050, 2060 and 2070 Calculated from the Project Surface Water Supply in the 2017 State Water Plan for Hidalgo County by 0.072

			Demands with 7.2% multiplier					
RWPG	**WUG**	**WUG Basin**	**2020**	**2030**	**2040**	**2050**	**2060**	**2070**
M	IRRIGATION	NUECES-RIO GRANDE	44,214	42,146	39,914	37,380	34,737	34,737
M	IRRIGATION	RIO GRANDE	1,842	1,756	1,664	1,558	1,448	1,448
M	LIVESTOCK	NUECES-RIO GRANDE	54	54	54	54	54	54
M	LIVESTOCK	RIO GRANDE	5	5	5	5	5	5
M	MANUFACTURING	NUECES-RIO GRANDE	393	426	458	487	524	564
M	MINING	NUECES-RIO GRANDE	190	242	280	322	369	430
M	MINING	RIO GRANDE	15	19	22	25	29	34
M	STEAM ELECTRIC POWER	NUECES-RIO GRANDE	1,019	1,192	1,402	1,658	1,970	2,341

6.9 Consider the Water Supply Needs And Water Management Strategies Included In The Adopted State Water Plan

With regard to developing rules for managing groundwater resources, the District will consider the water supply needs and the water management strategies in the 2017 State Water Plan. **Table 7** presents the water supply needs in Hidalgo County in the 2017 State Water Plan. **Appendix E** provides the water management strategies in Hidalgo County in the 2017 State Water Plan. The 2017 State Water Plan water budget for Hidalgo County was provided by the TWDB.

Table 7 Projected Water Supply Needs (acre-ft) for the District for the Years 2020, 2030, 2050, 2050, 2060 and 2070 Determined from the Water Supply Needs (acre-ft) in the 2017 State Water Plan for Hidalgo County (red numbers indicate deficits and black numbers indicate surpluses.

RWPG	WUG	WUG Basin	Projected Water Supply Needs (acre-ft/year)					
			2020	2030	2040	2050	2060	2070
M	AGUA SUD	NUECES-RIO GRANDE	-684	-1,694	-2,744	-3,829	-4,942	-6,036
M	AGUA SUD	RIO GRANDE	-90	-223	-360	-502	-649	-792
M	ALAMO	NUECES-RIO GRANDE	-1,004	-1,682	-2,380	-3,099	-3,837	-4,560
M	ALTON	NUECES-RIO GRANDE	-785	-1,238	-1,704	-2,178	-2,657	-3,127
M	COUNTY-OTHER	NUECES-RIO GRANDE	-1,326	-2,425	-3,552	-4,683	-5,814	-6,922
M	COUNTY-OTHER	RIO GRANDE	-39	-63	-93	-123	-152	-182
M	DONNA	NUECES-RIO GRANDE	365	-151	-685	-1,244	-1,827	-2,400
M	EDCOUCH	NUECES-RIO GRANDE	-28	-89	-154	-224	-300	-375
M	EDINBURG	NUECES-RIO GRANDE	-4,016	-6,802	-9,675	-12,617	-15,624	-18,570
M	ELSA	NUECES-RIO GRANDE	99	-54	-212	-380	-558	-733
M	HIDALGO	NUECES-RIO GRANDE	-358	-749	-1,153	-1,567	-1,989	-2,403
M	HIDALGO	RIO GRANDE	-2	-6	-10	-13	-17	-21
M	HIDALGO COUNTY MUD #1	NUECES-RIO GRANDE	-298	-410	-529	-651	-777	-902
M	IRRIGATION	NUECES-RIO GRANDE	-376,535	-348,278	-317,742	-283,018	-246,784	-247,253
M	IRRIGATION	RIO GRANDE	-15,687	-14,510	-13,239	-11,793	-10,281	-10,303
M	LA JOYA	NUECES-RIO GRANDE	394	290	183	71	-45	-159
M	LA JOYA	RIO GRANDE	105	78	49	20	-11	-41
M	LA VILLA	NUECES-RIO GRANDE	-29	-82	-139	-197	-258	-318
M	LIVESTOCK	NUECES-RIO GRANDE	848	848	848	848	848	848
M	LIVESTOCK	RIO GRANDE	47	47	47	47	47	47
M	MANUFACTURING	NUECES-RIO GRANDE	-1,747	-2,195	-2,643	-3,042	-3,562	-4,122
M	MCALLEN	NUECES-RIO GRANDE	-7,297	-15,788	-24,444	-33,291	-42,317	-51,132
M	MERCEDES	NUECES-RIO GRANDE	-281	-706	-1,149	-1,616	-2,107	-2,589
M	MILITARY HIGHWAY WSC	NUECES-RIO GRANDE	-376	-703	-1,050	-1,426	-1,820	-2,213
M	MILITARY HIGHWAY WSC	RIO GRANDE	-12	-24	-34	-48	-62	-75
M	MINING	NUECES-RIO GRANDE	-1,235	-1,956	-2,495	-3,072	-3,736	-4,575
M	MINING	RIO GRANDE	-147	-204	-246	-292	-344	-410
M	MISSION	NUECES-RIO GRANDE	-8,019	-12,508	-17,092	-21,753	-26,480	-31,099
M	MISSION	RIO GRANDE	-3	-6	-8	-11	-14	-16
M	NORTH ALAMO WSC	NUECES-RIO GRANDE	-1,060	-6,197	-11,494	-16,918	-22,445	-27,865
M	PALMHURST	NUECES-RIO GRANDE	-354	-571	-791	-1,013	-1,235	-1,452
M	PALMVIEW	NUECES-RIO GRANDE	-103	-257	-416	-580	-748	-914
M	PENITAS	NUECES-RIO GRANDE	-83	-212	-345	-481	-619	-755
M	PHARR	NUECES-RIO GRANDE	-106	-2,115	-4,203	-6,364	-8,596	-10,787
M	PHARR	RIO GRANDE	0	-1	-1	-2	-2	-3

RWPG	WUG	WUG Basin	Projected Water Supply Needs (acre-ft/year)					
			2020	2030	2040	2050	2060	2070
M	PROGRESO	NUECES-RIO GRANDE	-157	-303	-455	-612	-774	-933
M	SAN JUAN	NUECES-RIO GRANDE	-1,897	-3,193	-4,527	-5,899	-7,306	-8,685
M	SHARYLAND WSC	NUECES-RIO GRANDE	-3,041	-4,737	-6,475	-8,267	-10,109	-11,911
M	STEAM ELECTRIC POWER	NUECES-RIO GRANDE	-1,948	-4,342	-7,259	-10,815	-15,151	-20,304
M	SULLIVAN CITY	RIO GRANDE	-75	-178	-286	-400	-520	-638
M	WESLACO	NUECES-RIO GRANDE	-3,076	-4,754	-6,474	-8,243	-10,055	-11,828

7.0 MANAGEMENT OF GROUNDWATER SUPPLIES

TWC §36.0015 states that GCDs are the state's preferred method of groundwater management and establishes that GCDs will manage groundwater resources through rules developed and implemented in accordance with TWC Chapter 36. Chapter 36 gives directives to GCDs and the statutory authority to carry out such directives, so that GCDs are provided the proper tools to protect and manage the groundwater resources within their boundaries.

The District will manage the supply of groundwater within the District to conserve groundwater resources while seeking to maintain the economic viability of all groundwater user groups – public and private. In consideration of the economic and cultural activities occurring within the District, the District will identify and engage in such activities and practices which, if implemented, would result in a reduction of groundwater use. The existing observation network of groundwater wells will be used to monitor the changing conditions of the groundwater resources within the District. If necessary, the observation network may be expanded.

The regulatory tools granted to GCDs by TWC Chapter 36 enable GCDs to preserve historic and existing users of groundwater. Some uncertainty exists in permitting based upon historic use following the Texas Supreme Court decision in *Edwards Aquifer Authority v. Day.* To the extent permitted under Chapter 36 and the case following *EAA v. Day,* the District protects historic and existing users by granting such groundwater users historic and existing use permits that have priority over operating permits. TWC Chapter 36 also allows GCDs to establish management zones within an aquifer or aquifer subdivision. The District's rules provide for the designation of management areas as needed to better manage and regulate the groundwater resources of the District.

The District may deny a water well drilling permit or limit groundwater withdrawals in accordance with the requirements stated in the rules of the District. In making a determination to deny a permit or limit groundwater withdrawals, the District will consider criteria identified in TWC §36.113.

In accordance with the District's mission of protecting the groundwater resources of the District, the District may require reduction of groundwater withdrawals to amounts that will not cause harm to the aquifer when considering the DFC of the District's aquifers and the amount of modeled available groundwater within the District. To achieve this purpose, the District may, at the discretion of the Board, amend or revoke permits after notice and hearing. The determination to seek the amendment or revocation of a permit by the District will be based on aquifer conditions as observed by the District. The

District will enforce the terms and conditions of permits and the rules of the District by injunction or other appropriate relief in a court of competent jurisdiction as provided for in TWC §36.102.

A contingency plan to cope with the effects of water supply deficits due to climatic or other conditions may be developed by the District and adopted by the Board after notice and a hearing. In developing the contingency plan, the District will consider the economic effect of conservation measures upon all water resource user groups, the local implications of the extent and effect of changes in water storage conditions, the unique hydrogeological conditions of the aquifers within the District and the appropriate conditions under which the contingency plan will be implemented. The District will evaluate the groundwater resources available within the District and determine the effectiveness of regulatory or conservation measures. A public or private user may appeal to the Board for discretion in enforcement of the provisions of the water supply deficit contingency plan on grounds of adverse economic hardship or unique local conditions. The exercise of said discretion by the Board shall not be construed as limiting the power of the Board.

8.0 ACTIONS, PROCEDURES, PERFORMANCE AND AVOIDANCE FOR PLAN IMPLEMENTATION

The District will implement the provisions of this plan and will utilize the provisions of this plan as a guide for determining the direction or priority for all District 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 the provisions of this plan.

Rules adopted by the District for the permitting of wells and the production of groundwater shall comply with TWC Chapter 36, including §36.113, and the provisions of this management plan. All rules will be adhered to and enforced. The promulgation and enforcement of rules will be based on the best technical evidence available to the District. Appendix F provides a copy of the District Rules that exist as the time this management plan was adopted.

9.0 METHODOLOGY FOR TRACKING DISTRICT PROGRESS IN ACHIEVING MANAGEMENT GOALS

The District manager will prepare and present an Annual Report to the Board of Directors on District performance in regard to achieving management goals and objectives for the fiscal year. The report will be presented within 120 days following the completion of the District's fiscal year. The board will maintain the report on file, for public inspection at the District's offices upon adoption.

10.0 GOALS, MANAGEMENT OBJECTIVES AND PERFORMANCE STANDARDS

The management goals, objectives, and performance standards of the District in the areas specified in 31 TAC 356.5 are addressed below.

11.0 MANAGEMENT GOALS

11.1 Providing the Most Efficient Use of Groundwater

Objective: Each year, the District will require the registration of all wells within the District's jurisdiction.

Performance Standard: Each year, the number of new and existing wells registered with the District will be presented in the District's annual report.

11.2 Controlling and Preventing Waste of Groundwater

Objective: Each year, the District will disseminate educational information on eliminating and reducing the wasteful use of groundwater focusing on water quality protection. This may be accomplished by at least two of the following activities:

- Conduct an *annual* contest on water quality protection
- Compile literature packets for distribution to schools within the District
- Conduct classroom presentations to schools with within the District
- Sponsor an educational program/curriculum
- Post information on the District's website
- Provide newspaper articles for publication
- Publish District newsletters
- Conduct public presentations
- Set up displays at public events
- Distribute brochures/literature

Performance Standard: The annual report will include a summary of the District activities during the year to disseminate educational information on eliminating and reducing the wasteful use of groundwater focusing on water quality protection.

11.3 Addressing Conjunctive Surface Water Management Issues

Objective: Each year, the District will participate in the regional planning process by attending at least one meeting of the Rio Grande Regional Water Planning Group per fiscal year.

Performance Standard: Each year, attendance at Region M meetings by a representative of the District will be reflected in the District's annual report and will include the number of meetings attended and the dates.

11.4 Controlling and Preventing Subsidence

Objective: Each year the District will manage the withdrawal of groundwater with due consideration to the potential for land subsidence. At least once every five years, the District will report either the measured or projected land subsidence for areas where water levels have decreased more than 200 feet from a baseline year of 2000.

Performance Standard: The number of reports that provide either measured land subsidence or projected land subsidence attributed to groundwater pumping.

11.5 Addressing Natural Resource Issues Which Impact the Use and Availability of Groundwater, and which are Impacted by the Use of Groundwater

Objective: Each year, the District will require permits for all non- exempt use of groundwater in the District as defined in the District Rules, in accordance with adopted procedures.

Performance Standard: Each year, a summary of the number of applications for the drilling of non-exempt wells, the number of applications for the permitted use of groundwater, and the disposition of the applications will be presented in the District's annual report.

11.6 Addressing Drought Conditions

Objective: Each month, the District will download the updated Palmer Drought Severity Index (PDSI) map posted on the Texas Water Information Network website https://waterdatafortexas.org/drought.

Performance Standard: Each year, the downloaded PDSI maps and Situation Reports will be included in the District Annual Report to the Board of Directors.

11.7 Addressing Conservation, Recharge Enhancement, Rainwater Harvesting, Precipitation Enhancement, or Brush Control, Where Appropriate and Cost Effective

Precipitation enhancement is not an appropriate or cost-effective program for the District at this time because there is not an existing precipitation enhancement program operating in nearby counties in which the District could participate and share costs. The cost of operating a single county precipitation enhancement program is prohibitive and would require the District to increase taxes in its annexed territory in Hidalgo County. Therefore, the precipitation enhancement goal is not applicable

Objective: Each year, the District will promote conservation by one or more of the following methods:

- Conduct an annual contest on water conservation
- Distribute conservation literature packets to schools within the District territory located in Hidalgo County
- Conduct classroom conservation presentations
- Sponsor an educational conservation program/curriculum
- Post conservation information on the District's website
- Provide a newspaper article on conservation for publication

- Publish an article on conservation in the District's newsletter
- Conduct a public conservation presentation
- Set up a conservation display at a public event
- Distribute conservation brochures/literature to the public

Performance Standard: Each year, the annual report will include a summary of the District activity during the year to promote conservation.

Objective: Each year, the District will promote rainwater harvesting by posting information on rainwater harvesting on the District website.

Performance Standard: Each year, the annual report will include a copy of the information on rainwater harvesting that is provided on the District's website.

Objective: Each year, the District will provide information relating to recharge enhancement and brush control on the District's website.

Performance Standard: Each year, the District annual report will include a copy of the information that has been provided on the District's website relating to recharge enhancement and brush control.

11.8 Addressing the DFCs of the Groundwater Resources

Objective: Each year, the District will collect at least two (2) water level measurements from two (2) different locations.

Performance Standard: Each year, the District's annual report will include water level measurements and a discussion of the measured change in water level as compared to previous years' water levels. Every three years, the water level measurements will be combined with other water level measurements in Hidalgo County to estimate temporal changes in water levels for the District and to evaluate compliance with existing DFCs and to assess possible changes in the Desired Future Condition(s) for the District.

12.0 REFERENCES

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Baker, R. C, and Dale, O. C, 1964. Ground-water Resources of the Lower Rio Grande Valley Area, Texas. Geological Survey Water-Supply Paper 1653, United States Geological Survey, Washington D.C.

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Ewing, T.E., 1990, Tectonic map of Texas: University of Texas at Austin, Bureau of Economic Geology, scale 1:750,000, 4 sheets.

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Goswami, Rohit., 2017. GAM Run 17-025 MAG: Modeled Available Groundwater for the Gulf Coast Aquifer System in Groundwater Management Area 16, Texas Water Development Board, May 19, 2017.

Hutchison, W. R, Hill, M. E., Anaya, R., Hassan M.M., Oliver, W., Jigmond, M., Wade, S., and Aschenbach, E. 2011. Draft Groundwater Management Area 16 Groundwater Flow Model, Texas Water Development Board, unpublished Report

Shi, J. J., 2016. GAM Run 16-008: Red Sands Groundwater Conservation District Management Plan, Texas Water Development Board, May 16, 2016.

Winker, C.D., and M.B. Edwards, 1983, Unstable progradational clastic shelf margins, in Stanley, D.J., and Moore, G.T., eds, The shelfbreak; Critical interface on continental margins: SEPM Special Publication 33, p. 139-157.

Young, S.C., Knox, P.R., Baker, E., Budge, T., Hamlin, S., Galloway, B., Kalbouss, R., and Deeds, N., 2010, Hydrostratigraphic of the Gulf Coast Aquifer from the Brazos River to the Rio Grande: Texas Water Development Board Report, 203 p.

Appendix A

Resolution of the Board of Directors of RSGCD Meeting

Resolution of the Board of Directors of Red Sands Groundwater Conservation District Meeting Held March 7, 2018

A Resolution Adopting a Groundwater Management Plan

Whereas, The Red Sands Groundwater Conservation District (the District) is a political subdivision of the State of Texas organized and existing under and by virtue of Article 26, Chapter 59, the Texas Constitution, and a groundwater conservation district acting under Chapter 36 of the Texas Water Code and the District's Enabling Act of the 76th Legislature, 1999.

Whereas, under the direction of the Board of Directors, and in accordance with the Texas Water Code Chapter 36, Section 36.1071 and 36.1072, Chapter 356 of the Texas Administrative Code, the District has developed a groundwater management plan.

Whereas, the district issued the appropriate notice and held a public hearing to receive public and written comment on the proposed management plan at the Law Office of Aaron I. Vela, 200 E. Cano, Edinburg, Texas 78539, on December 7, 2017.

Whereas, the Board of Directors upon appropriate notice and hearing and in an open meeting adopted a management plan pursuant to Texas Water Code Section 36.1071(e), on March 7, 2018.

Whereas, the District submitted its management plan to the TWDB Executive Administrator on March 7, 2018.

Whereas, the Board of Directors believes the management plan meets all requirements of Chapter 36 of the Texas Water Code and Chapter 356, Title 31 of the Texas Administrative Code; and

Whereas, the Board of Directors upon proper notice and hearing and in an open meeting seeks to adopt its management plan pursuant to Texas Water Code Section 36.1071(e).

Now Therefore Be It Resolved That:

The management plan adopted by the Board of Directors on March 7, 2018, is hereby adopted before the Board of Directors and after formal action on this date by the District's Board of Directors.

The Board of Directors further instructs the District consultant to compile a final, adopted management plan, and file it with the TWDB as may be required in furtherance of approval pursuant to the provisions of Section 36.1072 of the Texas Water Code.

And It Is So Ordered.

Upon this motion made by Director A.R. "Flo" Guerra, and seconded by Director Laura Guerra Ramirez, upon discussion, the Board of Directors voted 3 in favor and 0 opposed and 0 abstained, and 2 absent, and the motion thereby PASSED on this 7th day of March, 2018.

Red Sands Groundwater Conservation District

By:

Javier Moreno, Board President

Attest:

Board Member

Appendix B

Notice of Meeting

NOTICE OF REGULAR MEETING
of
RED SANDS GROUNDWATER CONSERVATION DISTRICT

A meeting of the Board of Directors of the Red Sands Groundwater Conservation District will be held on **Wednesday, March 7, 2018**, at **11:30 a.m.** at **200 East Cano, Edinburg, Texas 78539**.

At this meeting, the following business may be considered and recommended for board action:

A. Call to Order – Roll Call – Pledge of Allegiance.

B. Public comments.

C. Approval of previous board meeting minutes.

D. Consideration and possible action on the request to ratify and pay the District's bills for the preceding month(s).

E. Discussion and Possible Action canceling election of directors.

F. Discussion and Possible Action on adopting District Management Plan.

G. Discuss items for future board meeting agendas.

H. Adjournment.

Agenda items may be considered, deliberated and/or acted upon in a different order than numbered above. The Board of Directors of the Red Sands Groundwater Conservation District reserves the right to adjourn into Executive (Closed) Session at any time during the course of this meeting to discuss any of the items listed on this agenda, as authorized by the Texas Open Meetings Act, Chapter 551, Texas Government Code. No final action will be taken in Executive Session.

Appendix C

Letter to Surface Water Management Entities

LAW OFFICE OF
AARON I. VELA
A Professional Corporation

Attorney • CPA • Mediator

200 EAST CANO
EDINBURG, TEXAS 78539

WWW.VELALAW.COM

PHONE (956) 381.4440
FAX (956) 381.4445

March 22, 2018

Via Certified Return Receipt Requested
7011 2000 0001 9722 4547
Sandra De Los Santos
Rio Grande Regional Water Authority
301 Missouri Pacific Railroad
Weslaco, Texas 78596

Re: Red Sands Groundwater Conservation District Management Plan

Dear Ms. De Los Santos,

This office represents Red Sands Ground Water Conservation District.

The Texas Water Code requires that the district share our management plan with all surface water entities located within our district. Enclosed please find a copy of the Red Sands Groundwater Conservation District Management Plan Adopted - March 7, 2018.

If you should have any questions, please do not hesitate to contact me.

Sincerely,

Diana Cerda, Legal Assistant

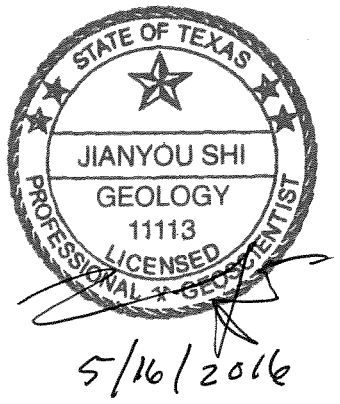
/dc
Enclosure

Appendix D

GAM Run 16-008: RSGCD Management Plan

GAM Run 16-008: Red Sands Groundwater Conservation District Management Plan

Jerry Jianyou Shi, Ph.D., P.G.
Texas Water Development Board
Groundwater Division
Groundwater Availability Modeling Section
(512) 463-5076
May 16, 2016



5/16/2016

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GAM RUN 16-008: RED SANDS GROUNDWATER CONSERVATION DISTRICT MANAGEMENT PLAN

Jerry Jianyou Shi, Ph.D., P.G.
Texas Water Development Board
Groundwater Division
Groundwater Availability Modeling Section
(512)463-5076
May 16, 2016

EXECUTIVE SUMMARY:

Texas State Water Code, Section 36.1071, Subsection (h) (Texas Water Code, 2015), 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. Information derived from groundwater availability models that shall be included in the groundwater management plan includes:

- the annual amount of recharge from precipitation, if any, to the groundwater resources within the district;
- 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
- the annual volume of flow into and out of the district within each aquifer and between aquifers in the district.

This report—Part 2 of a two-part package of information from the TWDB to the Red Sands Groundwater Conservation District—fulfills the requirements noted above. Part 1 of the two-part package is the Estimated Historical Water Use/State Water Plan data report. The district will receive this data report from the TWDB Groundwater Technical Assistance Section. Questions about the data report can be directed to Mr. Stephen Allen, stephen.allen@twdb.texas.gov, (512)463-7317.

The groundwater management plan for the Red Sands Groundwater Conservation District should be adopted by the district on or before May 15, 2017, and submitted to the Executive Administrator of the TWDB on or before June 14, 2017. The current management plan for the Red Sands Groundwater Conservation District expires on August 13, 2017.

This report discusses the methods, assumptions, and results from a model run using version 2.01 of the groundwater availability model for the southern portion of the Gulf Coast Aquifer System (Chowdhury and Mace, 2007). After GAM Run 11-002 was completed for the previous district groundwater management plan, the boundary of the Red Sands Groundwater Conservation District changed. GAM Run 16-008 used the new district boundary (Figure 1) and replaces GAM Run 11-002 (Hassan, 2011). Table 1 summarizes the groundwater availability model data required by statute. Figure 1 shows the area of the model from which the values in the table were extracted. If after review of the figure Red Sands 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 State Water Code, Section 36.1071, Subsection (h), the groundwater availability model for the southern portion of the Gulf Coast Aquifer System was used for this analysis. The water budget for the Red Sands Groundwater Conservation District was extracted for selected years of the historical model period (1981 to 2000) 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 Gulf Coast Aquifer System within the district is summarized in this report. Since the Gulf Coast Aquifer System is the only hydrogeologic unit in the groundwater flow model within the Red Sands Groundwater Conservation District, the cross-formation flow between the Gulf Coast Aquifer System and other hydrogeologic units are not applicable in this analysis.

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. See Chowdhury and Mace (2007) for assumptions and limitations of the model.
- The groundwater availability model for the southern portion of the Gulf Coast Aquifer System contains four layers: Layer 1 (Chicot Aquifer), Layer 2

(Evangeline Aquifer), Layer 3 (Burkeville Confining Unit), and Layer 4 (Jasper Aquifer).

- The Rio Grande River was simulated using MODFLOW-96 river package. The Gulf of Mexico was simulated using MODFLOW-96 constant head boundary. However, neither of these surface features is present in the Red Sands Groundwater Conservation District. As a result, groundwater discharge to surface water is calculated as zero for this management plan analysis.

- The model was run with MODFLOW-96 (Harbaugh and McDonald, 1996).

RESULTS:

A groundwater budget summarizes the amount of water entering and leaving the aquifer according to the groundwater availability model. Selected groundwater budget components listed below were extracted from the model results for the Gulf Coast Aquifer System located within the district and averaged over the duration of the calibration and verification portion of the model run in the district, as shown in Table 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.

- Surface-water outflow—The total water discharging from the aquifer (outflow) to surface-water features such as streams, reservoirs, and drains (springs).

- Flow into and out of district—The lateral flow within the aquifer between the district and adjacent counties.

- Flow between aquifers—The net vertical flow between aquifers or confining units. This flow is controlled by the relative water levels in each aquifer or confining unit and aquifer properties of each aquifer or confining unit that define the amount of leakage that occurs. Please note that the Gulf Coast Aquifer System is the only aquifer in the groundwater flow model within the Red Sands Groundwater Conservation District and the model assumes no cross-formational flow at the base of the Gulf Coast Aquifer System. Therefore, no cross-formational flow between the Gulf Coast Aquifer System and other hydrogeologic units was calculated by the model.

The information needed for the district's management plan is summarized in Table 1. It is important to note that sub-regional water budgets are not exact. This is due to

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 GULF COAST AQUIFER SYSTEM THAT IS NEEDED FOR RED SANDS 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	675
Estimated annual volume of water that discharges from the aquifer to springs and any surface-water body including lakes, streams, rivers, springs, and flowing wells	Gulf Coast Aquifer System	0
Estimated annual volume of flow into the district within each aquifer in the district	Gulf Coast Aquifer System	6,324
Estimated annual volume of flow out of the district within each aquifer in the district	Gulf Coast Aquifer System	6,548
Estimated net annual volume of flow between each aquifer in the district	Not applicable*	Not applicable

*The Gulf Coast Aquifer System is the only aquifer in the groundwater flow model within the Red Sands Groundwater Conservation District. The model assumes no cross-formational flow at the base of the Gulf Coast Aquifer System. Therefore, no cross-formational flow between the Gulf Coast Aquifer System and other hydrogeologic units was calculated by the model.

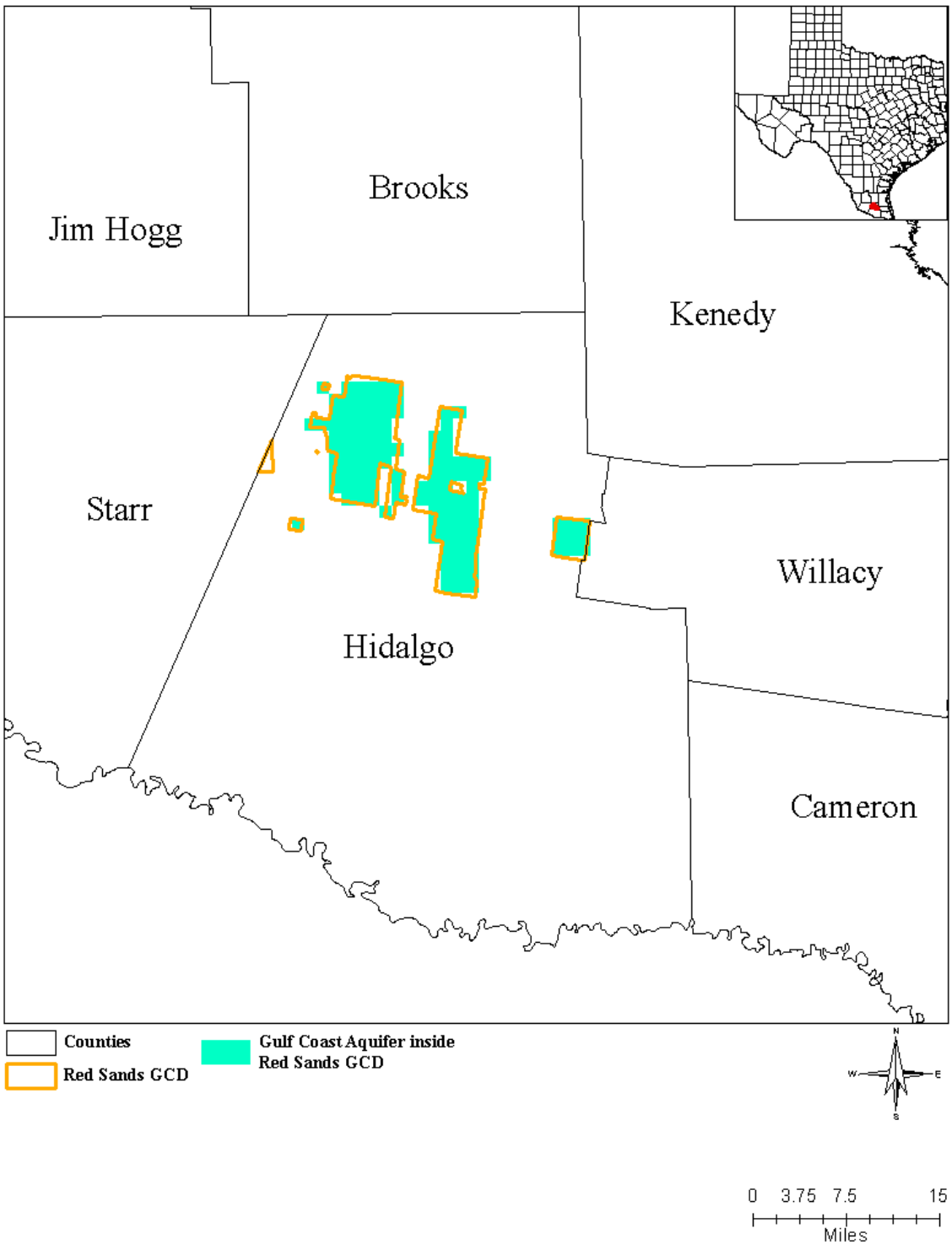

FIGURE 1: AREA OF THE GROUNDWATER AVAILABILITY MODEL FOR THE GULF COAST AQUIFER SYSTEM FROM WHICH THE INFORMATION IN TABLE 1 WAS EXTRACTED FOR THE RED SANDS GROUNDWATER CONSERVATION DISTRICT (GCD).

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.

REFERENCES:

Chowdhury, A. and Mace, R., 2007, Groundwater Resource Evaluation and Availability Model of the Gulf Coast Aquifer in the Lower Rio Grande Valley of Texas: Texas Water Development Board Report 368 (June 2007), 129 p., http://www.twdb.texas.gov/publications/reports/numbered_reports/doc/R368/R368_GulfCoastGAM.pdf.

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.

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Hassan, M., 2011, GAM Run 11-002: Texas Water Development Board GAM Run 11-002 Report, 8 p., http://www.twdb.texas.gov/groundwater/docs/GAMruns/GR11-002.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.

Texas Water Code, 2015, http://www.statutes.legis.state.tx.us/docs/WA/pdf/WA.36.pdf.

Appendix E

TWDB Report (Allen, 2018) Providing Water Resource Information for the District Including Projected Water Management Strategies for the District

Estimated Historical Water Use And 2012 State Water Plan Datasets:

Red Sands Groundwater Conservation District

by Stephen Allen
Texas Water Development Board
Groundwater Resources Division
Groundwater Technical Assistance Section
stephen.allen@twdb.texas.gov
(512) 463-7317
June 19, 2012

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/GMPchecklist0911.pdf

The five reports included in part 1 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)

   reports 2-5 are from the 2012 State Water Plan (SWP)

Part 2 of the 2-part package is the groundwater availability model (GAM) report. The District should have received this report from the Groundwater Availability Modeling Section. Questions about the GAM can be directed to Dr. Shirley Wade, shirley.wade@twdb.texas.gov, or (512) 463-0749 (to contact the Administrative Assistant).

DISCLAIMER

The data presented in this report represents the most updated Historical Water Use and 2012 State Water Planning data available as of 6/19/2012. Although it does not happen frequently, neither of these datasets are static and they are subject to change pending the availability of more accurate data (Historical Water Use data) or an amendment to the 2012 State Water Plan (2012 State Water Planning data). District personnel must review these datasets and correct any discrepancies in order to ensure approval of their groundwater management plan.

The Historical Water Use dataset can be verified at this web address:

http://www.twdb.texas.gov/wrpi/wus/summary.asp

The 2012 State Water Planning dataset can be verified by contacting Wendy Barron (wendy.barron@twdb.texas.gov or 512-936-0886).

The data values provided in the tables of this report are county-based. But, for groundwater districts that cover only a portion of one or more counties, those county values have been modified using an apportioning multiplier to create new values that more accurately reporesent district conditions. The multiplier used within the following formula is a land area ratio: (county data value * land area of district in county/land area of county)). For two of the four SWP tables (Projected Surface Water Supplies and Projected Water Demands) only the county-wide water user group (WUG) data values (county other, manufacturing, steam electric power, irrigation, mining and livestock) were modified using the multiplier. WUG values for municipalities, water supply corporations, and utility districts were not apportioned. Instead, their full values were retained if they are located within the district (each district is requested to report the location of these WUGs) and eliminated if they are located outside. The two other SWP tables (Water Supply Needs and Water Management Strategies) were not apportioned because district-specific values are not statutorily required for those data. In the Historical Water Use table every category of water use (including municipal) is apportioned. Staff determined that breaking down the annual municipal values into individual WUGs was too complex.

TWDB staff recognize that the apportioning formula being used is not perfect but it is the best available process with respect to time and staffing constraints. If the District believes it has data that is more accurate it has the option of including those data in the plan with an explanation of how the data were derived. The apportioning multiplier used in the calculation is displayed next to each county header on the affected tables.

For additional questions regarding this data, please contact Stephen Allen (stephen.allen@twdb.texas.gov or 512-463-7317) or Rima Petrossian (rima.petrossian@twdb.texas.gov or 512-936-2420).

Estimated Historical Water Use
TWDB Historical Water Use Survey (WUS) Data

Groundwater use estimates are currently unavailable for 2005, 2009 and 2010. TWDB staff anticipates the calculation and posting of such estimates during the first half of 2012.

HIDALGO COUNTY

1.96 % (multiplier)

All values are in acre-feet/year

Year	Source	Municipal	Manufacturing	Steam Electric	Irrigation	Mining	Livestock	Total
1974	GW	89	11	0	368	22	25	515
1980	GW	65	4	0	176	5	3	253
1984	GW	101	1	0	173	11	2	288
1985	GW	74	2	2	195	11	2	286
1986	GW	99	9	0	0	0	9	117
1987	GW	87	9	0	0	12	2	110
1988	GW	93	9	0	0	12	7	121
1989	GW	103	11	0	214	11	7	346
1990	GW	104	15	0	400	11	8	538
1991	GW	109	9	0	388	12	8	526
1992	GW	110	7	0	162	13	6	298
1993	GW	105	6	0	253	12	6	382
1994	GW	144	14	0	292	7	6	463
1995	GW	152	15	0	259	5	7	438
1996	GW	153	9	33	159	17	6	377
1997	GW	156	18	14	113	22	6	329
1998	GW	156	15	29	228	22	5	455
1999	GW	125	8	26	236	22	6	423
2000	GW	112	10	35	87	22	5	271
2001	GW	192	17	15	73	12	4	313
2002	GW	172	15	12	68	17	4	288
2003	GW	179	10	18	39	9	4	259
2004	GW	182	15	18	30	7	4	256
2006	GW	79	9	0	20	6	6	120
2007	GW	99	8	0	22	3	6	138
2008	GW	142	8	0	1	2	7	160

Projected Surface Water Supplies
TWDB 2012 State Water Plan Data

HIDALGO COUNTY

1.96 % (multiplier)

All values are in acre-feet/year

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
M	ALAMO	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	ALTON	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	COUNTY-OTHER	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	172	171	169	167	165	163
M	COUNTY-OTHER	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	10	9	9	9	9	9
M	DONNA	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	EDCOUCH	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	EDINBURG	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	ELSA	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	HIDALGO	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	HIDALGO COUNTY MUD #1	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	IRRIGATION	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	7,008	6,938	6,873	6,808	6,743	6,683
M	IRRIGATION	NUECES-RIO GRANDE	NUECES-RIO GRANDE RIVER COMBINED RUN-OF-RIVER	2	2	2	2	2	2
M	IRRIGATION	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	57	56	56	55	55	54
M	LA JOYA	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	LA JOYA	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						

Projected Surface Water Supplies
TWDB 2012 State Water Plan Data

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
M	LA VILLA	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	LIVESTOCK	NUECES-RIO GRANDE	LIVESTOCK LOCAL SUPPLY	0	0	0	0	0	0
M	LIVESTOCK	RIO GRANDE	LIVESTOCK LOCAL SUPPLY	0	0	0	0	0	0
M	MANUFACTURING	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	64	64	64	64	64	64
M	MCALLEN	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	MCALLEN	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	MERCEDES	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	MINING	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	4	4	4	4	3	3
M	MINING	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	0	0	0	0	0	0
M	MISSION	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	NORTH ALAMO WSC	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	PALMHURST	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	PALMVIEW	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	PENITAS	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	PHARR	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	SAN JUAN	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	SHARYLAND WSC	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						

Projected Surface Water Supplies
TWDB 2012 State Water Plan Data

RWPG	WUG	WUG Basin	Source Name	2010	2020	2030	2040	2050	2060
M	STEAM ELECTRIC POWER	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM	116	116	116	116	116	116
M	SULLIVAN CITY	RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
M	WESLACO	NUECES-RIO GRANDE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM						
	Sum of Projected Surface Water Supplies (acre-feet/year)			**7,433**	**7,360**	**7,293**	**7,225**	**7,157**	**7,094**

Projected Water Demands
TWDB 2012 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.

HIDALGO COUNTY

1.96 % (multiplier)

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
M	ALTON	NUECES-RIO GRANDE						
M	DONNA	NUECES-RIO GRANDE						
M	EDCOUCH	NUECES-RIO GRANDE						
M	EDINBURG	NUECES-RIO GRANDE						
M	ELSA	NUECES-RIO GRANDE						
M	HIDALGO	NUECES-RIO GRANDE						
M	LA VILLA	NUECES-RIO GRANDE						
M	MCALLEN	NUECES-RIO GRANDE						
M	MISSION	NUECES-RIO GRANDE						
M	PHARR	NUECES-RIO GRANDE						
M	PROGRESO	NUECES-RIO GRANDE						
M	SAN JUAN	NUECES-RIO GRANDE						
M	COUNTY-OTHER	NUECES-RIO GRANDE	183	242	307	380	462	546
M	MANUFACTURING	NUECES-RIO GRANDE	63	70	75	81	86	93
M	STEAM ELECTRIC POWER	NUECES-RIO GRANDE	203	277	324	381	451	536
M	MINING	NUECES-RIO GRANDE	25	27	29	30	31	32
M	IRRIGATION	NUECES-RIO GRANDE	10,982	9,907	8,547	8,547	8,547	8,547
M	LIVESTOCK	NUECES-RIO GRANDE	13	13	13	13	13	13
M	LA JOYA	NUECES-RIO GRANDE						
M	PENITAS	NUECES-RIO GRANDE						
M	HIDALGO COUNTY MUD #1	NUECES-RIO GRANDE						
M	NORTH ALAMO WSC	NUECES-RIO GRANDE						
M	SHARYLAND WSC	NUECES-RIO GRANDE						
M	ALAMO	NUECES-RIO GRANDE						
M	MERCEDES	NUECES-RIO GRANDE						
M	WESLACO	NUECES-RIO GRANDE						
M	MILITARY HIGHWAY WSC	NUECES-RIO GRANDE						
M	PALMVIEW	NUECES-RIO GRANDE						
M	PALMHURST	NUECES-RIO GRANDE						
M	HIDALGO	RIO GRANDE						
M	LA JOYA	RIO GRANDE						

Projected Water Demands
TWDB 2012 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.

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
M	SULLIVAN CITY	RIO GRANDE						
M	COUNTY-OTHER	RIO GRANDE	11	14	18	23	28	33
M	MINING	RIO GRANDE	3	3	3	3	4	4
M	IRRIGATION	RIO GRANDE	446	402	347	347	347	347
M	LIVESTOCK	RIO GRANDE	1	1	1	1	1	1
M	MCALLEN	RIO GRANDE						
M	MILITARY HIGHWAY WSC	RIO GRANDE						
	Sum of Projected Water Demands (acre-feet/year)		**11,930**	**10,956**	**9,664**	**9,806**	**9,970**	**10,152**

Projected Water Supply Needs
TWDB 2012 State Water Plan Data

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

HIDALGO COUNTY

All values are in acre-feet/year

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
M	ALAMO	NUECES-RIO GRANDE	-59	-762	-1,548	-2,415	-3,407	-4,424
M	ALTON	NUECES-RIO GRANDE	0	0	-2,446	-3,419	-4,482	-5,602
M	COUNTY-OTHER	NUECES-RIO GRANDE	1,028	-2,179	-5,775	-9,722	-14,197	-18,779
M	COUNTY-OTHER	RIO GRANDE	60	-187	-409	-652	-927	-1,210
M	DONNA	NUECES-RIO GRANDE	1,729	1,435	1,117	759	347	-103
M	EDCOUCH	NUECES-RIO GRANDE	-129	-188	-255	-332	-420	-516
M	EDINBURG	NUECES-RIO GRANDE	6,216	3,826	1,029	-1,805	-5,151	-8,580
M	ELSA	NUECES-RIO GRANDE	659	603	534	460	364	258
M	HIDALGO	NUECES-RIO GRANDE	594	209	-219	-685	-1,206	-1,740
M	HIDALGO	RIO GRANDE	-2	-18	-20	-27	-49	-71
M	HIDALGO COUNTY MUD #1	NUECES-RIO GRANDE	-1,130	-1,814	-2,588	-3,421	-4,342	-5,287
M	IRRIGATION	NUECES-RIO GRANDE	-179,009	-127,739	-61,663	-64,971	-68,279	-71,333
M	IRRIGATION	RIO GRANDE	-14,526	-12,328	-9,540	-9,567	-9,594	-9,619
M	LA JOYA	NUECES-RIO GRANDE	46	-5	-59	-120	-189	-265
M	LA JOYA	RIO GRANDE	19	-2	-25	-51	-80	-113
M	LA VILLA	NUECES-RIO GRANDE	256	258	259	261	261	258
M	LIVESTOCK	NUECES-RIO GRANDE	0	0	0	0	0	0
M	LIVESTOCK	RIO GRANDE	0	0	0	0	0	0
M	MANUFACTURING	NUECES-RIO GRANDE	912	589	297	5	-255	-594
M	MCALLEN	NUECES-RIO GRANDE	2,627	-2,501	-8,474	-14,830	-21,932	-29,453
M	MCALLEN	RIO GRANDE	0	-1	-1	-2	-3	-4
M	MERCEDES	NUECES-RIO GRANDE	3,231	3,123	2,988	2,846	2,652	2,434
M	MILITARY HIGHWAY WSC	NUECES-RIO GRANDE	-8	-143	-422	-780	-1,120	-1,479
M	MILITARY HIGHWAY WSC	RIO GRANDE	0	0	0	0	-4	-9
M	MINING	NUECES-RIO GRANDE	183	182	181	179	177	175
M	MINING	RIO GRANDE	23	22	21	21	21	20
M	MISSION	NUECES-RIO GRANDE	-1,470	-4,468	-7,824	-11,365	-15,469	-19,674
M	NORTH ALAMO WSC	NUECES-RIO GRANDE	8,983	5,627	1,853	-2,345	-7,180	-12,150
M	PALMHURST	NUECES-RIO GRANDE	0	0	209	-296	-929	-1,633
M	PALMVIEW	NUECES-RIO GRANDE	0	0	0	0	-447	-906
M	PENITAS	NUECES-RIO GRANDE	5	3	2	-1	-7	-16
M	PHARR	NUECES-RIO GRANDE	376	-1,754	-4,152	-6,799	-9,649	-12,695

Projected Water Supply Needs
TWDB 2012 State Water Plan Data

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

RWPG	WUG	WUG Basin	2010	2020	2030	2040	2050	2060
M	PROGRESO	NUECES-RIO GRANDE	0	0	0	0	0	0
M	SAN JUAN	NUECES-RIO GRANDE	-478	-1,642	-2,933	-4,361	-6,008	-7,697
M	SHARYLAND WSC	NUECES-RIO GRANDE	1,624	-391	-397	-1,331	-2,296	-3,335
M	STEAM ELECTRIC POWER	NUECES-RIO GRANDE	1,816	-1,980	-4,374	-7,291	-10,847	-15,183
M	SULLIVAN CITY	RIO GRANDE	159	186	184	13	-197	-411
M	WESLACO	NUECES-RIO GRANDE	1,043	286	-579	-1,537	-2,622	-3,787
	Sum of Projected Water Supply Needs (acre-feet/year)		**-196,811**	**-158,102**	**-113,703**	**-148,125**	**-191,288**	**-236,668**

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

HIDALGO COUNTY

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
ALAMO, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	5	10	14	19	24
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	100	200	277	381	471
ACQUISITION OF WATER RIGHTS THROUGH URBANIZATION	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	400	800	1,330	1,700	2,100
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	25	25	25	25	125	225
BRACKISH WATER DESALINATION	GULF COAST AQUIFER-BRACKISH [HIDALGO]	0	83	288	469	882	1,304
NON-POTABLE REUSE	DIRECT REUSE [HIDALGO]	34	150	225	300	400	500
ALTON, NUECES-RIO GRANDE (M)							
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	59	82	2,446	3,419	4,482	5,602
COUNTY-OTHER, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	1,090	3,888	5,860	10,099	14,390
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	94	257	395	554	736	942
EXPAND EXISTING GROUNDWATER WELLS	GULF COAST AQUIFER [HIDALGO]	0	1,089	1,887	3,861	4,098	4,389
COUNTY-OTHER, RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	187	409	652	927	1,210
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	50	100	200	300	400	483
DONNA, NUECES-RIO GRANDE (M)							
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	15	32	51	72	95	118
BRACKISH WATER DESALINATION	GULF COAST AQUIFER-BRACKISH [HIDALGO]	0	50	50	50	50	50

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

WUG, Basin (RWPG) All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
EXPAND EXISTING GROUNDWATER WELLS	GULF COAST AQUIFER [HIDALGO]	0	25	25	25	25	25
EDCOUCH, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	65	118	175	246	299	360
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	65	70	81	86	121	156
EDINBURG, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	1,631	3,114	4,591	6,619
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	74	328	500	686	889	1,097
NON-POTABLE REUSE	DIRECT REUSE [HIDALGO]	0	0	500	1,500	3,000	4,000
ELSA, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	50	50
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	2	5	7	10	14	17
BRACKISH WATER DESALINATION	GULF COAST AQUIFER-BRACKISH [HIDALGO]	0	100	100	100	100	100
PROPOSED ELEVATED STORAGE TANK AND INFRASTRUCTURE IMPROVEMENTS FOR CITY OF ELSA	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	105	105	105	105	105	105
HIDALGO, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	8	29	51
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	154	558	973
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	32	66	104	145	189	235
EXPAND EXISTING GROUNDWATER WELLS	GULF COAST AQUIFER [HIDALGO]	110	235	334	427	506	585
HIDALGO, RIO GRANDE (M)							
EXPAND EXISTING GROUNDWATER WELLS	GULF COAST AQUIFER [HIDALGO]	2	18	20	27	49	71

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

WUG, Basin (RWPG) All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
HIDALGO COUNTY MUD #1, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	66	100	139	181	227	274
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	1,051	1,684	2,401	3,173	4,026	4,901
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	14	30	48	68	89	112
IRRIGATION, NUECES-RIO GRANDE (M)							
IRRIGATION CONVEYANCE SYSTEM CONSERVATION	CONSERVATION [HIDALGO]	5,976	20,246	34,268	48,044	61,572	74,904
ON- FARM WATER CONSERVATION	CONSERVATION [HIDALGO]	795	5,385	13,673	25,560	40,946	59,773
IRRIGATION, RIO GRANDE (M)							
IRRIGATION CONVEYANCE SYSTEM CONSERVATION	CONSERVATION [HIDALGO]	62	207	354	498	639	779
ON- FARM WATER CONSERVATION	CONSERVATION [HIDALGO]	8	56	142	265	425	621
LA JOYA, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH URBANIZATION	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	2	87	185
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	7	14	21	49	62	73
BRACKISH WATER DESALINATION	GULF COAST AQUIFER-BRACKISH [HIDALGO]	50	48	75	69	40	7
LA JOYA, RIO GRANDE (M)							
BRACKISH WATER DESALINATION	GULF COAST AQUIFER-BRACKISH [HIDALGO]	0	2	25	51	80	113
LA VILLA, NUECES-RIO GRANDE (M)							
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	0	1	1	1	1	1
MANUFACTURING, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	55	194
EXPAND EXISTING GROUNDWATER WELLS	GULF COAST AQUIFER [HIDALGO]	0	0	0	0	100	200

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

WUG, Basin (RWPG) All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
NON-POTABLE REUSE	DIRECT REUSE [HIDALGO]	0	0	0	0	100	200
MCALLEN, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	225	329	393	432
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	998	4,083	5,718	7,341
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	191	382	925	1,250	2,177	3,423
BRACKISH WATER DESALINATION	GULF COAST AQUIFER-BRACKISH [HIDALGO]	3,360	3,360	6,139	6,600	8,121	8,821
EXPAND EXISTING GROUNDWATER WELLS	GULF COAST AQUIFER [HIDALGO]	0	0	487	619	945	1,543
NON-POTABLE REUSE	DIRECT REUSE [HIDALGO]	0	0	0	2,349	5,578	9,893
MCALLEN, RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	1	1	2	3	4
MERCEDES, NUECES-RIO GRANDE (M)							
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	7	14	23	32	43	53
BRACKISH WATER DESALINATION	GULF COAST AQUIFER-BRACKISH [HIDALGO]	560	560	560	560	560	560
EXPAND EXISTING GROUNDWATER WELLS	GULF COAST AQUIFER [HIDALGO]	0	560	560	560	560	560
MILITARY HIGHWAY WSC, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	5	14	16	18
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	139	353	561	789
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	8	18	28	38	43	47
EXPAND EXISTING GROUNDWATER WELLS	GULF COAST AQUIFER [HIDALGO]	0	125	250	375	500	625
MILITARY HIGHWAY WSC, RIO GRANDE (M)							
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	0	0	0	0	4	9

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
MISSION, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH URBANIZATION	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	299	2,633	4,901	7,236	10,014	12,118
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	260	637	598	789	1,394	2,135
BRACKISH WATER DESALINATION	GULF COAST AQUIFER-BRACKISH [HIDALGO]	560	560	560	560	560	560
NON-POTABLE REUSE	DIRECT REUSE [HIDALGO]	352	839	1,765	2,780	3,909	5,321
NORTH ALAMO WSC, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	48
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	902
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	248	538	863	1,215	3,098	4,000
BRACKISH WATER DESALINATION	GULF COAST AQUIFER-BRACKISH [HIDALGO]	11,201	11,201	11,201	11,201	11,201	11,201
PALMHURST, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	15	46	82
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	281	883	1,551
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	32	68	110	155	203	254
PALMVIEW, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	22	45
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	425	860
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	16	34	55	78	102	128
PENITAS, NUECES-RIO GRANDE (M)							
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	1	1	2	2	7	16

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
PHARR, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	89	205	311	423	554
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	698	2,478	4,721	7,086	8,895
ACQUISITION OF WATER RIGHTS THROUGH URBANIZATION	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	400	766	928	1,067	2,003
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	143	392	478	589	798	943
EXPAND EXISTING GROUNDWATER WELLS	GULF COAST AQUIFER [HIDALGO]	100	150	175	200	225	250
NON-POTABLE REUSE	DIRECT REUSE [HIDALGO]	50	50	50	50	50	50
PROGRESO, NUECES-RIO GRANDE (M)							
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	11	24	38	54	71	89
SAN JUAN, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	24	82	147	218	300	385
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	454	1,560	2,786	4,143	5,708	7,312
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	95	206	330	465	612	762
SHARYLAND WSC, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	20	20	67	115	167
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	372	377	1,264	2,181	3,168
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	29	62	100	141	186	231
STEAM ELECTRIC POWER, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	980	2,374	3,291	3,847	5,183
NON-POTABLE REUSE	DIRECT REUSE [HIDALGO]	0	1,000	2,000	4,000	7,000	10,000

Projected Water Management Strategies
TWDB 2012 State Water Plan Data

WUG, Basin (RWPG)

All values are in acre-feet/year

Water Management Strategy	Source Name [Origin]	2010	2020	2030	2040	2050	2060
SULLIVAN CITY, RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	10	21
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	186	390
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	11	25	39	55	73	91
WESLACO, NUECES-RIO GRANDE (M)							
ACQUISITION OF WATER RIGHTS THROUGH CONTRACT	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	100
ACQUISITION OF WATER RIGHTS THROUGH PURCHASE	AMISTAD-FALCON LAKE/RESERVOIR SYSTEM [RESERVOIR]	0	0	0	0	0	100
ADVANCED WATER CONSERVATION	CONSERVATION [HIDALGO]	44	82	124	217	793	1,048
BRACKISH WATER DESALINATION	GULF COAST AQUIFER-BRACKISH [HIDALGO]	100	100	100	100	250	350
EXPAND EXISTING GROUNDWATER WELLS	GULF COAST AQUIFER [HIDALGO]	0	0	0	100	429	899
POTABLE REUSE	DIRECT REUSE [CAMERON]	1,120	1,120	1,120	1,120	1,150	1,290
Sum of Projected Water Management Strategies (acre-feet/year)		**28,037**	**61,436**	**109,705**	**165,287**	**233,014**	**306,209**

Appendix F

Red Sands GCD Rules

RED SANDS GROUNDWATER CONSERVATION DISTRICT

DISTRICT RULES

Original Adoption Date: November 4, 2009

Effective: November 4, 2009

P.O. Box 229, Linn, TX 78563
Phone No. 956-289-1222
Fax: (956) 289-1224

The Rules of the Red Sands Groundwater Conservation District (the District) were originally adopted by the Board of Directors (the Board) on November 4, 2009, at a duly posted public meeting held in compliance with the Texas Open Meetings Act and following publication in the newspaper of a notice of a public hearing, which public hearing was held to receive public comment concerning the Rules, all in accordance with the Texas Water Code Sec. 36.001 et seq.

The District was created in accordance with Section 59 of Article XVI of the Texas Constitution and in accordance with Chapter 36 of the Texas Water Code and by an Act of the Legislature of the State of Texas, meeting in Regular Session in 1999 as the 76th Legislature, said Act being known as Senate Bill 1911, said Act being effective September 1, 1999.

The Rules, regulations, and modes of procedure herein contained are and have been adopted to simplify procedures, to avoid delays, and to facilitate the administration of the water laws of the State and the Rules of this District. These Rules are to be construed to attain those objectives.

These rules are designed to provide extensive information about the application of groundwater law within the boundaries of the District; however, the reader is advised to consult Chapter 36, Texas Water Code, as amended, in conjunction with these Rules. Should a conflict arise between these Rules and Chapter 36, or where these Rules are silent, Chapter 36, as amended, takes precedent.

These Rules may be used as guides in the exercise of discretion by the Board, where discretion is vested. However, these Rules shall not be construed as a limitation or restriction upon the exercise of discretion conferred by law, nor shall they be construed to deprive the District or the Board of any powers, duties, or jurisdiction provided by law.

The Rules of the Red Sands Groundwater Conservation District were adopted by the Board as the Rules of this District on November 4, 2009, effective November 4, 2009.

RULE REVISION RECORD

Date Adopted	Effective Date	Action
		Original Adoption

Table of Contents

SECTION 1. DEFINITIONS AND CONCEPTS

RULE 1.1 DEFINITIONS OF TERMS

In the administration of its duties, the Red Sands Groundwater Conservation District follows the definitions of terms set forth in the District Act, Chapter 36 of the Texas Water Code, as amended, and the definitions of terms as follows:

"Abandoned well" shall mean a well that has not been used for six consecutive months. A well is considered to be in use in the following cases:

a) a non-deteriorated well that contains the casing, pump, and pump column in good working condition; or
b) a non-deteriorated well that has been capped in accordance with these Rules.

"Acre-foot" shall mean the amount of water necessary to cover one acre of land one foot deep, or about 325,851 gallons of water.

"Agriculture" shall mean any of the following activities, as per Chapter 36, Texas Water Code:

a) cultivating the soil to produce crops for human food, animal feed, or planting seeds or for the production of fibers;
b) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or non-soil media, by a nursery grower;
c) raising, feeding, or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts, or other tangible products having a commercial value;
d) planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure;
e) wildlife management; and
f) raising or keeping equine animals.

"Agricultural crop" shall mean food or fiber commodities grown for resale or commercial purposes that provide food, clothing, or animal feed.

"Agricultural use" means any use or activity involving agriculture, including irrigation.

"Animal feeding operation (AFO)", as defined by the Texas Commission on Environmental Quality, shall mean a lot or facility, other than an aquatic animal production facility, where animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and in which the animal confinement areas do not sustain crops, vegetation, forage growth, or post-harvest residues in the normal growing season over any portion of the lot or facility. Animal feeding operations are not considered agricultural use by the District. Wells for animal feeding operations must obtain a permit from the District.

Beneficial Use.

"Board" shall mean the Board of Directors of the District.

"Capped well" shall mean a well that is closed or capped with a covering capable of preventing surface pollutants from entering the well and able to sustain the weight of at least 400 pounds and constructed in such a way that the covering cannot be easily removed by hand.

"Closed Loop Well" shall mean a well constructed for circulating water through a continuous length of tubing, generally for earth coupled-heat exchange purposes. A well system drilled and equipped for the purpose of utilizing the subsurface as a source of energy and for heat exchange in heating and cooling systems. These are sealed systems, no water is to be produced or injected. See also Earth Coupled Heat Exchange-Closed Loop System. (An exempt well).

"Commercial Use" shall mean a well used to supply water to properties or establishments which are in business to provide goods, services and/or repairs and which use water in those processes or incidental to the maintenance of the property or establishment including landscape irrigation; and/or a well used to supply water to a business establishment primarily for employee and customer sanitary purposes (i.e. flushing of toilets, sanitary purposes, or limited landscape watering). (A non-exempt well.)

"Completed water well" shall mean a water well which has sealed off access of undesirable water or constituents to the well bore by utilizing proper casing and annular space positive displacement or pressure tremie tube grouting or cementing (sealing) methods.

"Deteriorated well" shall mean a well or borehole that, because of its condition, will cause, or is likely to cause, pollution of any water in this state, including groundwater.

"De-watering well" shall mean a well used to remove water from a construction site, or to relieve hydrostatic uplift on permanent structures.

"District" shall mean the Red Sands Groundwater Conservation District.

"District Act" shall mean the Act of the Legislature of the State of Texas, meeting in Regular Session in 1999 as the 76th Legislature, said Act being known as Senate Bill 1911, said Act being effective September 1, 1999.

"District office" shall mean the office of the District as established by resolution of the Board.

"Domestic use" shall mean the use of groundwater, from a well drilled, completed, or equipped such that it is incapable of producing more than 25,000 gallons of groundwater per day, as provided by §36.117(b)(1), used only at and for a single-family household to support domestic activity. Such use may include water for drinking, bathing, sanitation, washing, or culinary purposes; for filling a pond and/or swimming pool which is entirely lined with permanent (non-degradable) man-made materials which stop and prevent leakage of water; for irrigation of single-family household lawns, or of a family garden and/or orchard; and for watering of domestic animals. Household lawns, family gardens, and/or orchards to be irrigated by a "domestic use" well shall not exceed two contiguous acres in the aggregate. Domestic use does not include water used to support activities for which payment or other consideration is given or received or for which the product of the activity is sold. Domestic use does not include use by or for a public water system, use for any commercial use or purpose or at any commercial establishment, use at any commercial establishment with a single-family household; water use activities for which consideration is given or for which the product is to be sold; filling or refilling ponds, depressions, lakes, tanks, reservoirs or other confinements that have a capacity greater than 50,000 gallons; and non-closed loop well system geothermal heating/cooling systems.

"Earth Coupled Heat Exchange" or "Closed Loop System" shall mean a well system drilled and equipped for the purpose of utilizing the subsurface as a source of energy and for heat exchange in heating and cooling systems. These are sealed systems; no water is to be produced or injected.

"Emergency conditions" shall mean any condition or activity which is causing a shortage of available groundwater, including severe and sustained drought; below normal recharge to the groundwater and/or

aquifers in the District due to lack of rainfall; or any condition or activity which causes a well or wells to go dry.

"Exempt well).

"Existing and Historic Use Period" shall mean the period of time from January 1, 1999, through the original effective date of these Rules, being November 4, 2009.

"Existing Use" shall mean production and beneficial use of groundwater from the aquifer during the Existing and Historic Use Period.

"Existing well" shall mean a well which was drilled or completed prior to the District's Rules original effective date of these Rules, being November 4, 2009.

"Groundwater" shall mean water located beneath the earth's surface within the District.

"Hand-dug well" shall mean a well installed by hand digging or by hand auger drilling.

"Hearing body" shall mean the Board, any committee of the Board, or a Hearing Examiner at any hearing held under the authority of the District Act.

"Hearing Examiner" shall mean a person appointed by the Board of Directors to conduct a hearing or other proceeding.

"Historic Use" shall mean production and beneficial use of groundwater from the aquifer during the Existing and Historic Use period.

"Historic Use Permit" shall mean a permit required by the District for the operation of any non-exempt, existing water well or well system that produced groundwater during the Existing and Historic Use Period.

"Injection well" includes:

- Any kind of injection or disposal well that should be registered with, or permitted by, the Texas Railroad Commission, the U.S. Environmental Protection Agency, or any other local, state or federal agency or department;
- An air conditioning return flow well used to return water used for heating or cooling in a heat pump to the aquifer that supplied the water;
- A cooling water return flow well used to inject water previously used for cooling;
- A drainage well used to drain surface fluid into a subsurface formation;
- A recharge well used to replenish the water in an aquifer;
- A saltwater intrusion barrier well used to inject water into a freshwater aquifer to prevent the intrusion of salt water into the freshwater;
- A sand backfill well used to inject a mixture of water and sand, mill tailings, or other solids into subsurface mines;
- A subsidence control well used to inject fluids into a non-oil or gas producing zone to reduce or eliminate subsidence associated with the overdraft of fresh water; or

"Irrigation" shall mean the mechanical delivery of water for crop production.

"Landowner" shall mean the person who bears ownership of the land surface.

"Leachate well" shall mean a well used to remove contamination from soil or groundwater.

"Livestock" shall mean domesticated horses, cattle, goats, sheep, swine, poultry, ostriches, emus, rheas,

deer and antelope, and other similar animals involved in farming or ranching operations on land recorded and taxed in the County as an agricultural land use. Dogs, cats, birds, fish, reptiles, small mammals, potbellied pigs, and other animals typically kept as pets are not considered livestock. Livestock-type animals kept as pets or in a pet-like environment are not considered livestock.

"Managed available groundwater" shall mean the amount of water that may be permitted by the District for beneficial use in accordance with the desired future condition of the aquifer(s).

"Maximum Existing and Historic Use" shall mean the amount of groundwater from the aquifer as determined by the District that, unless proportionally adjusted, an applicant for a Existing and Historic Use Permit is authorized to withdraw equal to the greater of the following, as may be applicable:

1. for an applicant who has beneficial use during the Existing and Historic Use Period for a full calendar year, the applicant's actual maximum beneficial use of groundwater from the aquifer excluding waste during any one full calendar year of the Existing and Historic Use Period; or

2. for an applicant who has beneficial use during the Existing and Historic Use Period, but, due to the applicant's activities not having been commenced and in operation for the full final calendar year of the Existing and Historic Use Period, the applicant does not have beneficial use for a full calendar year, the applicant's extrapolated maximum beneficial use calculated as follows: the amount of groundwater that would normally have been placed to beneficial use without waste by the applicant for the last full calendar year during the Existing and Historic Use Period for the applied for purpose had the applicant's activities been commenced and in operation for the full final calendar year during the Existing and Historic Use Period.

"Monitoring well" shall mean a well installed to measure some property of the groundwater or aquifer it penetrates, and does not produce more than 5,000 gallons of groundwater per year, unless the well is being monitored with the permission of the well owner.

"Municipal use" shall mean the use of water for a public water system for residential, commercial, or public and institutional uses, including the application of potable water for irrigation of golf courses, parks and recreational uses; it does not include water for industrial uses even when industrial users are receiving potable water.

"New well" shall mean a well which was drilled or completed or proposed to be drilled after the District's Rules originally took effect on November 4, 2009.

"New well application" shall mean an application for a permit for a water well that has not yet been drilled.

"Open meeting law" shall mean Chapter 551, as amended, Texas Government Code.

"Open or uncovered well" shall mean an artificial excavation dug or drilled for the purpose of exploring for or producing water from the groundwater reservoir and which is not capped or covered as required by §36.118 of the Texas Water Code.

"Operating Permit" shall mean a permit issued by the District for the production of groundwater, usually by a water well, or by excavation, or by penetration into an aquifer, allowing groundwater to be withdrawn for a designated period.

"Permit" shall mean written authorization issued by the District for the production of groundwater, usually by a water well, or by excavation, or by penetration into an aquifer, allowing a specified amount of groundwater to be withdrawn for a non-exempt specific use and a designated period. See "Operating

Permit".

"Pitless adapter" shall mean an assembly of parts which will permit water to pass through the wall of the well casing or extension thereof; provides access to the well and to the parts of the water system within the well; and provides for the transportation of the water and the protection of the well and water therein, from surface or near surface contamination. Parts or appurtenances to a pitless well adapter include, but are not limited to, the vent, the device(s) on or in the wall of the casing, and the cap or cover on top of the casing or casing extension.

"Plugging" shall mean an absolute sealing of the well bore.

"Pollution" shall mean the alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water that renders the water harmful, detrimental, or injurious to humans, animals, vegetation, or property, or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any or reasonable purpose.

"Public Information Act" shall mean Chapter 552, as amended, Texas Government Code.

"Person" includes corporation, individual, organization, government or governmental subdivision or agency, business trust, estate, trust, partnership, association, or any other legal entity.

"Presiding officer" shall mean the President, Vice-President, Secretary, or other Board member presiding at any hearing or other proceeding or a Hearing Examiner conducting any hearing or other proceeding.

"Registered well" shall mean a well for which the owner, driller, or operator has provided location, usage, and drilling log and other information to the District on a form provided by the District for that purpose.

"Replacement Well" shall mean a well that is drilled to replace an existing well where (a) the existing well that is being replaced is permanently closed, and (b) the replacement well is drilled within 50 feet from the closed well.

"Rules" shall mean the Rules of the District adopted November 4, 2009, along with the amendments compiled in this document and as may be supplemented or amended from time to time, as provided by the laws of the State of Texas.

"Section" shall mean the number section of a survey or block as shown in "Texas Country Farm Plats," 1996 Edition, (Smith Publishing Co.).

"Sustainability" is defined as balancing groundwater withdrawals with natural recharge and replenishment to maintain long-term stability in the amount and quality of groundwater in the aquifers underlying the District, and in regional or local groundwater supplies.

"Texas Rules of Civil Procedure" and "Texas Rules of Civil Evidence" mean the civil procedure and evidence rules as amended and in effect at the time of the action or proceeding. Except as modified by the Rules of the District, the rights, duties, and responsibilities of the presiding officer acting under the Texas Rules of Civil Procedure or the Texas Rules of Evidence are the same as a court acting under those rules.

"Vanity pond" shall mean a pond used purely for aesthetic/landscape purposes.

"Verification Period" means the period of time from January 1, 2010, to January 1, 2011, during which an Existing and Historic Use permittee shall be required to meter and report to the District their groundwater production and during which such users may amend their Historic Use Permit applications.

"Waste" shall mean Texas Water Code Chapter 36.001 (8) Definitions and Section 5 of these Rules.

"Water meter" shall mean a water flow measuring device that can accurately record the amount of groundwater produced during a measured time.

"Well" shall mean any facility, device, or method, including excavation or other penetration into an aquifer, used to withdraw groundwater from the groundwater supply within the District, including a water well, test well, injection well, dewatering well, monitoring well, piezometer well, observation well, or recovery well.

"Well operator" shall mean the person who operates a well or operates a water distribution system supplied by a well.

"Well owner" shall mean the person who owns the land upon which a well is located or is to be located, or any person or other entity, public or private, that has the right to produce groundwater from the land either by ownership, contract, lease, easement or any other estate in the land or groundwater.

"Well system" shall mean a well and distribution system or group of wells connected or tied to the same distribution system.

"Withdraw" shall mean extracting groundwater by pumping or by another method.

"Windmill" shall mean a wind-driven or hand-driven device that uses a piston pump to remove groundwater.

RULE 1.2 PURPOSE OF RULES

These Rules are adopted to achieve the provisions of the District Act, of Chapter 36, Water Code, as amended, and Section 59 of Article XVI, Texas Constitution, and to accomplish their purposes. The Rules contained herein are the foundation for achieving the goals of the District Act and Management Plan.

In order for the District to achieve its purposes, goals and mission, and to strive to assure long term availability of adequate, good quality groundwater, compliance with District Rules by water well drillers and pump installers as well as by District constituents is mandatory.

RULE 1.3 USE AND EFFECT OF RULES

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 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.

In fulfilling the stated purpose of these Rules, the board will endeavor to maintain the amount and quality of groundwater in the aquifers in the district on a sustainable basis.

RULE 1.4 AMENDING OF RULES

The Board may, following notice and hearing, amend these Rules or adopt new rules from time to time.

RULE 1.5 HEADINGS AND CAPTIONS

The section and other headings and captions contained in these Rules are for reference purposes only. They do not affect the meaning or interpretation of these Rules in any way.

RULE 1.6 CONSTRUCTION

A reference to a title, chapter or section without further identification is a reference to a title, chapter or section of the Water Code, as amended. Construction of words and phrases are governed by the Code Construction Act, Subchapter B, Chapter 311, Government Code.

RULE 1.7 METHODS OF SERVICE UNDER THE RULES

1. Documents shall be filed at the District either by hand delivery, mail, or telephonic facsimile document transfer to the District Office. The document shall be considered filed as of the date received by the District at the District Office for a hand delivery; as of the date reflected by the official United States Postal Service postmark if mailed; and, for telephonic facsimile document transfers, as of the date on which the telephonic facsimile document transfer is complete, except that any transfer complete and received at the District Office after official District business hours will be deemed complete and received on the following business day. If a person files a document by facsimile, he or she must file a copy by mail within three (3) calendar days.

2. Except as otherwise expressly provided in these Rules, any notice or documents 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 mail sent to the recipient's or authorized representative's last known address, or by telephonic facsimile document transfer to the recipient's current facsimile number. Service by mail is complete upon deposit in a post office or other official depository of the United States Postal Service. Service by telephonic facsimile document transfer is complete upon transfer, except that any transfer occurring after official District business hours will be deemed complete and received on the following business day. If service or delivery is by mail, and the recipient has the right, or is required, to do some act within a prescribed time after service, three (3) calendar days will be added to the prescribed period.

RULE 1.8 SEVERABILITY

If any one or more of the provisions contained in these Rules are for any reason held to be invalid, illegal, or unenforceable in any respect, or the application thereof to any person or circumstances is held to be invalid, the invalidity, illegality, or unenforceability shall not affect any other Rules or provisions of these Rules, and these Rules must be construed as if such invalid, illegal or unenforceable rules or provision had never been contained in these Rules, and to this end the provisions of these Rules are severable.

RULE 1.9 EFFECTIVE DATE

Except as otherwise specified, all Rules contained herein are effective November 4, 2009, and apply to all water wells drilled, repaired, or altered within the District.

SECTION 2. BOARD

RULE 2.1 PURPOSE OF BOARD

The District Board determines and carries out District policy and regulates the withdrawal of groundwater within the boundaries of the District for the purposes of conserving, preserving, protecting and recharging the groundwater within the District, and for the purpose of preventing waste of the groundwater within the District, and to exercise its rights, powers, and duties in a way that will effectively and expeditiously accomplish the purposes of the District Act and of Chapter 36, Water Code, as amended, and of Section 59, Article XVI, Texas Constitution. The Board's responsibilities include, but are not limited to, the adoption and enforcement of reasonable rules and other orders.

RULE 2.2 BOARD STRUCTURE, OFFICERS

The Board consists of the members elected and qualified as required by the District Act. The Board will elect one of its members to serve as President, to preside over Board meetings and proceedings; one to serve as Vice President to preside in the absence of the President; and one to serve as Secretary to keep a true and complete account of all meetings and proceedings of the Board. The Board may make other appointments as allowed by Chapter 36, Water Code, as amended. The Board may elect officers annually, but must elect officers at the first meeting in January, after the newly elected or re-elected board members are sworn in, following elections of Directors held in each even numbered year. Members and officers serve until their successors are elected or appointed and sworn in accordance with the District Act and these Rules.

RULE 2.3 MEETINGS

The Board will hold a regular meeting at least once each month as the Board may establish from time to time by resolution. At the request of the President, or by written request of at least three members, the Board may hold special meetings. All Board meetings will be held according to the Texas Open Meetings Law.

RULE 2.4 COMMITTEES

The 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.

RULE 2.5 EX PARTE COMMUNICATIONS

Board members may not communicate, directly or indirectly, about any issue of fact or law in any contested case before the board, with any agency, person, party or their representatives, except on notice and opportunity for all parties to participate.

SECTION 3. DISTRICT STAFF

RULE 3.1 GENERAL MANAGER

The Board may employ a person to manage and conduct the duties, business, and functions of the District, subject to orders, directions and control of the Board. The title of this person is general manager. The Board will determine the salary and review the position of general manager each year at the beginning of the third quarter of every fiscal year.

RULE 3.2 STAFFING OF THE DISTRICT

The General Manager, with approval of the Board, may employ all persons necessary for the proper handling of business and operation of the District. The General Manager shall recommend salaries for employees (other than his/her self), but said salaries must be approved by the Board. The General Manager will review the position of each staff member as necessary.

SECTION 4. DISTRICT

RULE 4.1 POWERS OF THE DISTRICT

The District has the powers and authority conferred upon it by the District Act, by Section 59, Article XVI, Texas Constitution, by Chapter 36, Water Code, as amended, by other State law, rules and regulations, and by the District Rules, including the authority to regulate the spacing of water wells and to regulate the production of groundwater from the water wells.

RULE 4.2 MINUTES AND RECORDS OF THE DISTRICT

All documents, reports, records, and minutes of the District are available for public inspection and copying following the Texas Open Records Act. Upon written application of any person, the District will furnish copies of its public records. A copying charge may be levied pursuant to policies established by the District, in accordance with the Open Records Act. A list of the charges for copies will be furnished by the District.

RULE 4.3 CERTIFIED COPIES

Requests for certified copies must be in writing. Certified copies will be made under the direction of the General Manager. A certification charge and copying charge may be assessed, pursuant to policies established by the Board of Directors.

RULE 4.4 DISTRICT MANAGEMENT PLAN

The District Management Plan specifies the acts, procedures, performance and avoidance necessary to prevent waste, the reduction of artesian pressure, or the draw-down of the water table. The District shall use the Rules of the District to implement the Management Plan. The Board will review the plan at least every fifth year. If the Board considers amendments to the plan or a new plan necessary or desirable, after notice and public hearing, amendments to the plan or a new plan will be adopted. A plan, or amended plan, once adopted, remains in effect until the adoption of a new plan.

RULE 4.5 OFFICIAL COMMUNICATIONS

All official business or legal communications with the District and/or with the Board of Directors should be addressed to the attention of the President of the Board of Directors, with a copy addressed to the District's General Manager. Legal documents must be in writing and must be delivered by hand, by United States postal service or by other delivery services. All other official communications must be in writing, but may be transmitted by hand delivery, postal delivery, or by facsimile.

SECTION 5. WASTE AND BENEFICIAL USE

RULE 5.1 DEFINITION OF WASTE

"Waste", as defined in Chapter 36, Texas Water Code, as amended, means any one or more of the following:

1. Withdrawal of groundwater from a groundwater bearing sand or strata or from a groundwater reservoir at a rate and in an amount that causes or threatens to cause intrusion into the groundwater or reservoir of water unsuitable for agricultural, gardening, domestic or stock raising

purposes;

2. The flowing or producing of wells from groundwater or a groundwater reservoir if the water produced is not used for a beneficial purpose;

3. Escape of groundwater from a groundwater bearing sand or strata or from a groundwater reservoir to any other reservoir or geologic strata that does not contain groundwater;

4. Pollution or harmful alteration of groundwater in a groundwater reservoir by saltwater, radioactive substances or compounds, or by other deleterious matter admitted from another stratum or from the surface of the ground;

5. Willfully or negligently causing, suffering, or allowing groundwater to escape into any river, creek, natural watercourse, depression, lake, reservoir, drain, sewer, street, highway, road, or ditch, or onto any land other than that of the owner of the well unless such discharge is authorized by permit, rule, or order issued by the Texas Commission on Environmental Quality under Chapter 26;

6. Groundwater pumped for irrigation that escapes as irrigation tailwater onto land other than that of the owner of the well unless permission has been granted by the owner of the land receiving the discharge; or

7. For water produced from an artesian well, waste has the meaning assigned by Section 11.205 Texas Water Code.

RULE 5.2 WASTE PREVENTION

1. Groundwater shall not be produced within, or used within or outside the District, in such a manner or under such conditions as to constitute waste as defined in Rule 5.1 hereof. **Water shall not be produced from an abandoned or deteriorated well.**

2. No person shall pollute or harmfully alter the character of the underground water reservoir of the District by means of salt water or of other deleterious matter admitted from some other stratum or strata from the surface of the ground.

3. No person shall commit waste of groundwater as that term is defined in Chapter 36, Water code, and in Section 5 of these Rules.

4. Any person producing or using underground water shall use every possible precaution, in accordance with the best available or most approved methods, to stop and prevent waste of such water.

5. A well identified as an abandoned or deteriorated well, or a borehole, must be plugged, capped or re-completed in accordance with the requirements of the District and of any statewide law, agency or political subdivision having jurisdiction including, but not limited to, the Texas Water Well Drillers Act, and the Texas Commission on Environmental Quality.

    a. The District may require a well to be capped 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. A deteriorated or abandoned well must be plugged in accordance with the Texas Department of License and Regulation, Water Well Drillers and Pump Installers Rules (16 TAC Chapter 76). It is the responsibility of the landowner to see 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.

   i. When an open or uncovered, deteriorated, or abandoned well is found by District personnel or brought to the District's attention by a constituent, a letter will be sent to the owner of the property upon which the open or uncovered, deteriorated, or abandoned well exists, notifying the property owner of his responsibility to cap or plug the well. The property owner will also be provided with an information brochure on the proper closing of abandoned wells.

   ii. The property owner will be notified in the letter that the District may contribute up to 50% of the cost of the capping or plugging of the open or uncovered, deteriorated, or abandoned well, not to exceed $300 contribution by the District per well, on a first come – first served basis, as long as money remains in the budget for that purpose. If the well owner plugs or caps his own well, he may be reimbursed up to 50% of his out of pocket expenses, not to exceed $300 contribution by the District per well, on a first come – first served basis, as long as money remains in the budget for that purpose, and provided he can supply sufficient written evidence of payment of those expenses. **Lack of District funds does not preclude the landowner's responsibility, both under the State of Texas' Water Well Drillers and Pump Installers Rules and the District's Rules, to cap or plug the open or uncovered, deteriorated, or abandoned well.**

   iii. The property owner will be given one hundred eighty (180) calendar days in which to comply. The District Manager shall set up a calendaring system which will alert the District when a follow-up is due. The property owner will also be notified that he must file a Well Plugging Form with the Texas Department of Licensing and Regulation within thirty (30) calendar days after the well is plugged. A copy of the completed form must also be sent to the District by the property owner.

   iv. Once the property owner has notified the District that the well has been closed (capped or plugged), the District may inspect that well to insure compliance. District personnel may inspect well closures on a random basis.

   v. Should the property owner fail to respond within the one hundred eighty (180) calendar days, refuse to cap or plug the well, or fail to submit the Well Plugging Form within one hundred eighty (180) calendar days, the District Manager shall send a letter notifying the well owner or operator that he is in violation of District Rules and is therefore subject to a fine for each day the violation continues. An invoice assessing the cumulative amount of the fine will be sent to the well owner or operator. If the fine is not paid and the well is not closed within thirty (30) calendar days of receipt of the invoice, the District may instruct its attorney to bring legal proceedings to cause the open or uncovered, deteriorated, or abandoned well to be brought into compliance

with the District Rules, and to seek a judgment for the amount of the unpaid fine, which would place a lien on the land on which the well is located. The lien, if filed, will only be removed upon proper well closure and payment of the assessed fine.

RULE 5.3 USE FOR A BENEFICIAL PURPOSE

Use of groundwater in accordance with the Rules of the District is for a beneficial purpose if it is used for:

1. Agricultural, gardening, domestic, stock raising, municipal, mining, manufacturing, industrial, commercial, or recreational purposes;

2. Exploring for, producing, handling, or treating oil, gas, sulphur, or other minerals; or

3. Any other purpose that is useful and beneficial to the user and does not meet the definition of waste as described in Rule 5.1.

SECTION 6. SPACING REQUIREMENTS

RULE 6.1 REQUIRED SPACING

When a water well is pumped, water levels in the vicinity are drawn down in the shape of an inverted cone, with its apex at the pumped well. Where intensive development has taken place in groundwater reservoirs, each well superimposes its own individual cone of depression on the cone of neighboring wells. This results in the development of a regional cone of depression. When the cone of one well overlaps the cone of another, interference occurs and an additional lowering of water levels occurs as the wells compete for water by expanding their cones of depression. The amount or extent of interference between cones of depression depends on the rate of pumping from each well, the spacing between wells, and the hydraulic characteristics of the groundwater or aquifer in which the wells are completed.

Therefore, it is important to set minimum spacing requirements between water wells, in order to prevent a well on one tract from interfering with the production of a well on another property. The District has defined the following spacing requirements, to assist the District in managing the available groundwater and maintaining the desired future condition of each of its aquifers.

1. No new well may be drilled within 50 feet (50') from the property line of any adjoining landowner. On any new division of property, new property lines shall also be a minimum of fifty feet (50') from any existing wells, unless otherwise approved by the District.

2. In addition to the spacing of wells from adjoining property boundaries, well spacing (distance of one well from other wells) is an important tool suggested by Chapter 36 to help in the management and protection of the groundwater and aquifers from large and/or concentrated water usage. Spacing requirements for permitted wells will be based on the distance of the well from the adjoining property lines as well as from other wells. Pending collection of additional hydrogeologic and other scientific data,

spacing of new wells from an existing well shall be one foot per one gallon per minute of production from the new well up to maximum of one thousand (1000) gallons per minute. A new well producing over one thousand (1000) gallons per minute will be spaced one thousand (1000) feet plus one-half (1/2) foot per one gallon per minute of production in excess of one thousand gallons per minute from an existing well.

RULE 6.2 EXCEPTIONS TO SPACING REQUIREMENTS

1. A landowner with property smaller than the minimum five acre tract size may make application to the District for a waiver, or exception, by following the procedures defined in Rule 6.3 for the proposed well. The Board has the discretion to grant an exception to the spacing requirements concerning the new proposed well location.

2. Providing an applicant can show, by clear and convincing evidence, good cause why a new well should be allowed to be drilled closer than the required spacing of 50 feet from an adjoining property line, the issue of spacing requirements will be considered during the permitting process. If the Board, after considering the evidence presented, determines to grant a permit or an exception to drill a well that does not meet the spacing requirements, the Board may limit the production of the well to ensure no injury is done to the groundwater or aquifer.

3. If the Board grants an exception to the spacing requirements for a proposed new well, that well must be completed in accordance and in compliance with the standards of the Texas Water Well Drillers and Water Well Pump Installers Rules (see 16 TAC 76.1000 Technical Requirements – Locations and Standards of Completion of Wells).

4. The Board may, if good cause is shown by clear and convincing evidence by an applicant, enter special orders or add special permit conditions increasing or decreasing spacing requirements.

RULE 6.3 MINIMUM TRACT SIZE

A well will not be allowed to be drilled on properties of less than ten (10) contiguous acres. The District will cooperate with Red Sands officials to ensure that proposed new wells will be drilled in compliance with current minimum tract sizes or other tract or lot requirements or restrictions imposed by Red Sands.

SECTION 7. PRODUCTION LIMITATIONS

RULE 7.1 MAXIMUM ALLOWABLE PRODUCTION

1. In order to accomplish the purposes of Texas Water Code Chapter 36, and achieve the stated purposes and goals of the District, including managing the sustainability of the aquifers and preventing significant, sustained water-level declines within the aquifers, the Board reserves the right to establish any production limits necessary on new or existing permits.

2. Maximum allowable production of groundwater will be determined based upon the number of contiguous acres in the property on which the well or well system is located, and upon the distance of that well from the adjoining property line as well as from other wells.

3. The total annual production for a permitted well will be determined by the distance from the property line and other wells on the property in accordance with known factors of groundwater and aquifer productivity, available hydrological data and calculated recharge rates deemed appropriate for the groundwater resource. Any and all production rates may be altered or adjusted by the Board should a drought condition occur in the area or region.

4. An exception to the production limitations will be considered after ten (10) calendar days' written notice is given by the applicant to all adjacent landowners and all other landowners within one-half mile of the well site. Following proof of written notice, the Board shall call a public hearing to take evidence and testimony on the proposed exception, after which they may grant or deny the request for the exception. If all the land owners required to receive notification by this Rule waive their right to object to the exception, the exception may be granted, provided the application meets all other requirements and provisions of these Rules.

5. Excluding wells operated pursuant to a valid Existing and Historic Use Permit, in no event may a well or well system be operated such that the total annual production exceeds two acre-feet of water per contiguous acre owned or operated, or for which a person can show ownership or possession of groundwater rights, per year. Specific production limitations will be set as a condition of the granted well operating permit.

6. A non-exempt well or well system for which an Existing and Historic Use Permit has been issued shall be operated such that the total annual production will not exceed the amount authorized under the Existing and Historic Use Permit and any additional permits issued in compliance with these Rules. Between the effective date of these rules and the date that a final Existing and Historic Use Permit has been issued to a well owner for an existing non-exempt well or well system, the well owner or operator shall not withdraw during any calendar year an amount of groundwater greater than the maximum amount produced in any one calendar year during the historic period as shown in the application for the historic use permit.

SECTION 8. WATER WELL REGISTRATION

RULE 8.1 REGISTRATION OF WELLS

1. Except for those types of wells listed in Subsection 8.1(3), all wells within the District, whether exempt or non-exempt from permitting, are required to be registered with the District on forms approved by the General Manager.

2. Registration of an existing, exempt well will provide the owner or operator of the well with evidence that the well existed before the effective date of these Rules for purposes of determining historical user status. Registration of an existing, exempt well will also include the well in the spacing protections provided by Section 6.

3. The following types of wells are not required to be registered with the District: leachate wells, extraction wells, injection wells, dewatering wells, and wells used to supply water for hydrocarbon production activities.

4. It is a violation of these Rules for a well owner, well operator, or water well driller to drill any well

without the well registration form being filed with the District, either in person, by mail, or by facsimile, as provided herein.

5. It shall be unlawful for any person to act as, or to offer to perform services as a well driller or pump installer without first obtaining a license pursuant to the Texas Water Code, Chapters 32 and 33. Only a licensed well driller or licensed pump installer may install, service or alter a well within the boundaries of the Red Sands Groundwater Conservation District, unless a person drills or constructs a water well on his property for his own use. All persons drilling a well or having a well drilled, deepened, or altered shall adhere to the provisions of Chapters 32 and 33 of the Texas Water Code, and 16 Texas Administrative Code, Chapter 76, prescribing the location of wells and proper drilling, completion, capping, and plugging.

RULE 8.2 REGISTRATION OF EXISTING WELLS

All existing wells (groundwater wells drilled and completed prior to November 4, 2009), except for those types of wells listed in Subsection 8.1 (3), must be registered by the well owner or well operator. Registration forms will be provided by the District and furnished to the applicant upon request. The District may offer a grace period in which existing wells can be registered without requiring a well log deposit or any other fee.

The owner or operator of an existing well must be fully compliant with all registration requirements and other applicable provisions of these Rules by January 1, 2011. Failure to register an existing well by January 1, 2011, will make the well ineligible for Historic Use status under Section 9.12.

RULE 8.3 REGISTRATION OF NEW WELLS

All new wells, except for those types of wells listed in Subsection 8.1 (3), must be registered by the well owner, well operator, or water well driller. If a new well meets spacing (Rule 6) and production (Rule 7) requirements and meets the exclusions or exemptions provided in Rule 9.7, the registrant may begin drilling immediately. A registration form must be filed within fourteen (14) calendar days after the well is drilled. For any other (non-exempt) wells, an application for a well permit must be filed by the well owner, well operator, or water well driller prior to drilling the well.

The driller of any water well within the District shall keep accurate drillers' logs, and copies of drillers' logs shall be filed by the driller with the District within thirty (30) calendar days after such drilling is complete.

SECTION 9. PERMITS

RULE 9.1 APPLICABILITY

1. No person may drill, equip, complete, operate, alter the size of a well or well system, or produce groundwater from a well or well system without first obtaining a permit from the District as provided by statutory law and these Rules, unless the well meets the definition of "exempt" (see Rule 9.7).

2. Water Well Permits, called "Operating Permits" herein, are issued to authorize the withdrawal of a specified amount of groundwater from a non-exempt water well for a specific use and a designated period.

3. Transport Permits are issued to authorize the withdrawal of a specified amount of groundwater from a water well for a specific use and a designated period for transportation out of the District. Additional requirements and conditions for Transport Permits are defined in Section 10.

4. Existing and Historic Use Permits are issued for registered non-exempt wells that were in existence and producing groundwater for use within the District prior to November 4, 2009, the original effective date of the District Rules.

RULE 9.2 GENERAL PERMITTING POLICIES AND PROCEDURES

1. **Permit Requirement**: The well owner, well operator, or any other person acting on behalf of the well owner, must file a completed application for a water well permit before a non-exempt well may be drilled. This application for a well permit shall not be granted until the opportunity for a due process public hearing has been satisfied and the Board has approved the permit. A non-exempt well may not be placed into production until a permit for that well is granted by the District.

2. Within fourteen (14) calendar days after a well is drilled, the well owner or well operator must also notify the District office as to the status of the well. The well or well system must remain permitted until an operating permit is no longer required for the well/well system.

3. If the well for which a permit was granted has not been completed within six (6) calendar months, or one hundred eighty (180) calendar days, after the permit was granted, the permit shall be cancelled, unless the permit holder can provide a reasonable explanation for the delay and an estimated completion date. If a permit is cancelled for this reason, the well owner, well operator, or any other person acting on behalf of the well owner, must file a new completed application for a water well permit.

4. **Permit Applications**: Each original application for a water well permit or permit renewal requires a separate application. Application forms will be provided by the District and furnished to the applicant upon request.

The application for a permit shall be in writing and sworn to, and shall include the following:

a. the name and mailing address of the applicant and the owner of the land on which the well will be located;

b. if the applicant is other than the owner of the property, documentation establishing the applicable authority to construct and operate a well for the proposed use;

c. a location map of all existing wells within a quarter (1/4) mile radius of the proposed well or the existing well to be modified;

d. the total amount of groundwater requested to be withdrawn under the permit, a statement of the nature and purpose of the proposed use and the amount of water to be used for each purpose;

e. 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;

f. a water conservation plan or a declaration that the applicant will comply with the District's management plan;

I. Contents of Conservation Plan. Conservation plans shall consider, as a minimum, the following:

(A) Promotion and encouragement of voluntary conservation measures;

(B) Promotion and encouragement, installation, and use of water saving devices;

(C) Promotion and encouragement of water efficient landscape practices;

(D) Implementation of a conservation-oriented rate structure;

(E) Financial measures which encourage conservation;

(F) Distribution of conservation information and other educational efforts;

(G) Provision for ordinances, regulations or contractual requirements necessary for the permittee to enforce the Conservation Plan; and

(H) Other conservation criteria set by the Board.

II. Compliance. The District shall approve Conservation Plans, if they satisfy the objectives of this Rule. The permittee may revise or amend the Conservation Plans, as necessary, with approval by the District.

III. Irrigation. Irrigation water users may be required to obtain an irrigation water management plan in cooperation with the local soil and water conservation district.

g. the location of each well and the estimated rate at which water will be withdrawn. The location may be shown on a topographic map, ownership map, or a map prepared by a registered professional engineer or a registered surveyor which shows the proposed well and any other structure or location regarding the proposed well and associated activities. The map shall depict the approximate boundaries of the tract of land owned or to be used by the applicant.

h. the proposed casing size, well depth, pump size, and pump capacity;

i. a Drought Contingency Plan (DCP). Each permittee is required to prepare, adopt, and implement a DCP consistent with these Rules.

I. Contents of DCP. DCPs shall consider, as a minimum, the following:

(A) establishment of a permittee historical baseline pumpage volume and target pumpage volume in accordance with reduction goal percentages of the three Critical Groundwater Depletion Area categories (see Section 16 of these Rules;

(B) voluntary compliance restrictions to achieve a 10% reduction goal;

(C) demand reduction measures which may include prohibition of water waste, alternative and/or supplemental water supply sources, adjustment to water rates, and use of

water saving devices;

(D) additional demand reduction measures developed by the permittee which achieve reduction goal percentages associated with each Critical Groundwater Depletion Area category;

(E) financial measures which encourage compliance with the Conservation Plan and Drought Contingency Plan while maintaining financial stability of the permittee during Critical Groundwater Depletion Area categories;

(F) provision for ordinances, regulations or contractual requirements necessary for the permittee to enforce the DCP; and

(G) provisions for reporting pumpage.

II. Compliance. The District shall approve DCPs, if they satisfy the objectives of this Rule. The permittee may revise or amend the DCP, as necessary to reflect changes in permitted pumpage, subject to administrative approval by the General Manager. Any other revisions or amendments must be approved by the Board.

j. Hydrogeological Report Required: An applicant for a new well that involves the production of more than 200 acre-feet of groundwater annually shall submit to the District a current hydrogeological report addressing the area of influence, expected drawdown and recovery time, and other pertinent information required by the District. The hydrogeological report shall be prepared by a qualified person who is properly licensed by the State of Texas to prepare such report. The report shall include hydrogeologic information addressing and specifically related to the proposed water pumpage levels at the proposed pumpage site. Applicants may not rely solely on reports previously filed with or prepared by the District. The report must be submitted prior to the permit being granted, and failure to submit a hydrogeological report when required by the District is a violation of these Rules and shall be grounds for rejection of the permit application. The Board shall make the final determination of whether a hydrogeological report meets the requirements of this subsection. Hydrogeological reports required for permit applications shall:

(A) State and describe the results of a pumping test of the well for which an operating permit is being requested.

(B) Address the area of influence of the well for which a permit is being requested.

(C) Include an assessment of the geology at the site of the well for which a permit is being requested and a description of the aquifer that will supply water to the well.

(D) Be completed in a manner that complies with the guidelines adopted by the District for this purpose.

k. any other information deemed necessary by the Board.

5. **Notice of Permit Hearing**: Once the District has received a completed original application for a water well permit or an operating permit renewal, the District will issue written notice indicating a date and time for a hearing on the application in accordance with these Rules. The District may schedule as many applications at one hearing as deemed necessary.

6. **Decision and Issuance of Permit**: In deciding whether or not to issue a permit, and in setting the terms of the permit, the Board must consider whether the application conforms to the requirements prescribed by Chapter 36 of the Texas Water Code, as amended, and the District Rules. Before granting or denying an Operating Permit, the District shall also consider whether:

a. the proposed use of water unreasonably affects existing groundwater and surface water resources, existing permit holders, and/or existing exempt wells;

b. the proposed use of water is dedicated to any beneficial use;

c. the proposed use of water is consistent with the District's certified management plan;

d. the applicant has agreed to avoid waste and achieve water conservation; and

e. 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.

7. **Term of Operating Permits**: Unless specified otherwise by the Board, except for permits used for agricultural purposes, all operating permits are effective for a five (5) year period from the date a permit is granted, unless changed or revoked, or a different period of time is required by the Texas Water Code. Operating permits for wells used solely for agricultural purposes are effective until changed or revoked. Unless specified otherwise by the Board or these Rules, operating permits are effective until revoked. The permit term will be shown on the permit. Operating permits may be renewed by the Board following application and hearing.

8. **Permit Provisions**: The permit will contain the standard provisions listed in Rule 9.3. The permit may also contain provisions relating to the means and methods of transportation of water produced within the district.

9. **Aggregation of Withdrawal**: In issuing an operating permit, the authorized withdrawal for a given well may be aggregated with the authorized withdrawal from other permitted wells designated by the District. District Rules 5 and 6, as well as other applicable Rules, will be considered in determining whether or not to allow aggregation of withdrawal. For the purpose of categorizing wells by the amount of groundwater production, where wells are permitted with an aggregate withdrawal, the total authorized withdrawal will be assigned to the wells in aggregate, rather than allocating to each well its pro rata share of production. This will allow a well owner, with a number of water wells which supply a single well system, to apply for an operating permit for the well system, and consequently, will not be required to apply for a separate operating permit for each individual well. This provision will allow a well owner to apply for an operating permit for each individual well, in the event a number of wells from more than a single numbered section, may be used to supplying a very large single well system.

10. Regardless of the type of beneficial use for the groundwater to be produced, an Operating Permit shall be granted by the District based upon surface acreage for which the applicant can show possession or ownership of groundwater rights within the boundaries of the District that is not already recognized in another Operating Permit. See also Rule 6.3.

11. **Effect of Acceptance of Permit**: Acceptance of the permit by the person to whom it is issued constitutes acknowledgment of and agreement to comply with all of the terms, provisions, conditions, limitations, and restrictions.

RULE 9.3 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 issued must contain the following standard permit provisions:

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 permittee will comply with the Rules and any emergency conditions assessed by the District.

1. This permit confers only the right to operate the permit under the provisions of these Rules, and its terms may be modified or amended pursuant to the provisions of these Rules. Any person who becomes the owner of a currently permitted well is responsible for that permit and is responsible to comply with the terms of that permit. The permit's terms may be modified or amended pursuant to the provision of these Rules.

2. Withdrawal or production of groundwater from all permitted (non-exempt) wells or well systems must be measured by the owner or operator and reported to the District. The operation of the well for the authorized withdrawal must be conducted in a non-wasteful manner: the water withdrawn under the permit must be put to beneficial use at all times.

3. Withdrawals from all non-exempt wells must be measured by the owner or operator using a device or method that is within plus or minus 10% of accuracy. Measured or estimated water use shall be reported to the District annually in January. The Board may require monitoring devices on permitted wells which would be available for District inspection during business hours.

4. The well site must be accessible to District representatives for inspection, as stated in Rule 15.1, and the permittee agrees to cooperate fully in any reasonable inspection of the well and well site by the District representatives.

5. The application pursuant to which the operating permit has been issued is incorporated in this permit, and this permit is granted on the basis of and contingent upon the accuracy of the information supplied in that application. A finding that false information has been supplied is grounds for immediate revocation of the permit.

6. Violation of the operating permit's terms, conditions, requirements, or special provisions, including pumping amounts in excess of authorized withdrawal, is a violation of these Rules and is punishable by civil penalties as provided by these Rules.

RULE 9.4 MITIGATION PLAN

In order to ensure no unreasonable effects on existing groundwater and surface water resources, the District shall require any well permit applications producing greater that 200 acre/feet of water per calendar year from the same producer or connected or to be connected to a common gathering/transportation piping system or to the same user, to include in the application a plan to mitigate the effects of the drawdown of artesian pressure or the level of the water table upon the registered or permitted well owners potentially affected by that well or wells. The plan shall include but not be limited to:

1. The actions and procedures to be taken by the holder of the well permit in the event that pumping causes the water level in any other registered or permitted well to drop to an unacceptable level.

2. The actions and procedures to be taken by the holder of the well permit in the event that the pumping from the permitted well causes the water to become objectionable or renders the water unusable to any other registered or permitted well owner.

3. The actions and procedures to be taken by the holder of the well permit in the event that pumping causes the well casing or equipment to be damaged so that the recorded quality or quantity of water cannot be produced by any other registered or permitted well owner.

4. The actions and procedures to be taken by the holder of the well permit in the event that pumping causes springs or any other artesian wells used for beneficial purposes to stop flowing.

5. The plan shall also include 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.

6. The plan shall also contain a specifically enumerated time schedule for the execution of the mitigation plan.

7. In the issuance of an operating permit, the Board may require of the operating permit holder the establishment of an escrow fund to protect existing users as required by Texas Water Code Chapter 36.113 and Chapter 36.1131. This escrow fund is to be deposited with the District. The administration and disbursement of this escrow fund is at the sole discretion of the Board.

RULE 9.5 COMPLETENESS OF APPLICATION

1. Applications for well registration, operating permits, and transport permits shall be made in the name of the well owner or property owner on a form or forms provided by the District. The sworn, original application must be submitted and signed by the owner or an authorized agent of the owner, who may be required to provide the District with a notarized authorization from the owner. This agent may be the well driller, lessee or renter of the property or well, power of attorney, or other appropriate agent. District staff will determine if an application is administratively complete.

2. The District will not take action on an application which is not administratively complete or which has not proceeded in a manner consistent with District Rules. An application may be rejected as not administratively complete if the District finds that substantive information required by the application or District staff is missing, false, or incorrect. Applicants submitting incomplete applications will be notified by the District in writing.

3. If an application is deemed incomplete, and the applicant has been notified in writing of the missing, false, or incorrect information, the applicant must submit to the District the information requested by the District within thirty (30) calendar days, or the application shall be deemed to have expired.

4. The District shall promptly consider and act on each administratively complete application for a permit or permit amendment. If, within 60 days after the date an administratively complete application is submitted, the application has not been acted on or set for a hearing on a specific date, the applicant may petition the district court of the county where the land is located for a writ of mandamus to compel the district to act on the application or set a date for a hearing on the application, as appropriate.

RULE 9.6 OPERATING PERMIT LIMITATIONS

On approval of an application, the District shall issue an operating permit to the applicant. The permitted right to produce shall be limited to the extent of and for stated purpose(s) in the permit. The permit is in effect and valid for one (1) year, unless the well is reworked, as discussed in Section 12, or unless the District determines that the permit owner is not in compliance with the permit conditions or District Rules. In event of such noncompliance, the District will notify the permit owner of the conditions that may cause revocation of the permit and allow the owner an opportunity to correct any noncompliance. If the owner does not effect compliance with the permit conditions or the District Rules, by Board action the permit may be cancelled.

1. **Maximum Authorized Withdrawal**: It is a violation of these Rules to pump any amount of water over the amount authorized by the permit.

2. **Operating Permit Required**: It is violation of these Rules to pump a well without an operating permit application being approved with the District by the Board of Directors.

3. Permits may be transferred to another person through change of ownership of the well provided all permit conditions remain in compliance with District Rules. Within ninety (90) calendar days after the date of change in ownership of a well system, a permit holder must notify the District in writing of the name of the new owner.

4. Permits issued under these Rules are subject to change or revocation for waste, deviation from the purposes and terms of the permit, damage or adverse affect caused to groundwater or to aquifers, water level declines that will result in the District's inability to maintain the desired future condition of the aquifers, severe drought conditions, identification of a Critical Groundwater Depletion Area, or availability of other sources of water not available at the time of permit issuance.

5. A new permit must be obtained when any qualifying information on the permit changes, including, but not limited to, a change in ownership of the land the well or well system is located on, a change in the boundaries of the property, a change in the type of use of the water produced, or the repair or reworking of the well as discussed in Section 12.

RULE 9.7 EXCLUSIONS AND EXEMPTIONS

The following wells are exempted from the permit requirements in Section 9 of obtaining an operating permit:

1. a well used solely for domestic use or for providing water for livestock or poultry on a tract of land larger than 5 acres that is either drilled, completed, or equipped so that it is incapable of producing more than 25,000 gallons of groundwater a day;

2. wells used to supply water for hydrocarbon production activities associated with any oil or gas well permitted by the Railroad Commission of Texas. A well authorized under a permit issued by the Railroad Commission of Texas under Chapter 134, Natural Resources Code, or for production from such a well to the extent the withdrawals are required for mining purposes regardless of any subsequent use of the water. These water wells are not required to comply with the spacing requirements of the District as

long as the withdrawals are required and used for mining activities. The District shall require a well to be permitted and comply with District Rules if the withdrawals from the well are no longer necessary for mining activities, or are greater than the amount necessary for mining activities specified in the permit issued by the Railroad Commission of Texas under Chapter 134, Natural Resources Code. An entity holding such a Chapter 134 permit for a water well shall report monthly to the District (1) the total amount of water withdrawn during the month; (2) the quantity of water necessary for mining activities; and (3) the quantity of water withdrawn for other purposes.

3. A well to supply water for a subdivision of land for which a plat approval is required by Chapter 232, Local Government Code is **not exempted** under these Rules, in accordance with Section 36.117.

4. The following types of wells do not require a permit from the District: leachate wells, extraction wells, injection wells, dewatering wells, monitoring wells that produce less than 5,000 gallons per year, and wells used to supply water for hydrocarbon production activities.

5. Groundwater withdrawn from a well exempt from permitting or regulation under these Rules and subsequently transported outside of the District boundaries is subject to any applicable production and export fees under Section 36.122 and 36.205.

6. As stated in Rule 8.1, wells exempt from the requirements of obtaining a permit must still register with the District. A well used solely for agricultural and/or domestic use that is capable of producing more than 25,000 gallons of groundwater per day may obtain an exempt status if the well owner signs an agreement stating that such well will not produce more than 25,000 gallons per day on any day.

7. The District may require an Exempted Well to obtain an Operating Permit and comply with these Rules if:

a. a well exempted under Rule 9.7(4) above is no longer used to supply water for a drilling rig that is actively engaged in drilling or exploration operations permitted by the Railroad Commission of Texas; or

b. withdrawals from an exempted well are:

1. no longer necessary for mining purposes permitted by the Railroad Commission of Texas under Chapter 134, of the Texas Natural Resources Code; or
2. greater than the amount necessary for mining purposes permitted by the Railroad Commission of Texas under Chapter 134, Natural Resources Code; or

c. the size or capacity of a well previously exempted under these Rules is substantially altered and such alteration would render the well non-exempt.

8. As specifically set forth in these Rules, an Operating Permit or an amendment thereto is required to produce water from a non-exempt well, to substantially alter the size or capacity of a non-exempt well, or to alter an exempt well if the alteration would render the well non-exempt.

RULE 9.8 PERMIT AMENDMENTS

1. It is a violation of these Rules for a permittee to violate any term, provision, or restriction contained in a permit issued by the District. A permittee must apply for and receive an amendment to

their permit prior to changing any term, provision, or restriction in the permit.

2. Amendment Types:

a. **Minor** amendments may include a request to:

i. change the name or address of the well owner without any change in use;

ii. decrease the maximum authorized withdrawal;

iii. increase the maximum authorized withdrawal by ten percent or less of the total annual permitted pumpage;

iv. convert two or more wells individually permitted by the same permittee into an aggregate system under one permit to the same permittee.

v. add a domestic or livestock use as an additional use to a permitted well, if an actual beneficial use exists for the additional use, and the maximum authorized withdrawal amount or rate is not increased.

b. All other amendments, including all amendments to permits involving the export of groundwater, are **major** amendments.

3. Minor amendments may be granted by the General Manager without notice, hearing, or further action by the Board. If two or more minor amendments are requested during any permit term for an increase in maximum authorized withdrawal, and the combined increase in volume requested in the amendments exceeds the limits described in Subsection 2(a) for minor amendments, then the amendment which results in an increase in maximum authorized withdrawal in excess of the limits specified in Subsection 2(a) above for minor amendments will be considered a major amendment.

4. Major amendments shall be subject to all the requirements and procedures applicable to issuance of a new permit for a new well.

5. An application for permit amendment shall be made on forms supplied by the District and shall include payment of a processing fee established by the Board, if any. No application processing fee will be required from permittees requesting a decrease in maximum authorized withdrawal.

6. An amendment to change the ownership of a well or well system must be submitted within ninety (90) calendar days of the transfer of ownership.

RULE 9.9 PERMIT REVOCATION

1. A permit is not a vested right of the holder and may not be transferred by the holder. The Board may transfer an Existing and Historic Use Permit to a replacement well or to a person who purchases or otherwise receives ownership of a well owned by an historical user, provided that the new owner or operator maintains the same type of use of the well and fulfills any applicable requirements of the District.

2. After notice and an opportunity for hearing is given, a permit may be revoked, suspended, terminated, canceled, modified, or amended in whole or in part for cause, including, but not limited to (i)

violation of any terms or conditions of the permit, (ii) obtaining the permit by misrepresentation or failure to disclose relevant facts, or (iii) failure to comply with any applicable Rules, regulations, fee schedule, special provisions, requirements, or orders of the District. The permittee shall furnish to the District upon request, and within ninety (90) calendar days, any information to determine whether cause exists for revoking, suspending, terminating, canceling, modifying, or amending a permit.

RULE 9.10 PERMIT RENEWAL

1. Well owners or operators shall make application to renew permits required under these Rules within ninety (90) calendar days prior to the expiration of the permit term on a renewal application form provided by the District. The well owner or operator shall indicate on the renewal application form whether any changes to the well, well operations, purpose of use, or special conditions have occurred.

2. Renewals shall be accomplished by the General Manager without notice or hearing if the terms and conditions of operation listed in the permit have not changed.

3. If the well owner or operator seeks to change any of the permit terms or conditions in the renewal application, the application will be scheduled for a hearing and consideration by the Board under Section 14.

4. The application to renew a permit shall be accompanied by payment of the application processing fee established by the Board, if any.

RULE 9.11 REPORTING REQUIREMENTS

1. All well logs, pump test data, water level data, water quality data, or any other data pertinent to a well shall be submitted to the District office within sixty (60) calendar days after completion of the well or well project. In accordance with Section 36.111, records shall be kept and reports be made to the District regarding the drilling, equipping, and completing of water wells and of the production capability and use of groundwater by the well owner.

2. On or before January 31st of each year, a permittee authorized to produce groundwater shall file an annual report with the District describing the amount of water produced and used for the permitted purposes during the preceding calendar year. The report shall be filed on a form obtained from the District.

3. On or before the 10th of each month, a permittee authorized to transport groundwater outside of the District boundaries shall file a monthly report with the District describing the total amount of groundwater produced and the amount transported outside of the District boundaries during the preceding month. The report shall be filed on a form obtained from the District.

4. During hydrological studies, pump tests, or in areas designated by the Board as Critical Groundwater Depletion Areas, the Board may require production-monitoring devices to be installed on non-exempt, permitted wells at the permittee's expense. These monitoring devices shall be made available for District inspection during normal business hours or during the pump tests or studies as

necessary. An hour meter may be considered a production-monitoring device if the well output in gallons per minute can be measured accurately.

5. District employees, Board members, consultants, or other agents of the District may conduct random or periodic inspections of permitted wells for any District purpose. The District shall coordinate and schedule such inspections with the well owner, as authorized by Rule 15.1.

RULE 9.12 EXISTING AND HISTORIC USE PERMITS

1. **Purpose**. The District seeks to not exceed the sustainable yield of groundwater resources in the District, protect spring flow, and protect existing water wells, and historic users to the maximum extent practicable. In order to more accurately determine the amount of groundwater being used, the District will grant Existing and Historic Use Permits to non-exempt wells that were in existence and producing groundwater prior to November 4, 2009, the original effective date of these Rules. Permits issued by the District for Existing and Historic Use shall bear a reasonable relationship to the District's certified management plan and shall reasonably protect Existing and Historic Use.

2. It is the intent of the District to determine existing and historic use of groundwater within the District as set forth under this rule.

3. **Designation of Historic Use Status**. All owners of existing registered, non-exempt Well Systems that were completed and operational prior to the original effective date of these Rules, and that produced and used groundwater for at least five (5) years during the Existing and Historic Use Period (January 1, 1999, to November 4, 2009) shall apply to the District for an Existing and Historic Use Permit no later than January 1, 2011.

4. An Existing and Historic Use Permit is required from the District by December 31, 2010, for all existing non-exempt Well Systems that were drilled and completed prior to the original effective date of these Rules, and that wish to claim beneficial use of water during the Existing and Historic Use Period.

5. Failure of an owner of such a Well System to file an application for an Existing and Historic Use Permit by January 1, 2011, shall preclude the owner from making any future claim or application to the District for Existing and Historic Use under these Rules or otherwise and shall preclude the owner's ability to operate the Well System under these Rules, unless such owner obtains an Operating Permit under current Rules.

6. Registered exempt wells are given Existing and Historic Use status automatically, and every effort will be made by the District to protect those wells as if an Existing and Historic Use Permit were granted.

7. **Application For Historic Use Status.** All applications for an Existing and Historic Use Permit shall include the following information to the extent the information exists and is available to the applicant through the exercise of reasonably diligent efforts:

   A. the year in which each well in the Well System was drilled;

   B. the purpose for which each well in the Well System was drilled and types of subsequent use of the water produced or withdrawn from such Well System;

C. annual water production history of the Well System for at least five (5) years during the Existing and Historic Use Period;

D. the Maximum Historic Use of the well or well system;

E. legal description of the tract of land on which the well or well system is located;

F. all information requested by the District in a form which shall be prescribed and provided by the District;

G. for irrigation wells, crop type and acreage of crop irrigated by the well or well system for at least one year during the Existing and Historic Use Period;

H. for irrigation wells, deed and legal description of irrigable land previously irrigated by the well or well system, including the year irrigated and the deed and legal description for land on which the well or well system is located, during the Existing and Historic Use Period;

I. for non-irrigation wells, the deed and legal description for the tract of land on which the well or well system is located;

J. documentation regarding enrollment of each tract of land in the United States Department of Agriculture, Farm Service Agency, Conservation Reserve Program, or other such program or service, for which an Existing and Historic Use Permit is sought pursuant to these Rules; and

K. any other information determined necessary by the Board.

8. **Verification**. The District reserves the right to verify the extent of maximum beneficial use of groundwater prior to the effective date of these rules, claimed by each applicant for an historic use permit. The General Manager shall either recommend the granting of a proposed Existing and Historic Use permit or a denial, in whole or in part, based on the application and information obtained by the District in relation to the use of groundwater by the applicant. The District shall obtain the information on which to base a recommendation either from the applicant or other credible sources. Such credible sources may include, but not be limited to, federal, state or other local agencies or governmental entities.

9. **Notice to Public**. The District shall publish notice of the recommended proposed permits or denials and make such recommendations available for public review and inspection. Any applicant or any affected party shall have ninety (90) calendar days from the date of the above notice to file a request for hearing.

10. The Board shall consider the proposed Existing and Historic Use permit application and any other evidence presented by an applicant or an affected party prior to making its decision.

Protestants. A person desiring to protest an application for Existing and Historic Use Permit shall file with the District a notice of protest no later than 15 days after newspaper notice, and shall serve the notice of protest on the applicant at the time of filing. The notice of protest shall set forth the protestant's justiciable interest and how that justiciable interest would be adversely affected by the permit proposed by the application. The Board may take testimony and shall deliberate and take official action at the hearing to determine whether the protestant has sufficiently demonstrated their justiciable interest and how that justiciable interest would be adversely affected by the permit proposed by the application. If the Board finds that a protestant does not adequately establish that its justiciable interest is affected by the proposed permit, then the protestant shall not be allowed to participate in the hearing.

11. **Application Fee**. The validity of an Historic Use permit is contingent upon payment by the

applicant of the appropriate application fee, if any, established by the Board under Section 11 of these Rules.

12. **Metering**. An applicant for an Historic Use permit must install a metering or measuring device on each existing well for which an application has been submitted.

13. **Reporting**. Within 15 days of January 31 of each year, each Historic Use permit holder must submit a water use report to the District, on a form provided by the District, stating the following: (a) the name of the permittee; (b) the permit number; (c) the well numbers of each well for which the permittee holds a permit; (d) the total amount of groundwater produced by each well and well system during each month of the immediately preceding calendar year; (e) the purposes for which the water was used; and (f) any other information requested by the District.

14. **Production of Groundwater.** Existing and Historic Use Permits are a recognition by the District of Existing and Historic Use under this Section and shall entitle the permittees to produce or withdraw groundwater in accordance with the production regulations set forth in these Rules. The quantity that may be withdrawn shall not exceed the Maximum Historic and Existing Use demonstrated by the applicant, and determined by the Board.

15. **Reductions**. If the District determines that the total amount of production from an aquifer is greater than the annual sustainable amount available for withdrawal, production amounts may be decreased proportionally among all permit holders producing from that aquifer, with any necessary reductions being applied first to Operating Permits and, subsequently, if production is still greater than availability after reducing Operating Permits in their entirety, to Historic and Existing Use Permits.

16. Beneficial Use. The Board shall not issue Existing and Historic Use Permits for wells or lands for which the Board determines the well owner or operator did not beneficially use groundwater during the Existing and Historic Use Period as set forth under this Section.

17. **Transfer of Historic Use Permit**. Existing and Historic Use Permits are granted conditionally, and are granted to a specific owner and type of water use. An Existing and Historic Use Permit is not a vested right of the permittee. The District may transfer an Existing and Historic Use Permit upon receiving an administratively complete District approved Permit Application Form stating a request for a permit amendment specific to a request in Change of Ownership. Said application shall comply with all District rules and regulations relating to permit amendments relative to change in ownership status.

18. **Aggregation**. A permittee having a well or wells, each well having an Existing and Historic Use Permit may be aggregated or combined with additional wells while still retaining an Existing and Historic Use Permit for the aggregated system if all of the following provisions are satisfied:

A. the total aggregate withdrawal of groundwater assigned to the aggregated system shall be equal to or less than the combined total of all individual pumpage permits comprising the entire aggregated system; and

B. all individual pumpage permits have an Historic Use designation; and

C. all individual pumpage permits are in compliance with any and all applicable District rules and regulations.

20. **Replacement Wells**. A permittee may apply to re-equip, re-drill, or replace a currently permitted while preserving its Existing and Historic Use designation by filing an application to amend such permit and providing such information as may be required by the General Manager under the following conditions:

A. the replacement well must be drilled on the same tract of land as the original well as defined by the legal description filed with the County Clerk; and

B. the re-equipped, re-drilled, or replacement well complies with all applicable District rules and regulations, including issuance of permits and authorizations and payment of all fees and charges; and

C. if a replacement well is drilled, the permittee shall cease production from the well being replaced and immediately comply with any and all well closure and abandonment requirements pursuant to District Rules.

21. **Permit Conditions.** The maximum annual quantity of groundwater that may be withdrawn under an Historic and Existing Use Permit issued by the District shall be no greater than the amount specified in the permit or the amended permit. Permits may be issued subject to conditions and restrictions placed on the rate and amount of withdrawal pursuant to the District's rules and permit terms necessary to prevent waste and achieve water conservation, minimize as far as practicable the drawdown of the water table or the reduction of artesian pressure, lessen interference between wells, or control and prevent subsidence. The permittee, by accepting the permit, agrees to abide by any and all groundwater withdrawal regulations established by the District that are currently in place, as well as any and all regulations established by the District in the future. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment of and agreement to comply with all of the terms, provisions, conditions, limitations, and restrictions.

22. In the interest of promoting conservation of groundwater, the District shall allow an applicant for an Existing and Historic Use Permit to apply for a permit authorization in an amount less than the applicant's Maximum Existing and Historic Use.

23. The District may impose more restrictive permit conditions on new permit applications, and on increased use by Existing and Historic Users if the limitations:

A. apply to all subsequent new permit applications and increased use by Existing and Historic Users, regardless of type or location of use;

B. bear a reasonable relationship to the existing District Management Plan; and

C. are reasonably necessary to protect existing use.

24. **Term of Permits**: Unless specified otherwise by the Board, all Existing and Historic Use Permits are effective for a five (5) year period from the date a permit is granted, unless amended or revoked, or a different period of time is required by the Texas Water Code. The permit term will be shown on the permit.

25. **Permit Renewal.** The General Manager may rule on any renewal application without notice, hearing, or further action by the Board, or with such notice and hearing as the General Manager deems practical and necessary under the circumstances. The General Manager may deny a renewal application on any reasonable ground, including, but not limited to, a determination that the applicant is currently in violation of these Rules or Chapter 36, Texas Water Code, or that the applicant has a previously unresolved violation on record with the District. Any applicant may appeal the General Manager's ruling by filing, within ten business days of the General Manager's ruling, a written request for a hearing before the Board. The Board will hear the applicant's appeal at the next available regular Board meeting. The General Manager shall inform the Board of any renewal applications granted. On the motion of any Board member, and a majority concurrence in the motion, the Board may overrule the action of the General

Manager. The General Manager may authorize an applicant for a permit renewal to continue operating under the conditions of the prior permit, subject to any changes necessary under proportional adjustment regulations, these Rules, or the District's Management Plan, for any period in which the renewal application is the subject of a contested case hearing. All permit renewal activities will be reported to the Board by the General Manager at regular Board meetings.

RULE 9.13 TEST HOLES

1. A person wishing to explore for groundwater must, prior to commencement of drilling, file with the District a Notice of Intent to Drill a Test Well. The Notice of Intent to Drill a Test Well shall include the following information:

A. A. The name, mailing address and telephone number of the Applicant and the Owner of the real property on which the Test Hole(s) will be drilled.

B. The name, mailing address and telephone number of the driller or contractor and the date drilling operations will begin.

C. The Section, block, survey, league or other recorded legal description of the real property.

D. An agreement by the Applicant that the location of the Test Hole(s) and driller's logs will be furnished to the District by the Applicant, or by the Applicant's authorized representative, upon completion of the Test Hole operation. The location of the Test Hole(s) shall be identified by a metes and bounds description or by a Global Positioning System (GPS) longitude and latitude reading (TWC § 36.112).

E. A declaration that the Test Hole(s) will be plugged and logs and plugging reports will be furnished to the District upon completion of the Test Hole operation. Or, if the test well will be converted to a water well, the test well will be capped with a covering capable of sustaining a weight of at least 400 pounds until the test well is converted to a water well.

F. A declaration of whether the drilling and operation of the test well is restricted to a geophysical exploration or will include pumping tests and the short-term production of groundwater for testing purposes only.

G. Any other information deemed necessary by the General Manager of the District, subject to the approval of the Board.

2. No person may commence drilling a test well prior to District approval. The General Manager is delegated approval authority for test wells restricted to geophysical exploration absent pumping tests. Authorization to drill a test well which will include pumping tests and the production of groundwater is subject to Board approval as an uncontested matter.

3. Each Notice of Intent to Drill a Test Well shall be accompanied by an application fee, by certified check, personal check, or postal money order, payable to the District, and shall be delivered to the District office. The test well application fee may be applied to the fee required for a well permit application made prior to the final expiration date of the test well application.

4. Authorization for drilling and production evaluation of a test well will expire one (1) year from the date of approval by either the General Manager or the Board.

SECTION 10. TRANSFER OF GROUNDWATER OUT OF THE DISTRICT

RULE 10.1 PERMIT REQUIRED

Groundwater produced from within the District may not be transported outside the District's boundaries unless the Board has issued the well owner or operator a Transport Permit. The requirements of this Rule are applicable without regard to the manner the water is transferred out of the district and specifically includes discharges into watercourses to convey water, as well as pipelines, conduits and aqueducts.

1. The District may impose a reasonable fee for processing an application under this Section. An application filed to comply with this Section shall be considered and processed under the same procedures as other applications for other permits, and shall be combined with applications filed to obtain a permit for in-District water use from the same applicant, if any.

2. The application for a Transport Permit shall identify which Operating Permit(s) issued by the District the applicant wishes the District to include in the Transport Permit and for which the maximum quantity of water available for transfer outside of the boundaries of the District shall be determined.

3. The District shall not issue a Transport Permit, unless the Transport Permit applicant has obtained an underlying Operating Permit(s), or amendment thereto, that authorizes the Transport Permit applicant to produce or withdraw the quantity of groundwater to be transferred outside of the boundaries of the District.

4. The District shall not deny a permit under this Section based on the fact that the applicant seeks to transfer groundwater outside of the boundaries of the District but shall restrict a Transport Permit by limiting the annual production of groundwater for transport outside of the boundaries of the District to a quantity of water based on the ability to maintain the desired future condition of the aquifer from which the groundwater will be withdrawn.

5. Unless specified within this section, all other requirements and conditions listed in Section 9 apply to Transport Permits as well.

RULE 10.2 APPLICABILITY

For purposes of this section, the following activities are not considered to be an export of groundwater:

1. The export of groundwater from the District for incidental use (a beneficial use of water which is of a minor nature). Transport of water outside the District by a permittee, with a type of Permit other than a Transport Permit, which totals 5% or less, but in no case more than five (5) acre feet, of the permittee's annual permitted pumpage is considered incidental use.

2. The export of groundwater for an agricultural operation or domestic use, which would otherwise qualify as an exempt well under the definitions in these Rules, that overlaps or is adjacent to the District boundary; or

3. The export of groundwater that occurs as a result of the distribution of water within a single, aggregate system of a retail or non-retail public water system that overlaps the District boundary, as long as the exported groundwater is supplied to and used by the customers of that public water system.

RULE 10.3 APPLICATION

An application for a transportation permit must be filed in the District office, be in writing and sworn to, and must include the following information:

1. The name and mailing address of the applicant, and the name and address of the owner of the land, if different from the applicant, on which the well is to be located;

2. If the applicant is other than the owner of the property, documentation establishing the necessary and applicable authority to construct and operate a well on the owner's property for the proposed use;

3. A statement of the nature and purpose of the proposed use and the amount of water to be used for each purpose and the period of time each purpose is expected to continue;

4. A water conservation plan applicable to the area or jurisdiction where the transported water will be delivered and put to beneficial use, and a declaration showing that the applicant will comply with the District's management plan;

a. Contents of Conservation Plan. Conservation plans shall include, as a minimum, the following:

i. Promotion and encouragement of voluntary conservation measures;

ii. Promotion and encouragement, installation, and use of water saving devices;

iii. Promotion and encouragement of water efficient landscape practices;

iv. Implementation of a conservation-oriented rate structure;

v. Financial measures which encourage conservation;

vi. Distribution of conservation information and other educational efforts;

vii. Provision for ordinances, regulations or contractual requirements necessary for the permittee to enforce the Conservation Plan; and

viii. Other conservation criteria set by the Board.

b. Compliance. The District shall approve Conservation Plans, if they satisfy the objectives of this Rule. The permittee may revise or amend the Conservation Plans, as necessary, with approval by the District.

5. The location of the well(s) and rates of withdrawal. The location may be shown on a topographic map, ownership map, or a map prepared by a registered professional engineer or a registered surveyor which shows the proposed well and any other structure or location regarding the proposed well and associated activities. The map shall depict the approximate boundaries of the tract of land owned or to

be used by the applicant.

6. Proof of notification of all landowners adjacent to the property where the well or wells are located and all well owners within one-half mile of any of the proposed production wells;

7. the proposed casing size, well depth, pump size, and pump capacity;

8. A drought contingency plan (DCP) which is acceptable to the District.

   a. Contents of DCP. DCPs shall consider, as a minimum, the following:

      i. establishment of a permittee's historical baseline pumpage volume and target pumpage volume in accordance with reduction goal percentages of the three Critical Groundwater Depletion Area categories (see Section 16 of these Rules);

      ii. voluntary compliance restrictions to achieve a 10% reduction goal;

      iii. demand reduction measures which may include prohibition of water waste, alternative and/or supplemental water supply sources, adjustment to water rates, and use of water saving devices;

      iv. additional demand reduction measures developed by the permittee which achieve reduction goal percentages associated with each Critical Groundwater Depletion Area category;

      v. financial measures which encourage compliance with the Conservation Plan and Drought Contingency Plan while maintaining financial stability of the permittee during Critical Groundwater Depletion Area categories;

      vi. provision for ordinances, regulations or contractual requirements necessary for the permittee to enforce the DCP; and

      vii. provisions for reporting pumpage.

   b. Compliance. The District shall approve DCPs, if they satisfy the objectives of this Rule. The permittee may revise or amend the DCP, as necessary to reflect changes in permitted pumpage, subject to administrative approval by the General Manager. Any other revisions or amendments must be approved by the Board.

9. Additional Requirements. An application for a permit that involves the export of groundwater from the District shall include the following additional information:

   a. the location of the proposed receiving area for the water to be exported;

   b. a detailed statement of the nature and purpose of the various proposed uses in the proposed receiving area and the amount of groundwater to be used for each purpose;

   c. information describing the projected effect of the proposed exportation of water on aquifer conditions, depletion, subsidence, and existing permit holders or other groundwater users within the District;

   d. a copy of a proposed plan, if any, to mitigate any adverse impacts of the proposed export on groundwater users within the District;

e. a description of how the proposed export is addressed in any approved regional water plan(s), if applicable; and

f. a technical description of the facilities to be used for transportation of the groundwater and a time schedule for construction thereof.

10. **Performance Test Required:** Upon completion of the well, an applicant for a new well that involves the export of groundwater out of the District shall submit to the District a current hydrogeological report addressing the area of influence, drawdown, recovery time, and other pertinent information required by the District. The well must be equipped to test for production capacity and the hydrogeological report must address the impacts of that use. The hydrogeological report shall be prepared by a qualified person who is properly licensed by the State of Texas to prepare such report. The report shall include hydrogeologic information addressing and specifically related to the proposed water pumpage levels at the proposed pumpage site. Applicants may not rely solely on reports previously filed with or prepared by the District. The report must be submitted prior to putting the well into operation, and failure to submit a hydrogeological report as required by the District is a violation of these Rules and shall be grounds for cancellation of the permit. The Board shall make the final determination of whether a hydrogeological report meets the requirements of this subsection, and must be accepted and approved by the District prior to production of groundwater. Hydrogeological reports required for permit applications shall:

a. State and describe the results of a pumping test of the well for which a permit is being requested.

b. Address the area of influence of the well for which a permit is being requested.

c. Include an assessment of the geology at the site of the well for which a permit is being requested and a description of the aquifer that will supply water to the well.

d. Be completed in a manner that complies with the guidelines adopted by the District for this purpose.

11. any other information deemed necessary by the Board.

RULE 10.4 HEARING AND PERMIT ISSUANCE

1. Applications for transportation permits are subject to the hearing procedures provided by these Rules in Section 14.

2. In determining whether to issue a permit to transfer groundwater out of the District, the Board shall consider the information provided in Rule 10.3 above, the provisions and requirements of the Texas Water Code, as amended, and of these Rules, and the following information:

a. availability of groundwater in the District and in the proposed receiving area;

b. availability of feasible and practicable alternative supplies to the applicant and in the proposed receiving area;

c. the amount and purposes of use for which water is needed in the proposed receiving area;

d. the projected effect of the proposed transfer on groundwater and aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users within the District;

e. the indirect costs and economic and social impacts associated with the proposed transfer of water from the District;

f. the approved regional and state water plan, if one has been approved for the receiving area, and the certified District management plan, if one has been approved for the receiving area;

g. other facts and considerations considered necessary by the District's Board for protection of the public health and welfare and conservation and management of groundwater resources in the District.

h. the applicant's water conservation plan and whether the applicant has agreed to prevent waste and achieve water conservation and, if any subsequent user of the water is a municipality or entity providing retail water services, the water conservation plan, and agreement to prevent waste and achieve water conservation, of that municipality or entity shall also be provided;

i. the location of the well and rates of withdrawal; and

j. the period of time for which the permit is sought.

RULE 10.5 TERM OF TRANSPORT PERMITS.

1. In accordance with Sec. 36.122, Texas Water Code, as amended, the period specified by the Transport Permit shall be:

   a. three (3) years if construction of a conveyance system has not been initiated prior to the issuance of the permit; or

   b. thirty (30) years if construction of a conveyance system has been initiated prior to the issuance of a permit;

2. The three (3) year period specified under Rule 10.5 (1) (a) shall automatically be extended to thirty (30 years if construction of a conveyance system is begun before the expiration of such three (3) year period.

3. For the purposes of this Section, construction of a conveyance system has been initiated when the permittee has completed construction of at least 10% of the portion of the conveyance facilities located within the District that will be used to convey the maximum annual quantity of groundwater permitted for transport outside of the boundaries of the District.

RULE 10.6 TRANSPORTATION PERMIT AMENDMENTS.

1. Amendment to a Transportation Permit. It is a violation of these Rules to transfer any amount of water in excess of the amount or withdrawal rate specified in the transportation permit issued by the District, or by any means or route not authorized by a transportation permit issued by the District. A written, sworn application for an amendment to a transportation permit must be filed and the amendment granted before any deviation in the transportation permit occurs. The applicant must demonstrate that the originally authorized terms and conditions in the transportation permit have proven inadequate and why there is a need to change the authorization.

2. Submission of application. The applicant for an amendment to modify the transportation permit shall provide sufficient documentation that the original authorizations have proven inadequate and the reasons for the need to make the change(s).

3. Action on amendment. The general manager shall prepare a notice to be given of the application for amendment, which notice shall be given as in the original application, and a hearing conducted in the manner prescribed for permit issuance.

SECTION 11. FEES AND DEPOSITS FOR WELL PERMITS AND REGISTRATION

RULE 11.1 FEES

Section 36.205, Water Code, authorizes the District to assess fees for administrative acts of the District. These fees may not unreasonably exceed the cost to the District of providing the administrative function for which the fee is charged. Fees shall be assessed in accordance with the District Fee Schedule set by the Board. A copy of the Fee Schedule may be obtained from the District Office.

The Board, by resolution or order, shall adopt a fee schedule to apply to all applications, registrations, inspections, and permits that are issued, renewed, or amended as well as fees for other acts the District performs or fees to cover charges incurred by the District. These fees are non-refundable. The fee schedule shall be adopted as soon as practical after Rules are adopted by the Board, and the fees shall be effective upon adoption of the schedule. Production fees shall be based on the amount of groundwater withdrawn. Production fees for groundwater for which the producer (permittee) can not provide documentation satisfactory to the District that the groundwater was used for the purpose designated in the permit shall be assessed at the higher production fee (i.e., the fee for "any other purpose"), if any.

In addition to well registration, permit application fees, and other fees, the District shall impose a reasonable fee or surcharge, established by Board resolution or order, for transportation of groundwater out of the District and/or production of groundwater for non-exempt use. Such transportation fees and production fees shall be set in accordance with the provisions of Chapter 36 of the Texas Water Code, as amended, and shall be based on actual groundwater withdrawn.

The District may amend the fee schedule from time to time.

RULE 11.2 DEPOSITS

Each well registration or application for a well permit must be accompanied by a well log deposit, and any administrative fee, as set out in the Deposit and Fee Schedule adopted by the Board of Directors. The fees and deposits will be accepted and deposited by the District staff. The deposit will be returned to the applicant by the District if: (1) the application is denied; (2) if the application is granted, upon the receipt of correctly completed driller's log of the well; or (3) if the permit location is abandoned without having been drilled or if the drilling results in a dry hole, upon return and surrender of the permit marked "abandoned" by the applicant.

In the event that neither the driller's log of the well nor the permit marked "abandoned" is returned to the District office within six (6) months after application date of the permit, the deposit becomes the property of the District.

In the event the well is abandoned, the hole must be plugged by the applicant of the permit in accordance with the Texas Water Well Drillers' Rules (see 16 TAC 76.1004 Technical Requirements - Standards for Capping and Plugging of Wells). Proof of proper closure must be provided by the applicant to the District, or a satisfactory inspection must be performed by District personnel.

SECTION 12. REWORKING, REPAIRING AND REPLACING A WELL

RULE 12.1 PROCEDURES

1. An existing well may be reworked, re-drilled, repaired, or re-equipped in a manner that will not change the existing well status.

2. Any improvement, alterations, or professional maintenance or repair of a well or well system requires that the well be re-registered within fourteen (14) calendar days of completion, and may require that the well be re-permitted. If the well or well system was in existence at the time the Rules were adopted by the District, such well must be registered with the District. If the improvement, alterations, maintenance or repair render the well non-exempt, such well must be permitted by the District, and application for a permit must be made by the well owner.

3. A permit must be applied for and the board will consider approving the permit, if a person wishes to increase the rate of production of an existing well to the point of increasing the size of the column pipe and/or g.p.m. rate by reworking, re-equipping, or re-drilling such well.

4. A permit must be applied for and granted by the board if a person wishes to replace an existing permitted well with a replacement well. Immediately upon completion of a replacement permitted well, the old permitted well shall be:

   a. filled and abandoned in accordance with current Water Well Driller's Rules Chapter 76; or

   b. properly equipped in such a manner that it cannot produce more than 25,000 gallons of water a day.

5. In the event the application meets spacing (Rule 6) and production (Rule 7) requirements, the Board may grant such application without further notice.

6. An emergency replacement or reworking of a well may be performed, with notice to the District afterward, so long as there is no change to the rate or amount of withdrawal. New driller's and completion logs must be filed with the district within the same period of time as the logs are required to be filed with the water well drillers' board, and the well must be re-registered within fourteen (14) calendar days, and may require that the well be re-permitted.

SECTION 13. WELL LOCATION AND COMPLETION

RULE 13.1 RESPONSIBILITY

After an application for a well permit has been granted, the well, if drilled, must be drilled within ten (10) yards (30 feet) of the location specified in the permit, and not elsewhere. If the well should be commenced or drilled at a different location, the drilling or operation of such well may be enjoined by the Board pursuant to Chapter 36, Texas Water Code. As described in the Texas Water Well Drillers' Rules, all well drillers, pump installers and persons having a well drilled, deepened, or otherwise altered shall adhere to the provisions of the District Rule's, including those prescribing the location of wells and proper completion.

RULE 13.2 LOCATION OF DOMESTIC, INDUSTRIAL, INJECTION, AND IRRIGATION WELLS

All new wells must comply with the spacing and location requirements set forth under the Texas Water Well Drillers and Pump Installers Administrative Rules, Title 16, Part 4, Chapter 76, Texas Administrative Code, unless a written variance is granted by the Texas Department of Licensing and Regulation and a copy of the variance is forwarded to the District by the applicant or registrant.

1. A well must be located a minimum horizontal distance of **50 feet** from any water-tight sewage facility and liquid-waste collection facility.

2. A well must be located a minimum horizontal distance of not less than 100 feet from any contamination, such as existing or proposed livestock or poultry yards, privies, and septic system absorption fields, and must be located in accordance with any applicable federal, state, county, and/or Texas Water Well Drillers and Pump Installers rules and regulations.

3. A well must be located at a site not generally subject to flooding; provided, however, that if a well must be placed in a flood prone area, it must be completed with a watertight sanitary well seal and steel casing extending a minimum of **24 inches** above the 100 Year Flood Plain elevation, as established by the most recent mapping of the National Flood Insurance Program.

4. No well may be located within five-hundred (500) feet of a sewage treatment plant, solid waste disposal site, or land irrigated by sewage plant effluent, or within three-hundred (300) feet of a sewage wet well, sewage pumping station, or a drainage ditch that contains industrial waste discharges or wastes from sewage treatment systems.

RULE 13.3 STANDARDS OF COMPLETION FOR DOMESTIC, INDUSTRIAL,

INJECTION, AND IRRIGATION WELLS

1. All wells must be completed in accordance with the well completion standards set forth under the Texas Water Well Drillers and Pump Installers Administrative Rules, Title 16, Part 4, Chapter 76, Texas Administrative Code. Water well drillers and pump installers are subject to and must comply with all the District Rules of the Red Sands Groundwater Conservation District.

2. Water well drillers shall indicate the method of completion performed on the Well Report (TDLR Form #001 WWD, Section 10, Surface Completion).

RULE 13.4 RE-COMPLETIONS

1. The landowner shall have the continuing responsibility of insuring that a well does not allow commingling of undesirable water and fresh water or the unwanted loss of water through the wellbore to other porous strata.

2. If a well is allowing the commingling of undesirable water and fresh water or the unwanted loss of water, and the casing in the well cannot be removed and the well re-completed within the applicable rules, the casing in the well shall be perforated and cemented in a manner that will prevent the commingling or loss of water. If such a well has no casing, then the well shall be cased and cemented, or plugged in a manner that will prevent such commingling or loss of water.

3. The Board of Directors may direct the landowner to take steps to prevent the commingling of undesirable water and fresh water, or the unwanted loss of water or pollution through the well bore.

SECTION 14. HEARINGS

RULE 14.1 TYPES OF HEARINGS

The District conducts two general types of hearings: hearings involving permit matters, in which the rights, duties, or privileges of a party are determined after an opportunity for an adjudicative hearing, and rulemaking or other hearings involving matters of general applicability that implement, interpret, or prescribe the law or District policy, or that describe the procedure or practice requirements of the District. Any matter designated for hearing before the Board involving a permit matter may be referred by the Board for hearing before a Hearing Examiner.

1. **Permit Hearings**:

   a. **Permit Applications, Amendments and Revocations**: The District will hold hearings on water well operating permits, permit renewals or amendments (except those amendments defined as "minor" in Rule 9.8) and permit revocations or suspensions. Hearings involving permit matters may be scheduled before a Hearing Examiner.

b. **Hearings on Motions for Rehearing**: Motions for Rehearing will be heard by the Board pursuant to Rule 14.8(b).

2. **Rule-making and Other Hearings**:

a. **District Rules or District Management Plan**: At its discretion, the Board may hold a hearing to consider adoption of amended or new District Rules, or an amended or new District Management Plan.

b. **Other Matters**: A public hearing may be held on any matter within the jurisdiction of the Board, 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.

RULE 14.2 NOTICE AND SCHEDULING OF HEARINGS

The District, by its General Manager, as instructed by the Board, is responsible for giving notice of all hearings in the following manner:

1. Notice will be given to each person who requests copies of hearing notices pursuant to the procedures set forth in subsection (2), and any other person the Board of Directors deems appropriate. The date of mailing of notice or of delivery may not be less than ten (10) calendar days before the date set for the hearing.

a. If the hearing is to be held during the District's regular business hours, notice of the hearing must be posted in accordance with the Texas Open Meetings Act by posting on the Courthouse Bulletin Board. If the hearing is to be held as part of the Board's regular business meeting, the hearing must be listed as a separate item on the meeting agenda.

b. If the hearing is not to be held during the District's regular business hours, notice of hearing will be published at least once in a newspaper of general circulation in the District. The date of publication may not be less than ten (10) calendar days before the date set for the hearing.

c. A copy of the notice will be posted at the county courthouse in the place where notices are usually posted, in accordance with the Texas Open Meetings Act.

d. In addition to the notices required above, when a hearing involves an operating permit matter, notice of the date, time, and location of the hearing will be given to the applicant by depositing the notice in the United States Postal Service mail in an envelope or wrapper addressed to the applicant and stamped, or by delivery to the applicant, at least ten (10) calendar days before the day of the hearing.

e. In addition to the notice required above, when a hearing involves designation of a Critical Groundwater Depletion Area, a copy of the notice must be provided to each landowner, well owner, well operator and known groundwater right holder in the proposed management area, or notice of hearing must be published at least once in a newspaper of general circulation in the District, describing the proposed management area in such a way that each landowner, well owner, well operator and known groundwater right holder in the proposed management area can recognize their inclusion.

2. Any person having an interest in the subject matter of a specific hearing or specific hearings may

receive written notice of such hearing or hearings by submitting to the District a request in writing. The request must identify with as much specificity as possible the hearing or hearings concerning a specific or individual matter for which written notice is requested. The request remains valid for a period of one year from the date of the request, after which time a new request must be submitted. Failure to provide written notice under this section does not invalidate or have any effect on any action taken by the Board.

3. Hearings may be scheduled during the District's regular business hours, Monday through Friday of each week, except on District holidays. All permit hearings will be held at the District Office or an alternative site designated by the District's Board of Directors. However, the Board may from time to time change or schedule additional dates, times, and places for permit hearings by resolution adopted at a regular Board meeting. The General Manager is instructed by the Board to schedule hearings involving permit matters at such dates, times, and places set forth above for permit hearings. Other hearings will be scheduled at the dates, times and locations set at a regular Board meeting.

4. In the event that a hearing is scheduled, either outside of the District's regular business hours or in a place that is not the District's office, the District may require that the person requesting the hearing pay 45% of the costs of holding the hearing, and the District will pay the remaining 55%.

RULE 14.3 GENERAL PROCEDURES

1. **Nature of Hearing**: Hearings will be conducted in such manner as the Board deems most suitable to the particular case, and technical rules of legal and court procedure need not be applied. It is the purpose of the Board to obtain all the relevant and reliable information and testimony pertaining to the issue before it as conveniently, inexpensively, and speedily as possible without prejudicing the rights of either applicants or protestants.

2. **Authority of Presiding Officer**: The presiding officer may conduct the hearing or other proceeding in the manner the presiding officer deems most appropriate for the particular proceeding. The presiding officer has the authority to:

a. set hearing dates, other than the initial hearing date for permit matters set by the District, by its General Manager as instructed by the Board, in accordance with Rule 14.2(c);
b. convene the hearing at the time and place specified in the notice for public hearing;
c. establish the jurisdiction of the District concerning the subject matter under consideration;
d. rule on motions and on the admissibility of evidence and amendments to pleadings;
e. designate and align parties and establish the order for presentation of evidence;
f. administer oaths to all persons presenting testimony;
g. examine witnesses;
h. issue subpoenas when required to compel the attendance of witnesses or the production of papers and documents;
i. require the taking of depositions and compel other forms of discovery under these Rules;
j. ensure that information and testimony are introduced as conveniently and expeditiously as possible, without prejudicing the rights of any party to the proceeding;
k. conduct public hearings in an orderly manner in accordance with these Rules;
l. recess any hearing from time to time and place to place;
m. reopen the record of a hearing for additional evidence when necessary to make the record more complete; and
n. exercise any other appropriate powers necessary or convenient to effectively carry out the responsibilities of presiding officer.

3. **Hearing Registration Forms**: Each individual attending a hearing or other proceeding of the District must submit a form providing the following information: full name; street address; telephone

number; whether the person plans to testify; and any other information relevant to the hearing or other proceeding.

4. **Appearance; Representative Capacity**: Any interested person may appear in person or may be represented by counsel, or accompanied by an engineer, or other representative provided the representative is fully authorized to speak and act for the principal. Such person or representative may present evidence, exhibits, or testimony, or make an oral presentation in accordance with the procedures applicable to the particular proceeding. Any partner may appear on behalf of the partnership. A duly authorized officer or agent of a public or private corporation, political subdivision, governmental agency, municipality, association, firm, or other entity may appear for the entity. A fiduciary may appear for a ward, trust, or estate. A person appearing in a representative capacity may be required to prove proper authority.

5. **Alignment of Parties; Number of Representatives Heard**: Participants in a proceeding may be aligned according to the nature of the proceeding and their relationship to it. The presiding officer may require the participants of an aligned class to select one or more persons to represent or speak for them in the proceeding or on any particular matter or ruling and may limit the number of representatives heard, but must allow at least one representative of an aligned class to be heard in the proceeding or on any particular matter or ruling.

6. **Appearance by Applicant or Movant**: The applicant, movant or party requesting the hearing or other proceeding or a representative must be present at the hearing or other proceeding. Failure to so appear may be grounds for withholding consideration of a matter and dismissal without prejudice or may require the rescheduling or continuance of the hearing or other proceeding if the presiding officer deems it necessary in order to fully develop the record.

7. **Reporting**: Hearings and other proceedings will be recorded on audio cassette tape or, at the discretion of the presiding officer, may be recorded by a certified shorthand reporter. The District does not prepare transcripts of hearings or other proceedings recorded on audio cassette tape on District equipment for the public, but the District will arrange access to the recording. Subject to availability of space, any party to a specific hearing may, at their own expense, arrange for a reporter to report the hearing or other proceeding or for recording of the hearing or other proceeding. The cost of reporting or transcribing a permit hearing may be assessed in accordance with Rule 14.5(b). If a proceeding other than a permit hearing is recorded by a certified shorthand reporter, and a copy of a written transcript of testimony is ordered by any person, the testimony will be transcribed by the certified shorthand reporter and the original written transcript filed with the papers of the proceeding at the expense of the person requesting the transcript of testimony. Copies of the transcript of testimony of any hearing or other proceeding thus reported may be purchased thereafter from the reporter by the person requesting the copy.

8. **Continuance**: The presiding officer may continue hearings or other proceedings 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 (other than the District Office) for the hearing or other proceeding to reconvene are not publicly announced at the hearing or other proceeding by the presiding officer before it is recessed, a notice of any further setting of the hearing or other proceeding will be delivered at a reasonable time to all parties, persons who have requested notice of the hearing pursuant to Rule 14.2(b), and any other person the presiding officer deems appropriate, but it is not necessary or required to post at the county courthouse or publish a newspaper notice of the new setting.

9. **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 by deposit with the United States Postal Service within the time period is insufficient if the submissions are not actually received by the District within the time limit.

10. **Computing Time**: In computing any period of time prescribed, allowed, or specified by these Rules, by a presiding officer, by Board orders, or by applicable law, the day of the act, event, or default after which the designated period of time begins to run is not included, but the last day of the period so computed is included, unless the last day is a Saturday, Sunday or legal holiday as determined by the Board, in which case the period runs until the end of the next day which is neither a Saturday, Sunday nor a legal holiday as determined by the Board.

11. **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.

12. **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.

13. **Conduct and Decorum**: Every person, party, representative, witness, and other participant in a proceeding must conform to ethical standards of conduct and must exhibit courtesy and respect for all other participants. No person may engage in any activity during a proceeding that interferes 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.

RULE 14.4 UNCONTESTED PERMIT HEARINGS PROCEDURES

Written Notice of Intent to Contest: Any person who intends to contest a permit application must provide written notice of that intent to the District at the District office located at _____, P.O. Box 229, Linn, TX 78563, at least five (5) calendar days prior to the date of the hearing. If the Board of Directors intends to contest a permit application, the Board of Directors must provide the applicant written notice of that intent at least five (5) calendar days prior to the date of the hearing. If no notice of intent to contest is received five (5) calendar days prior to the hearing, the general manager as instructed by the Board of Directors, will cancel the hearing, or, at a minimum, that specific hearing agenda item, and the board will consider the permit at the next regular board meeting.

1. **Informal Hearings**: Permit hearings may be conducted informally when, in the judgment of the Hearing Examiner, the conduct of a proceeding under informal procedures will not prejudice the rights of any party and will save time or cost to the parties, or lead to a negotiated or agreed settlement of facts or issues in controversy.

2. **Agreement of Parties**: If, during an informal proceeding, all parties reach a negotiated or agreed settlement which, in the judgment of the Hearing Examiner, settles the facts or issues in controversy, the proceeding will be considered an uncontested case and the Hearing Examiner will summarize the evidence, make findings of fact and conclusions of law based on the existing record and any other evidence submitted by the parties at the hearing.

3. **Decision to Proceed as Uncontested or Contested Case**: If the parties do not reach a negotiated or agreed settlement of the facts and issues in controversy or if any party contests a staff recommendation, and the Hearing Examiner determines these issues will require extensive discovery

proceedings, the Hearing Examiner will declare the case to be contested and convene a prehearing conference as set forth in Rule 14.5. The Hearing Examiner may also recommend issuance of a temporary permit for a period not to exceed 4 months, with any special provisions the Hearing Examiner deems necessary, for the purpose of completing the contested case process. Any case not declared a contested case under this provision is an uncontested case and the Hearing Examiner will summarize the evidence, make findings of fact and conclusions of law, and make appropriate recommendations to the Board.

RULE 14.5 CONTESTED PERMIT HEARINGS PROCEDURES

1. **Prehearing Conference**: A prehearing conference may be held to consider any matter which may expedite the hearing or otherwise facilitate the hearing process.

   a. **Matters Considered**: Matters which may be considered at a prehearing conference include, but are not limited to, (1) the designation of parties; (2) the formulation and simplification of issues; (3) the necessity or desirability of amending applications or other pleadings; (4) the possibility of making admissions or stipulations; (5) the scheduling of discovery; (6) the identification of and specification of the number of witnesses; (7) the filing and exchange of prepared testimony and exhibits; and (8) the procedure at the hearing.
   b. **Notice**: A prehearing conference may be held at a date, time, and place stated in a separate notice given in accordance with Rule 14.2, or at the date, time, and place for hearing stated in the notice of public hearing, and may be continued from time to time and place to place, at the discretion of the Hearing Examiner.
   c. **Conference Action**: Action taken at a prehearing conference may be reduced to writing and made a part of the record or may be stated on the record at the close of the conference.

2. **Assessing Reporting and Transcription Costs**: Upon the timely request of any party, or at the discretion of the Hearing Examiner, the Hearing Examiner may assess reporting and transcription costs to one or more of the parties. The Hearing Examiner must consider the following factors in assessing reporting and transcription costs:

   a. the party who requested the transcript;
   b. the financial ability of the party to pay the costs;
   c. the extent to which the 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;
   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 Hearing Examiner must provide the parties an opportunity to present evidence and argument on the issue. A recommendation regarding the assessment of costs must be included in the Hearing Examiner's report to the Board.

3. **Designation of Parties**: Parties to a hearing will be designated on the first day of hearing or at such other time as the Hearing Examiner determines. The Board of Directors and any person specifically named in a matter are automatically designated parties. Persons other than the automatic parties must, in order to be admitted as a party, appear at the proceeding in person or by representative and seek to be designated. After parties are designated, no other person may be admitted as a party unless, in the judgment of the Hearing Examiner, there exists good cause and the hearing will not be unreasonably delayed.

4. **Rights of Designated Parties**: Subject to the direction and orders of the Hearing Examiner,

parties have the right to conduct discovery, present a direct case, cross-examine witnesses, make oral and written arguments, obtain copies of all documents filed in the proceeding, receive copies of all notices issued by the District concerning the proceeding, and otherwise fully participate in the proceeding.

5. **Persons Not Designated Parties**: At the discretion of the Hearing Examiner, persons not designated as parties to a proceeding may submit comments or statements, orally or in writing. Comments or statements submitted by non-parties may be included in the record, but may not be considered by the Hearing Examiner as evidence.

6. **Furnishing Copies of Pleadings**: After parties have been designated, a copy of every document including a pleading, request, motion, or reply filed in the proceeding must be provided by the person who signs the document, or the author or the person who files the document with the District, to every other party or the party's representative. A certification of this fact must accompany the original instrument when filed with the District. Failure to provide copies may be grounds for withholding consideration of the pleading or the matters set forth therein.

7. **Interpreters for Deaf Parties and Witnesses**: If a party or subpoenaed witness in a contested case is deaf, the District must provide an interpreter whose qualifications are approved by the State Commission for the Deaf and Hearing Impaired to interpret the proceedings for that person. "Deaf person" means a person who has a hearing impairment, whether or not the person also has a speech impairment, that inhibits the person's comprehension of the proceedings or communication with others.

8. **Agreements to be in Writing**: No agreement between parties or their representatives affecting any pending matter will be considered by the Hearing Examiner unless it is in writing, signed, and filed as part of the record, or unless it is announced at the hearing and entered as record.

9. **Discovery**: Discovery will be conducted upon such terms and conditions, and at such times and places, as directed by the Hearing Examiner. Unless specifically modified by these Rules or by order of the Hearing Examiner, 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 Hearing Examiner.

10. **Discovery Sanctions**: If the Hearing Examiner finds a party is abusing the discovery process in seeking, responding to, or resisting discovery, the Hearing Examiner may:

a. suspend processing of the application for a permit if the applicant is the offending party;
b. disallow any further discovery of any kind or a particular kind by the offending party;
c. rule that particular facts be regarded as established against the offending party for the purposes of the proceeding, in accordance with the claim of the party obtaining the discovery ruling;
d. limit the offending party's participation in the proceeding;
e. disallow the offending party's presentation of evidence on issues that were the subject of the discovery request; and
f. recommend to the Board that the hearing be dismissed with or without prejudice.

11. **Ex Parte Communications**: The Hearing Examiner may not communicate, directly or indirectly, in connection with any issue of fact or law pending for decision before the Hearing Examiner, 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 to utilize the special skills and knowledge of the District in evaluating the evidence.

12. **Compelling Testimony; Swearing Witnesses and Subpoena Power**: The Hearing Examiner may compel the testimony of any person which is necessary, helpful, or appropriate to the hearing. The Hearing Examiner will administer the oath in a manner calculated to impress the witness with the importance and solemnity of the promise to adhere to the truth. The Hearing Examiner may issue subpoenas to compel the testimony of any person and the production of books, papers, documents, or tangible things, in the manner provided in the Texas Rules of Civil Procedure.

13. **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.

14. **Written Testimony**: When a proceeding will be expedited and the interest and rights of the parties will not be prejudiced, testimony may be received in written form. The written testimony of a witness, either in 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.

15. **Requirements for Exhibits**: Exhibits of a documentary character must be sized to not unduly encumber the files and records of the District. All exhibits must be numbered and, except for maps and drawings, and except for good cause shown, may not exceed 8-1/2 by 11 inches in size.

16. **Abstracts of Documents**: When documents are numerous, the Hearing Examiner may receive in evidence only those which are representative and may require the abstracting of relevant data from the documents and the presentation of the abstracts in the form of an exhibit. Parties have the right to examine the documents from which the abstracts are made.

17. **Introduction and Copies of Exhibits**: Each exhibit offered must be tendered for identification and placed in the record. Copies must be furnished to the Hearing Examiner and to each of the parties, unless the Hearing Examiner rules otherwise.

18. **Excluding Exhibits**: In the event an exhibit has been identified, objected to, and excluded, it may be withdrawn by the offering party. If withdrawn, the exhibit will be returned and the offering party waives all objections to the exclusion of the exhibit. If not withdrawn, the exhibit will be included in the record for the purpose of preserving the objection to excluding the exhibit.

19. **Official Notice**: The Hearing Examiner may take official notice of all facts judicially cognizable. In addition, official notice may be taken of generally recognized facts within the area of the District's specialized knowledge.

20. **Documents in District Files**: Extrinsic evidence of authenticity is not required as a condition precedent to admissibility of documents maintained in the files and records of the District.

21. **Oral Argument**: At the discretion of the Hearing Examiner, oral arguments may be heard at the conclusion of the presentation of evidence. Reasonable time limits may be prescribed. The Hearing Examiner 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, further oral arguments may be heard by the Board.

RULE 14.6 CONCLUSION OF THE HEARING; REPORT

1. **Closing the Record; Final Report**: At the conclusion of the presentation of evidence and any oral argument, the Hearing Examiner 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 Hearing Examiner. After the record is closed, the Hearing Examiner will prepare a report to the Board. The report must include a summary of the evidence, together with the Hearing Examiner's findings and conclusions and recommendations for action. Upon completion and issuance of the Hearing Examiner's report, a copy must be submitted to the Board and delivered to each party to the proceeding. In a contested case, delivery to the parties must be by certified mail. In the case of an uncontested hearing, the official minutes of the hearing shall suffice as the Final Report.

2. **Exceptions to the Hearing Examiner's Report; Reopening the Record**: Prior to Board action any party in a contested case may file written exceptions to the Hearing Examiner's report, and any party in an uncontested case may request an opportunity to make an oral presentation of exceptions to the Board. Upon review of the report and written exceptions, the Hearing Examiner may reopen the record for the purpose of developing additional evidence, or may deny the written exceptions and submit the report and written exceptions to the Board. The Board may, at any time and in any case, remand the matter to the Hearing Examiner for further proceedings.

3. **Time for Board Action on Certain Permit Matters**: In the case of hearings involving new permit applications, original applications for existing wells, or applications for permit renewals or amendments, the Hearing Examiner's report should be submitted, and the Board should act, within sixty (60) calendar days after the close of the hearing record.

RULE 14.7 RULEMAKING HEARINGS PROCEDURES

1. **General Procedures**: The presiding officer will conduct the rulemaking or other 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 may follow the guidelines of "Robert's Rules of Order", Henry M. Robert III, 10th revised edition, or as amended.

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 rulemaking or other hearing. Such documents must be submitted no later than the time of the public hearing, as stated in the notice of public hearing. Such notice is to be published at least once in a newspaper of general circulation in the District, and is to be published at least ten (10) calendar days before the date of the hearing.

3. **Oral Presentations**: Any person desiring to speak or testify on the subject of the rulemaking or other 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 length of time 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; Closing the Record; Hearing Examiner's Report**: 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. If the presiding officer is a Hearing Examiner, the Hearing Examiner must, after the record is closed, prepare a report to the Board. The report must include a summary of the subject of the hearing and the public comments received,

together with the Hearing Examiner's recommendations for action. Upon completion and issuance of the Hearing Examiner's report, a copy must be submitted to the Board. Any interested person who so requests in writing will be notified when the report is completed, and furnished a copy of the report.

5. **Exceptions to the Hearing Examiner's Report; Reopening the Record**: Any interested person may make exceptions to the Hearing Examiner's report, and the Board may reopen the record, in the manner prescribed in Rule 14.6(2).

RULE 14.8 FINAL DECISION; APPEAL

1. **Board Action**: After the record is closed and the matter is submitted to the Board, the Board may then take the matter under advisement, continue it from day to day, reopen or rest the matter, refuse the action sought or grant the same in whole or part, or take any other appropriate action. The Board action takes effect at the conclusion of the meeting and is not affected by a motion for rehearing.

2. **Decision; When Final:** A decision by the board on a permit or permit amendment application is final if (1) a request for rehearing is not filed on time, on the expiration of the period for filing a request for rehearing; or (2) if a request for rehearing is filed on time, on the date the board denies the request for rehearing or the board renders a written decision after rehearing. Except as provided by Subsection (3), an applicant or a party to a contested hearing may file a suit against the district under Section 36.251 to appeal a decision on a permit or permit amendment application not later than the 60th day after the date on which the decision becomes final.

3. **Requests for Rehearing**: Any decision of the Board on a permit or permit amendment application matter may be appealed by an applicant in a contested or uncontested hearing on an application or a party to a contested hearing by requesting written findings and conclusions or a rehearing before the Board within twenty (20) calendar days of the Board's decision.

   a. Such a rehearing request must be filed at the District Office in writing and must state clear and concise grounds for the request. If the original hearing was a contested hearing, the person requesting a rehearing must provide copies of the request to all parties to the hearing. Such a rehearing request is mandatory with respect to any decision or action of the Board before any appeal may be brought.

   b. 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 person who requested them, and to each person who provided comments or each designated party, not later than the 35th day after the date the board receives the request. A person who receives a certified copy of the findings and conclusions from the board may request a rehearing before the board not later than the 20th day after the date the board issues the findings and conclusions.

   c. The Board's decision is final if no request for rehearing is made within the specified time, or upon the Board's denial of the request for rehearing, or upon rendering a decision after rehearing. If the rehearing request is granted by the Board, the date of the rehearing will be within forty-five (45) calendar days thereafter, unless otherwise agreed to by the parties to the proceeding. The failure of the Board to grant or deny the request for rehearing within ninety (90) calendar days of submission will be deemed to be a denial of the request.

4. In appropriate situations, the District may utilize alternate methods of dispute resolution, which are described in Sections 36.416 through 36.418, Texas Water Code.

RULE 14.9 CONSOLIDATED HEARING ON APPLICATIONS

1. Except as provided by Subsection (2), the District shall process applications from a single applicant under consolidated notice and hearing procedures on written request by the applicant if the District requires a separate permit or permit amendment application for:

   a. drilling, equipping, operating, or completing a well or substantially altering the size of a well or well pump under Section 36.113;
   b. the spacing of water wells or the production of groundwater under Section 36.116; or
   c. transferring groundwater out of a district under Section 36.122.

2. The District is not required to use consolidated notice and hearing procedures to process separate permit or permit amendment applications from a single applicant if the board cannot adequately evaluate one application until it has acted on another application.

SECTION 15. INVESTIGATIONS AND ENFORCEMENT

RULE 15.1 NOTICE AND ACCESS TO PROPERTY

Board Members and District agents and employees are entitled to access to all property within the District at any reasonable time to carry out technical and other investigations necessary to the implementation of the District Rules or for the purpose of inspecting and investigating conditions relating to the quality of water in the State or the compliance with any rule, regulation, permit or other order of the District. Prior to entering upon property for the purpose of conducting an investigation, the person seeking access must first make a reasonable attempt to give notice in writing or in person or by telephone to the owner, lessee, or operator, agent, or employee of the well owner or lessee before entering a property. Information contained in any application or other information on file with the District may be used to contact a person concerning entry upon the property. Notice is not required if prior permission is granted to enter without notice. Inhibiting or prohibiting access to any Board Member or District agents or employees who are attempting to conduct an investigation under the District 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 the Texas Water Code Chapter 36.102.

RULE 15.2 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.

RULE 15.3 RULE ENFORCEMENT

If it appears that a person has violated, is violating, or is threatening to violate any provision of the District Rules or of any regulation, permit, or other order of the District, the Board of Directors may institute and conduct a suit in the name of the District for enforcement of rules through the provisions of Chapter 36.102 Texas Water Code.

RULE 15.4 EXCEPTION TO DISTRICT RULES

1. In order to accomplish the purpose set forth in these Rules, the Board may grant exceptions to Rules of the District. This Rule, and all other Rules of the District, shall not be construed so as to limit the discretionary power of the Board, and the powers stated are cumulative of all other powers possessed by the Board.

2. Procedure:

   a. Any person, firm, corporation, association of persons, or other entity desiring an exception to any Rule shall file a written application with the District office stating:

      i. The nature of the exception requested;

      ii. The justification for granting the exception;

      iii. Any information that the applicant deems appropriate in support of the application for an exception; and

      iv. A waiver signed by each landowner whose property borders that of the applicant.

   b. Six copies of any application for an exception shall be submitted to the District at its general office.

   c. All applications for exceptions shall be heard and considered by the Board meeting in regular or special session, within ninety (90) calendar days after submittal. At least ten (10) calendar days notice of the hearing shall be given to the applicant, to known interested parties, including governmental agencies having potential concurrent jurisdiction, and notice shall also be given to the public by appropriate notice as set forth in Rule 14.2, at least ten calendar (10) days before the date of the hearing.

   d. The Board shall enter an order granting or denying an application for exception, with such conditions as it shall deem proper within sixty calendar days (60) after the close of such hearing.

   e. Any hearing held hereunder shall be open to the public.

   f. At the hearing the applicant and other interested parties, state or federal agencies or officials, will be given the opportunity to present evidence.

   g. The decision of the Board shall be based upon the evidence submitted at the hearing, on facts of which the Board may take judicial notice, and on statements and arguments.

3. If all such interested parties execute a waiver in writing stating that they do not object to the granting of such exception, the Board may thereupon proceed to decide upon the granting or refusing of

such application without notice or hearing except to the applicant. The applicant may also waive notice or hearing, or both.

4. After a public hearing at which all interested parties may appear and be heard, and after the Board has decided that an exception should be granted, such exception may be granted ten (10) calendar days after written notice has been given to the applicant and all interested parties.

5. The orders of the Board in any non-contested application or proceeding shall become the final Order of the Board. The Orders of the Board in contested applications, appeals or other proceedings shall contain a statement that same was contested. In all events, the Order will become final after fifteen (15) calendar days from the entry thereof and be binding on the parties thereto unless a motion for rehearing is filed.

RULE 15.5 PENALTY FOR VIOLATING RULES, PERMIT CONDITION, OR BOARD ORDERS

Section 36.102, Texas Water Code, as amended, authorizes the District to assess reasonable civil penalties for breach of any Rule of the District. The civil penalty for breach or violation of a Rule of the District, of a permit term or condition or breach or violation of an order of the board is up to $10,000 per violation per day for each day the violation continues, as provided by and allowed by Section 36.102, Water Code. The schedule for fees, fines and penalties will be set and adopted by the Board of Directors.

RULE 15.6 SEALING OF WELLS

1. The District may, upon orders from the judge of the courts, seal wells that are prohibited by the District Rules from withdrawing groundwater within the District to ensure that a well is not operated in violation of the District Rules. A well may be sealed when: (1) no application has been made for a permit to drill a new water well which is not exempted; or (2) no application has been made for an operating permit to withdraw groundwater from an existing well that is not exempted from the requirement that a permit be obtained in order to lawfully withdraw groundwater; or (3) the Board has denied, canceled or revoked an operating permit.

2. 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.

3. The action or actions of 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 such action(s), as well as any well owner or primary operator who does not prevent such action(s) or who authorizes or allows such action(s), to such penalties as provided by the District Rules.

RULE 15.7 ADVERSE IMPACT MITIGATION

1. In the event that a permitted well owner's withdrawal of groundwater unreasonably affects

existing groundwater and surface water resources or existing registered or permitted wells, the District may, on its own motion or on the motion of an existing registered or permitted water well owner, reconsider the conditions of said permit.

2. The Board may also consider any complaints received in writing concerning negative impacts of any wells upon an existing registered or permitted water well within the District. The Board shall consider all registered or permitted wells in the area when assessing the complaint.

3. Any complaints filed by registered or permitted water well owners complaining about unreasonable effects by another water well owner shall indicate the amount of expense incurred, when the negative impact occurred, and shall be accompanied by either actual invoices or by written estimates from a licensed water well driller, pump installer, or certified engineer.

4. The Board of Directors of the District, at a regular or specially called board meeting, shall consider existing water well owners' effect on existing groundwater and surface water resources or existing registered or permitted water well owners.

5. The Board may request the water well owner who is negatively impacting an existing registered or permitted water well owner to enter into discussions or formal mediation to address the negative impact, including financial compensation to the affected existing well owner(s). In the absence of an agreed upon recommendation between a water well owner that unreasonably affects an existing registered or permitted water well owner, and the affected well owner (for example, a mitigation contract or plan), the Board may on its own motion revise or revoke the permit or otherwise impose pumping restrictions or conditions, and/or civil penalties upon the well owner adversely affecting existing registered or permitted water wells, as necessary, to address adverse impacts.

SECTION 16. CRITICAL GROUNDWATER DEPLETION AREA

RULE 16.1 IDENTIFICATION OF A CRITICAL GROUNDWATER DEPLETION AREA

The District periodically reviews the water level data obtained from its various water level monitoring programs across the District. If evidence of drawdown of the water table or reduction of artesian pressure in groundwater or in an area of an aquifer indicates a groundwater or an aquifer mining situation, that is, a non-sustainable yield, and/or in consideration of such local climate indicators such as the Palmer Hydrological Drought Severity Index published by the National Oceanic and Atmospheric Administration (NOAA), the Board may declare the area a Critical Groundwater Depletion Area (CGDA). Prior to establishing a CGDA the District will invite comment and exchange groundwater and aquifer amount and condition data from well owners within the proposed CGDA. Following the foregoing collaboration study, a public hearing will be held prior to declaration of a CGDA. A CGDA will be classified into one of three categories:

1. A Category One classification will be assigned to an area experiencing critical depletion of groundwater due to climatic events where the ability of the aquifer to provide sustainable yields at

normal usage rates is seriously impaired. The duration and severity of the climatic conditions will determine the extent and period of the conservation actions taken by the District. Upon return of normal climatic conditions and adequate recharge to bring the aquifer back to sustainable normal usage, the District will cancel the CGDA.

2. A Category Two classification will be assigned to an area experiencing critical depletion due to pumpage that has caused or will shortly cause the groundwater or aquifer to fall below sustainable yield on a long-term or permanent basis, not primarily caused by but possibly exacerbated by short-term climatic conditions. Conservation actions taken by the District will remain in effect until such time the aquifer shows long-term reversal of the non-sustaining condition. Such reversal can conceivably be brought about through permanent pumpage reduction, use of alternative water sources, or changes in well owners use of water.

3. A Category Three classification will be assigned to an area experiencing a **potential** critical depletion due to pumpage that may have caused or will shortly cause the groundwater or aquifer to fall below sustainable yield on a long-term or permanent basis. While this area is being further evaluated, water users in this area will be encouraged to voluntarily curtail their water use in order to prevent the situation from escalating to a Category Two or Three.

RULE 16.2 PROCEDURES FOLLOWING ESTABLISHMENT OF A CGDA

Once a CGDA is declared and delineated, the area shall be given a unique name or number for identification purposes and all well owners in the area will be notified by public media. Notification of all Board decisions related to a CGDA will be made to all well and landowners within the CGDA by published notice in a local newspaper of general circulation. When the Board declares and delineates a CGDA, the Board may:

1. Deny all applications for drilling within the CGDA during the time the area is declared to be a Critical Groundwater Depletion Area,

2. Set production limits on Permitted Wells located within the CGDA to an assigned volume of water as determined from the historical production data obtained from District records. The allowed volume shall be an amount that will halt the decline of the groundwater or aquifer sustainable yield, which may allow continued but reduced pumpage. The approved conservation/drought management plans will be considered in determining the production limits. The Board will review the production allocation on a quarterly basis and make appropriate adjustments as permitted or dictated by groundwater or aquifer conditions.

3. Require all Permitted Wells within the CGDA to be equipped with a District approved flow meter or other measuring device. The expense of the device shall be borne by the well owner, or

4. Increase spacing within the CGDA of any new wells authorized by the District, or

5. Invoke any or all of the above, and

6. Establish production limits on domestic use by all wells within the CGDA other than wells subject to regulation in Rule 16.2 (2) above or which are otherwise exempted from production limitations by Chapter 36.117(c) Texas Water Code.

Owners or operators of Permitted Wells within the CGDA shall provide the District with reports of the amount of water produced from each well under permit in the CGDA on forms provided by the District and on a schedule determined by the Board. If the Board has not required metering devices on wells,

production volume reports shall be provided by accurate estimates such as recording duration of pumping and the well output capacity (gpm).

Owners or operators of Permitted Wells within the CGDA may request a temporary change in water allocation through petition to the Board. Decision on such requests will be made consistent with prudent groundwater and aquifer management, the effect on other well owners in the CGDA, and the degree of necessity for the request.

I hereby certify that the document to which this Certificate is affixed is a full, true and correct copy of the original on file and of record in the official Minutes of the Red Sands Groundwater Conservation District.

Javier Moreno

Roy D. Pena

Rogelio Pena, Jr.
Official Secretary
Red Sands Groundwater Conservation District

SWORN TO AND SUBSCRIBED BEFORE ME by Rogelio Pena, Jr., Official Secretary of the Red Sands Groundwater Conservation District, on this the 1st day of December, 2009, to certify which witness my hand and seal of office.

+ Javier Moreno

DIANA CERDA
MY COMMISSION EXPIRES
April 10, 2011

Diana Cerda

NOTARY PUBLIC.
In and For the State of Texas